Water Resources and Climate Change

County of Santa Cruz

Commission on the Environment

Water Advisory Commission

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John Ricker

Water Resources Division Director

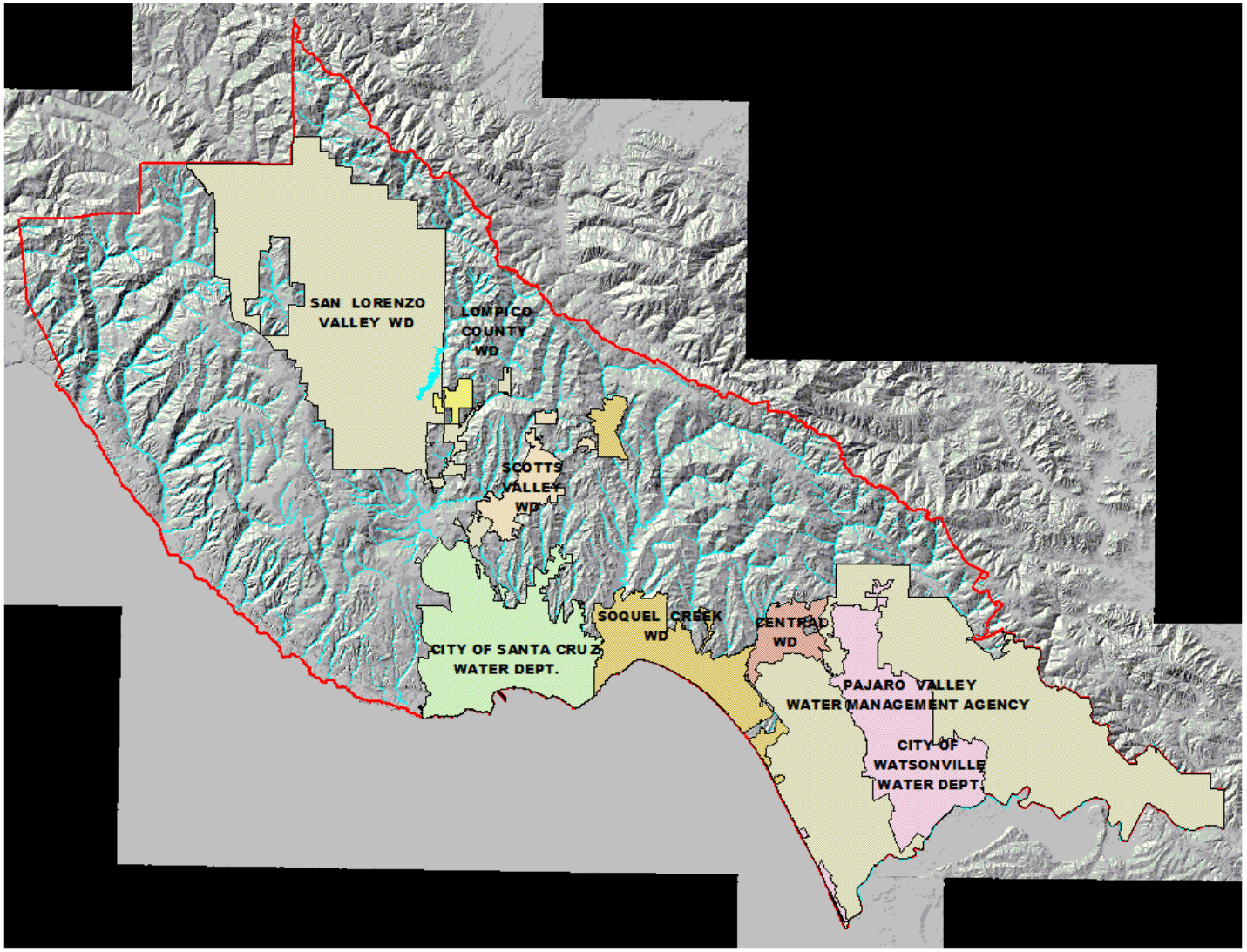
Overview

- Water resource issues
- Agencies involved
- State Legislation and Programs
- Current Efforts
- Integrated Regional Water Management
- Local Policies to be considered by Board of Supervisors

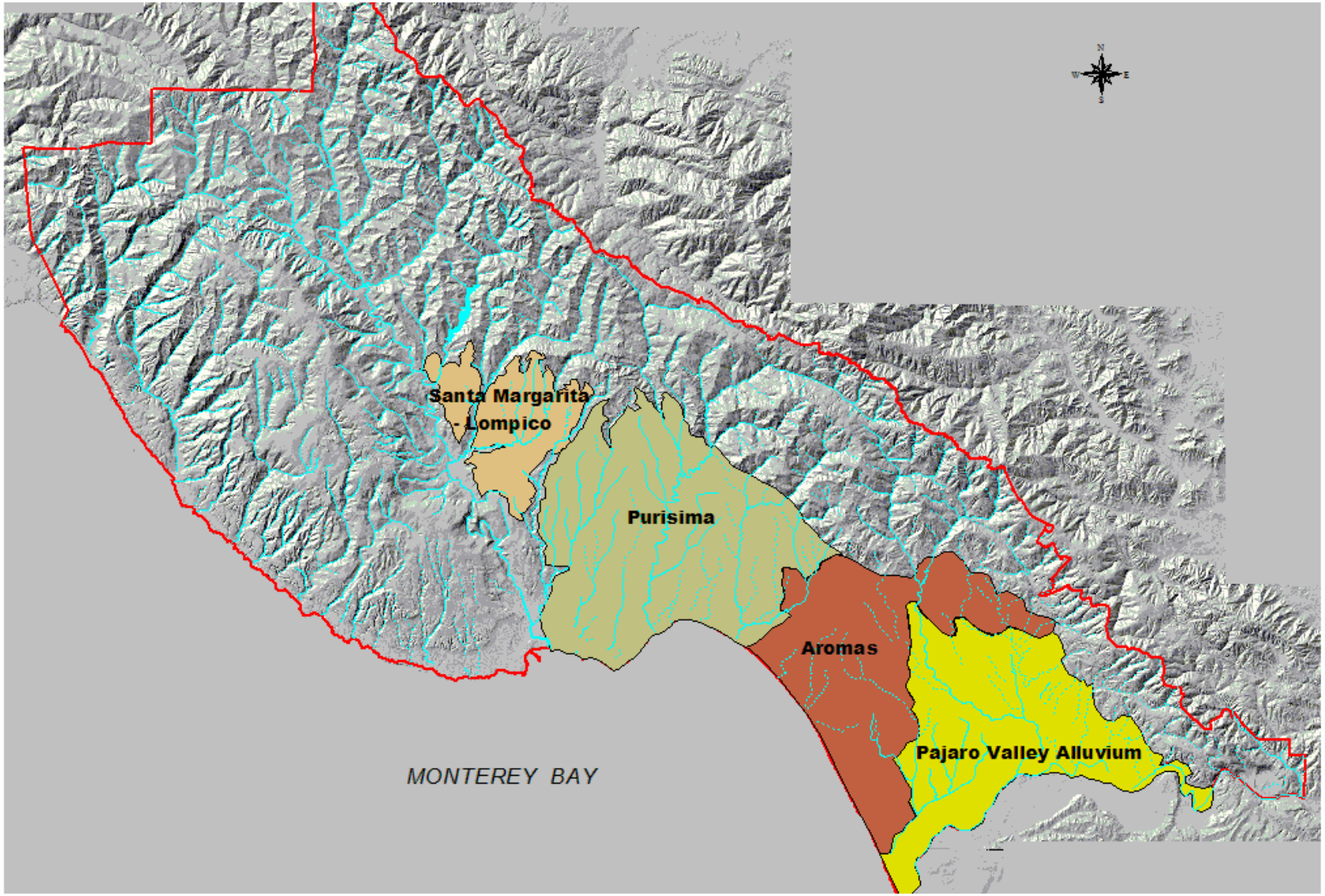
Water Resource Issues

- Lack of sustainable water supply: groundwater overdraft, seawater intrusion, ~50% drought curtailment.
- Adverse impacts on aquatic habitat and endangered species: flow and water quality
- Stormwater Management: water quality, flooding, and loss of groundwater recharge
- Issues are linked: stormwater, recharge, overdraft
- Issues will be exacerbated by climate change: increased demand, increased flooding, reduced recharge and flow

Santa Cruz County Water Agencies

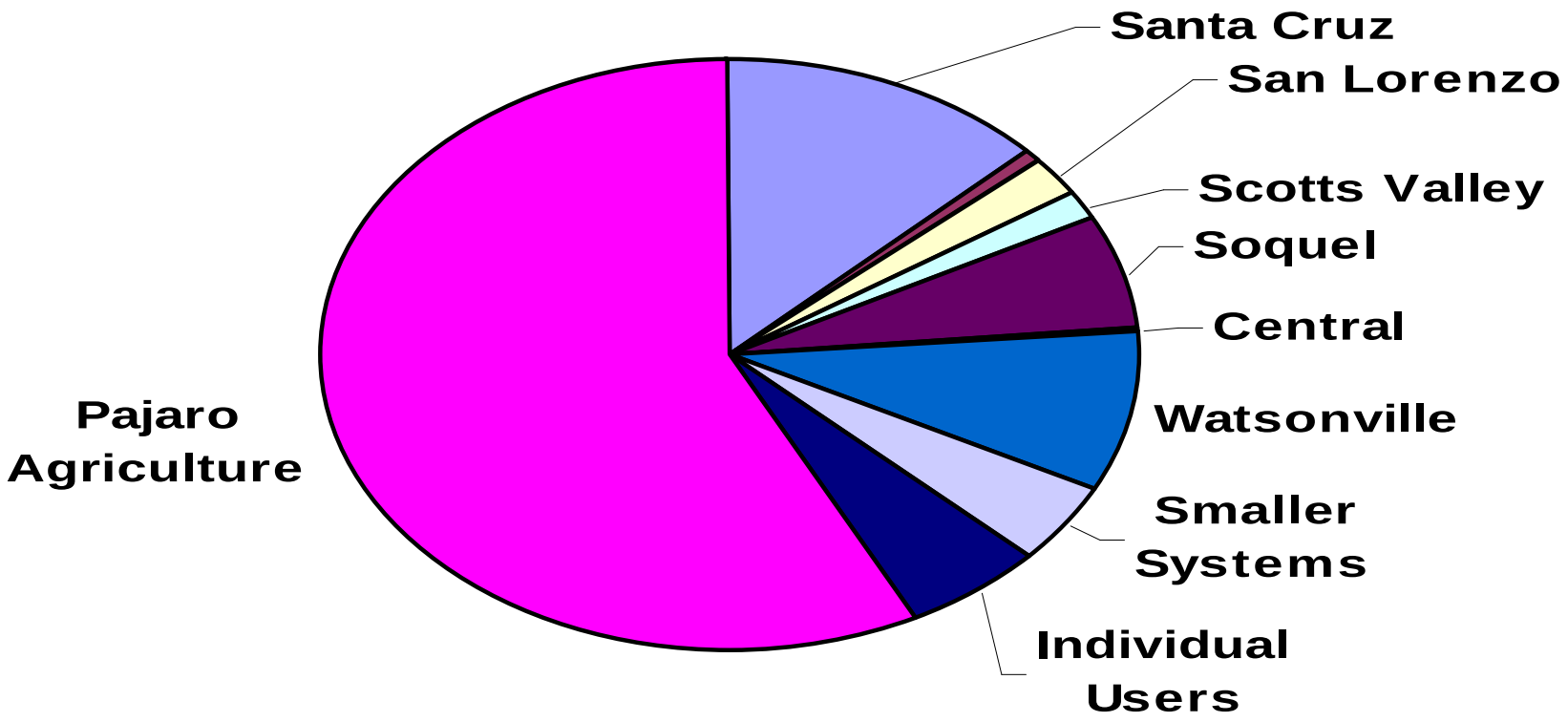


Groundwater Basins



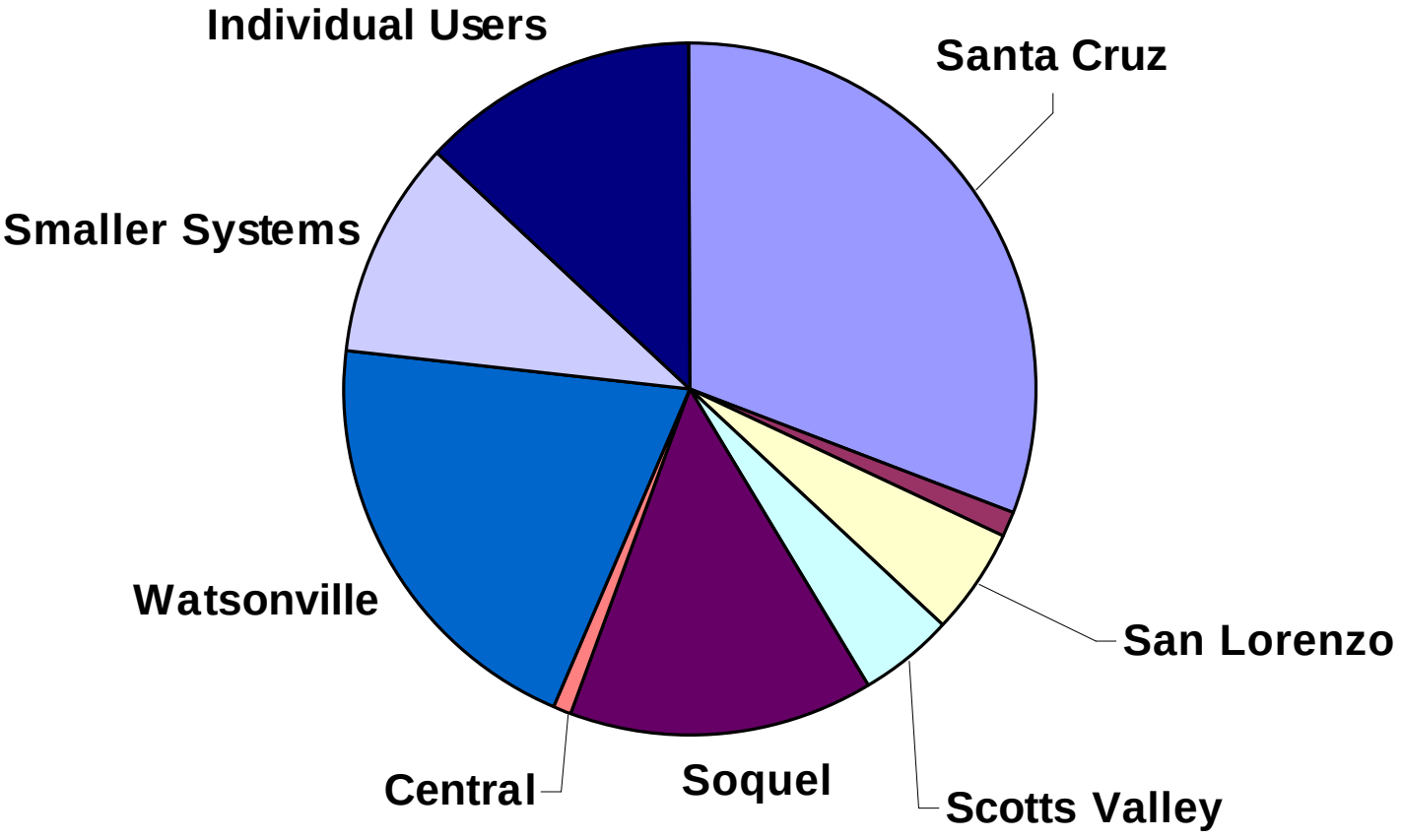
Santa Cruz County Water Use

90,000 acre--feet per year – 85% Groundwater



Non-Agricultural Use

38,400 acre-feet/yr – 65% Groundwater



Water Supply Efforts

- Integrated Resource Plans
- Groundwater Management Plans
- Urban Water Management Plans
- Water conservation and demand management Use has not increased since 1990's)
- Recycled water (Scotts Valley and Watsonville)
- Supplemental Supply (Soquel and Santa Cruz)
- Conjunctive Use, Water Exchanges

Stormwater Management

- Stormwater management plans
- Interagency coordination
- Hydromodification
- Recharge Restoration
- Low Impact Development
- Green Building
- SWAG: Santa Cruz Watershed (Storm Water) Action Group or

Related State Efforts

- Water Boards:
  - Stormwater,
  - Recycled Water,
  - Water Rights
- Dept. of Water Resources:
  - Water Plan Update,
  - Integrated Regional Water Management
  - Grants
- Dept. of Public Health: recycled water
- Legislative water package

Santa Cruz Integrated Regional Water Management

- Water Supply Agencies
- Cities and County
- Sanitation Districts
- Flood Control Districts
- Resource Conservation District
- Community Foundation/Regional Water Management Foundation
- (Pajaro IRWMP)

SCIRWMP: Prop 50 Projects

- Abandoned Well Destruction
- Conjunctive Use Plan
- Aptos Drainage Master Plan
- Stormwater Pollution Prevention
- Groundwater Recharge Projects
- New Brighton Sewer Relocation
- Desal Project Intake Evaluation

SCIRWMP: Prop 50 Projects (cont)

- Polo Grounds Well and Treatment Plant
- Polo Grounds Monitoring Well
- Davenport Drinking Water Treatment
- Watsonville Slough Wetland Restoration
- Integrated Watershed Restoration Program
- Scotts Valley Recycled Water Extension
- Coordinated Monitoring

SCIRWMP: Plan Update

- Solicit Additional Partners and Projects
- Expand Plan
- Evaluate system interties and conjunctive use
- Address state-wide concerns
- Include Climate change impacts

Pending policy updates with Board of Supervisors:

- Stormwater
- Water Conservation
- Water-efficient Landscape
- Greywater
- Green building
- Pursuing a regional approach
- (Pajaro Groundwater Management)

Possible Impacts of Climate Change on Local Water Resources

- Warmer temperatures could increase demand by 10-20%?
- Less rainfall would diminish supplies and increase demand
- Greater rainfall intensity would reduce groundwater recharge and reduce summer base-flows, with impacts on both water supply and habitat

Local Impacts of Climate Change – 2008 as an Example?

- 80% of mean annual rainfall
- San Lorenzo River came within feet of flooding
- Loch Lomond Reservoir filled
- But flow in the River in May is only 37% of the mean flow for this time of year.
- The aquifers remain depleted from two years of low recharge and years of overuse
- Individual wells are already going dry

Water Planning:
Individual Agency Efforts

- City of Santa Cruz Integrated Resource Plan
- Soquel IRP and Groundwater Management Plan, with Central Water District
- Scotts Valley Groundwater Management Plan
- SLVWD Watershed Plan and Water Master Plan
- PVWMA Basin Management Plan

Water Planning:

Integrated Regional Water Management

- Northern Santa Cruz Integrated Regional Plan
- Pajaro Watershed Integrated Regional Plan
- Central Coast Funding Area
- State Water Plan Update
- State requires climate change to be addressed
- Plans and programs include efforts for habitat improvement, water quality, and

Water Supply Projects

Water Conservation

Water Use has stayed the same since 1990-1998, despite growth in connections. Conservation continues to expand and evolve with new technology.

- Rebates for toilets, washers, weather-based irrigation controllers irrigation efficiency
- Required Retrofit on sale
- Demand Offset Program (Soquel)
- Tiered water rates: higher rate for higher use
- Coordinated education and technical assistance
- Dry year water use reduction

Water Supply Projects

- Recycled water for Scotts Valley, Pajaro, maybe Soquel
- Redistribution of pumping away from Coast: Pajaro, Soquel and Santa Cruz
- Desalination for Santa Cruz and Soquel
- Conjunctive Use and Exchange for Scotts Valley, San Lorenzo, and Santa Cruz
- Increased capture of winter surface water: Watsonville+
- Recharge enhancement and stormwater management
- System Interties and water exchanges
- Water Bond Funding for Integrated Regional

Reduce Carbon Footprint and Impacts on Climate Change

- 96% of energy use comes from pumping water (Soquel)
- Water conservation reduces energy use and production of greenhouse gases.
- Audits of energy use and working for carbon reductions in fleet operations, pumping efficiency, office functions and other obvious sources (SLV, Watsonville, Soquel)
- Support and participate in green business efforts (Scotts Valley, Watsonville, County and Soquel)
- Develop Solar and other alternative energy sources: Scotts Valley, Watsonville, Santa Cruz, being explored by Soquel

Conclusion

Santa Cruz County Water Agencies are working together to:

- Meet current and future water demand with sustainable supplies
- Protect and restore environmental values
- Plan for climate change impacts
- Reduce impacts on climate change from water supply activities