Source of PFOS impairment associated with novel environmental release

#### **Summer Streets**





### Background

My role

 Minnesota Pollution Control Agency history and experience with PFAS

## Lake Calhoun

- Largest lake in Minneapolis 401 acres
- Very popular recreational area
- 2004 PFOS first measured in Calhoun fish
- 2007 Impairment for fish consumption due to elevated PFOS announced
- 2007 Source investigation begins

#### April 2007 Phase 1 Sample Locations



#### October 2008 Stormwater Sampling Results PFOS (ng/L)



#### Inspection of suspected source (2010)



Suspected illicit stormwater connection

Inspection of nearest manhole showed very low flow

Effluent inspected inside facility was clearly going where it should

## **Plating on plastic**

 Replaced PFOS-containing mist suppressant in 2007 (Fumetrol 140)

 However, Fumetrol 140 was used in chromic acid etch bath – unique to this process









# Snow sample results

Date	<b>Snow</b> PFOS (ng/L)	Stormwater PFOS (ng/L)
February 2010	28,200,000	154,000
March 2010	8,900,000	730,000





## **Case summary**

Surface water, sediment, fish, and groundwater impacts

Ongoing mitigation efforts

Schedule of compliance (2016)

Continued monitoring

#### **Unanswered** questions

Air as a source and route of exposure

• What EXACTLY is in the replacement products?

Can those replacements degrade to PFOS?

### **Future vision**

More programmatic approach

Statewide standard?

Increased attention to ecorisk

## Acknowledgements

- Fred Campbell
- Tanya Maurice
- Scot Sokola
- John Elling
- Bev Conerton
- Crague Biglow
- SGS AXYS
- Minnesota Department of Health Lab