

An Overview of Odour Regulation throughout North America

Una visión global de la regulación de olores en America del Norte

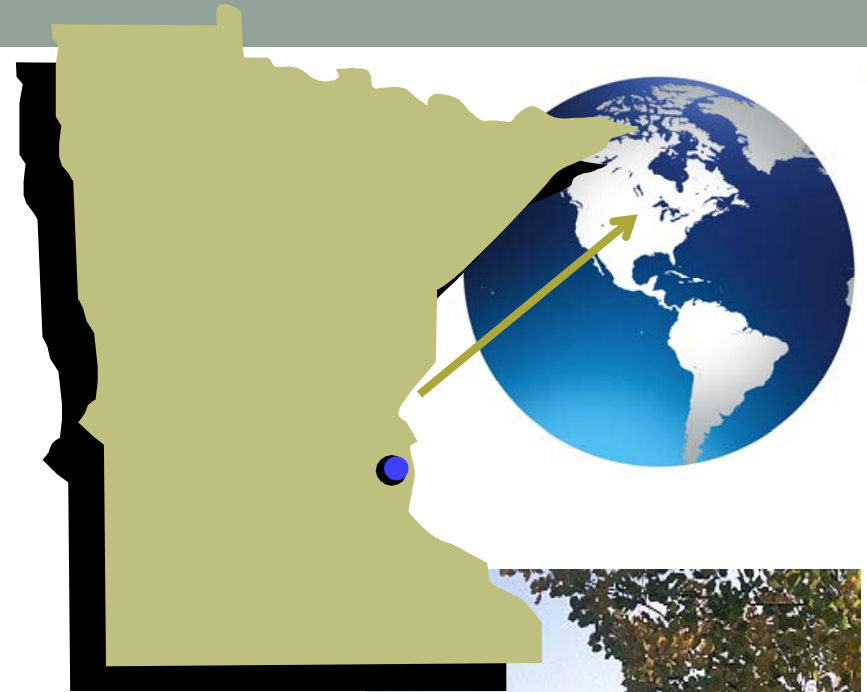
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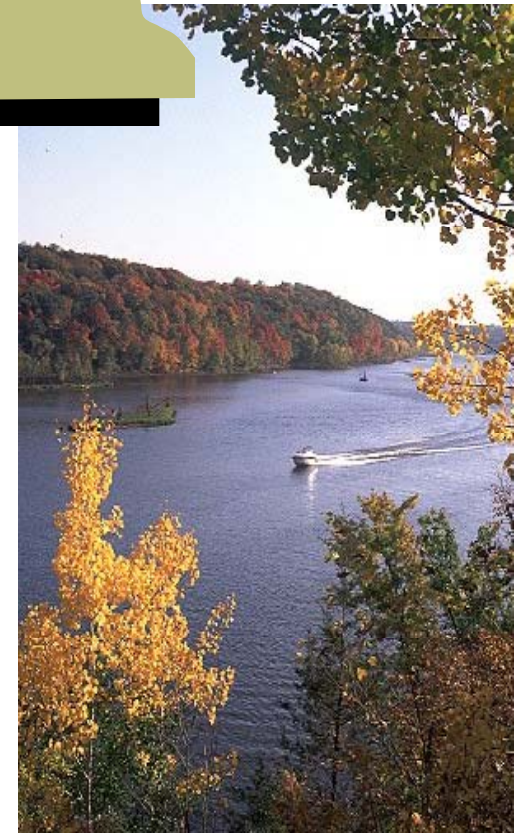
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St. Croix Sensory, Inc.



St. Croix River Valley Stillwater, Minnesota U.S.A.



U.S.-EPA



- Does not regulate odour directly
- Regulates chemical constituents of odour
- Does not preclude states from regulating odour directly



In 1970

the National Air Pollution Control Administration
of the US Public Health Service
commissioned a study:

“National Survey of the Odor Problem”

Conducted by,
Copley International Corporation

1970 Study Methodology

- *Seven* metropolitan areas studied
- Public attitude *surveys* conducted
- *Scentometers* used to measure odour
- *Odour judgment panels* also used

1970 Study Findings

- Most agencies used unaided nose, number of complaints, and “common sense” to determine *nuisance*.
- Most agencies used *persuasion* rather than enforcement action.
- No agency had a record of substantial penalties levied against violators

1970 Public Survey Findings

- 50% believed odour was a serious problem
- Responsible authority not clearly known
- Most were resigned to tolerate the odour
- Most believed selling home was affected

1970 Technical Program Results

- *Scantometer* found to be a utilitarian and effective tool
- *Odour judgment panel* (or investigator) provides definitive description of the extent of the odour emission

Field Olfactometry (Scentometer) History

U.S. Public Health Service
developed the first field olfactometer

1958 Grant A-58-541

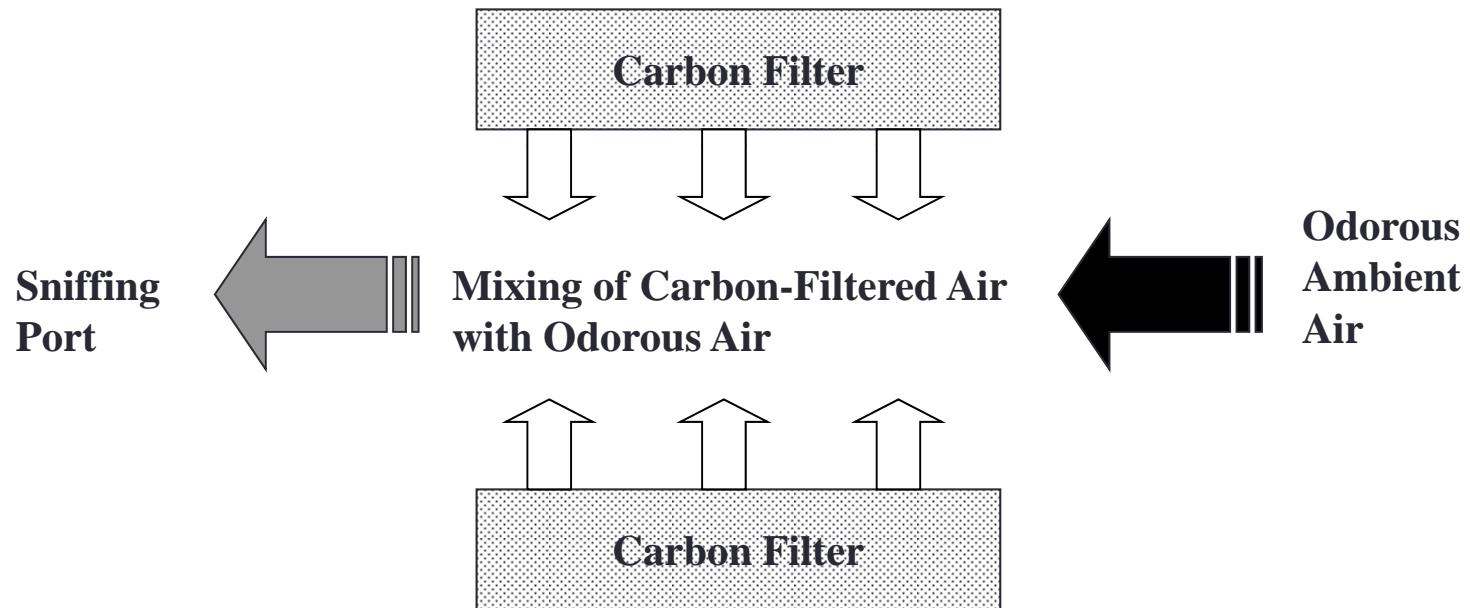
....Barnebey-Cheney “Scentometer”

Based on “Dilution-to-Threshold” ... “D/T”

Measurement by: dynamic dilution of odour

7 parts odour free air divided by 1 part odour = 7

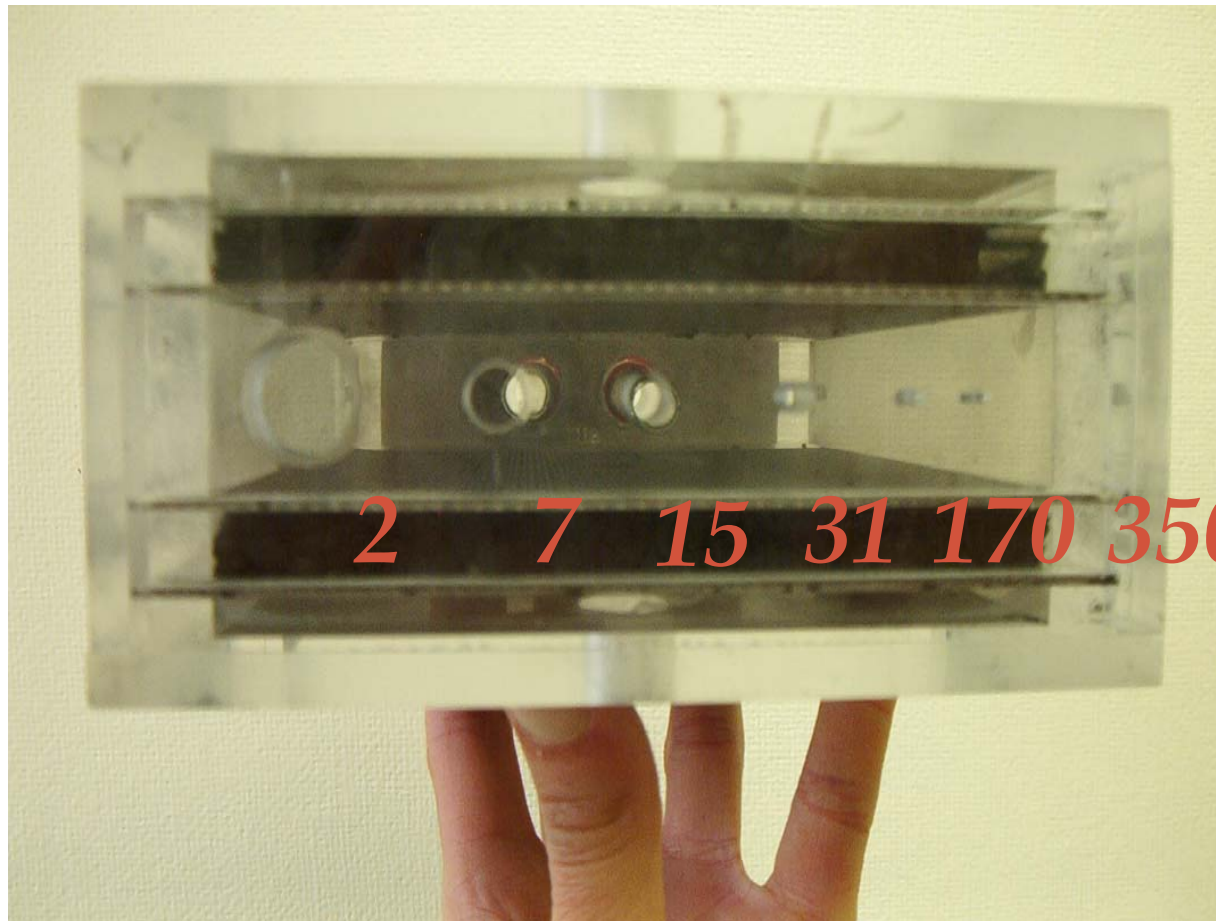
Field Olfactometer



Barnebey-Cheney Scintometer



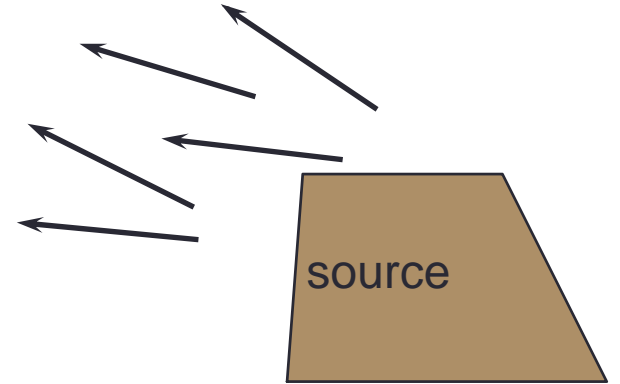
Barnebey-Cheney Scentometer



Odour Judgment Panel



odour



Odour Judgment Panel





In 1971 the US Environmental Protection Agency
commissioned a **second** study:

“Social & Economic Impacts of Odors”

Conducted by,
Copley International Corporation

1971 Study Objectives (one metropolitan area)

- In depth public attitude surveys-**quarterly**
- Concurrent field studies
- Analysis of property values
- Development of investigative procedures

1971 Study Findings

- Public attitudes:
 - ✓ Odours a serious problem (**mostly summer**)
 - ✓ Social & economic effects **not definable**
- Technical studies:
 - ✓ Scentometer a "**sensitive device**"
 - ✓ Odour judgment panel – "**logistic challenge**"
- Property value analysis: ***indeterminate***
- Investigative procedures: ***more study***



In 1972 the US Environmental Protection Agency
commissioned a **third** study:

**“Development and Evaluation of a
Model Odor Control Ordinance”**

Conducted by,
Copley International Corporation

1972 EPA Study Objectives

- Prepare a **Model Odour Ordinance**
- Evaluate investigative procedures and develop training programs (4 agencies)
- Submit procedures and model ordinance to the US - EPA

Agencies Selected for 1972 Study

- City of Houston, Texas
- Hillsborough County, Florida
- Columbia-Willamette, Oregon
- State of Maryland



1972 EPA Study Findings

- Public surveys not applicable to sparsely populated communities
- Odour judgment panels too *cumbersome* for routine application
- Difficulty in getting residents to appear in court as accusers of public nuisance

1972 EPA Study Conclusions

- The investigative procedures applicable to **80%** of all possible odour problems
- Odour judgment panels best left to special circumstances; i.e. *support of court action*
- Model odour ordinance ***can not*** be drafted that is compatible with the legalistic approach preferred by every jurisdiction

1972 EPA Study Recommendations

- Public nuisance law can be effective
- Trust surveillance **not** complaints
- Odour statute must establish a violation
 - One or more **trained inspectors**
 - Use of a **dilution device** (Scentometer)
 - **Stack samples** evaluated for odour strength

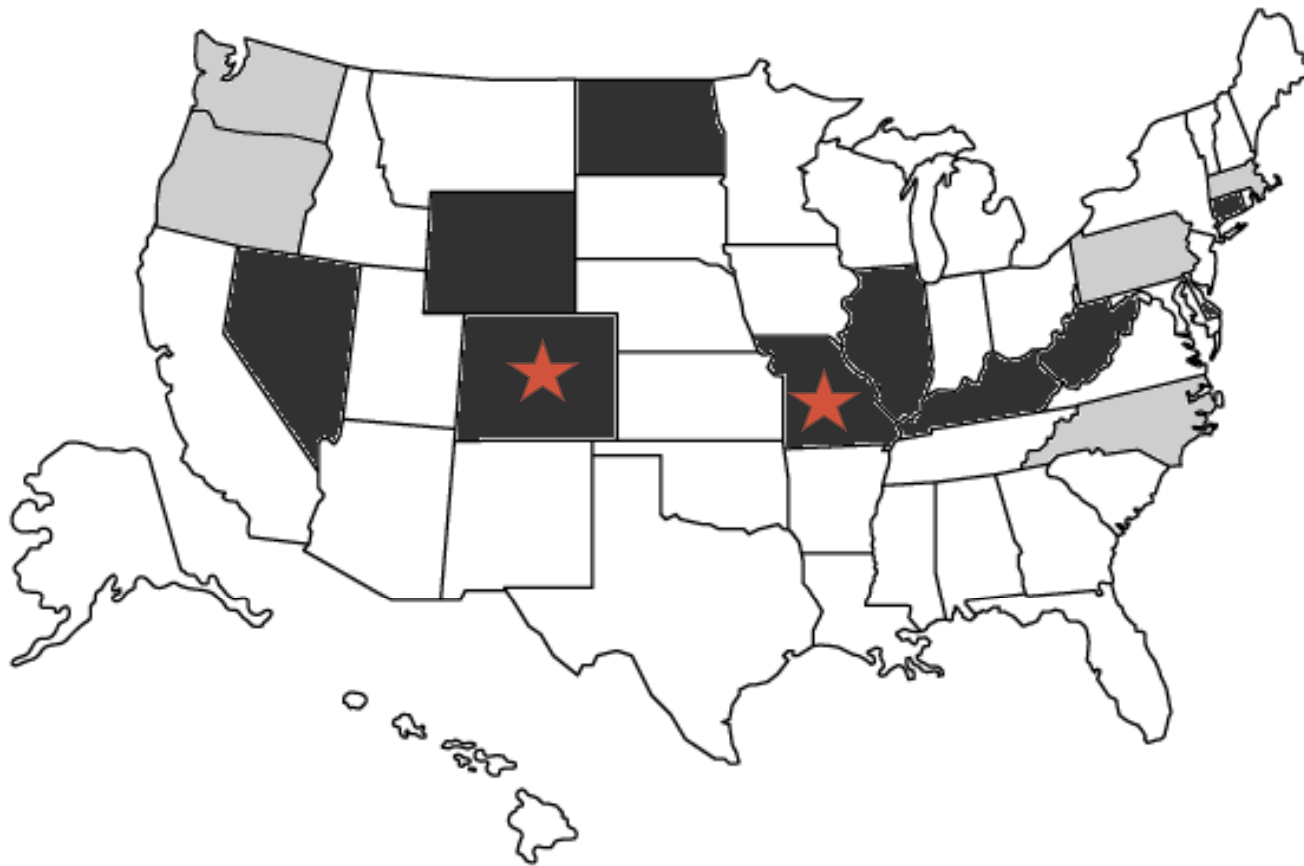
Elements of an Odour Ordinance Identified:

- The prohibition of odour nuisance
- Odour nuisance determination (choices)
- Right to inspect premises; right of entry
- Enforcement provision (penalty)
- Existing remedies allowed

Terminology:

“objectionable to individuals of ordinary sensibility”

Ten States Regulate Odour using the Dilution-to-Threshold (D/T) Method



- Colorado
- Connecticut
- Delaware
- Illinois
- Kentucky
- Missouri
- Nevada
- North Dakota
- West Virginia
- Wyoming

“...areas predominantly for residential or commercial purposes, it is a violation if odors are detected after the odorous air has been diluted with seven (7) or more volumes of odor free air.”

City of Denver
Marijuana Grow Houses
October 2013



What about other States ?

General zoning powers


Does state zoning legislation support local nuisance ordinances?

Police powers

Does state law give a municipality authority to abate “all nuisances” ?

What if the State has licensed the “odorous facility” ?

- ❖ ... but does not expressly license “odour”;
- ❖ then the local odour ordinance must “harmonize” with the state’s authority.



What if there are other local nuisance ordinances in place ?

“**Blending**” may be best to link a new odour ordinance to existing nuisance ordinances.

...if any of the following conditions are present:

- ✓ ambient air after it is diluted with four equally sized samples of odour-free air, for two samples or observations not less than fifteen minutes apart within a one hour period;
- ✓ ambient air intensity greater than 75 ppm n-butanol;
- ✓ a written citizen complaint...verified



City of Des Moines

Citizen Odor Board

- ✓ 10 members appointed by city council
- ✓ Meet monthly or quarterly as needed
- ✓ Review nuisance odour complaints
- ✓ Review violations of odour ordinance
- ✓ **Appeals Board**



City of Des Moines

Citizen Odor Board

- ✓ Odor Alert = **10 calls in 24-hours**
- ✓ Inspector responds
- ✓ Inspector may serve notice of violation
- ✓ 3 in 90-days = **significant odor generator**
- ✓ Must submit a plan: **testing, modeling, mitigation...**
- ✓ May **appeal** to the Odor Board; then City Council

Challenges for Odour Ordinance Development

- ✓ Lack of understanding ODOUR

**Technical Infrastructure as important as
Administrative Infrastructure**

- ✓ Reluctance to prosecute nuisance
- ✓ Investigation cost prohibitive
- ✓ Political obstacles

United States Summary

- ✓ US-EPA: **NO** federal odour regulation
- ✓ States next in line to regulate odour
- ✓ If states do not regulate,
then **municipalities** may create ordinances
- ✓ Municipal regulations must **harmonize** with State regulations and may **blend** with other nuisance ordinances

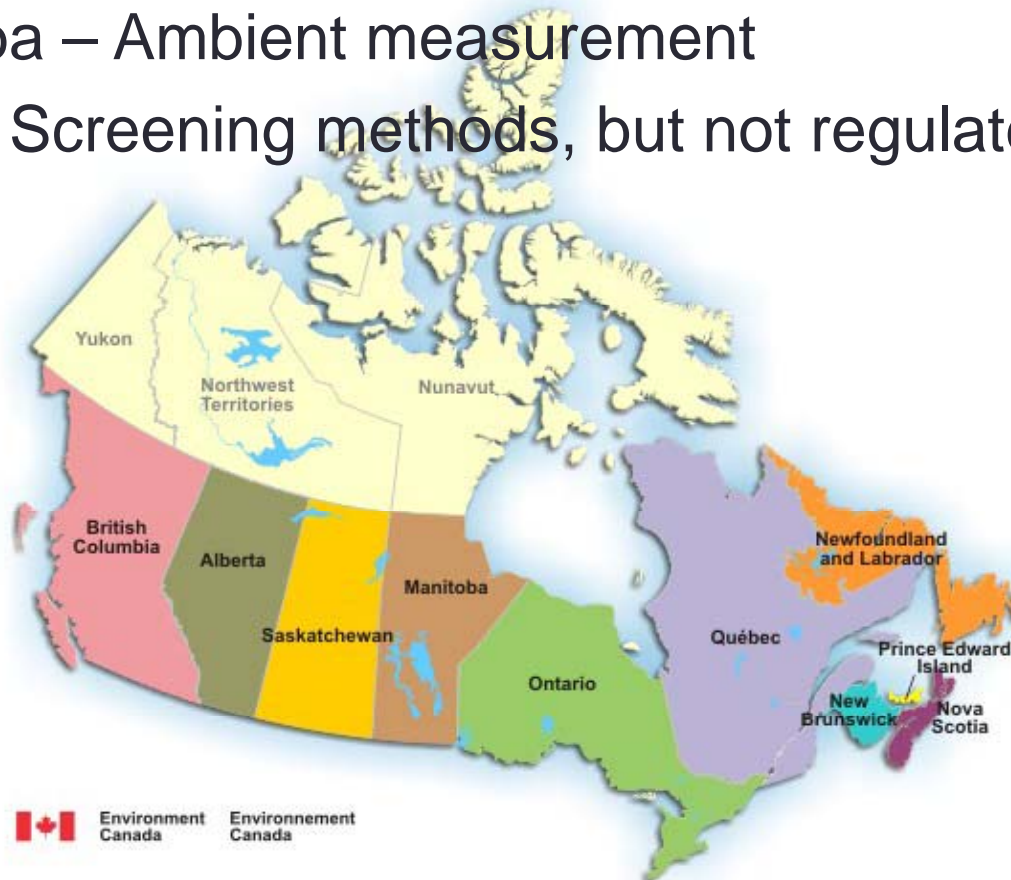
Canada Odour Regulation



- Similarly NO Federal Regulation
- Provinces handle odours separately

Canada Odour Regulation

- Ontario – Source measurement and modeling (permitting)
- Quebec – Source measurement (permitting)
- Manitoba – Ambient measurement
- Others: Screening methods, but not regulated directly



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