

# Urban Flooding and Insurance

Dan Sandink, MA, MScPI  
Manager, Resilient Communities & Research  
Institute for Catastrophic Loss Reduction

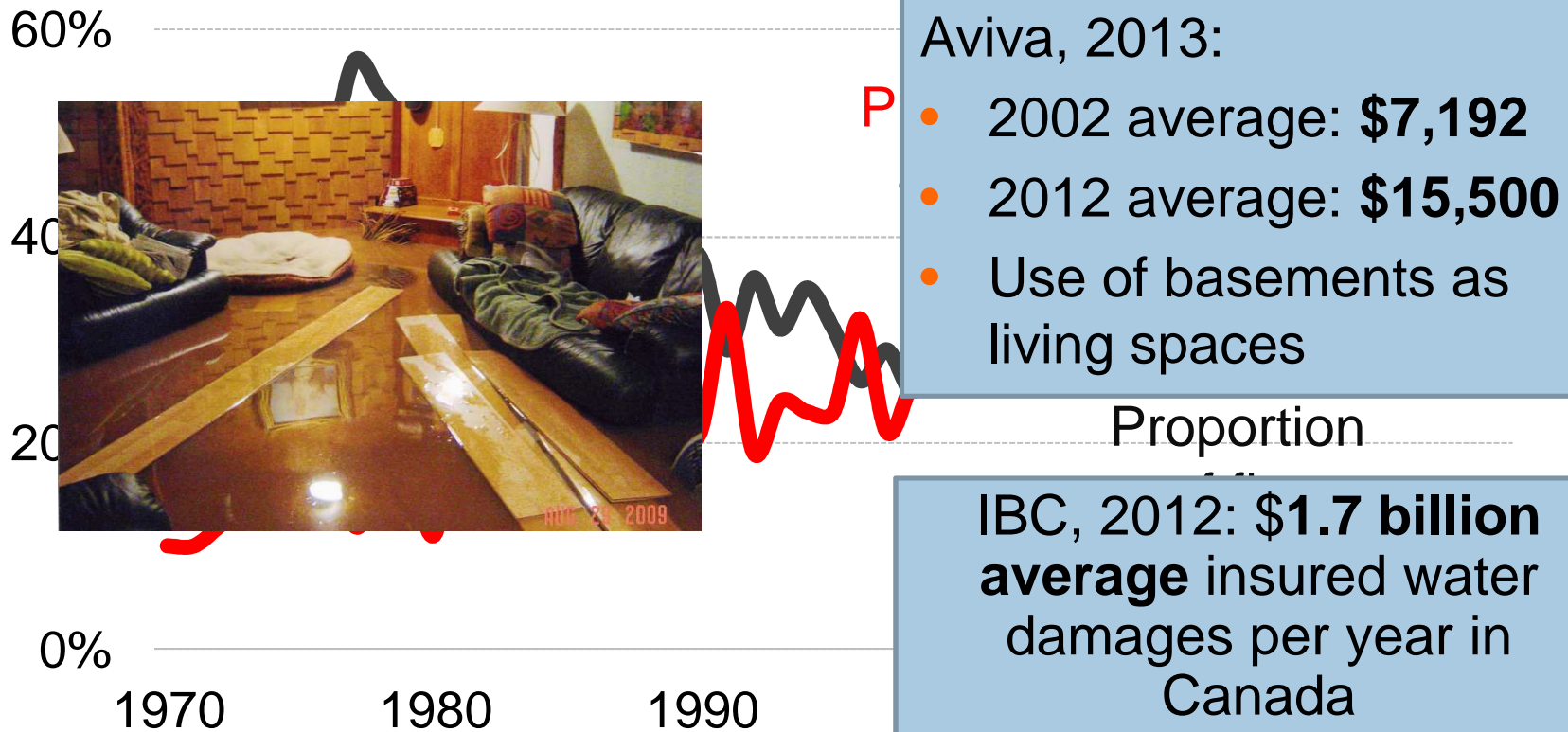


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# What is ICLR?

- Founded in 1997 by Canadian P&C industry
- Current focus on:
  - Urban flooding, wildland fire, wind, earthquake
  - Key risk reduction avenues: Infrastructure, land-use planning, home retrofits and new homes
- Multi-disciplinary
  - Engineering, climatology, seismology, economics, political science, geography, planning

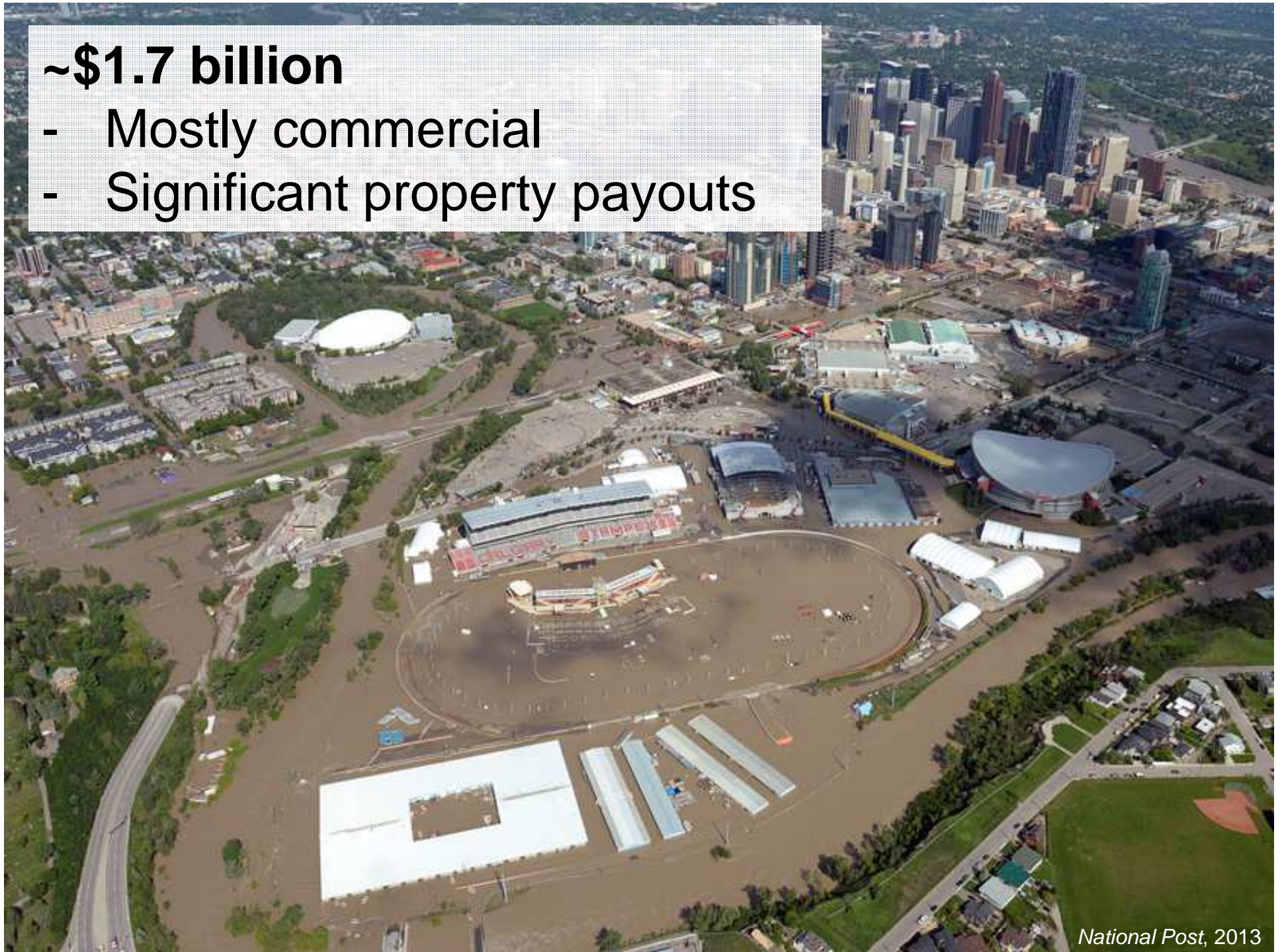
# Trends in homeowner claims— 1970 to 2009 (Canada)





**~\$1.7 billion**

- Mostly commercial
- Significant property payouts







**~\$940 million**

- Mostly property
- Sewer backup

**Total disaster  
damages for 2013:  
~\$3.2 billion**

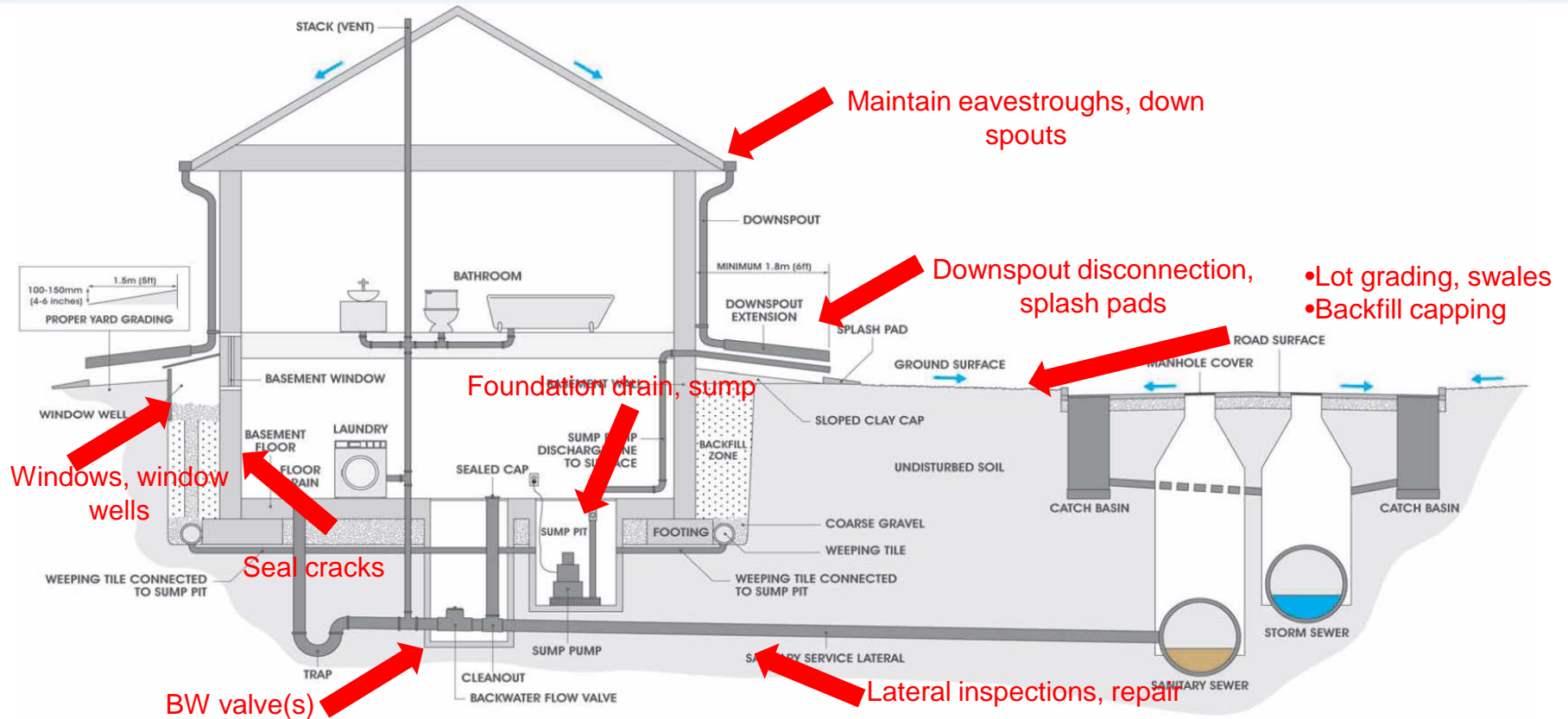
**4<sup>th</sup> year in a row  
with ~\$1 billion in  
disaster related  
damages in Canada**

# Insurers

- Financial measures
  - Limit financial exposure through:
    - Caps, availability
- Mitigation measures
  - Policy holder education
    - Insurers, agents, brokers
  - Mitigation incentives
    - Caps, availability, premiums, deductibles



# Physical mitigation measures



## Regional SB risk reduction



Isolated SB risk reduction



# Mitigation measures

- Typically strong focus on:
  - Backwater valves
  - Sump pumps
  
- Increasing focus on additional measures
  - Sump backup systems
  - Lot grading
  - Downspout connections
  - Downspout extensions
  - Existence of plumbing in the basement
  - Finished basements



(1) Does your residence have plumbing in the basement (e.g., toilet, sink or shower)?  Yes  No  
If 'yes', please provide details: \_\_\_\_\_

(2) A) Is your home connected to a municipal sewer system or a private (septic) system?  
Municipal system  Septic System  *If you have a septic system, please complete questions #2B to F. . If not, go directly to #3.*  
B) Was the septic system properly installed by a licensed contractor?  Yes  No  
C) What is the age of the septic system? \_\_\_\_\_  
D) How often is the tank pumped? \_\_\_\_\_  
E) If you have plumbing in the basement, has a sewer ejector system been installed?  Yes  No  
F) Is the ejector system equipped with a Trouble Alarm?  Yes  No.

(3) A) Has this dwelling had any losses or incidents of sewer backup, basement flooding or water damage in the past?  
 Yes  No  
If 'yes' was selected, please answer B) and C) below.  
B) Provide the date of loss, amount of damage and the type of damage for each loss, even if you did not put through a claim

Date of loss	Amount of loss	Type of damage incurred

C) What corrective measures have been taken to prevent further losses or incidents?  
\_\_\_\_\_

(4) Do you have a sump pump?  Yes  No      Date of installation: \_\_\_\_\_

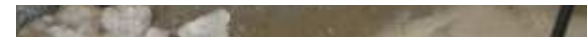
(5) Has a sewer back flow valve been installed in the home?  
 Yes  No      Date of installation: \_\_\_\_\_

(6) Are the eavestrough downspouts discharging to  A) your weeping tiles  B) sewer drain  C) onto yard

(7) Have the downspouts been disconnected from the sewer system and re-directed to your yard?  Yes  No

(8) How far away from your dwelling have the eaves troughs/downspouts been extended (minimum 6 Feet)?  
Feet: \_\_\_\_\_ Meters: \_\_\_\_\_

(9) Does the ground around your residence slope away from your dwelling?  Yes  No





# An example...

No claims, no mitigation: **\$170/year**

With mitigation: **\$120/year**

No claims, no mitigation: **\$50/year**

With mitigation: **\$40/year**

**May also affect: deductibles, caps, availability**

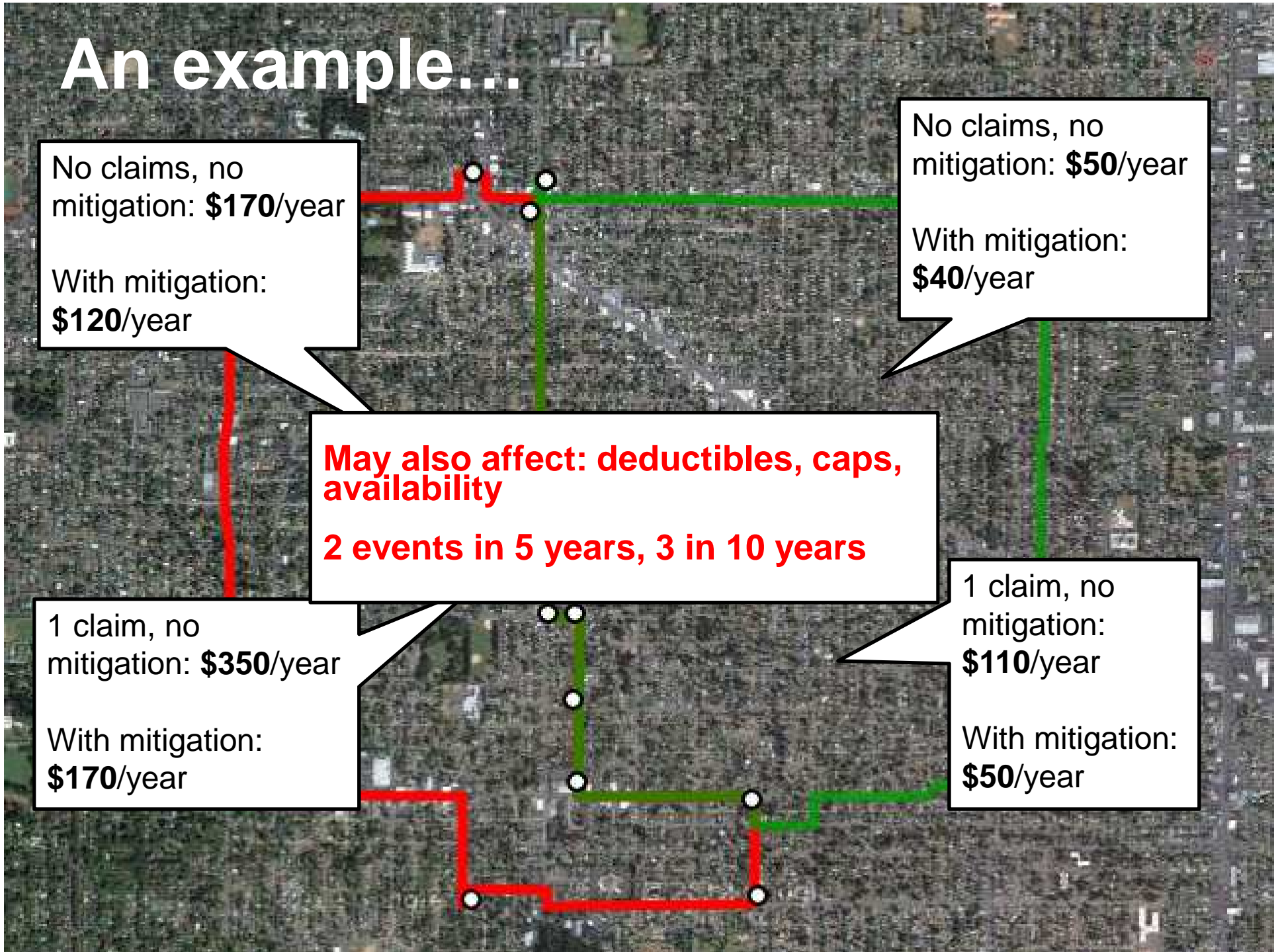
**2 events in 5 years, 3 in 10 years**

1 claim, no mitigation: **\$350/year**

With mitigation: **\$170/year**

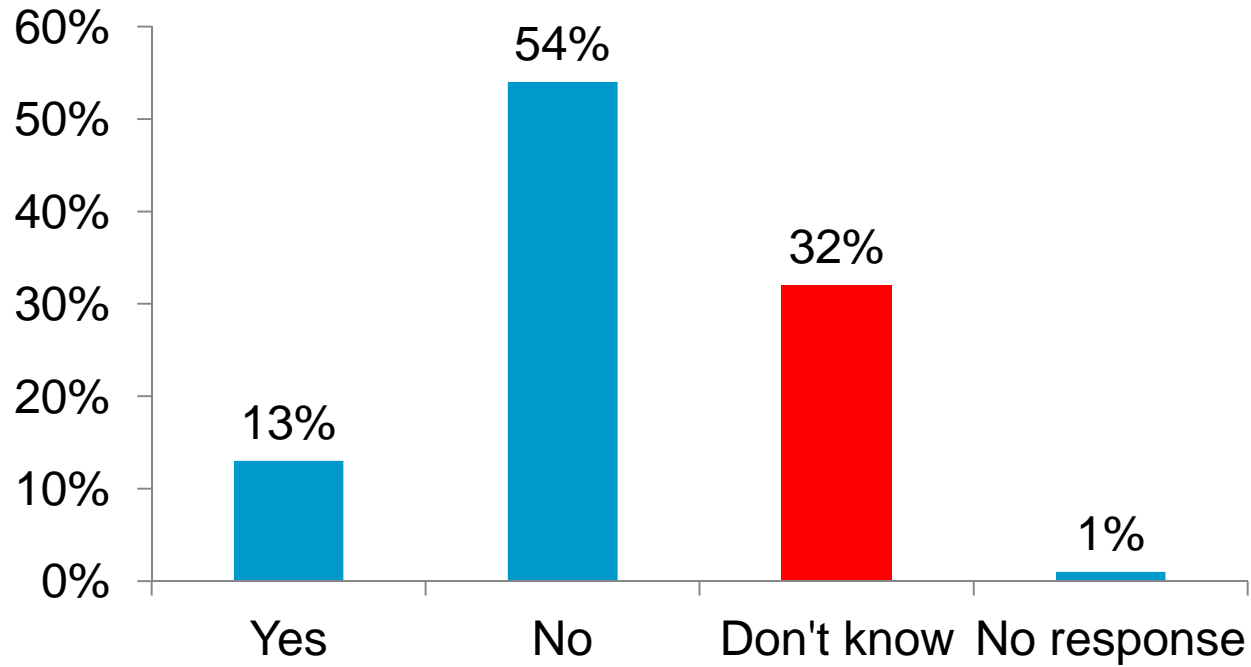
1 claim, no mitigation: **\$110/year**

With mitigation: **\$50/year**



# Sherwood Forest, London

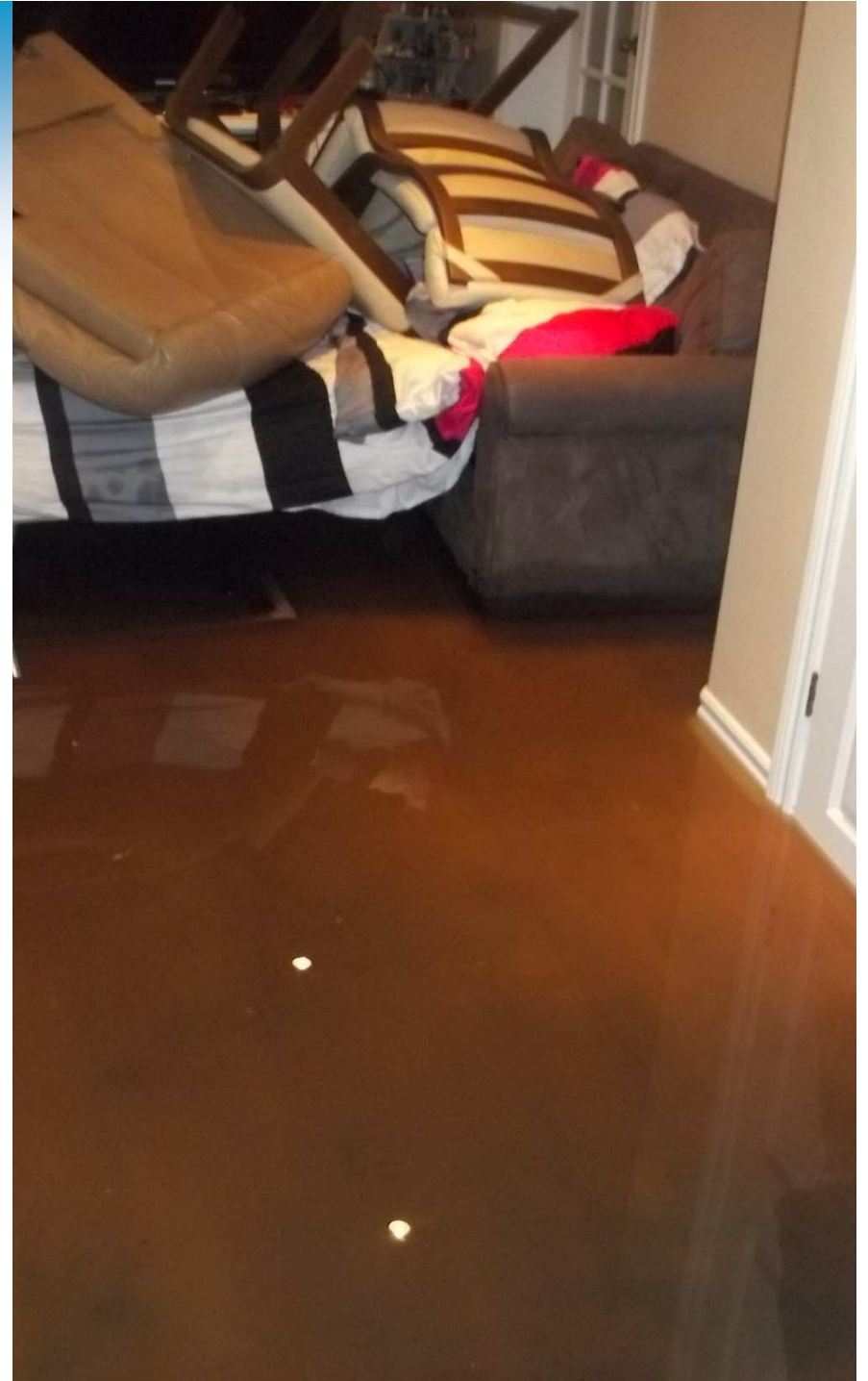
Do you have a backwater valve in your home?



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# Underwriting

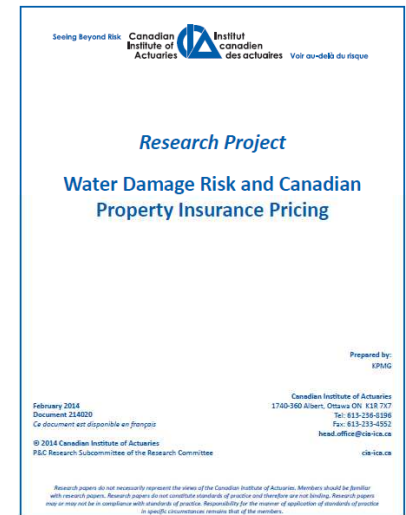
- Historical claims data are used to assess exposure of insureds to risk
  - Fire and theft
- Prices based on actuarial (historical) analysis, competition, mitigation, etc.
- Approaches vary widely between insurers





# Water Damage Risk and Canadian Property Insurance Pricing

- Study sponsored by CIA, conducted by KPMG
  - How to improve pricing for water damage/SB?
- Historical claims not a good indicator of actual exposure
- Inadequate data, loss coding
  - Buildings 30
  - Contents 31
  - Special 39
- Recognized need for better understanding of the exposure to appropriately price water damage
  - Lot-side factors
  - Municipal-side factors



# Overland flood insurance issues

- Homeowner coverage not technically available in Canada
- Primary reasons:
  - Adverse selection
  - Lack of randomness
  - Size of the insured community
  - Inadequate, inconsistent assessment of hazard (e.g., return periods, floodway definitions, SW hazards, etc.)
- Post AB flood discussions
  - Policy holder confusion, policy wordings
  - Consumer confidence, reputation, etc.



Image: Global News, 2013

# Conclusion

- Insurers still trying to get a handle on water damage (sewer backup) risk
  - Accurate pricing limited by reliance on historical data, poor claims data, lack of information on exposure of insureds
- In the short term: Limiting financial exposure, premiums, capping, availability
  - Education and incentivizing property-level mitigation
- In the long term: Continued emphasis on risk assessment and mitigation, including implications of climate change





**Thanks!**  
dsandink@iclr.org  
www.iclr.org