

Quality of Ground Water and Finished Water of Community Water Systems – Preliminary Findings

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Focus of Today's Talk

- **Source Water Quality Assessment (SWQA) Design**
- **Occurrence of Compounds in Source Water Wells**
- **Quality of Source and Finished Water and Comparison to Human-Health Benchmarks**

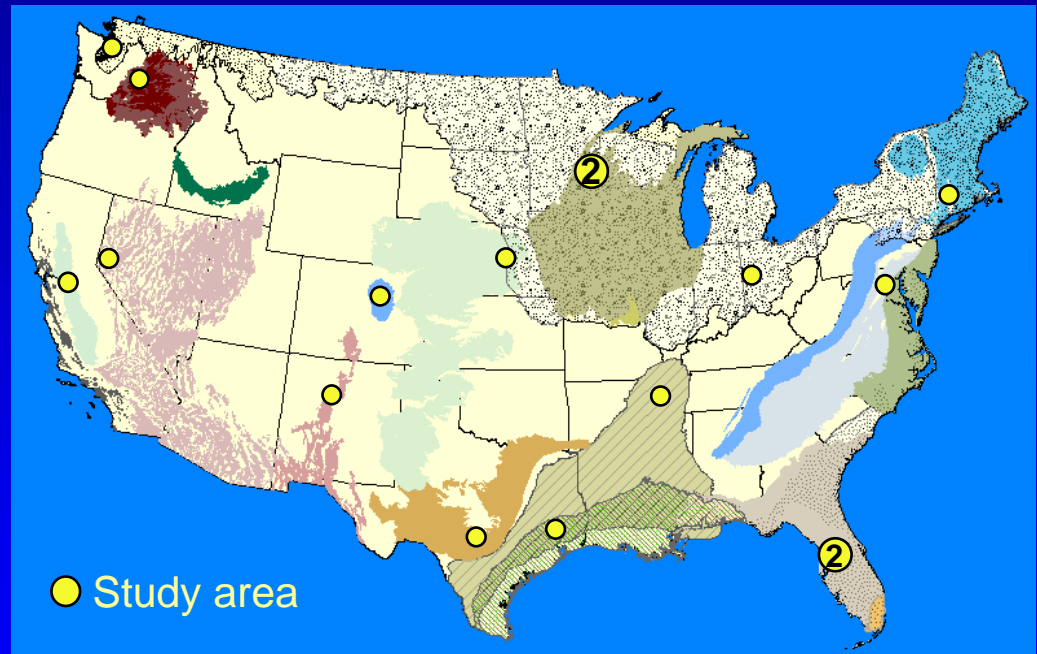
SWQA Design

- Phase 1
 - 260 compounds analyzed
 - 214 source water wells sampled
- Phase 2
 - Frequently occurring compounds in Phase 1 analyzed
 - 86 source and finished water sites sampled

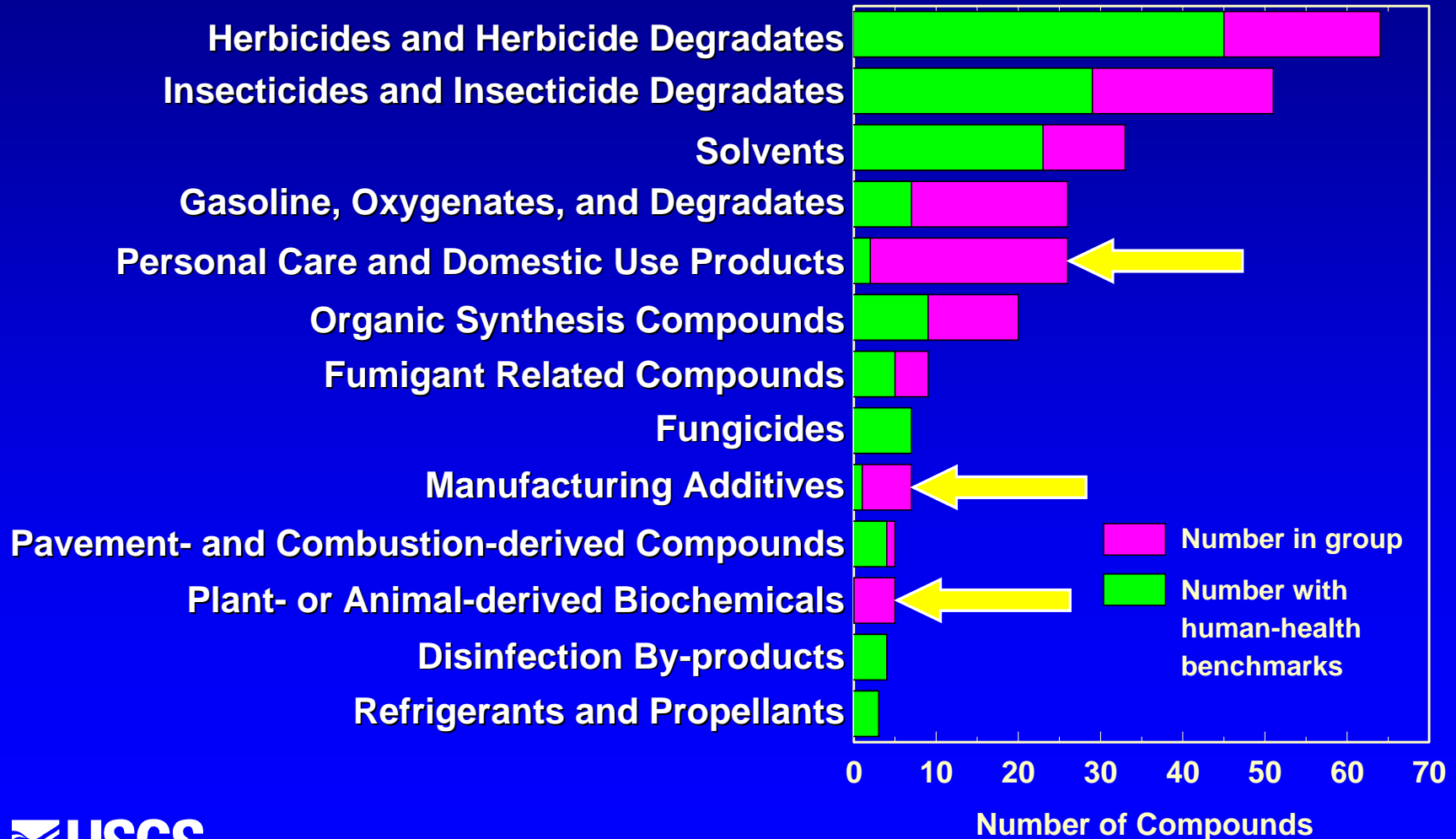


Twelve SWQAs Completed

- Largest producing Community Water Supply wells
- Important aquifers for drinking water supply



Compounds Monitored Have Different Uses



Occurrence of Compounds in Source Water Wells (Phase 1)

- 260 compounds analyzed
 - 134 were not detected
 - 57 were detected 3 or more times



Compounds Detected in Source Water Wells

Most Frequently Detected (11 – 37 % detection frequency)

Atrazine

Chloroform

Deethylatrazine

Deisopropylatrazine

MTBE

Metolachlor

Prometon

Simazine

Tetrachloroethene

Trichloroethene

Emerging contaminants (ECs) (1 – 6 % detection frequency)

4-tert-Octylphenol

AHTN

Caffeine

Diethoxy octylphenol

Menthol

Methyl salicylate

Monoethoxy octylphenol

Tributyl phosphate

Triphenyl phosphate

Quality of Source and Finished Water and Comparison to Human-Health Benchmarks (Phase 2)

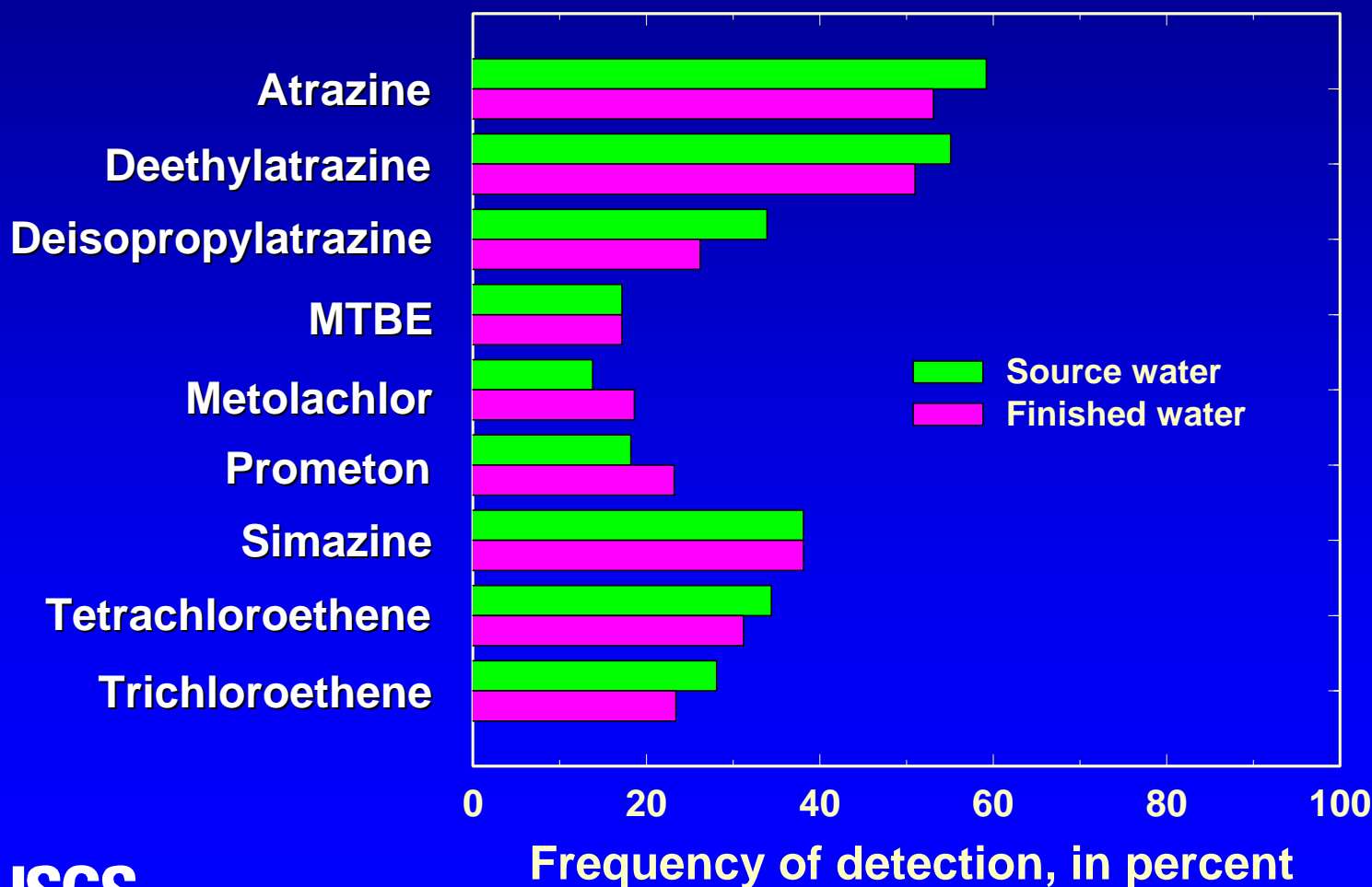


**Maximum Contaminant Levels
(MCLs)—Regulated Compounds**

**Health-Based Screening Levels
(HBSLs)—Unregulated Compounds**

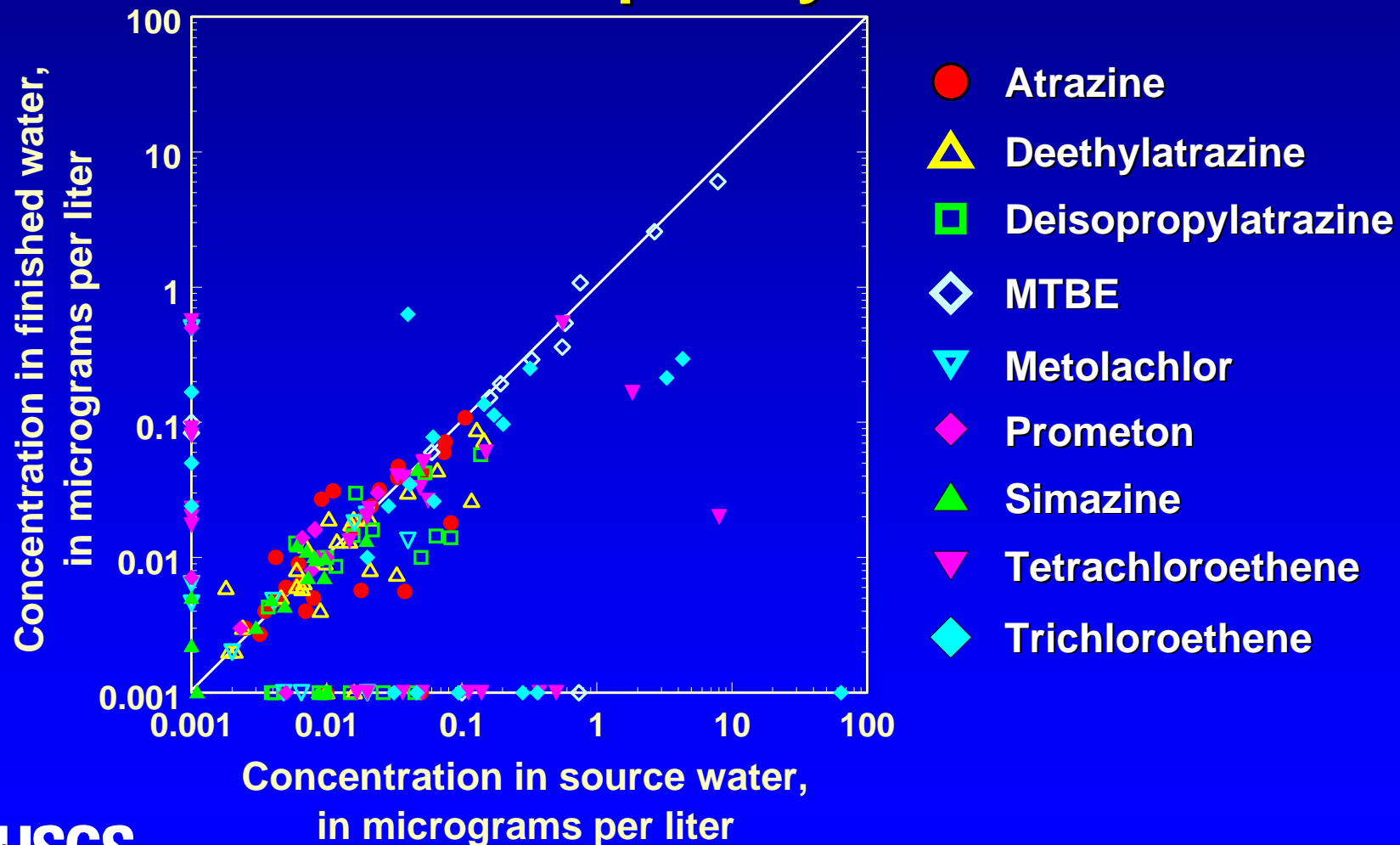


Frequency of Detection Similar in Source and Finished Water - Most Frequently Detected

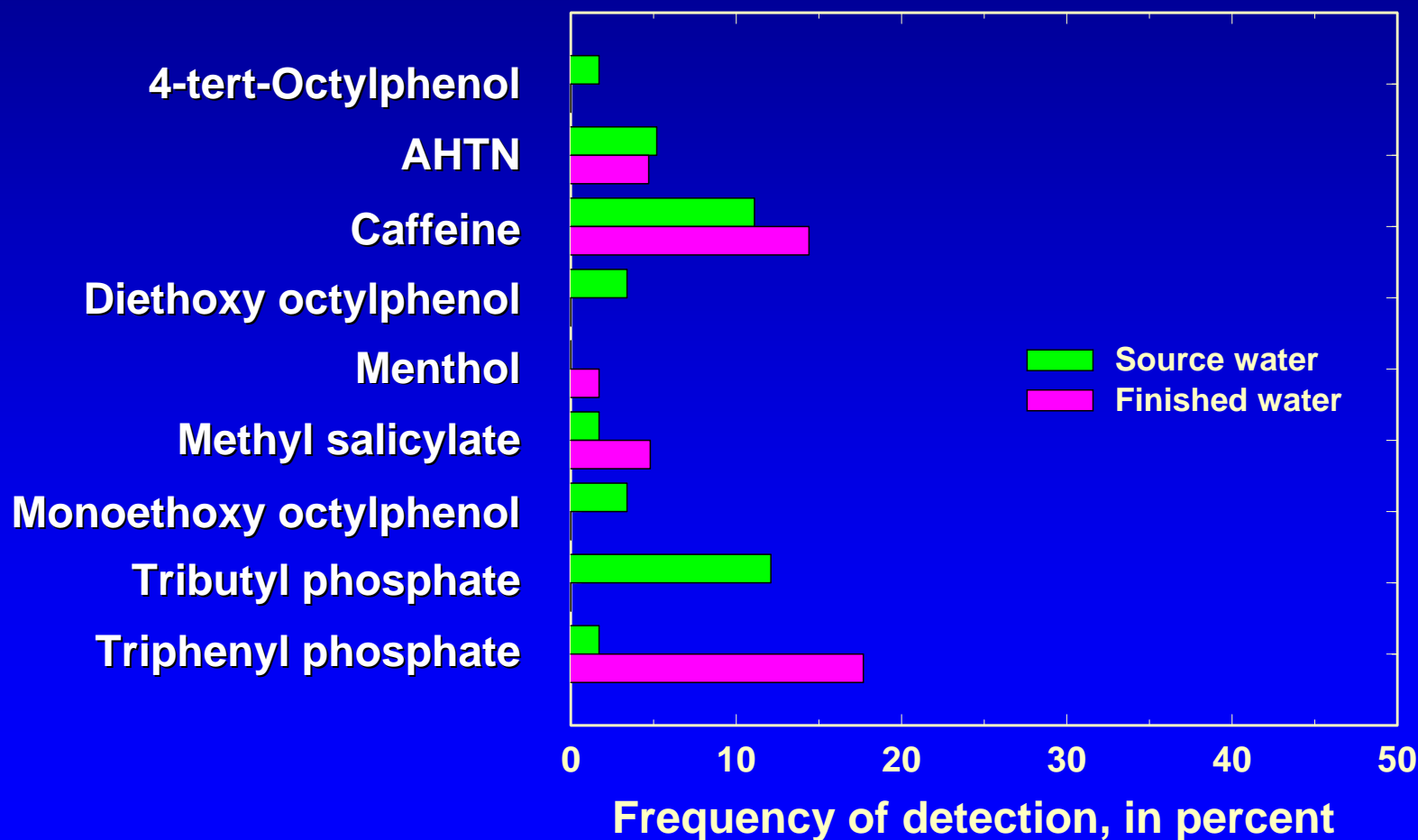


Concentrations Tend to be Less in Finished Than Source Water

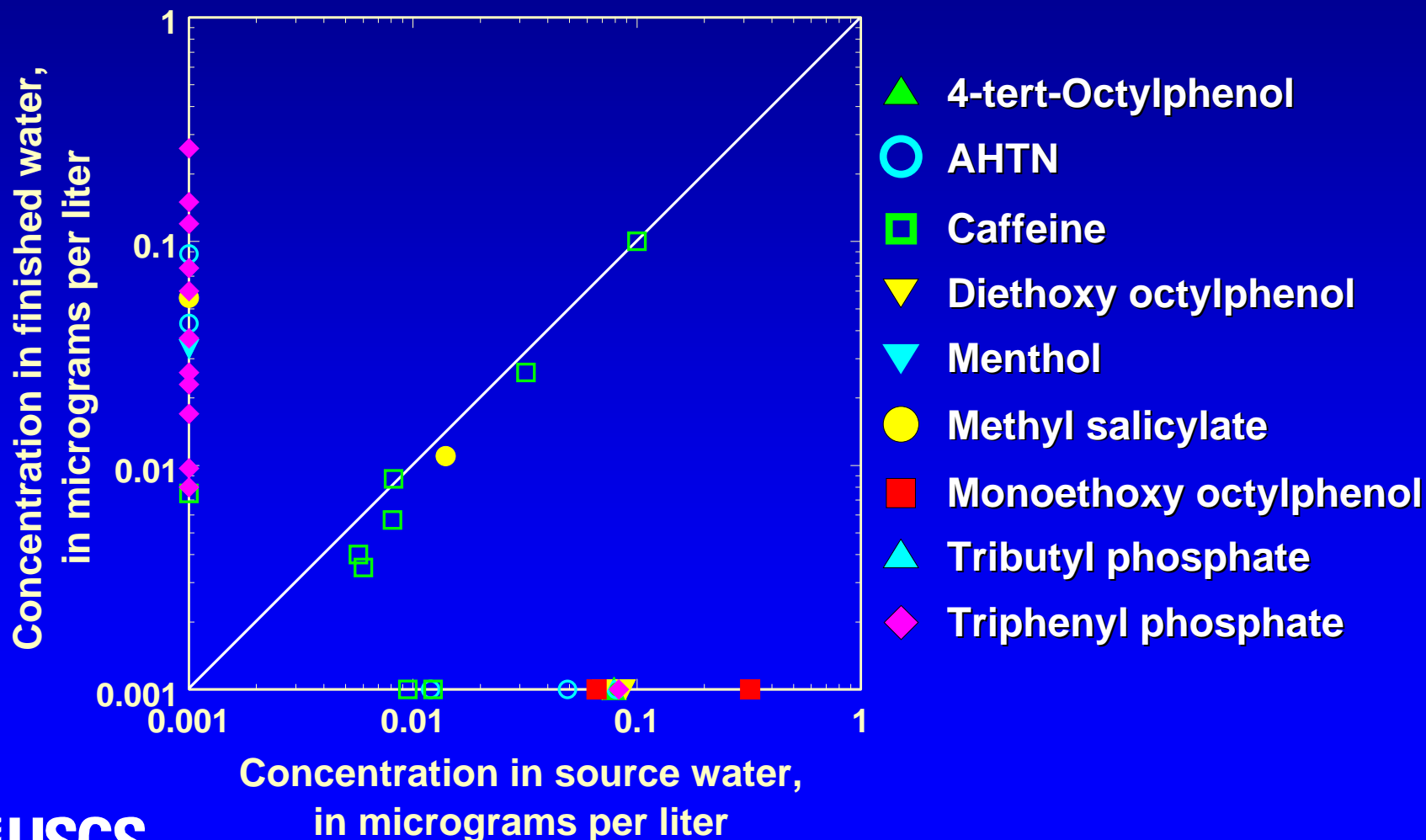
- Most Frequently Detected



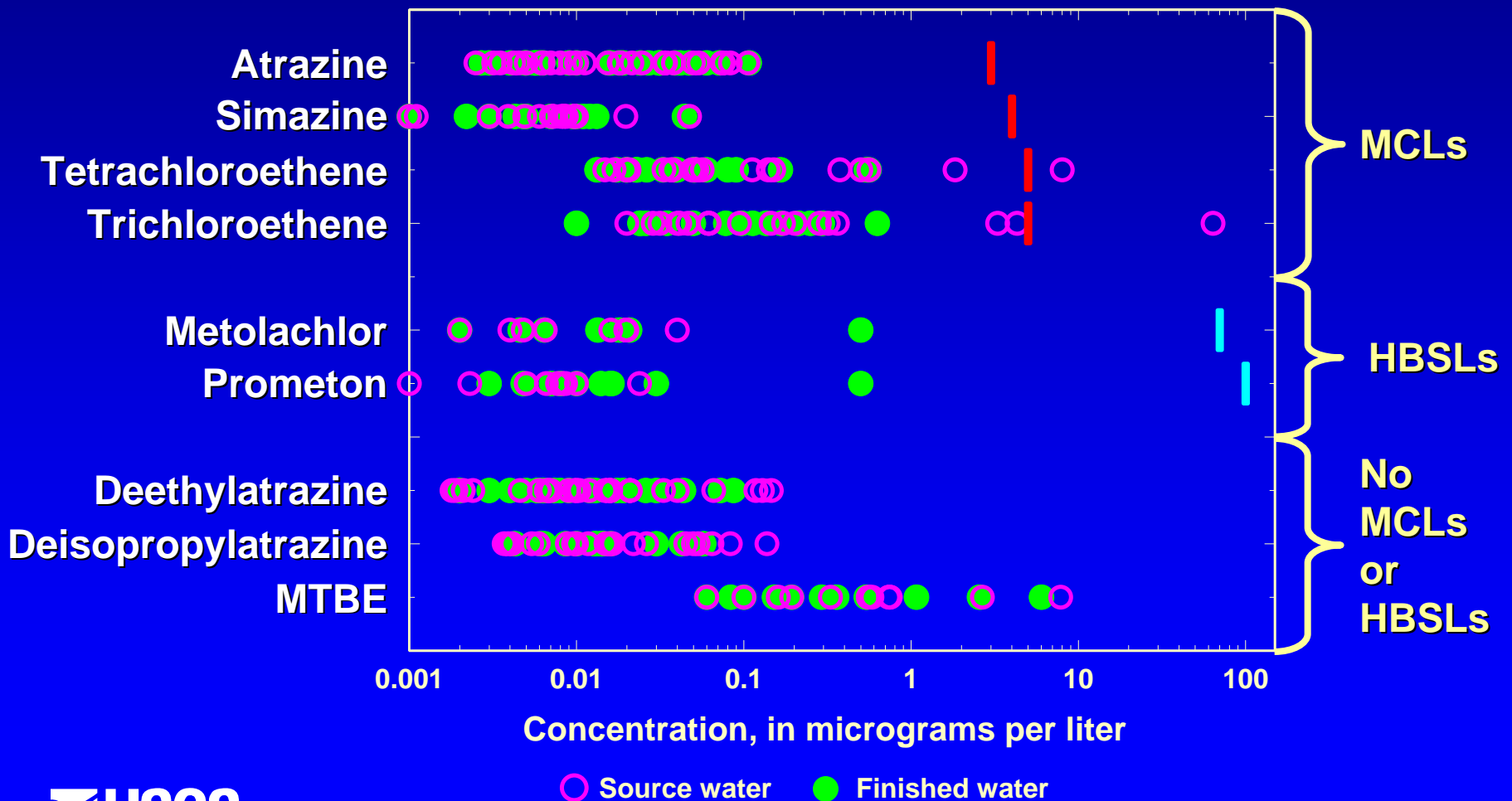
Frequency of Detection Not Always Similar for Emerging Contaminants



Concentration of ECs Typically Not Similar in Source and Finished Water



Concentrations in Finished Water Below Human-Health Benchmarks



Conclusions

- ~ 1/2 of the compounds analyzed were not detected in source water wells
- Frequently detected compounds – usually present in both source and finished water wells
- Emerging contaminants – not always present in both source and finished water wells
- Concentrations usually were orders of magnitude below human-health benchmarks



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