

**Charting** a course to

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**Clarity**

**Charting** a course to \_\_\_\_\_



**Urban Runoff  
Pollutant  
Control Opportunities**

\_\_\_\_\_ **Clarity**

# **Urban runoff analysis**

**Tahoe and national data utilized and applied to analysis**

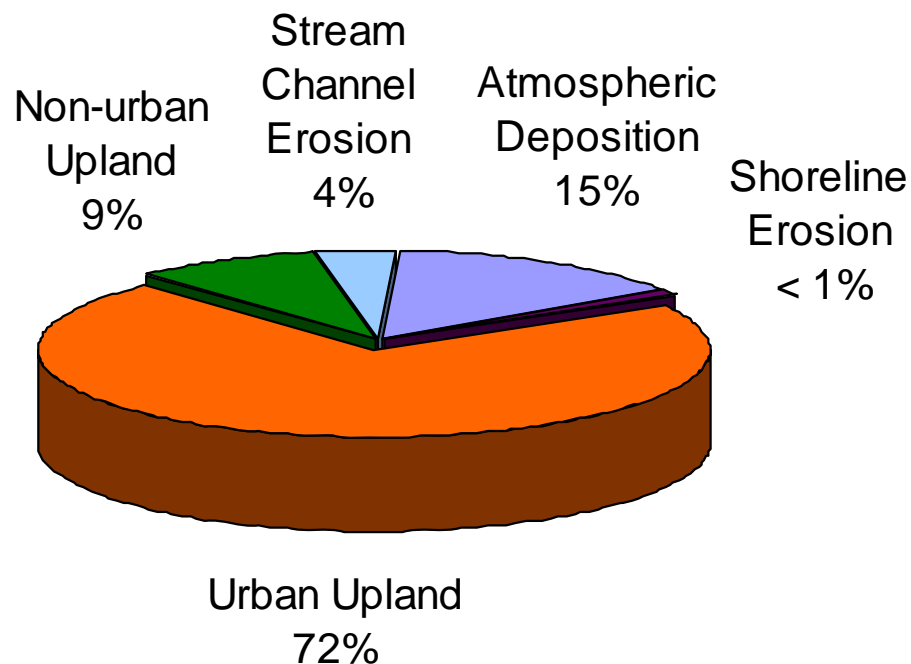
**Watershed model used for Basin-wide extrapolation**

**Baseline data from Tahoe land use loads modified by stormwater treatment load reductions**

**What are the options for reducing pollutant inputs to Lake Tahoe?**

# Urban runoff – our biggest opportunity

## Fine Sediment Particle Number Estimates (particles less than 20 micrometers): Percent Contribution per Source Category



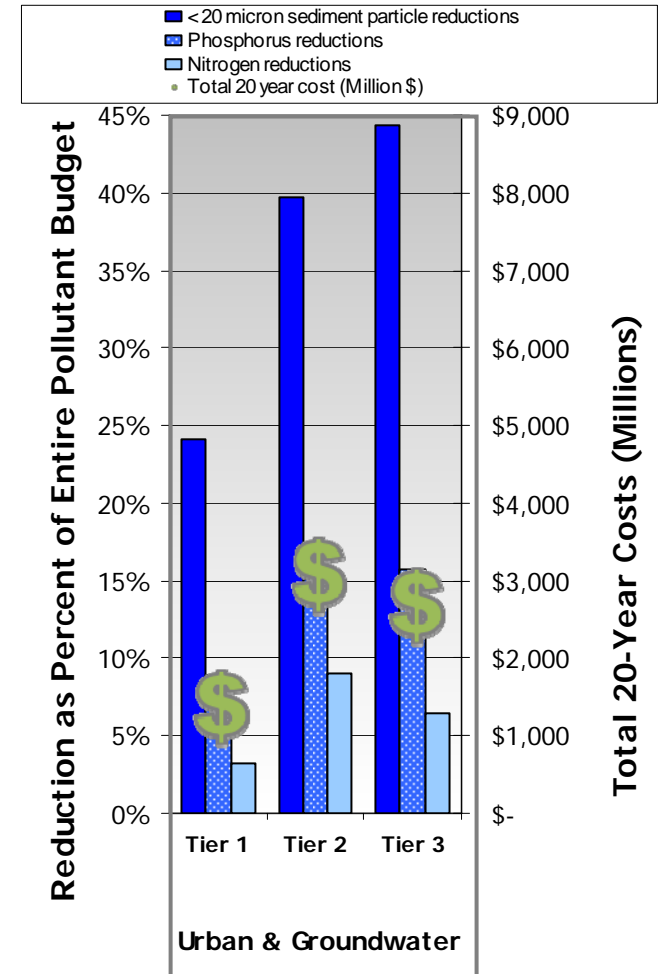
What are the options for reducing pollutant inputs to Lake Tahoe?

# Tiers: Urban runoff and groundwater

**Tier 1: More extensive application of recent EIP project treatments**

**Tier 2: Advanced practices, applied more aggressively in a project area**

**Tier 3: Pump and treat system complemented by advanced practices**



**What are the options for reducing pollutant inputs to Lake Tahoe?**

# **Tier 1 pollutant control opportunities**

**Upper end of existing practices and level of application to all urban subwatersheds**

**Sweeping in intensive traction abrasive areas (in balance with application of abrasives or deicers)**

**Increased fertilizer management as Pollutant Source Controls for N and P**

**50% Private Property BMPs included for Pollutant and Hydrologic Source control (reduction)**

# Tier 2 pollutant control opportunities

- **Advanced deicing strategies**
  - Additional Sweeping
  - Deicing solutions
- **Media filters in stormwater vaults**
- **Additional Operation & Maintenance (Stormwater Treatment)**
- **Turf management strategies and required education for professional turf mangers**
- **Control of N and P through retail fertilizer sales**
- **100% Private Property BMPs**

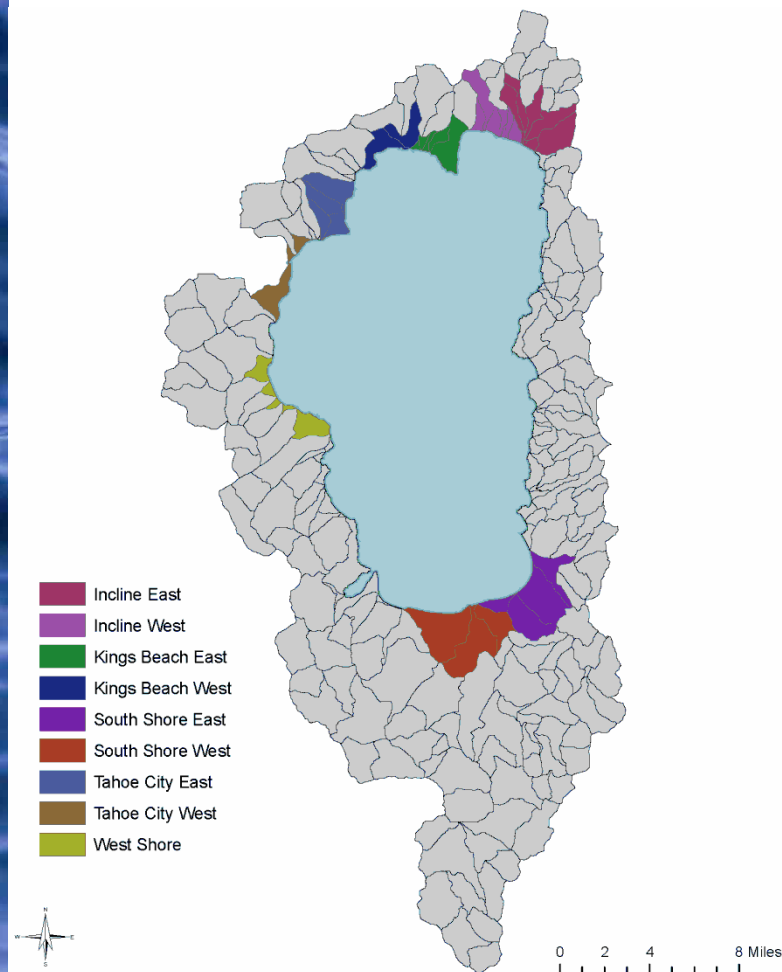
**What are the options for reducing pollutant inputs to Lake Tahoe?**

# Tier 3 pollutant control opportunities

## Pump and Treat System to Concentrated Coverage areas

- Tier 1 (stormwater collection and plumbing to carry runoff)
- Localized holding ponds
- 9 regional treatment facilities analyzed
- Microfiltration (typically used for drinking water)

## Tier 2 treatments to Dispersed Coverage subwatersheds



What are the options for reducing pollutant inputs to Lake Tahoe?

# **Recommendations for urban runoff pollutant control**

**Need go beyond the scope of current practice to meet the clarity challenge**

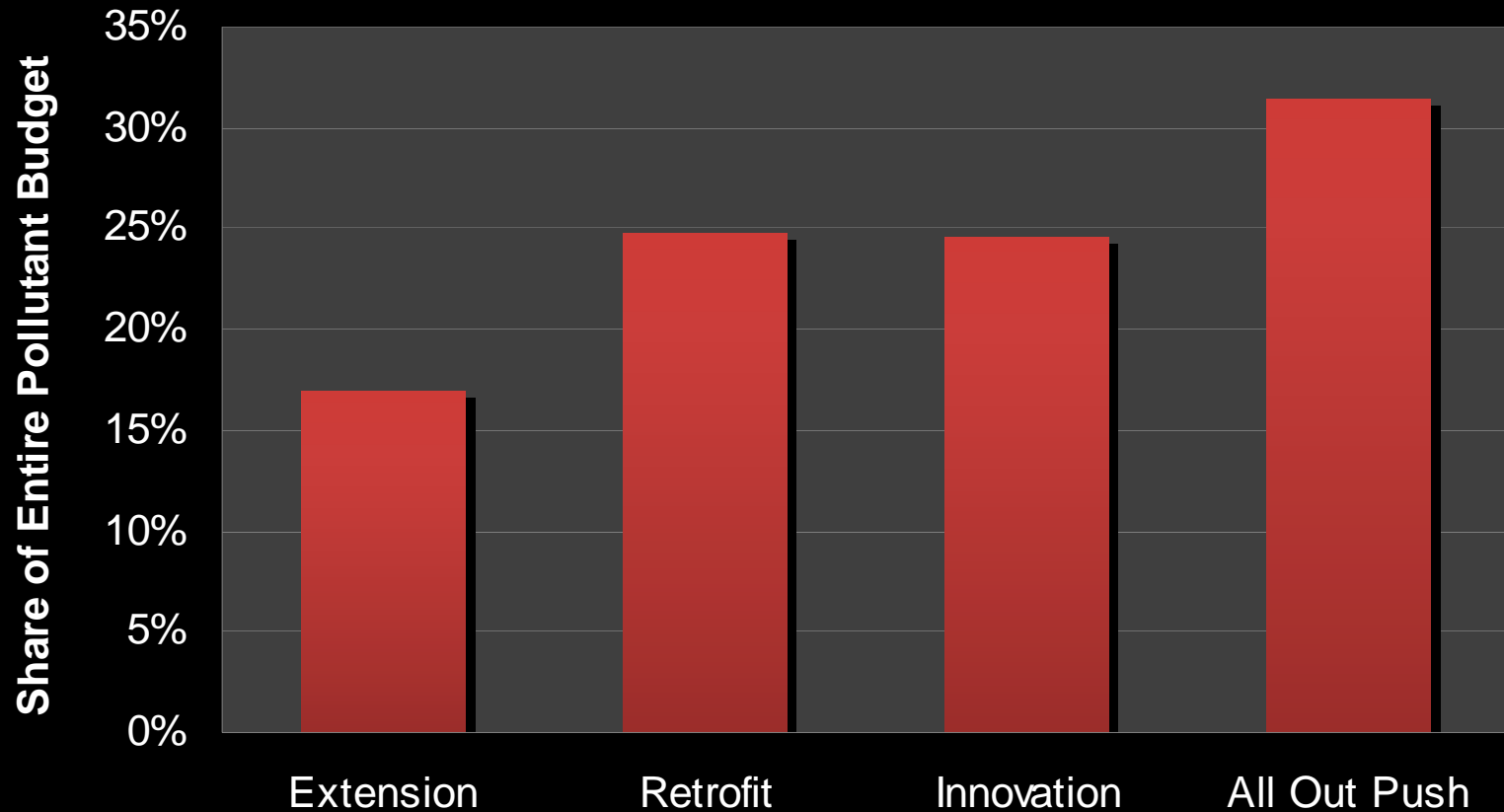
**Consider application of Tier 1 level treatment, plus more Tier 2 enhanced treatment for particular situations**

**Consider Pump & Treat application in some areas in order to meet the clarity challenge**

**Scenario examples to follow offer some levels of urban treatment applications and pollutant load reductions**

# Urban Runoff Application Scenario Results

## Urban Particle Reductions



What strategy should we implement to reduce pollutant inputs to Lake Tahoe?

# **Urban Runoff Application Scenario Costs**



**What strategy should we implement to reduce pollutant inputs to Lake Tahoe?**