SACRAMENTO REGION

Coordinated Rural Opportunities Plan

March 2024

Yolo County Profile

valley vision

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Introduction

The Coordinated Rural Opportunities Plan (CROP) is funded by the Department of Conservation's Sustainable Agricultural Lands Conservation (SALC) Program and is a joint effort between the Sacramento Area Council of Governments (SACOG) and Valley Vision. CROP is part of the Rural-Urban Connections Strategy (RUCS) to enhance rural economies and the natural assets that drive them. CROP will result in comprehensive profiles of each county in the Sacramento region, in addition to a region-wide profile. The profiles will serve as valuable resources for identifying priority areas for infrastructure investments and programs that will strengthen the region's food and agricultural cluster. Furthermore, CROP will provide county and regional leaders the opportunity to address infrastructure investment challenges and collectively come together to find solutions that will add to the region's agricultural sustainability and long-term economic health and resiliency.

FOOD SYSTEM INFRASTRUCTURE

- **Improves the efficiency, sustainability, and productivity of the local food system**
- **Increases and access to nutritious, local, and seasonal foods in historically disinvested communities**
- **Supports the viability of agriculture, addresses climate challenges, and helps preserve valuable farmlands**
- **Creates new jobs, supports food and ag-related businesses, spurs innovation, and provides economic opportunities**

Agriculture is deeply rooted in the rich history of the Sacramento region and continually contributes to its unique identity. Leading America as the Farm to Fork Capital, the Sacramento region provides $2.2 billion in farmgate output value, and the agricultural economy is valued at more than $12 billion.[1] The food and agriculture cluster consist of crop production, packaging and processing, distribution, and related operations and industries. Although the agricultural sector sustains the region's robust economy, infrastructure challenges are impeding the ability of the six counties to advance sustainable food production and supply chains, statewide and globally.

1 2021 Sacramento Region Food System Action Plan. (2021). http://www.valleyvision.org/wp-content/uploads/2021RegionalActionPlan.pdf

Background: Yolo County

Yolo County is home to a population of 220,880 people, with at least 87% of the county's total population residing in the four incorporated cities - Davis, Woodland, West Sacramento, and Winters. The county covers 1,021 square miles (653,549 acres) of land and includes several rural unincorporated communities - Clarksburg, Capay, Dunnigan, Esparto, Guinda, Knights Landing, Madison, Monument Hills. While the majority of residents live in the incorporated cities, the majority of agricultural production occurs in the unincorporated area. Further, the county has an Agricultural Commissioner's office appointed by its Board of Supervisors to administer county-wide activities in support of agriculture (with other county departments also engaged in supporting agriculture). Given this nexus, many of the examples and recommendations presented in this profile focus on the County of Yolo as a potential lead, while also highlighting the role of additional partners such as local jurisdictions, regional agencies, special districts, or conservation entities.

Yolo County has a long-standing commitment to preserving and maintaining vital agricultural lands and natural resources. Over 90% of the county's land is dedicated to agriculture or open-space preservation. There are over 250,000 acres of prime farmland, which is land with an optimal combination of chemical and physical characteristics that sustain long term farming.[2] In fact, the county has more than 50% of the region's prime ag lands. In addition to prime farmland, the county also has roughly 19,000 acres of farmland of Statewide importance, over 40,000 acres of unique farmland, and over 25,000 acres of farmland of local importance.[3]

2 https://theyololandtrust.org/ag-is-key-in-yolo-county/
3 https://maps.conservation.ca.gov/DLRP/CIFF/

Yolo County's Top Five 2022 Commodities

1. Tomatoes, processing
2. Grapes/Wine
3. Almonds
4. Hay/Alfalfa
5. Pistashios

The top 5 commodities in Yolo County were valued at $367,160,000 in 2022, down 19.3% from $466,577,000 in 2021

* Does not include organic production.

Yolo County aims to advance a prosperous agricultural industry, sustain a robust economy, and provide a safe and sustainable environment for both residents and wildlife to thrive together in harmony.[4] A key County objective is maintaining and sustaining agricultural operations centered on food production, distribution and processing to ensure that the agricultural economy is stable and viable for generations to come, and supports agricultural workers, employers, farmers, and consumers alike.

Agricultural production in Yolo County totaled $693,548,000 in 2022, as the county's farmgate value has continued to grow over the last decade. Fluctuating temperatures and other climate-related issues, however, are impacting crop production. Minimum temperatures have generally increased through time, which decreases crop yields that require more chill hours, such as walnuts and winter wheat. On the other hand, the warmer temperatures have extended the growing season for rice, tomato, and alfalfa crops that require warm temperatures.[5] On the shorter time scale, the freeze in the winter of 2022 stunted growth for the almond and grape crops, and extreme heat affected the quality of walnuts, which lowered the price of the crop. Also, the drought 2022 reduced rice production and livestock was challenged due to reduced forage for livestock grazing. Overall the county's 2022 ag output value was a 14.5% decrease from 2021, due to adverse weather conditions and water shortages. Yet Yolo County remains the top-grossing county in the region. Taking a unified approach to food system infrastructure can help maximize the county's agricultural value even in the face of growing climate variability.

4 https://www.yolocounty.org/home/showpublisheddocument/14465/635289380535200000
5 https://www.davisenterprise.com/news/how-is-climate-change-affecting-agriculture-it-depends/article_a5b0ed0c-42a7-50ca-a5fb-e6014e934476.html

Water Infrastructure

Yolo County's primary source of agricultural water comes from Clear Lake, 50 miles away in Lake County, managed by the Yolo County Flood Control and Water Conservation District. The District's right to store water was not enough to supply water to farmers during dry years, which resulted in the District's construction of the Indian Valley Dam and Reservoir in 1974 - 1975. The reservoir provides long-term irrigation storage. The total water supply available to District water users includes the surface water of Clear Lake, Indian Valley, and Cache Creek, and the groundwater recharged by the District's operations. The Reservoir also serves as flood control. The distribution system is comprised of approximately 160 miles of canals and laterals. Water is delivered by gravity through canals and is then diverted into fields through ditches.

As the region and state's climate becomes more unpredictable and extreme (with longer wet and dry periods), Yolo County's water supply and reliability will have a major impact on the County's ability to meet its goal of a flourishing agricultural economy and sustainable environment.[6] According to the District, the county continues to be a "water deficient" area due to increasing water demands to address urban growth and restoration of habitat, while maintaining a viable farm economy. The District has a multi-pronged approach for a healthy water supply, including groundwater recharge projects to replenish the groundwater basins and aquifers, conservation of existing supplies, and technology and water management strategies.[7]

As part of its management, the District must maintain and improve its aging water delivery system. Though the canals, culverts, bridges, and gates of today's system are not necessarily original structures built 150 years ago, many of them now require replacement or significant repair, and all of them need regular assessment. Two of the District's three dams are approaching the 100-year mark, and its newest is over 30 years old. The District believes that its capital improvement projects, scheduled infrastructure maintenance, and readiness for 10 emergency repairs are essential functions that help ensure safety and prosperity for Yolo County and its residents.[8]

The Yolo Bypass is one of two major bypasses in the Sacramento Valley that helps deter urban flooding. (The other bypass is the Sutter Bypass, which lies upstream of the Yolo Bypass). The Bypass runs south, parallel to the Sacramento River, and drains into the Sacramento-San Joaquin Delta. Through a system of weirs, the Bypass diverts floodwaters from the Sacramento River

6 https://www.yolocounty.org/home/showpublisheddocument/75889/638089399992570000
7 https://www.ycfcwcd.org/infrastructure.html
8 https://www.ycfcwcd.org/documents/FINAL_YCFCWCDAdopted2020AWMP.pdf

away from the capital city of Sacramento and other nearby riverside communities. The main input into the Bypass is from the passive Fremont Weir, where water spills from the Sacramento River. Downstream, the Sacramento Weir also can be opened to divert additional waters from the Sacramento River if needed. From the west, Cache Creek drains in the Bypass as well. During flood events, the Yolo Bypass transports five times the average flow of the Sacramento River, reducing risk to $68 billion in property and 650,000 people in the Sacramento region.

About 75% of the Yolo Bypass is privately owned; the floodplains are farmed for multiple seasonal crops. The floodplains of the Yolo Bypass are a surprisingly good farming ground for multiple seasonal crops including rice, safflower, tomatoes, corn and sunflower. The California Department of Fish and Wildlife leases land to farmers through the Dixon Resource Conservation District and manages the flooding of the Bypass with consideration for both farming and habitat. Among other issues, drainage capacity within the Yolo Bypass needs improvement.

Many of the major flood projects in Yolo County are implemented by the Department of Water Resources (DWR) and the U.S. Army Corps of Engineers (USACE), such as the Lower Elkhorn Basin levee setback and Sacramento Weir and Yolo Bypass extension. With support from DWR, the Lower Elkhorn Basin Levee Setback Project finished in late 2023, which added seven miles of new levees, expanding the Sacramento Bypass and Yolo Bypass and creating more space for floodwaters to spread out. This project reduces flood risk for 780,000 people in Sacramento, West Sacramento, and Woodland. It protects $53 billion in assets by increasing bypass capacity and reducing flood stage in the Sacramento River and Yolo Bypass, providing more habitat for native fish, birds, and other wildlife. The neighboring project in Sacramento County to widen the Sacramento Weir will significantly increase the overflow capacity from the Sacramento River into the Yolo Bypass. Both projects are key components to a larger vision for multi-benefit projects in the region that strengthen resilience to floods. As a result, new regulatory hydraulic profiles are needed to replace the 1957 profile so that it reflects the increased capacity that will result from widening the weirs and constructing setback levees.[9]

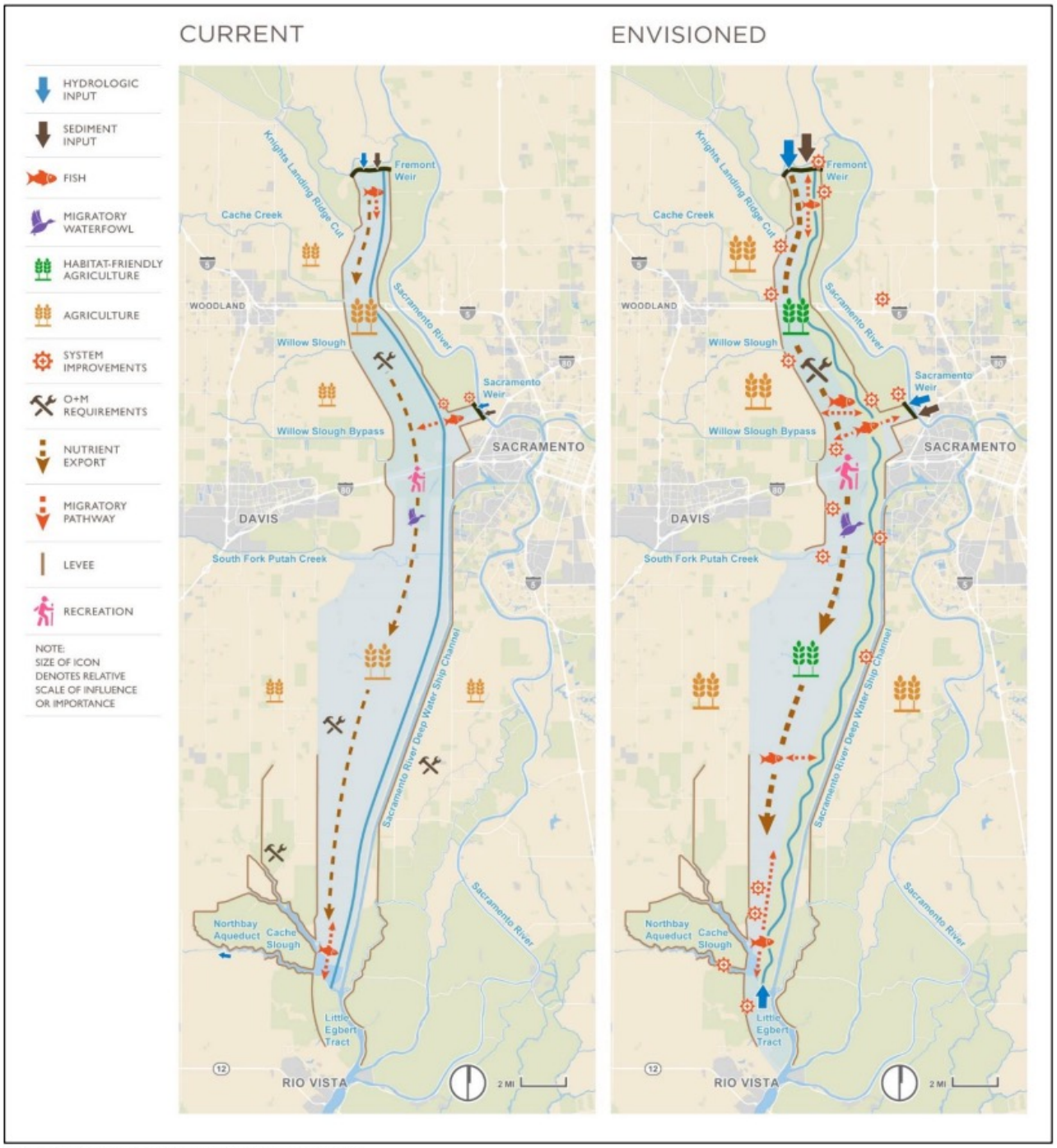
The Yolo Bypass Drainage and Water Infrastructure Improvement Study Update identifies other needed improvements such as the Reclamation District (RD) 1600 Pump Station and Gravity Drain and the Swanston Ranch Master Project that will greatly improve drainage for agriculture, including rice fields, while Flood Safe Yolo 2.0 highlights a set of smaller flood control projects such as expanded flood monitoring systems or creek and slough clearings. While Yolo County, Ducks Unlimited, and the Yolo County Resource Conservation District have managed grants in the past to help implement projects, these organizations may not have the capacity to manage future grants.

The Yolo Bypass Cache Slough Partnership (YBCS) is a collaborative effort formed by an MOU in 2016 between 15 state, federal, and local agency partners to make infrastructure improvements in the Yolo Bypass and Cache Slough region that significantly contribute to climate resilience, including public safety, ecosystem vitality, and agricultural and economic stability.[10]

9 https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Flood-Management/Flood-Planning-and-Studies/Central-Valley-Flood-Protection-Plan/Files/CVFPP-Updates/2022/CVFPP_U22_layout_v4.pdf

10 https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Flood-Management/Flood-Planning-and-Studies/Central-Valley-Flood-Protection-Plan/Files/CVFPP-Updates/2022/CVFPP_U22_layout_v4.pdf

The Partnership represents an area with approximately 900 acres of rice fields that provide habitat for waterfowl and shorebirds. In 2021, Senate Bill 369 passed which codified the Yolo Bypass Cache Slough Partnership Multibenefit Program into state law. The bill states that together, the Yolo Bypass and Cache Slough region present unparalleled opportunities for multi-benefit projects that improve flood protection, fisheries and wildlife habitat, water supply and water quality, agricultural sustainability, and recreational opportunities. Since then, the YBCS formed an Agricultural Sustainability Workgroup to identify tools for addressing the impacts and concerns of agricultural interests in the region.[11] The resulting Yolo Bypass Cache Slough Partnership serves as a model for public agency cooperation and achievement. Below is a list of current and envisioned projects of the YBCS.



Source: Yolo Bypass-Cache Slough Partnership 2022

11 https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Flood-Management/Flood-Planning-and-Studies/Central-Valley-Flood-Protection-Plan/Files/CVFPP-Updates/2022/CVFPP_U22_layout_v4.pdf

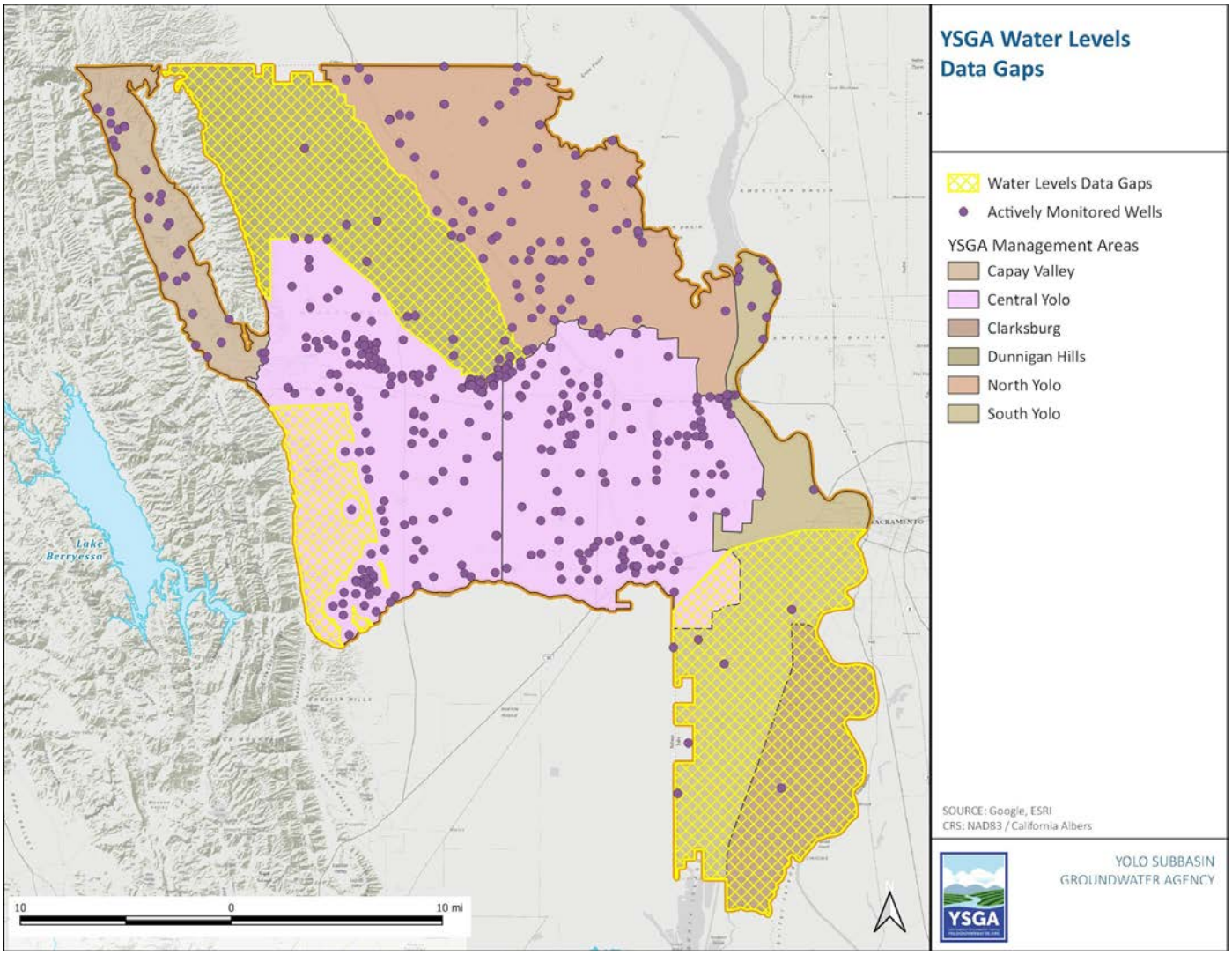
Cache Creek, located north of the City of Woodland, carries water from Clear Lake and the Coast Range into the Cache Creek Settling Basin and eventually into the Yolo Bypass. The creek has a long history of flooding and has overtopped its banks and levees more than 20 times since 1900 because existing levees only provide approximately a 10-year level of flood protection, meaning the levees have a 10 percent chance of failing in any given year.[12] FEMA's Flood Insurance Rate Maps indicate the areas of Woodland that are in the Cache Creek 100-year floodplain, with flood depths ranging from one to ten feet within Woodland. The area covers approximately 1,000 Woodland properties, including residential areas and much of Woodland's industrial economy. As of December 2023, 779 residential addresses are currently in the floodplain. A flood event could close I-5 and impact the City's wastewater treatment facility, requiring costly repairs and limiting the facility's ability to treat wastewater. The Lower Cache Creek Flood Risk Management Project would address these concerns and provide a 200-year level of flood protection to the City of Woodland. Local measures to fund this project have not secured voter approval thus far.

The Sustainable Water Management Strategy for the Sacramento Valley provides locations for strategic flooding of cropland to maximize groundwater infiltration.[13] Some active recharge is already happening through winter diversion to unlined canals as well as recovery wells in Woodland, which will result in an increased quality of water produced by the wells, but more is needed, especially since the quality of available groundwater is also deteriorating.[14] [15]

Regarding additional groundwater management opportunities, the Yolo Subbasin Groundwater Agency (YSGA) has successfully applied for several Sustainable Groundwater Management Act (SGMA) grants to the Department of Water Resources that benefit agriculture, including the Yolo-Zamora Groundwater Recharge Pilot Project and the Dunnigan Area Recharge Program in 2022.[16] The YSGA's 2023 SGMA award of $7.9 million will support five projects benefiting underserved communities and Tribes in the region. The projects will help with groundwater sustainability planning, understanding water supplies, and support three groundwater recharge programs. The three recharge projects will divert winter storm flows into underground storage while also creating habitat for shorebirds. This funding will also support initiatives to expand the YSGA's monitoring network, which will help optimize conjunctive use by recharging excess winter flows, and will advance conveyance opportunities for the subbasin.

The Yolo Subbasin Groundwater Agency is responsible for coordinating groundwater data for the Yolo Subbasin, however, the monitoring program is operated voluntarily, and there are data gaps as shown on the following page.[17]

12 https://cityofwoodland.org/1466/Flood-Risk-Reduction-Project
13 https://sacog.prod.govaccess.org/home/showdocument?id=324
14 https://gsiwatersolutions.com/portfolio/city-of-woodland-asr.html
15 https://www.abc10.com/article/news/local/woodland/aquifer-storage-growing/103-27993e99-7036-4849-a800-5f1160b61099
16 https://water.ca.gov/-/media/DWR-Website/Web-Pages/News/Files/award-list_sgma_r2_final_list_sept2023_w_components_v2.pdf
17 https://www.yologroundwater.org/groundwater-monitoring-program



There are several additional challenges facing the county's water infrastructure. The system for maintenance and debris removal from stormwater infrastructure needs improvement, especially in the Dunnigan community. There are buildups of debris that block drains during heavy storm events and oftentimes sloughs cannot be cleaned because permitting is needed, which is a barrier to debris removal and improved water flow. Improved access to groundwater is needed, especially during times of drought. During the drought in 2020, several wells used for agriculture dried up. Limited access to groundwater is a county-wide issue, but certain sectors and locations are more impacted, such as small-scale farmers who have little to no means of tapping into groundwater sources to sustain their operations, as well as specialty crop producers who often grow more water-intensive crops. The costs to implement and operate small-scale groundwater management systems are oftentimes unaffordable, especially for smaller growers and farmers.

Communities along the Delta, specifically the Clarksburg community, fear that if the Delta were to flood, they would be entirely underwater. Flooding can lead to a loss of power, as there is limited backup infrastructure. There also is a lack of sustainable funding for flood risk reduction needs. Fragmentation of State, federal, and local agency responsibilities and authorities impedes progress in implementing an agreed-upon approach for this area.

Water Infrastructure Recommendations

CATEGORY	RECOMMENDATION
Groundwater Recharge	The Yolo Subbasin Groundwater Agency, in partnership with Yolo County, should: • Collaborate with local farmers to coordinate groundwater recharge projects by flooding disused fields. • Offer grants to cover some of the costs of implementing recharge systems in these key locations. Combining water efficiency with other climate benefits can open up more funding options for the program. • Work to address data gaps in the groundwater well monitoring network.
Flood Control/ Levees	Fortifying levees and improving drainage in areas where flooding impacts agricultural land and production will require coordinated action across the local, regional and federal level. • Improvement projects identified by the Yolo Bypass Drainage and Water Infrastructure Improvement Study Update, such as the RD 1600 Pump Station and Gravity Drain, and the Swanston Ranch Master Project, will greatly improve drainage for agriculture, including rice fields. The Yolo Bypass Crossing Improvements concept takes a novel approach by proposing prefabricated improvemetns. • The set of flood control projects identified by Flood Safe Yolo 2.0 to minimize flood risks in rural areas should be the focus of local efforts. • Installing trash/contaminant capture devices over or within storm drains and limiting contaminant runoff is a third area of infrastructure need. • Policy and governance approaches such as reduced permitting needed for slough clearing or establishing the Yolo Bypass Coodinating Committee can complement the above physical infrastructure investments.
Linking water for Agriculture and Ecosystem Services	Continued conversations are needed between State, federal, and local partners about how to recognize potential value and costs of innovative physical and operational improvements on agricultural lands that may enhance ecological values for fish and wildlife.[18] • Yolo County could play a coordinating role in connecting the innovations and pilots coming from UC Davis with farmers and growers looking to improve water efficiency. • Swanston Ranch serves as project-level example. The concept combines drainage and conveyance capacity improvements to enhance habitat and wildlife-friendly agriculture, address drainage challenges, and minimize impacts of increases in the frequency and duration of flows in the Tule Canal and Yolo Bypass.[19] • Finally, floodplain agriculture provides drainage improvements, wildlife-friendly agricultural techniques, and other benefits yet requires careful coordination between water agencies and local growers and landowners.

18 https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Flood-Management/Flood-Planning-and-Studies/Central-Valley-Flood-Protection-Plan/Files/CVFPP-Updates/2022/CVFPP_U22_layout_v4.pdf
19 https://www.yolocounty.org/home/showpublisheddocument/69617/637589118283770000

Land Use and Housing

Yolo County is a prime example of a county committed to protecting agricultural land through zoning ordinances, evident in the county's significant open spaces between its four relatively compact cities. However, even with supportive ordinances, Yolo County experienced the third largest level of conversion of agricultural land to urban and other uses in the six county region, behind Sacramento and Placer counties. Between 2004 and 2018, an average of more than 1,400 acres of agricultural land per year was converted, a total of almost 20,000 acres over the period, of which 79% was prime farmland.[20] Yolo County's agricultural sector faces challenges as well, especially concerning land costs and availability.

Encroaching urban development is an ongoing concern for farmers and landowners. The Yolo County Agricultural Conservation Priority Plan estimates roughly 14,000-18,000 acres of agricultural land in the county face development pressure, with more than 10,000 of these acres being prime farmland.[21] The pressure to convert open spaces for housing and retail development is driven in part by the critical need for more housing; for example, the city of Davis and UC Davis face a severe housing shortage and this ongoing crisis puts pressure on the agricultural community. In addition, outside investors have acquired large parcels of agricultural land in the county, particularly during periods when almond revenues are high, including to gain access to water. These purchases drive up the price of land, and farmers are then forced to compete with institutional and private investors when seeking to acquire land for new or expanded farming operations.

Some farmers and landowners see little value in conservation easements and the County is faced with the challenge of finding willing landowners to voluntarily enroll in conservation easements. Increased outreach and understanding of programs such as conservation easements, the Williamson Act, and other state and federal programs could increase the preservation of agriculture and farmland (not just in Yolo, but regionwide). As the minimum parcel size for the Williamson Act is 100 acres, the flexibility to enroll smaller parcels could increase the acreage being protected.

The Yolo Habitat Conservancy is seeking landowners interested in establishing a conservation easement on their farmland, intending to protect species' habitat on agricultural lands.[22] The program incentivizes farmers and landowners to acquire conservation easements, while still being able to cultivate their property and continue agricultural operations. Local governments and other interested stakeholders in Yolo County are encouraged to

20 California Department of Conservation, Farmland Mapping and Monitoring Program.
21 https://www.yolocounty.org/home/showpublisheddocument/76582
22 https://www.yolohabitatconservancy.org/landowners

coordinate around this opportunity as a tool to preserve prime farmland. As well, the County and other local jurisdictions can look to the City of Davis' Measure O as a useful example of enacting parcel taxes for acquiring and maintaining agricultural land and open spaces.

Another aspect of land use relates to carbon farming practices. Organizations within Yolo County have led the region in carbon farming pilots. Carbon farming practices increase the rate at which CO2 and other greenhouse gasses are removed from the atmosphere and stored over the long term in soil and plant material. With 85% of County lands designated for agricultural use (and 91% of the population residing in incorporated areas), agricultural lands are the county's most valuable resource for increasing carbon sequestration and mitigating climate change.

In 2019, the Yolo County Resource Conservation District completed a carbon farm plan for 760-acre property owned by the City of Davis; funded by the Wildlife Conservation Board, the first phase launched in 2023 and is expected to be completed in 2027. The project includes 2,000 feet of hedgerows on the site, which will improve soil health, water retention, and wildlife habitat.[23] In 2022, the Center for Land-Based Learning, Yolo County Climate Action Commission, the Yolo County Resource Conservation District, the Carbon Cycle Institute, and the Yolo Land Trust formed the Yolo Carbon Farming Partnership to increase the pace and scale of carbon farm planning on farmlands and associated natural habitats in Yolo County. This Partnership will inform Yolo County's Climate Action and Adaptation Plan process with lessons learned and opportunities for county farmers to implement carbon farming practices.[24] Some of the barriers to carbon sequestration and farming are cost and capacity constraints. And even with technical assistance, carbon farming and sequestration can be very burdensome for farmers.

Compared to other counties in the region, Yolo County has a low percentage of new and beginning farmers. Yolo County has the highest average size of farms in the region which can be a barrier for new and beginning farmers, given the high cost of land from the pressures and trends described above. Additional programs that support new and beginning farmers are needed. Programs such as the Center for Land-Based Learning's Farm Academy and Incubator have helped launch several new farming enterprises in the county, including for urban agriculture operations in the city of West Sacramento; however, additional support is needed to expand the program. WIth foreign investors and investment companies out-competing smaller and local farmers for purchasing farmland, the adoption of more sustainable growing approaches also may be constrained.[25]

Yolo County allows farmworker housing by-right on agricultural lands. This means that in addition to a residence, housing for farmworkers can also be built on the property. However, state permitting that is required for housing labeled for farmworkers dissuades interested parties. The on-site provision of services is also costly. In Yolo County, many farmworker families prefer to be close to amenities and services such as schools, hospitals, and transit. A specific category for farmworker housing, similar to affordable housing, would help the County secure funding for farmworker housing in urban areas that have the infrastructure to accomodate growth. The unincorporated community of Madison has migrant housing; however, improved water reliability for residents and the migrant community is needed, as the water system is struggling to provide for the existing community.

23 https://www.rcdprojects.org/Project/Detail/17446
24 https://yolorcd.org/what-we-do/yolo-carbon-farm-partnership/
25 https://www.youngfarmers.org/wp-content/uploads/2022/08/NationalSurveyReport2022.pdf

Land Use and Housing Infrastructure Recommendations

CATEGORY	RECOMMENDATION
Conservation Easements	Advance the Agricultural Conservation Priority Plan, specifically, the following recommendations: • Develop a program to support the acquisition of conservation easements in collaboration with other public and private entities that provide economic benefits to farmers. Agricultural conservation and agricultural land acquisition should focus on prime farmland in areas with the highest pressure of development, such as areas within 2 miles of urban growth of the incorporated cities and the town of Esparto. • Establish an Agricultural Mitigation Bank. Such a bank would help reduce farmland conversion on high-value agricultural areas that are most at risk for conversion and would allow Yolo County to decide where conservation lands should be located and could help streamline permitting for individual mitigation credit applicants.
Land Access	• Yolo County could embrace new models for ownership and parcel size for agricultural land. For many farmers in Yolo County, a lease is the best method for farming. Landowners could offer long term leases, such as for 50+ years, for farmers who only want to farm the land, but do not desire ownership ties to the property. Leasing of farmland occurs in Yolo County; additional leases could be provided and could also be employed on vacant land as an intermediate strategy.
Farmworker Housing	• The County should explore a Farmworker Housing Designation to support housing and expedite permitting for housing that supports the agriculture community.

Transportation & Broadband Infrastructure

Daily agricultural trucks, commuter vehicles, and agritourism visitors impact local road conditions in Yolo County. The county is home to a large cycling community and many of the rural roads lack shoulders that can accommodate both wider agricultural trucks and cyclists. The weight of agricultural machinery and commodity trucks quickly deteriorates pavement conditions, and rural counties such as Yolo maintain a disproportionate share of the region's road miles. As such, there is a clear need for maintaining and modernizing Yolo County's transportation network into rural 'Complete Streets' designed to enable safe use and mobility for all users, yet transportation funding remains a challenge as costs continue to escalate much faster than funding availability and rural counties continue to fall behind on maintenance needs.

Yolo County's roads are deteriorating. The Pavement Condition Index (or PCI) measures conditions on regional roadways on a scale of 0 to 100, and based on data from the California Statewide Local Streets and Roads Needs Assessment, SACOG estimates that Yolo County has the lowest PCI of any county in the region at 57, putting the county in the "at risk" category where more expensive structural improvements will be needed to bring back roads to a state of good repair.[26] Further, the county's PCI has declined 16% in the last decade. Several factors cause deteriorating road conditions, such as heavy machinery, heavy-duty trucks, and commuters. Active mode users (such as cyclists) share a facility that often lacks shoulders or clear recovery zones. Climate impacts will exacerbate these challenges, as heat waves put further strain on transportation infrastructure and maintenance requirements. Yolo County is currently considering returning some roads to gravel, due to the increasing maintenance need. This could free more funding and focus on remaining rural complete streets.

The County is seeking funding to transform the south end of County Road 98 - a key farm-to-market route - into a rural complete street. The funding would allow the County to construct roundabouts to improve safety conditions for trucks and cyclists. County Road 31 is also a major farm-to-market road and needs significant pavement improvements. The I-505 overpass near the Mariani Nut Company is narrow, antiquated, and unsafe for pedestrians and the nearby town of Winters, where many workers also reside. The County Road 32 A overcrossing is also problematic, as vehicles tend to speed, creating unsafe conditions.

26 https://savecaliforniastreets.org/wp-content/uploads/2021/08/Statewide-2020-Local-Streets-and-Roads-Needs-Assessment-Final-8-4-21.pdf

Statewide transportation funding programs often seek projects that incorporate greenhouse gas reduction benefits, yet preserving agricultural land is not usually acknowledged in statewide criteria. Preserving agricultural land limits urban sprawl, thus reducing vehicle miles traveled (VMT). As such, there may be an opportunity to better showcase the tie between rural agricultural preservation projects and the climate performance outcomes of state discretionary programs. Yolo County should consider one of the rural complete street priority projects above in the next round of state transportation funding.

The Yolo-Solano Air Quality Management District has a Zero-Emission UTV Voucher Program that offers monetary incentives to support agricultural operations in the transition from diesel or gasoline-powered UTVs to zero-emission UTVs. While this type of program supports air quality goals and is useful for smaller tractors, the technology for battery-powered ATVs is not feasible for heavy-duty tractors that are used 10-14 hours a day; farmers would have to transport the batteries to sustain operations.

Broadband access for rural and agricultural areas lags compared to urbanized areas, in terms of reliable speeds needed for business operations, as well as affordability, choice (i.e., competition), and coverage. Over the years, the Connected Capital Area Broadband Consortium, in consultation with the County LAFCo, community partners such as the Yolo County Farm Bureau, and individual farmers has identified priority unserved and underserved areas in rural Yolo County. In addition to constraining business operations and other benefits of connectivity, the lack of adequate broadband impairs the ability of farmers to utilize precision agriculture technologies to more efficiently manage scarce resources, such as water and energy, address workforce shortages, and improve timely decision-making. These challenges directly impact the county's agricultural base, and its ability to innovate and expand, especially in deploying the technologies being generated by UC Davis and area entrepreneurs. It also affects agritourism and public safety, including in areas such as Capay Valley and the Delta. Cell phone coverage is poor in these areas as well.

The County has the opportunity to increase broadband access by improving broadband availability, adoption, and affordability with the historic investments California is making through its Broadband For All initiative, leveraging new federal and state funding. In the State's latest round of broadband infrastructure funding, through the Federal Funding Account program, Yolo County is eligible to receive almost $15.4 million in funding. Applications were submitted by a variety of providers that totaled more than $34.5 million in September 2023. One of the applicants, the Golden State Connect Authority, through Rural County Representatives of California (RCRC) - of which Yolo County is a member, is planning to develop open-access municipal internet infrastructure to address gaps across the state's rural counties. Proposed unfunded Federal Funding Account (FFA) applications could possibly be submitted in future rounds of other infrastructure funding, including the federal funding that will be coming to the state by the end of 2024 through the BEAD program (Broadband Equity Access and Deployment Program). The State's development of its own open-access Middle-Mile network will include 101 miles of infrastructure in Yolo County, including 96 miles of leased, and five new miles of construction. This network could be a resource to help extend the reach for "last mile" infrastructure projects to priority unserved rural areas.

The County has been very proactive in seeking to close the rural Digital Divide. Most recently, the County's Information and Technology Services Department (ITS) deployed drones in February 2024 to map key locations for broadband expansion, building on the groundwork laid by Yolo County LAFCo (Local Agency Formation Commission) to create widespread access to dependable internet connections and enhance the County's broadband accessibility initiatives.

Transportation Infrastructure Recommendations

CATEGORY	RECOMMENDATION
Rural Complete Streets	• Yolo County should prioritize a limited subset of roadway facilities as farm-to-market routes. Such a designation can help demonstrate the importance and 'tell the story' in transportation grant applications. For example, Yuba County has been successful in connecting maintenance funding requests to direct agricultural value and output.
Agritourism Trail Network	• An improved trail network could have benefits for the county's agritourism sector, by bringing a new consumer group to on-farm activities. Sections between • Rumsey to Esparto, Guinda to Esparto, and Winters to Esparto stand to benefit from improved trail connectivity.
Farm Worker Mobility	Provide farmworker shuttles to transport farmworkers to and from the fields and farms where they work. • SACOG should work with the County to study the potential for vanpools for the agriculture community. Knights Landing, Madison, and smaller communities in the county are good candidates for vanpooling opportunities. • SACOG should also explore the potential for region-wide carpool programs for the agriculture community.

Broadband Infrastructure Recommendations

CATEGORY	RECOMMENDATION
Project Readiness	The County should: • Explore partnership opportunities with Internet Service Providers to build broadband infrastructure in priority unserved rural areas, including through the upcoming BEAD funding. • Review its infrastructure/broadband policies and ordinances to ensure readiness for timely permit processing of infrastructure projects. • Collaborate with SACOG and Caltrans on potential joint use/dig once/dig smart projects linking broadband and transportation, including coordination with the development of the State's new Middle-Mile Open-Access Network and also other transportation projects.
Cell Phone Coverage	• The County should identify areas with limited cell service/dead spots in the county's agricultural areas to prioritize investment projects.

Food System and Governance

Agriculture is Yolo County's leading industry. Home to UC Davis - ranked number one nationally in agriculture and forestry and ranked number two globally, an international seed technology cluster, cutting-edge labs and incubators, agrifood tech entrepreneurs, and multiple food hubs, Yolo County is the testing ground of the next generation of agriculture and food producers, showcasing the sustainability, productivity, and resilience of regional food system. The County is actively seeking to attract new agricultural enterprises, including biotechnology and seed technology companies, as well as innovative food processing, packaging, distribution, and marketing enterprises.[27]

Some of the current and emerging assets in the county include several projects that are supported by the County, including the AgTech Innovation Alliance, a nonprofit organization that supports agriculture, food, and health entrepreneurs through The Lab@AgStart in Woodland. The Lab@AgStart is the largest wet lab startup incubator in the Central Valley; it is a shared resource that lowers the cost for entrepreneurs to test out their products and bring them to market, fostering the commercialization pipeline. Yolo County also provided funding to New Season Community Development Corporation to develop the Yolo Food Hub facility in Esparto, the gateway to Capay Valley, to strengthen the resiliency of the food system in response to the impacts of the pandemic. The county is home to several innovative farm-to-school programs; the Center for Land-Based Learning which has workforce programs to train the next generation of farmers and managers; the Yolo Food Bank with a distribution network of more than 80 partners, working with local growers; Woodland Community College which offers food and ag curricula; and cities focused on the food and ag cluster, such as the Food Front in Woodland which has more than 190- food-related businesses and research labs. Woodland is supporting the new Woodland Research and Technology Park, which will provide approximately 350 acres of live/work space to further strengthen the county's food and ag ecosystem. The city of West Sacramento has more than 55 companies focused on food and beverage research, processing and distribution, including in alternative proteins, and the city of Davis, home of UC Davis, is a hub of global research and innovation as well.

The University of California Agriculture and Natural Resources (UC ANR), along with UC Davis Innovation Institute of Food and Health and other partners, is developing a catalytic innovation center for the region's world-class ag, food, health, and tech industries to accelerate innovations into wide commercialization while addressing climate

27 https://www.yolocounty.org/government/general-government-departments/county-administrator/county-administrator-divisions/economic-development/industry-priorities-in-yolo-county

change, human health, and economic recovery. The Plant@California will include more wet lab space, advanced greenhouses, biomanufacturing, and a food processing lab to help address the gaps in the region's food manufacturing ecosystem. The center could anchor the new Woodland Research and Technology Park.

Demand for storage facilities, including cold storage for various types of crops, aggregation, and light processing exceeds what is currently available in Yolo County. Farmers and operating food hubs, such as SPORK Food Hub and Capay Valley Farm Shop, do not have enough cold storage or light/value-added processing to meet the growing local demand from institutional buyers, including schools, hospitals, and correctional facilities. This lack of processing and cold storage infrastructure limits the local economic and market potential of Yolo County's high-quality produce. Growers in the county also need additional almond, olive oil, and pistachio processing facilities as farmers are forced to leave the region in search of appropriate facilities.

Along with other counties in California, Yolo County has ambitious climate goals. In 2020 Yolo County Board of Supervisors approved a Climate Emergency Declaration, which set a countywide goal of achieving a carbon-negative footprint by 2030. One of the pathways toward carbon neutrality is solar energy. While increased solar panels and energy independence are desired, Yolo County's substations are located on prime agricultural land, which means new solar and energy resilience projects are likely to take place on ag lands, which occurred recently. The new Gibson Solar Farm is located on 147 acres of prime ag land in unincorporated Yolo County near Esparto. The land was previously in agricultural production and surrounded by orchards and field crops. To build the solar project, the parcel had to be terminated from the Williamson Act. While the project has planned mitigation for biodiversity, agriculture production is jeopardized. Additionally, changing the land classification from agricultural land to commercial creates additional opportunities for future land development across a range of uses.[28]

The transition to clean energy sources and technologies is costly for the agricultural community. As well, rebates for clean energy can be difficult to navigate, particularly for the Spanish-speaking community. Technical assistance is needed to successfully implement climate-smart technologies. The AgHiRE project administered by the Center for Land-Based Learning with support from Valley Vision is a new project intended to upskill Spanish-speaking farmworkers to supervisory and management positions. A similar project could be created to support the clean energy transition for the Spanish-speaking farmworker community.

Picture of the future Yolo Food Hub Facility in Esparto

28 https://craven.ces.ncsu.edu/considerations-for-transferring-agricultural-land-to-solar-panel-energy-production/

There is a lack of consistent collaboration across disciplines and jurisdictions in the county, where farmers, landowners, planners, Tribal Nations, and ecologists have a space to convene on common issues, priorities, and upcoming partnership opportunities. Intentional spaces that bring disciplines and jurisdictions together would provide more alignment of agriculture-related enterprises and opportunities, and feedback for new projects, such as the Gibson Solar Project. The convening could also introduce funding opportunities, as well as innovation models such as climate-smart and precision agriculture, that help farmers optimize soil quality and productivity through data collection and analysis. In 2023, two Yolo County supervisors held the Western Yolo Ag Roundtable meeting for farmers to support collaboration and trust-building. Future meetings could include participants from other sectors, and food hub facilities could serve as this third space. Additionally, Yolo County is in the early stages of initiating a landowner and farmer workshop series that is specific to the Bypass. There are also active working groups that meet with the Yolo Resource Conservation District and Yolo County's Climate Action and Sustainability Program.

There are other challenges facing agriculture in the county, including power shut-offs and grazing concerns. When shut-offs occur, power is unreliable, straining motors on well pumps that do not last as long as previously and are burning out. Snow geese have been a significant problem throughout the Yolo Bypass area; they are destroying the forage in grazing lands. Cooperative Extension is trying to quantify the impact of the damage.

Food System and Governance Recommendations

CATEGORY	RECOMMENDATION
Local Food System Infrastructure and Procurement	• Invest in food aggregation, cold storage, processing, and distribution infrastructure, such as food hubs. The Yolo Food Hub Network has operating food hubs within its network, including SPORK Food Hub in Davis and the Capay Valley Farm Shop in Esparto. Expanding the capacity of these or future hubs across the region - and adding processing activities such as freezing, washing, fresh cuts, and preserving - would benefit both Yolo growers by providing new markets, and institutions seeking to buy ready-to-cook or ready-to-eat products that reflect social and environmental values. • Establish local product marketing efforts for increased local procurement, expanding the number of businesses and agencies that source locally grown foods, and increasing opportunities for the direct sale of local food products.
Support for Clean Energy	• Technical assistance to support clean energy technology for the Spanish-speaking community is needed. The County should work with the Yolo Resource Conservation District, the Yolo County Farm Bureau, and the Center for Land Based-Learning to design and implement the program. • Develop a farmer-to-farmer workshop program to share best practices and opportunities for on-farm conservation strategies. • Yolo County should waive permit fees for projects that convert tailwater-return pumps to solar power on agricultural land. New incentive programs should also encourage farmers to improve pump efficiency technologies

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Pictures are courtesy of Yolo County Department of Agriculture.
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