

4.0 Findings and Issues

4.1 Overview

Drawing from data and information presented in this IRWMP’s Background Data and Information Appendix (**Appendix A**), water resource plans, technical studies, and expressed public concerns spanning more than 20 years; the WRA TC identified particular findings and issues related to the respective water resource management categories. The WRA identified potential actions that address these issues.

The findings and issues in the respective water management categories are presented below.

4.2 Water Supply and Drought Preparedness

4.2.1 Findings

- Urban areas, agriculture, and the environment in Yolo County depend upon a reliable water supply, a combination of both groundwater and surface water.
- Surface water sources in Yolo County include the Sacramento River, Colusa Basin Drain, Putah Creek, Cache Creek, and the Willow Slough Bypass.
- All urban water users, except West Sacramento, rely on groundwater as their primary source of water supply. Farmers rely on groundwater for approximately 40% of their supply in a normal year, but rely more heavily on groundwater during drought years.
- Future urban population growth will result in an increase in water supply needs and demands from cities, unincorporated communities, and UC Davis. Agricultural water demand is expected to remain fairly stable, but may decline slightly depending on the impact of land conservation and conversion.

4.2.2 Issues

- Increasingly stringent water quality regulations (see Section 4.3 “Water Quality”).
- Need to improve existing water supply quality, and pursue higher quality water sources to meet current and future demands.
- Availability of adequate water supplies during severe drought conditions.
- Subsidence as a result of groundwater extraction.

**F
i
n
d
i
n
g
s

a
n
d

I
s
s
u
e
s**

Integrated Regional Water Management Plan April 2007

- Cost of providing water and wastewater service is increasing and expected to continue.
- Regulatory compliance is increasingly complex and expensive.
- Ability of deep aquifer to sustain current and future demands.

4.3 Water Quality

4.3.1 Findings

- Important to protect the quality of groundwater and surface water for the benefit of urban areas, agriculture, and the environment.
- Urban areas can significantly improve drinking water quality through treatment processes.
- Groundwater and surface water quality are both critical for ecosystem health.
- Drinking water quality and wastewater discharge standards are tightening.
- Deteriorating water quality may increasingly have an impact on agricultural production.

4.3.2 Issues

- High nitrate levels in the drinking water wells of both cities and unincorporated communities that potentially present a risk to human health.
- High salinity levels from wastewater treatment plant discharges into waterways that exceed permit requirements.
- Potential for high salinity levels in groundwater if agricultural irrigation slowly concentrates salts in shallow groundwater aquifers, but more monitoring necessary to determine if it is an issue.
- Levels of arsenic and chromium VI, naturally occurring constituents in deep groundwater aquifers, approach human health standards and may cause a risk to human health.
- High levels of boron in shallow groundwater aquifers that reduce crop yields or destroy young, perennial crops.
- Trace levels of flame retardant chemicals that do not yet present a risk to human health, but may present a risk in the future.

Integrated Regional Water Management Plan April 2007

- Well-head neglect and abandonment, creating possible conduits for pollution to enter groundwater aquifers.
- Low levels of pesticides, nitrates, or other harmful constituents in surface water that are not known to exceed human health standards, but additional monitoring is required to ensure that the water is safe.
- Some surface water sources have high levels of suspended sediment that can negatively affect aquatic life.
- High levels of mercury in Cache Creek and the Yolo Bypass may present a risk to humans who consume large quantities of fish and fish-eating wildlife.
- Storm water drainage may result in spikes of pollutants of concern that could exceed human health standards and negatively affect wildlife.

4.4 Flood Management and Storm Drainage

4.4.1 Findings

- Much of Yolo County is a natural floodplain.
- Three primary geographic regions with flooding issues: Cache Creek basin/Woodland, Sacramento River corridor, and Western Yolo floodplain (Madison, Esparto, Airport Slough, etc.) and Yolo County land west of the unleveed part of the Yolo Bypass south of Putah Creek.
- Regions have unique circumstances but share common issues.
- The unincorporated area of Yolo County near Cache Creek, as well as parts of the City of Woodland, has only 10-year flood protection according to the Federal Emergency Management Agency (FEMA).
- Yolo County contains 215 miles of levees as part of the Sacramento River Flood Control Project, including the Yolo Bypass.
- Geotechnical studies are necessary to determine whether some of Yolo County's Sacramento River levees are subject to underseepage or other potential causes of levee failure.
- In 2004, FEMA released new guidelines that will require Yolo County to submit hydraulic and geotechnical studies of specific Sacramento River levees to achieve 100-year flood protection certification during FEMA's 2006 remapping process. FEMA will decertify the levees if Yolo County does not

Integrated Regional Water Management Plan April 2007

submit the hydraulic and geotechnical studies supporting the attainment of the FEMA 100-year levee standard for certification.

- Yolo County, 13 reclamation districts, one levee district, one drainage district, and DWR have responsibility for maintaining Yolo County's Sacramento River Flood Control Project levees.
- During the past 10 years, there has been increasing pressure in the Central Valley to build in floodplain areas. Yolo County has restricted growth in the floodplains in the unincorporated areas, but many residential, industrial, and residential structures continue to be built by cities in the floodplain.
- The Yolo Bypass does not and has not functioned at design flow capacity for many years. This poses a threat to the citizens of Yolo, Solano, and Sacramento Counties if future flood events exceed the capacity of the Bypass.

4.4.2 Issues

- Through seepage and underseepage threats to Sacramento River levees.
- Erosion threats to Sacramento River levees.
- Inadequate funding for geotechnical studies to determine erosion, stability, and seepage threats to Sacramento River levees and subsequent repair projects.
- Inadequate public outreach (need for flood insurance, understanding of evacuation plans, etc.).
- Inadequate emergency preparedness plans for levee failures.
- Need to evaluate development in the floodplain (the more development, the greater the risk to public safety).
- Inadequate compensation to Yolo County for providing the City of Sacramento with flood protection. Failure of the federal and state governments to equitably address the Sacramento River Flood Control Project induced flood risks within and adjacent to the Yolo Bypass.
- Inadequate flood protection from existing Cache Creek levees.
- Erosion of existing Cache Creek levees.
- Inadequate vegetation removal on Cache Creek (impedes capacity).

Integrated Regional Water Management Plan April 2007

- Insufficient understanding of the risk of Cache Creek flooding.
- Inadequate levees to protect Madison and Esparto from Lamb Valley Slough flooding.
- Inadequate flood protection at the airport.
- Future land use changes in the Yolo Bypass must be closely monitored to ensure that impediments to flow do not occur that would further minimize capacity. All current and future land uses in the Bypass must be consistent with flow capacity requirements and subject to consistent State Reclamation Board enforcement. There should be no redirected hydraulic impacts as a result of the project operations, upstream development, or in-bypass projects.

4.5 Riparian and Aquatic Ecosystem Enhancement

4.5.1 Findings

- Major waterways and lesser streams in Yolo County that could benefit from various forms of aquatic and riparian aquatic ecosystem enhancement include:
 1. Cache Creek
 2. Putah Creek
 3. Colusa Basin Drain
 4. Sacramento River (including Fremont Weir)
 5. Salt Creek, Bird Creek, and Oat Creek (north of Cache Creek)
 6. Willow Slough, Willow Slough Bypass, and Dry Slough (south of Cache Creek)
 7. Yolo Bypass
- Tributaries to these waterways are also important to the aquatic and riparian ecosystem enhancement effort.
- Changes to the landscape from agriculture, development, and flood control projects have diminished aquatic and riparian habitat over the last 150 years.
- Recent state government efforts, including the passage of resources bonds, have made funds available for aquatic and riparian ecosystem enhancement efforts.

Integrated Regional Water Management Plan April 2007

- Many of Yolo County's waterways are considered to be of statewide importance for aquatic and riparian ecosystem enhancement efforts.

4.5.2 Issues

- Loss of native plants, increase of invasive plants leading to increased erosion problems, and loss of habitat.
- Loss of native fish habitat, including spawning grounds.
- Barriers to fish passage that prevent anadromous fish from reaching spawning grounds.
- Barriers to fish passage that prevent juvenile fish from reaching floodplains with superior food availability, and better protection from predators than an open waterway.
- Loss of habitat for terrestrial species, including endangered species, leading to a decline in some populations.
- Increase of invasive aquatic species.
- Methylmercury accumulation in fish tissue, which puts fish-eating wildlife at risk of neurological and reproductive disorders.

4.6 Recreation

4.6.1 Findings

- Countywide survey of recreational preferences specific to waterways has not been conducted, although individual government entities have developed detailed plans.
- Many opportunities to enhance existing recreational opportunities along waterways.

4.6.2 Issues

- Insufficient or inadequate educational opportunities (interpretive centers, etc.) related to waterways.
- Insufficient or inadequate hiking, bicycle and equestrian trails along waterways.
- Insufficient or inadequate hunting and fishing access sites along waterways.

I n t e g r a t e d R e g i o n a l W a t e r M a n a g e m e n t P l a n
A p r i l 2 0 0 7

- Insufficient or inadequate camping facilities along waterways.
- Insufficient or inadequate boating opportunities (motorized and non-motorized).
- Insufficient or inadequate wildlife viewing opportunities.
- Insufficient or inadequate day-use activities (picnicking, swimming, etc.)

**F
i
n
d
i
n
g
s

a
n
d

I
s
s
u
e
s**