Stormwater – Friend and Foe in the Ojai Valley

Ventura River Watershed

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Today’s Presentation

Focus on Stormwater:
1. Groundwater recharge
2. Water Quality
3. Flooding

Underlying Principles:
- Friend and Foe
- Stormwater terms
- Importance of the players
- Conjunctive use of surface and groundwater supplies
- Sustainable water budget
Stormwater Friend
- Waters the plants and vegetation
- Fills water “bank account” in the soil
- Recharges the groundwater
- Knocks down the dust
- Gives stream flow for fish, recreation, drinking water

Stormwater Foe
- Carries pollutants into streams
- Knocks off blossoms in orchards
- Washes out earth, causes erosion
- Flood damage to buildings, roads, etc.
Stormwater Terms

- Clean Water Act (CWA)
  - NPDES – National Pollutant Discharge Elimination System
  - MS4 - Municipal Separate Storm Sewer System
  - TMDL – Total maximum daily load
- IRWM – Integrated Regional Water Management
- LEED – Leadership in Energy and Environmental Design
- VCAILG – Ventura County Agriculture Irrigated Lands Group
- Conjunctive Use – combined management of surface and groundwater resources.
- Water Balance: Inflow-Outflow = Change in Storage
Watersheds Shed Water –
Catchments Catch Water
Low Impact Development (LID)

LID design = make a site mimic the recharge and runoff of the pre-development conditions

*SLOW IT, SINK IT, and STORE IT*

- 2002 - Part of development guidelines
- 2009 - Part of new NPDES Stormwater Permit
- Helps LEED rating
Stormwater Players- Ojai Valley

Water Users

- Ojai Basin Groundwater Management Agency (OBGMA)
- Ojai Water Conservation District
- Golden State Water Company (City of Ojai)
- Ventura River County WD
- Meiners Oaks WD
- Casitas Municipal Water District
- Farmers/Ranchers/Individual wells
- Mutual water companies

Note: For lower watershed add City of Ventura
Stormwater Players- Ojai Valley

Watershed Management
- Ventura River Council
- Ventura County Watershed Protection District
- City of Ojai
- Ojai Valley Sanitary District
- Ojai Valley Land Conservancy
- Ojai Valley Green Coalition - Watershed Committee
Stormwater Players - Ojai Valley

**Water Quality**
- Los Angeles Regional Water Quality Control Board – NPDES stormwater and TMDLs
- Ventura Countywide Stormwater Program
- Farm Bureau and VCAILG
- Stream Team – from Santa Barbara Channel Keepers and Surfrider, Ventura Chapter
1. Groundwater Recharge

- Natural Recharge
  - In creek channels
  - Soils with good infiltration rates

- Enhanced Recharge
  - By LID
  - Stormwater Spreading Grounds (San Antonio Creek and others)
  - By using surface water that would runoff to the ocean or recycled water instead of pumping wells (In-lieu). Leave water in groundwater storage
LID & Recharge near Ojai
San Antonio Creek
Spreading Grounds

- Capture stormwater in medium and wet years, reducing flood peaks downstream.
- Bypasses “base” flows for habitat and fish passage.
- Benefit 500 AF/Yr added recharge over long term – more sustainable water budget.
- In EIR stage, 30% design.
- Funding from the IRWM State Grants.
Future of Recharge
Slow it, Sink it, Store it

- San Antonio Creek Spreading Grounds and others.
- LID on individual project sites or regional (sub-watershed) sites.
- Conjunctive Use – combined management of surface and groundwater.
  - Cooperation and planning between Casitas MWD, OBGMA, and groundwater users.
  - In-lieu recharge – use surface water in-lieu of groundwater
2. Stormwater Quality
History of Regulating Stormwater Quality

- 1972 Clean Water Act – Love Canal
- National Pollutant Discharge Elimination System (NPDES)
  - Point Sources
  - Non-Point Sources
    - Irrigated Agriculture
    - Stormwater
- Stormwater Regulation - State Control
  - Regional Water Control Boards
  - The Ventura County Stormwater Club 1992
New Stormwater Permit

- May 7, 2009 Adopted; Rehearing July 8, 2010
- More Monitoring
- Stronger LID Focus
- New Erosion Focus - Hydromodification
- Added inspections, trash cleanup
- Parcel Level controls
- More Cost – about $35/year per parcel
TMDL

- Total Maximum Daily Load
- Condition of Receiving Waters
  - Nutrients
  - Algae
Future of Stormwater Quality

1. Stormwater (NPDES) Permit
   - Technical Guidance Manual
   - Looking for problems before they happen
     - Trash, Animal Waste, Septic Tanks
   - Sampling
     - In/near Ojai: Fox Canyon (Athletic Club) and Happy Valley Drain (Rice Rd)
     - Others on San Antonio Creek and main stem of River

2. Irrigated Agriculture Monitoring

3. Volunteer Monitoring

4. Algae TMDL

5. Sanitary Survey - City of Ventura
3. Flooding
Flooding

- Last big flood 2005 = 45-year event in San Antonio Creek, highest recorded
- 2005 damages to residences, the OVSD Trunk line was exposed, Highway 33 cut off isolating Ojai
San Antonio Creek Jan. 2005
Requirement for Flood Retention
Floodplain Management

- Creek Restoration Projects
  - Ojai Creek near Libbey Park
  - Ojai Meadows near Nordhoff High School

- Each City and Unincorporated County has Floodplain Administrators
  - Ventura County – Brian Trushinski, Ray Gutierrez
  - Ojai – Brian Meadows, Glenn Hawks, Bill O’Brien
  - Ventura – Andrew Stuffler
Combination of Hydrologic Controls

- NPDES Permit – first “flush”
  - LID Controls
  - WQ Treatment controls
  - Hydromodification controls
- Local Agency Permits – for larger floods
  - Flood Control Measures affect runoff, sediment, and water quality.
- Use of any - affects the others
Future of Flooding

- Integration of Hydrologic Controls
- Creek Restoration Projects
- Bio-engineering of embankment protection
- Recent Flood Maps DFIRM Jan. 20, 2010
  - Same floodplain as 1985 maps, but digital
  - Google FEMA DFIRM flood maps
- New Flood Insurance Study (FIS)
I hope you...

- Know stormwater better – as a source for groundwater recharge, for its water quality, and for its flooding power

- Treat Stormwater as a Friend to be kept, and as a Foe to be respected.

The End
Stormwater - Questions?

“Do you think that God could use another angel to help pour out the rain”
- Country Song by Buddy Jewell