

# Environmental Canine Services: Scent tracking projects overview



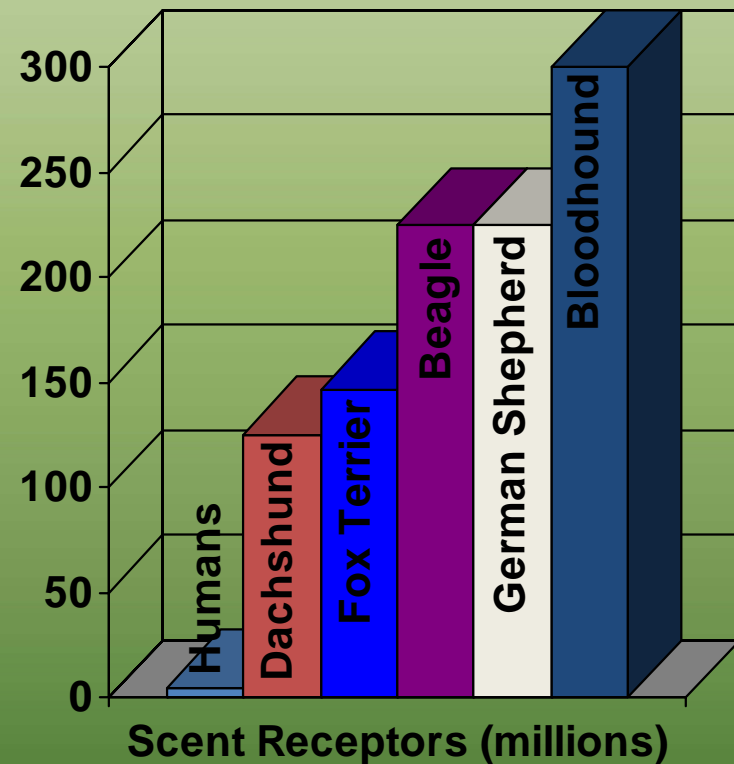
**Ottawa County 6<sup>th</sup> Annual Water Quality Forum  
2011**

# Can We Use a Canine?



# Born to Sniff

- **75% Nature, 25% Nurture**
- **Scent Receptor Area**
  - Human 1 sq inch (size of a postage stamp)
  - Dog 60 sq inch (size of a Kleenex)
- **Chemical Signals**
  - Create odor image
  - More detailed than a photograph for people
  - **Scent discrimination**



# There Are A Few Exceptions . . .

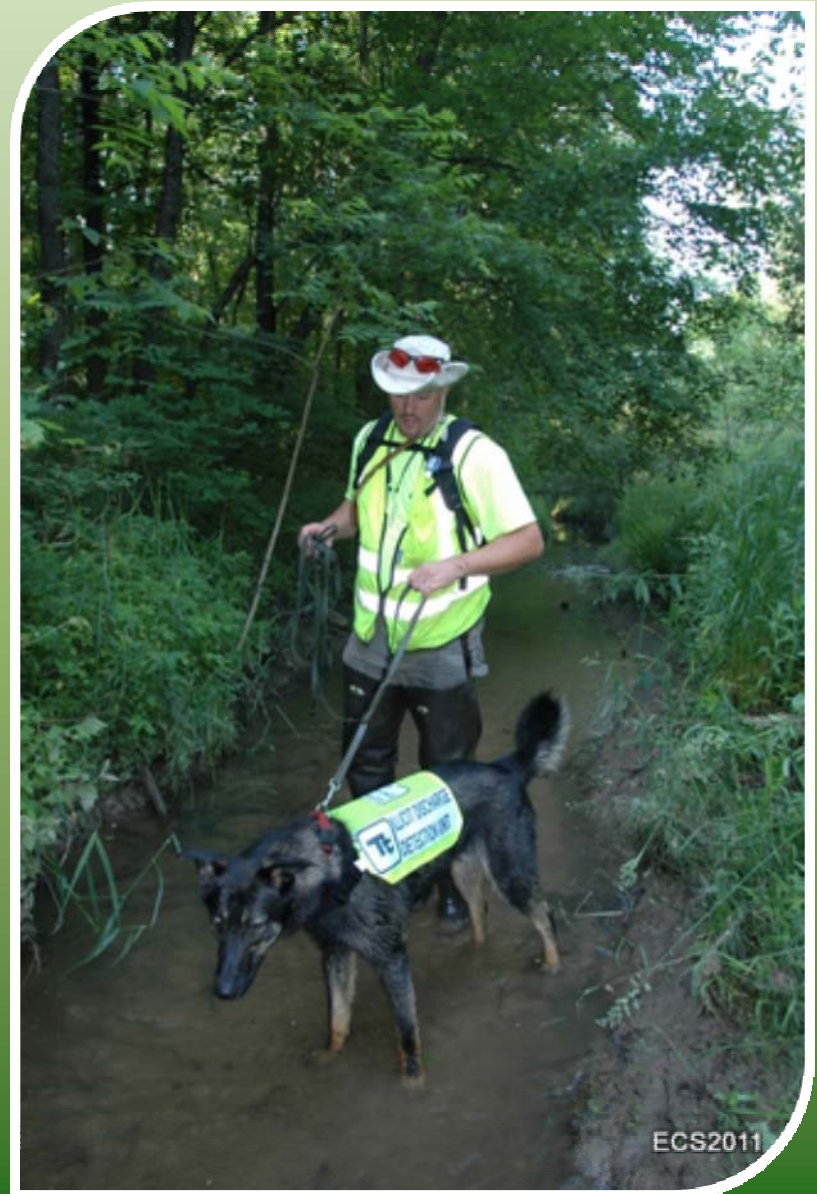


# The Nose Knows!

- **Narcotics**
- **Evidence** (guns, knives, money, etc.)
- **Live human search** (airscent and tracking)
- **Human remains search**
- **Drowning victims search**
- Explosives
- Arson
- Avalanche
- Toxic Molds
- DVDs
- Mercury- 1mg
- Fruits, vegetables, meats
- Fox scat
- Grizzly Bear scat
- Whale feces
- Bedbugs and termites
- Gas leaks
- Water leaks
- Abalone
- Truffles
- VOC's
- Cancer
- Diabetic alert
- Cooling fluid for underground power lines



# IDDE – Scott & Sable





ECS2015





# Environmental Canine Services LLC 2009





# Canine Training

- Septage from residential, sewage from WWTP



- Imprinting

- The alert (chaining)

- Proofing



# Scott, Sable, & Jack



# Karen, Logan, & Bella





# Dan & Sky



## ECS Projects/Success!

- Santa Barbara, CA
- Traverse City, MI
- Chippewa County, MI
- Ottawa Co, MI



# Santa Barbara, CA 2010

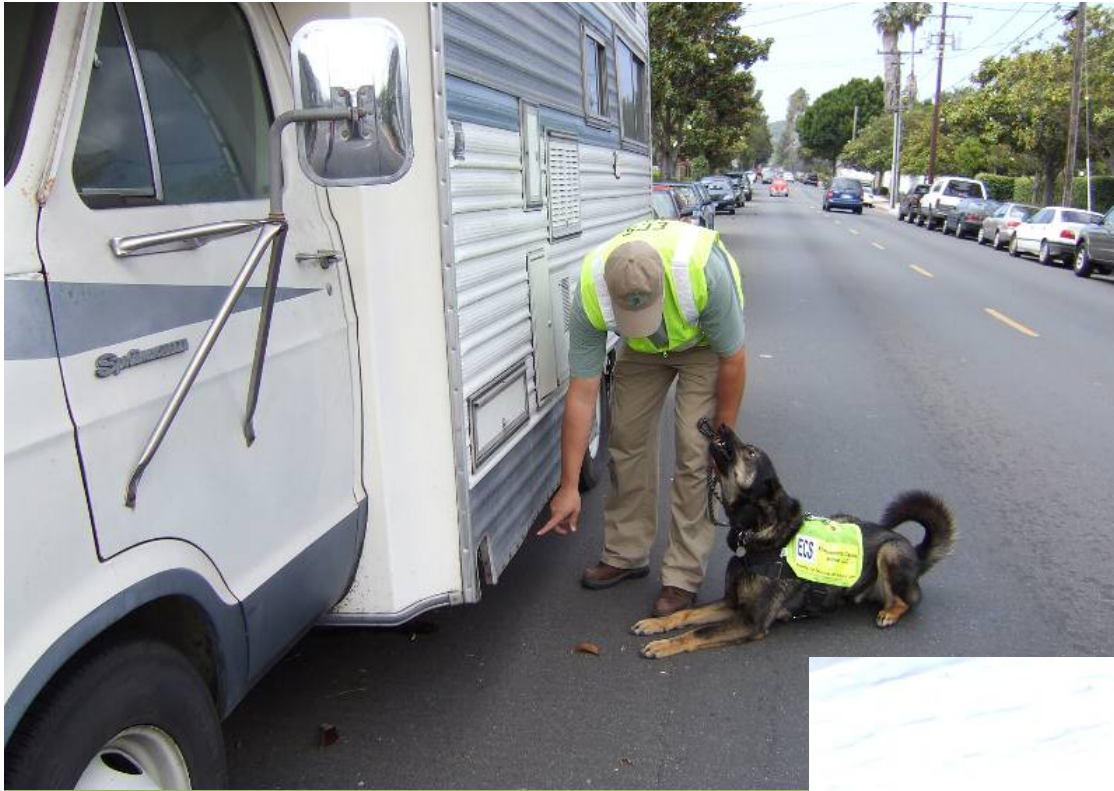


**WERF Funded Research Study**  
-UCSB and City of SB Creeks Div

-Blind study-ECS  
-Microbial Source Tracking vs.  
Canine Scent Detection



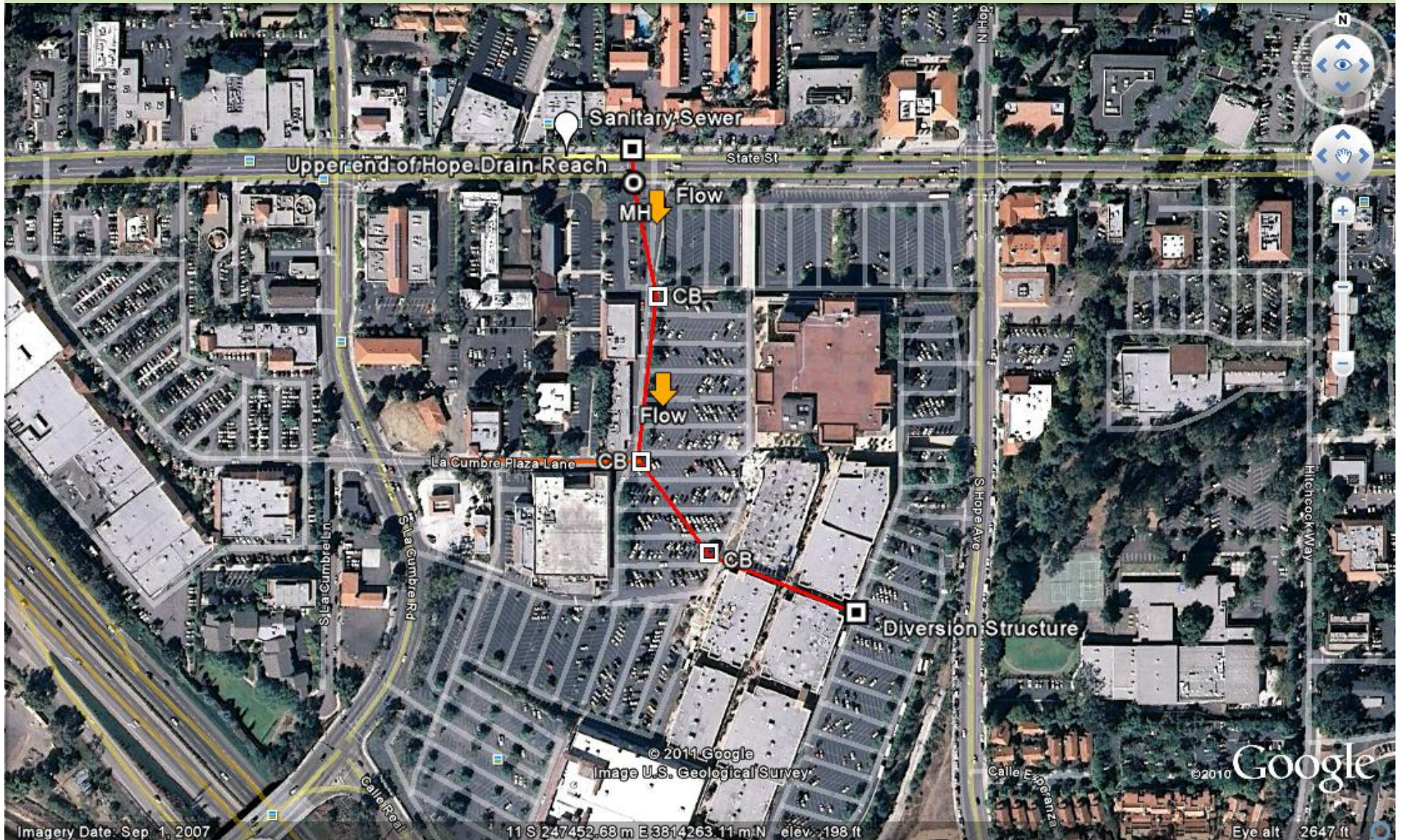
ECS2011



Checking RVs for  
blackwater  
discharges







La Cumbre Shopping Plaza - Hope Drain Diversion to WWTP





Robotic Camera verifies discharge to storm drain



# The Fix





# Final Study Results

## WERF Report U2R09

- Canine responses were significantly associated with human specific waste markers
- ZERO false negatives
- When at least 1 human marker was present  
Logan = 100%
- The dogs may respond to lower concentrations than detection limits of the human-specific markers
- Canine instant results,  
lab results 5 months

# Outstanding Stormwater Research Project 2011

California Stormwater Quality Association



# Traverse City, MI 2010 & 2011



2010





- City
- County
- Non Profit



2011



**MMC 23  
CB at detention inlet to storm  
drains to 079003**



**Outfall 93**





093004CB



093004CB

# Results – 2010 & 2011

- Up to 50 structures  
~6 hours
- Reduced sampling
  - **\$6,000 saved**
- Immediate feed back
- Reduced environmental impact
- Commercial carwash discharge found
- Hospital discharge found



Chris & Dave – Our Heros!

# Chippewa County, MI 2011











# Findings

- Brimley State Park aging infrastructure
  - Sanitary stations
  - Vault toilets
  - Sewage ponds
- Wind conditions
  - North wind – beach closed
  - South wind – beach open
- Canine confirmed

# Ottawa County, MI







WWT 03



# The Doggie Bag

- Rapid results = in the field decision making
- In the field decisions = reduced sampling
- Reduced sampling = less costs
- Furry dogs = Positive Press



# Questions?



Is that mine?

# Environmental Canine Services LLC

[www.ecsk9s.com](http://www.ecsk9s.com)

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