

# Decentralized Wastewater Treatment

*Case Studies in California*

# *Urban Off-Grid* Heron's Head Park San Francisco, CA

- EcoCenter
- Focus on Environmental Education



# Heron's Head Park San Francisco, CA

- Recirculating Textile Filter
- UV Disinfection
- Wetlands
- Subsurface dispersal



# Heron's Head Park San Francisco, CA

- Water Quality

Goals:

- 10mg/L BOD5
- 10mg/L TSS
- 1mg/L-N Ammonia
- 5mg/L-N NO3
- TN < 10mg/L-N
- TP 3mg/L





# Heron's Head Park San Francisco, CA

- Subsurface Irrigation System



# ***Community/Clustered*** **Pheasant Landing, Chico CA**

## Recirculating Textile Filter

- 5000 gpd Ave. Flow
- 10000 gpd Peak Flow
- Effluent Requirements:
  - 10 mg/L Typical BOD5
  - 10 mg/L Typical TSS





# Little Norway, Lake Almanor

## CA

Recirculating Textile  
Filter

- 5600 gpd Ave. Flow
- 11,200 gpd Peak Flow
- Effluent Requirements:
  - 30 mg/L Typical BOD<sub>5</sub>
  - 30 mg/L Typical TSS



# Blue Oaks, Roseville CA

## Recirculating Textile Filter

- 6000 gpd Ave. Flow
- 15,000 gpd Peak Flow
- Drip Dispersal





# Ponderosa, Paradise CA

## Recirculating Textile Filter

- 5900 gpd Ave. Flow
- 8650 gpd Peak Flow
- Effluent Requirements:
  - 30 mg/L Typical BOD5
  - 30 mg/L Typical TSS



# Pine Grove MHP, Paradise CA

## Recirculating Textile Filter

- 9000 gpd Ave. Flow
- 120000 gpd Peak Flow
- Effluent Requirements:
  - 10 mg/L Typical BOD<sub>5</sub>
  - 10 mg/L Typical TSS





# Community/Single Facility Feather River Hospital, Paradise CA

Recirculating Textile Filter

- 22,738 gpd Ave. Flow
- 26,743 gpd Peak Flow
- Effluent Requirements:
  - 10 mg/L Typical BOD5
  - 10 mg/L Typical TSS





# California Wineries



*Process and Domestic waste*

# Single Facility Unique Waste Streams

Paul Hobbs  
Circulating Textile  
Filter

Sebastopol  
1.5 mgd Average Flow

- 2636 gpd Peak Flow
- Effluent Requirements:
- 160 mg/L Typical BOD5
- 100 mg/L Typical TSS



# Bin to Bottle, Napa CA

## Recirculating Textile Filter

- 1500 gpd Ave. Flow
- 2500 gpd Peak Flow
- Effluent Requirements:
  - 365 mg/L Typical BOD5
  - 180 mg/L Typical TSS





# Jim Ball Winery Sebastopol, CA

## Recirculating Textile Filter

- 1400 gpd Ave. Flow
- 2 AX100 Textile Pods for Process Waste
- 3 AX20 Textile Pods for Domestic Waste



**Questions?**