

89 Capital Facilities Element

8.19.1 Introduction and Purpose

The Capital Facilities element identifies necessary and planned capital improvements, [including transportation and other public facilities](#), improvement schedules, and funding resources that functionally integrate capital facilities into the Comprehensive Plan. For the purposes of this element, capital facilities are defined as the infrastructure the County is responsible for constructing, operating, and maintaining, and which enable the County to provide public services to County residents. This element provides the framework for the County's CIP (Appendix J) and adopts a 6-year CIP list of proposed projects and financing plan. [It also requires coordination with the cities within the County for capital improvements and services within the UGAs.](#)

This element is one of six mandatory planning elements that GMA requires in County's Comprehensive Plan (RCW 36.70A.070 (3)) and must identify specific facilities, include a realistic financing plan, and adjust the plan if funding is inadequate. WAC 365-196-415 provides requirements and recommendations for this element.

8.1.19.1.1 *Relationship between Land Use and Capital Facilities*

There is a direct relationship between the Capital Facilities and Land Use elements of the Comprehensive Plan. The Land Use element determines where and at what density population and employment growth will be located, [including within the cities' UGAs. The Land Use element updates, including additional draft Industrial and Open Space designations, the draft Energy Overlay and potential for higher density in the Finley and Plymouth Rural Community Centers will all be factored into the updated Capital Facility Plans \(CIP\). The CIP also reflects the latest residential growth projection in the unincorporated County, which is expected to occur at a reduced level compared to the 2018 projection. Recent permitting history also reflects this slowing in overall rural residential growth.](#)

The Capital Facilities element identifies the thresholds of growth, when new and expanded public facilities will be needed, and indicates the County's priority system for constructing the identified public facilities. Although some public facilities are provided by other government agencies or private entities, the County must demonstrate these services are available.

Identified improvements to public facilities that are owned or operated by Benton County shall also be included in the County's annual budget. Any identified public facility improvements that are not owned or operated by the County should be included in the annual budgets and CIPs of the entities which provide those public facilities. State, local government, and district plans that are affected by proposed public facility improvements will be considered prior to inclusion of the improvements in

the CIP. This includes considering a city's comprehensive plan when evaluating proposed improvements that affect that city's UGA.

8.1.29.1.2 *Capital Facilities Element Update Process*

Consistent with established policies in Section 2.10, Any updates to the Capital Facilities element of the Comprehensive Plan will be considered concurrently with other proposed amendments that are included in the annual Comprehensive Plan amendment review and this element and associated capital plans and procedures are reviewed and updated as part of the 10-year Comprehensive Plan update process. Benton County's CIP, adopted by reference, is a dynamic document that will be updated annually to reflect new requirements, cost information, funding information, project list changes, and existing facility updates. The annual updates to the CIP will be done prior to the annual budget process so that CIP projects can be included in the County's annual budget.

8.29.2 **Capital Project Selection and Level of Service Standards**

8.2.19.2.1 *Level of Service*

The County and public facility providers will use established LOS for identifying capital improvements when applicable. For the County, two sets of LOS standards have been established: 1) C standard for County roads, as discussed in Section 7.3.1, and 2) Park standards as described in Section 8.3.2. These LOS standards, along with other factors considered for other County facilities are considered in identifying planned capital improvements. Other factors considered in planning these improvements include identifying projects that:

- Address existing deficiencies
- Preserve existing capacity
- Provide for new development
- Enhance quality of life
- Meet other County needs not related to growth

The County will evaluate whether the County road and park system standards and other identified capital needs are being met when updates to the Comprehensive Plan are performed according to the deadlines in RCW 36.70A.130(1), when UGAs are reviewed according to RCW 36.70A.130(3), and when major changes are made to this element. If these standards are not being met and public facilities are inadequate, the County will consider one or more of the following strategies:

- Reduce public facility demand
- Reduce LOS standards
- Increase revenue
- Reduce the cost of the needed public facilities

- Reallocate or redirect population and employment growth to make better use of existing facilities
- Phase growth or adjust the timing of development, if the lack of public facilities is a short-term issue

The County will also evaluate if proposed development activities would reduce the LOS of public facilities below the adopted standards. If a proposal is expected to impact a transportation facility and cause it to fall below the LOS standard, or if additional parks and recreation facilities are needed to meet the applicable standards, then preliminary development approval would also need to include additional improvements or strategies made concurrent with the development that maintain these standards. All other types of public facilities do not have the specific concurrency requirement that transportation facilities have, but they do require the provision of adequate public facilities as a condition of project approval.

Public facility improvements for maintenance or other needs and not targeted to maintain LOS may include:

- Facility repairs
- Remodels
- Renovation
- Replacement of obsolete or worn out structures
- Improvements that do not reduce financing for other improvements needed to achieve or maintain LOS standards
- Improvements that do not contradict, limit, or substantially change the goals and policies of any element of this Comprehensive Plan

Public facility improvements may also provide capacity in excess of what would be required to achieve or maintain LOS standards (i.e., the minimum capacity of a capital project is larger than the capacity required to provide the LOS). Excess capacity is beneficial if it results in economies of scale making it less expensive than a comparable amount of capacity ~~provided in the future~~~~acquired at a later date~~. However, these projects may be given a lower priority than projects needed to maintain the LOS standard.

8.2.29.2.2 *Analysis of Future Development*

The County will estimate the type and amount of public facilities needed to accommodate future growth by evaluating previously issued development permits and determining future growth patterns. Future development will be required to pay its fair share of the capital improvements needed to address the impact of such development and the portion of the cost of the replacement

of obsolete or worn out facilities. The different methods of payment allowed for these capital improvements include:

- Voluntary contributions for the benefit of any public facility
- SEPA mitigation payments
- Dedications of land
- Provision of public facilities

Future development will not be required to pay fees for needed public facilities to reduce or eliminate existing deficiencies. The growth forecasts, to be used for planning purposes and the specific growth targets for each UGA, are developed using the Benton County population projections established by the OFM, as summarized in Section 3.7.

8.2.39.2.3 *Siting Public Facilities*

There are types of public facilities that cannot be located in rural areas of the County, but must remain in cities or UGAs. These include new municipal urban public facilities for residential development such as sewage collection and treatment, urban street infrastructure, and storm water collection facilities. The County does not currently provide, nor does it plan to provide in the foreseeable future, sewer, water, or utility services. Accordingly, its capital facilities do not include processing or production plants and the distribution/collection systems typically associated with such services. The only exception to this general condition occurs when a private water or disposal system fails, whereupon if placed in "receivership" under state law the County must assume responsibility as an interim condition.

The County may coordinate planning and development of public facilities in UGAs with municipalities and public facility providers by entering into interlocal/joint planning agreements, contracts, memorandums of understanding, or joint ordinances. Capital facilities and utilities may be constructed and operated by outside public service providers on rural properties if they are within the boundaries of a MPR, or a Rural Community Center pursuant to County Comprehensive Plan policies and development regulations. Electric and natural gas transmission and distribution facilities may be sited throughout Benton County both inside and outside of municipal boundaries, UGAs, MPRs, and Rural Community Centers. The County will coordinate with the BFCG and/or municipalities within the County when siting regional and community facilities. This coordination may include developing an inventory of essential facilities, determining a fair share allocation of essential facilities, conducting public involvement strategies, and assuring protections for the environment, public health, and public safety.

8.2.49.2.4 *Improvements to Public Facilities Identified in Other Plans*

Various plans-prepared by other public agencies have been reviewed by the County as part of this periodic Comprehensive Plan review and update that identify potential. A summary of capital facilities forecasted for the next six years, along with the six-year financing plan, for these non-County operated facilities is provided in Table 9-1. This non-County operated facilities forecast and financing plan, combined with the County CIP for County-owned facilities comprise the County's forecast of future needed public facilities and financing plan for the next 6 years, to support implementation of the Comprehensive Plan, including services within the UGAs. The County will review and revise this forecast and financing plan, as applicable, during plan implementation.

Regarding firefighting capabilities, in addition to the capital improvements identified in Table 9-1, the County has conducted an analysis of the adequacy of the firefighting capabilities for those districts that serve on the borders of the UGA and within rural areas of the County. This includes reviewing and incorporating into this plan by reference the Benton County 2018 Community Wildfire Protection Plan, and also interviews conducted with fire district personnel. A discussion of the findings from this analysis is provided in narrative following Table 9-1.

Table 9-1
Six-Year Capital Improvements Plan for Non-County Operated Facilities

<u>Capital Facility Type</u>	<u>Providers (Location)</u>	<u>Existing Condition</u>	<u>Planned Improvements (Capacity)</u>	<u>Funding Source(s)</u>	<u>Estimated Cost/Date</u>
<u>School Districts</u>	<u>Kennewick School District</u>	<u>Aging facilities need updates. Capacity to meet school enrollment is adequate for several years.</u>	<u>Planned new or remodeled schools that are priority when funding becomes available:</u> <ul style="list-style-type: none"> • <u>Highlands Middle School</u> • <u>Washington Elementary School</u> • <u>Hawthorne Elementary School</u> • <u>Park Middle School</u> • <u>Vista Elementary School</u> • <u>Edison Elementary School</u> • <u>Horse Heaven Hills Middle School</u> • <u>Support and plan for state-fund core modernization project for Tri-Tech Skills Center to begin in 2025.</u> 	<u>Potential bond</u>	<u>2027 or 2028</u>
	<u>Richland School District</u>	<u>Aging facilities need updates. Capacity to meet school enrollment is adequate for several years.</u>	<u>No planned improvements at this time but when they get funding Chief Jo and Carmichael middle schools and River's Edge high school are critical needs.</u>	<u>Hoping levies pass February 2026 then they will know the path forward. No plans to run a bond</u>	

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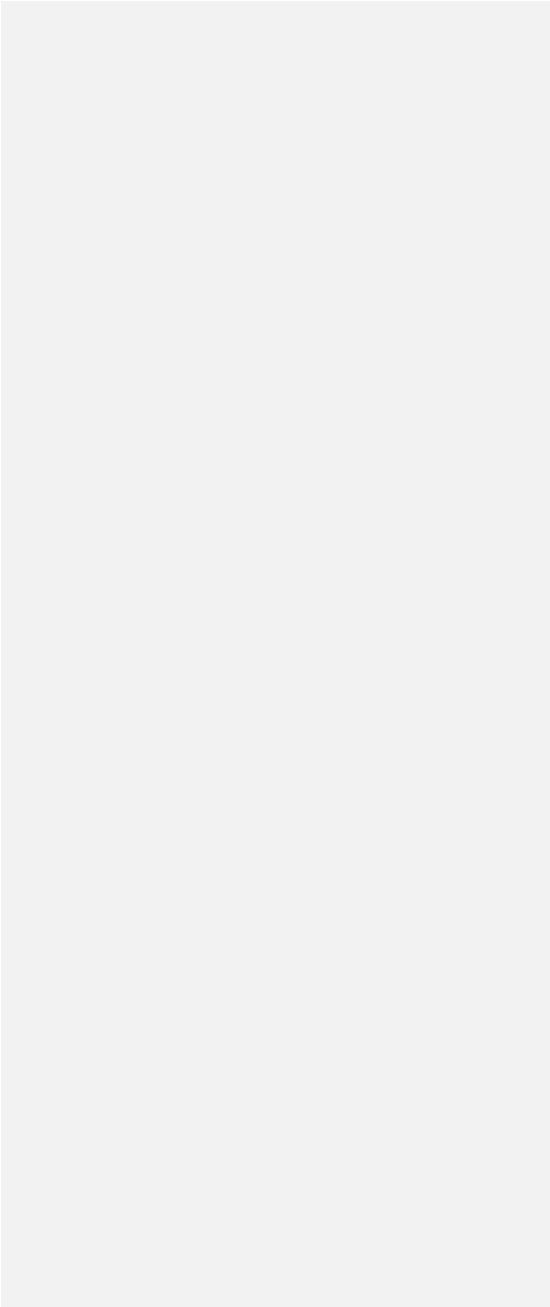
<u>Capital Facility Type</u>	<u>Providers (Location)</u>	<u>Existing Condition</u>	<u>Planned Improvements (Capacity)</u>	<u>Funding Source(s)</u>	<u>Estimated Cost/Date</u>
	<u>Prosser School District</u>	<u>Aging facilities need updates. Capacity to meet school enrollment is adequate for several years.</u>	<u>No planned improvements at this time. Hope to remodel House Middle school over the next 10 years but have not had any community discussion yet.</u>	<u>yet and their last bond failed. SCAP WA State Funding, Local Bond, etc.</u>	
	<u>Ki-Be School District</u>	<u>Aging facilities need updates. 2023 study and survey done to assess needs through OSPI and another one will be done in 2030</u>	<ul style="list-style-type: none"> <u>Middle school circulation improvements</u> <u>Replacement or addition/modernization of elementary school</u> <u>High school CTE classroom addition</u> <u>Middle school facility improvements</u> 	<u>General fund/capital levy</u> <u>Bond issue</u> <u>Grant/general funds</u> <u>Bond issue</u>	<u>2024-2025</u> <u>2025-2030</u> <u>2025-2030</u> <u>2030 - 2033</u>
	<u>Finley School District</u>	<u>Old elementary school needs demolished but don't have the funds until bond expires in 2035-2036 and hope to pass another at that time.</u>	<u>Making water and HVAC system updates</u>	<u>Leftover bond money from 2018</u>	<u>2025</u>
	<u>Paterson School District</u>	<u>Existing facilities adequate</u>	<u>None</u>	<u>Not applicable</u>	<u>Not applicable</u>
	<u>Grandview School District</u>	<u>Existing facilities within Benton County adequate</u>	<u>None</u>	<u>Not applicable</u>	<u>Not applicable</u>
<u>Water and Sewer</u>	<u>Cities and Towns in Benton County</u>	<u>Existing system plans with facilities inventories and capacities adopted by reference</u>	<u>6-year water system and sewer plans</u>	<u>Rates and development charges, grants and loans. Existing revenues and</u>	<u>See system plans, incorporated by reference, for these details</u>

<u>Capital Facility Type</u>	<u>Providers (Location)</u>	<u>Existing Condition</u>	<u>Planned Improvements (Capacity)</u>	<u>Funding Source(s)</u>	<u>Estimated Cost/Date</u>
<u>Plymouth Water District</u>		<u>Current capacity to serve 10 service connections and working with the state to serve 50 or more</u>	<u>New reservoir and two water lines planned</u>	<u>planned rate increases will support system improvements, with growth paying for growth</u>	<u>Over the next couple of years – one of the water lines over the next year</u>
<u>Power</u>	<u>Benton County PUD</u>	<u>Existing system plans with facility inventories adopted by reference</u>	<u>Transportation improvements</u>	<u>Rates and development charges. Existing financial plans support system improvements, with growth paying for growth</u>	<u>See system plans, incorporated by reference, for these details</u>
<u>Transportation and Stormwater</u>	<u>Benton County, and Cities and Towns</u>	<u>Existing inventories adopted by reference</u>	<u>6-year transportation (including stormwater) improvement plans adopted by reference</u>	<u>County road fund, city revenue sources, grant and loans</u>	<u>See 6-year plans, incorporated by reference, for details</u>
<u>Fire Districts (see also associated narrative that follows for additional information on adequacy)</u>	<u>District 1</u>	<u>Aging fire stations need replaced – Capital Facilities Plan will be updated later this year and shared</u>	<u>Plans to replace aging fire stations</u>		<u>Timeframe currently unknown</u>
	<u>District 2</u>	<u>Main fire station is old and needs remodeled but do not have the funding due to low tax revenue.</u>	<u>Purchase of two new fire engines</u> <u>None at this time</u>	<u>Levy/Bond funds</u>	<u>\$760,000/August 2025</u>

<u>Capital Facility Type of firefighting capabilities)</u>	<u>Providers (Location)</u>	<u>Existing Condition</u>	<u>Planned Improvements (Capacity)</u>	<u>Funding Source(s)</u>	<u>Estimated Cost/Date</u>
	<u>West Benton Fire Rescue</u>		<u>Asphalt repair at two stations</u>	<u>State loan</u>	<u>\$420,000 cost for all the improvements in 2025. Will wait 5 years until receiving another loan to make any other improvements.</u>
			<u>Purchase of two command vehicles</u>		
			<u>Adding ventilation system at main station</u>		
	<u>District 4</u>	<u>Left multiple messages to get information in June without response yet Submitted request by form email with no response yet and no phone number listed</u>	<u>Adding self-contained breathing apparatus at station 310 in Prosser</u>		
	<u>District 5</u>				
	<u>District 6</u>				
			<u>Planned new fire station in Plymouth on 5 acres. After 3 years, got WDOT access to Highway 14. Land is being deeded to the fire district.</u>	<u>Current and future donations – .5 million donated so far with \$1.5 million estimate needed. A farm was donated worth \$450,000 plus a PM to run it</u>	<u>Within two years</u>
			<u>Increased staff to 7 Started paid on call program to help with staffing at times</u>	<u>Hope for EMS levy to increase paid staff</u>	

Notes:
ADA – American Disabilities Act

[EMS – Emergency Management System](#)
[FEMA – Federal Emergency Management Agency](#)
[USDA – U.S. Department of Agriculture](#)



Analysis of the Adequacy of Firefighting Capabilities in UGAs and Rural Benton County

Fire District 1

- **Capacity needs or deficiencies for addressing fire risks** - County code for property owners for defensible space and Firewise mitigations would be helpful as the district continues to go into the outreaching interface areas. Continue to deal with fireworks fires annually with lack of enforcement for regulations.
- **Wildland Urban Interface and Residential Growth** - The District has no current hazard fuel reduction program within the annual operating budget due to budget priorities. An increase in available grant funds would be beneficial to target some of the high hazard fuels reductions areas identified in the Benton County Community Wildfire Protection Plan (2018).
- **Fire Breaks:** Changes in the Conservation Reserve Program rules that would allow fire breaks down to the dirt without a negative financial impact to the property owner would be beneficial.
- **Rural Water Supplies:** Continue to seek and develop water supply systems in our rural areas for assistance in fire suppression.
- **Residential and Agricultural Burning:** Provide education to County residents on the process of conducting and/or requesting permits for the four types of fires permitted within the County; recreational burns, agricultural burns, tumbleweeds, barbeques and woodstoves. Provide education to agricultural producers on Washington State Department of Ecology regulations and permit requirements required to safely conduct agricultural burns within Benton County.
- **Communications** - Although the SECOMM system has gone through a major equipment update and fine tuning, the service area due to topography continues to have areas where radio communications between Dispatch and Fire/EMS responders is not always reliable or serviceable in some areas.
- **Other:** As with most volunteer agencies, The District continues to seek ways to improve its ability to recruit and retain more firefighters and EMS personnel.

Fire District 2:

- **Capacity needs or deficiencies for addressing fire risks** - Current and largest risk is not having enough personnel. Small tax base with relatively low-income taxpayers does not produce much in tax revenue. Calls for service have increased dramatically over the years and continue to see a growth in large fires threatening our community.

- **Wildland Urban Interface Defensible Space** - Our Fire District for the last two years has instituted and developed a Firewise program to district residents. This has proven to offer some reduction to our wildfire-related calls; however, it does not get much participation to the high majority of our community despite public campaigns and strong community push. Plan to continue to use this program and maximize the use of our staff time to meet with property owners and educate them on the value of defensible space. Funding for staff time is a need to enhance this program; completing structural assessments every two years has proven difficult.
- **Fire Breaks** - The costs associated with maintaining established fire breaks costs our small fire department thousands of dollars annually and cannot be sustained without some type of financial assistance.
- **Rural Water Supplies** - Continue to seek and develop water supply systems in our rural areas for assistance in fire suppression. Very few areas exist for drawing water in the rural areas due to remoteness and lack of developed water systems.
- **Residential and Agricultural Burning** - All open burning within the County is subject to guidelines concerning, size, time, location and permit requirements from Benton County Clean Air Authority (BCCAA). Moreover, the BCCAA and the local cities have banned back yard burning except for blown in tumbleweeds. This is a two-fold problem. The first is that getting rid of some of the fuel loads reduces the fire potential to sustain burning. The other issue is that burning incorrectly causes numerous out of control fires.
- **Communications** - The SECOMM system has some limitations to cover the entire two counties due to topography despite the multiple channels and repeater sites.
- **Other** - As with most volunteer agencies, the District continues to seek ways to improve its ability to recruit and retain good firefighters and emergency response personnel.

West Benton Fire Rescue:

- **Capacity needs or deficiencies for addressing fire risks** - Always need more volunteer firefighter staffing. The career positions will not take away anything from the current volunteer force and are only being hired to supplement the response of volunteers. Need to maintain a robust roster of fulltime and volunteer staff to combat large incidents in the jurisdiction.
- **Personnel** - Response model relies heavily on Volunteer Firefighters, which make up 85 percent of response force. Due to a societal decline in volunteerism and the ever-increasing requirements to be a firefighter, it is difficult to increase the depth of the Volunteer ranks. In

addition, it is difficult to expand specialized services such as technical rescue and hazardous materials response when so heavily reliant on volunteer firefighters.

- **Rural Property Development** - Response area continues to see development of new single-family residential structures into the Intermix/Interface areas comprised of heavy grass/brush fuels. Many times, fires in the interface/intermix require an extensive amount of resources to provide structure protection as well as being actively engaged in fire suppression. This can cause a large drain on regionally available apparatus.
- **Communications** - With the recent addition of Franklin County and Walla Walla Fire District 5 to dispatching, radio traffic has been extremely busy. Though local repeaters and tactical frequencies used to command individual incidents are plentiful, both the availability of simulcast frequencies to communicate with the dispatcher and dispatch center capability to listen to and respond to multiple frequencies is lacking.
- **Vegetation Management** - Invasive plant species make managing a 5-acre rural residential parcel difficult. Many rural property owners fail to control invasive species which leads to insufficient or non-existent defensible space. The lack of a State Vegetation Management Program has allowed the cheatgrass and invasive species to grow right up the end edge of Interstate and State Highway road surfaces. Vegetation that has grown up to the edge of a roadway becomes critically dry in the summer months and is easily ignited by discarded smoking material, mechanical problems or traffic accidents and creates traffic hazards due to fire, smoke and responding fire apparatus in the roadway. It is a challenge to protect thousands of acres of lands that abut under-maintained roadways; spend a considerable amount of time dealing with wildland fires started from roadside ignitions.
- **Burn Permits** - Burning is limited within the City Limits of Prosser, and surrounding UGA to tumbleweeds. In the rural areas of the response area, Benton County Clean Air Agency sets burning regulations and sets the daily burn decision regarding outdoor burning. Many times, people are unaware about the daily burn decision or the presence of a burn ban.
- **Fire Inspections** - Prosser is home to a vibrant downtown core comprised of 100-year-old multistory buildings that house restaurants, assembly occupancies, mercantiles, offices and residential units. Fire and Life Safety Inspections came under the authority and responsibility of the City of Prosser in 2015. Proper fire and life safety inspections must be maintained to minimize the occurrences of devastating downtown fire losses.
- **Other** - Relying primarily on Volunteer Firefighters, it can be a struggle to mount an effective initial response force to incidents, and a large/complex natural cover fire or structure always requires the assistance from neighboring agencies to mitigate. To augment daytime

response in during the summer months, seasonal employees help with station tasks and incident responses.

The two fire stations are not staffed around the ~~clock, and~~clock and calls that occur at night or over the weekend are staffed with personnel responding from home. Continue to identify ways to decrease “turnout time” to incidents, which includes identifying funding to house responders at the headquarters fires station.

Identifying and installing fuel breaks with heavy equipment. Continue to build private landowner relationships and identify areas where fuel breaks will have a positive impact.

Fire District 4:

- **Wildland Urban Interface Defensible Space** - Funding for additional staff time is needed by the fire District to enhance the Firewise program and complete structural assessments every two years and deliver educational materials to potential participants as the population continues to grow and change. There are additional areas that abut City of West Richland property (specifically the sewer treatment plant) as well as many private homes that have never had a significant fire resulting in large buildup of fuel. The area also has extremely limited access and does pose a significant hazard if wildfire does gain access to the area. Efforts are needed to coordinate fuel reduction or defensible space around this area. This will be challenging, as there are wetlands in the area as well as being adjacent to the Yakima River and associated fish habitat.
- **Rural Water Supplies** - Continue to seek and develop water supply systems in rural areas for assistance in fire suppression. The District has worked with some of the vineyards to establish water supply points at irrigation ponds, but these are not always a reliable source of water depending upon the time of year and required water use for the vineyards. The District has also worked with the Barker Ranch to identify water supply access points to be developed as the ranch makes improvements to the irrigation and wetland management program. These water supplies allow access to water supplies closer to the threat of wildland fires as identified by landowners, users and the District.
- **Communications** - SECOMM has a rather sophisticated, intricate, and reliable – repeater simulcast microwave system. The system has some limitations to cover the entire two counties due to topography despite the multiple channels and repeater sites.
- **Residential and Agricultural Burning** - The District continues to see a high number of controlled burning activities that are not allowed under the current Benton County Clean Air Authority rules. The types of allowed burning depend upon the urban growth boundaries as well as agricultural use of lands. Many of the residents who have lived in the area for longer,

still conduct burning of natural vegetation even though they are inside the urban growth boundary, where this type of burning is not allowed. Efforts to educate the public on the rules continues to be a challenge based on the perceived rural nature of large portions of the District.

- **Cooperative Agreements** - The District is part of an automatic and mutual aid agreement system with Three counties; Benton, Franklin and Walla Walla. We have developed a dispatch matrix that allows us to put a large amount of resources on an incident in a relatively short period of time in the urban areas, but the rural areas take much longer to deploy resources due to the remote areas.
- **Other** - As with most combination career/volunteer agencies, the District continues to seek ways to improve its ability to recruit and retain reliable personnel to assist with the variety of responses and other administrative activities that must occur to be a progressive and successful organization.

Fire District 5:

- **Residential Growth** – The District has not seen significant population growth. However, there is growth in the suburban areas on the outer district lines, with housing development expanding into the district.
- **Communications** – The District is part of a Bi-County dispatch center (SECOMM) that is responsible for dispatching all fire, ems and police, as well as one fire agency from a third county, Walla Walla County. SECOMM has a VHF simulcast and microwave system utilized by fire agencies, and law enforcement agencies operate on an 800MHz radio system. The VHF radio system is outdated and will require a major overhaul within the next 2 to 5 years as parts are no longer available. The merger to one dispatch center was recent. With the addition of Franklin County Fire agencies, Pasco Fire Department and Walla Walla Fire District #5, radio traffic has increased. It seems that the number of dispatch staff needs to be increased to handle the increased radio traffic and calls.
- **Other** – The District is reliant on neighboring fire agencies for structure fires as well as for ALS services. There is a need to have access to Water Tenders and Type 1 Engines.
- **Cooperative Agreements** – The District has mutual aid agreements with neighboring fire agencies. The District will implement or renew needed mutual aid agreements.

Fire District 6:

- **Capacity needs or deficiencies for addressing fire risks** - Need more volunteers and paid staff. Have six seasoned responders that are near retirement age. However, these few

volunteers respond to a majority of the calls for service. These precious few members are the “backbone” of our organization and are vital to our continued operation. New volunteers have recently joined our ranks but will require several years of training to be able to take on medical and fire responsibilities.

The District does not enjoy a large donating population. Fundraisers in our economically depressed area do not produce the donations needed to purchase equipment. The tax base and a small amount of ambulance income are all that is available to operate on.

The remaining budget priorities are placed on personal protective equipment, maintenance, ensuring apparatus are safe, training firefighters and training EMT’s. Several fire stations owned by the District are thirty-five years old and require major repair.

- **Other** - Need weed abatement along the state, federal highways and railways. The overgrowth and close proximity of combustible vegetation causes multiple large fires every year. With our rural location, this can be detrimental to the person in need if we do not have the responders to help. Additional training would also be helpful. Due to rural location it is difficult to get outreach training for firefighter 1, wildland firefighter and Emergency Medical Technician.

8.2.59.2.5 *Prioritizing Public Facility Projects*

Prioritization of projects and programs can be difficult, so the County has established the following general guidance in prioritizing public facility projects, from highest to lowest priorities they include:

- 6.1. Repair existing public facilities to achieve or maintain LOS
- 7.2. Construct new or expanded public facilities to achieve or maintain LOS
- 8.3. Repair existing public facilities or construct new public facilities to eliminate hazards
- 9.4. Construct new or expanded public facilities to achieve or maintain LOS and other needs as forecasted during the next 6-years
- 10.5. Repair existing public facilities or construct new public facilities to reduce the operating cost of providing a public service or facility
- 11.6. Construct new facilities to provide excess capacity that will be needed beyond the next 6 years
- 12.7. All other facilities the County is obligated to complete that do not meet the criteria above

8.2.69.2.6 *Other Considerations*

County strategic goals, key objectives, and financial policies provide the broad parameters for development of the annual CIP. Additional considerations include the following:

- Does a project support the County Commissioners’ strategic goals?
- Does a project qualify as a capital project as defined in the County Budget Policy and have an expected useful life of at least 5 years?

Commented [BF88]: County reviewers - this is from 2018; it is good info that should be kept somewhere but not sure we need to carry it forward in the plan with this level of detail. It will serve as starting point for WUI strategy. Are you OK if we delete it here for the 2026 update?

Commented [GW88R2]: Yes- discuss WUI in the Comp Plan, but agreed this can be integrated and used during the WUI analysis/strategy

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- Does a project satisfactorily address all federal, state, and county legal and financial requirements?
- Does a project support the County's favorable investment ratings and financial integrity?
- Does a project support the County's goal of ensuring all geographic areas of the County have comparable quality in the types of services that are defined in the CIP?
- Does a project prevent the deterioration of the County's existing infrastructure and respond to and anticipate future growth in the County?
- Does a project encourage and sustain quality economic development?
- Is a project responsive to the needs of residents and businesses within the constraints of reasonable taxes and fees?
- Does a project leverage funds provided by other units of government where appropriate?

Master plans also help determine which projects should be included in the CIP, along with associated timeframes. Economic forecasts also inform the capital planning process.

8.39.3 Financing

8.3.19.3.1 Funding Sources for Public Facility Projects

Identifying funding sources for public facility projects is critical to the success of the Benton County's CIP. It requires coordination among County Departments and a thorough understanding of the fiscal capacity of the County to finance these facilities. Public facility projects are often very expensive, requiring multi-year commitments of financial resources. It is important to understand that a CIP does not represent a financial commitment or guarantee that the projects will be implemented. County approval does not automatically authorize funding. It does approve the program in concept and provides validity to the planning process. In an attempt to stretch money as far as possible, many different funding sources are considered. The financing of some projects relies on outside grant resources. If grants are not received, the projects may be delayed, removed, or financed with dedicated revenues, general revenues, excess surplus funds, or bond financing.

The County is guided by the following three principles in selecting a funding source for public facility improvements:

Equity. Whenever appropriate, the beneficiaries of a project or service will pay for it. For example, if a project is a general function of government that benefits the entire community, such as a public safety facility, the project will be paid for with general fund revenues or financed with general obligation bonds. If, however, the project benefits specific users, such as a road improvement district, then the revenues will be derived through user fees or charges, targeted taxes, and assessments.

Effectiveness In selecting a source or sources for financing projects, the County will select one or more that effectively funds the total cost of the project. For example, funding a capital project, or the

debt service on a project, with a user fee that does not provide sufficient funds to pay for the project is not an effective means of funding the project.

Efficiency If grants or current revenues are not available to fund a project, the County will select a financing technique that provides for the lowest total cost consistent with acceptable risk factors and principals of equity and effectiveness. These methods currently consist of fixed-rate general obligation or revenue bonds issued by the County, special funding programs funded by state or federal agencies, or special pool financing. When public facility improvements are located both in a City and UGA, the County and City can jointly sponsor the formation of Local Improvement Districts, Road Improvement Districts, and other benefit areas for the construction or reconstruction of infrastructure to a common standard.

In making capital investments, the County will consider equity in the planning process and address any potential displacement impacts, as applicable.

8.3.29.3.2 *When Funding is Unavailable*

When funding is unavailable to meet existing needs and support plan implementation or as County priorities evolve, the capital facilities plan will be revised at the next annual amendment in one or more of the following ways, as applicable:

- Reduce the LOS for one or more public facilities
- Increase the use of other sources of revenue
- Decrease the cost, and therefore the quality of some types of public facilities while retaining the quantity of the facilities that is inherent in the standard for LOS
- Decrease the demand for and subsequent use of public facilities
- Reassess the land use element

8.3.29.3.3 *Maintenance Financing*

The County intends to set aside sufficient revenue to finance ongoing maintenance needs and to provide periodic replacement and renewal of public facilities. This is necessary to keep public facilities in good repair and to maximize their useful life. The County should not provide a public facility or accept the provision of a public facility by others, if the County or other provider is unable to pay for the subsequent annual operating and maintenance costs of the facility.

8.49.4 **Existing Facility Inventory**

Benton County maintains a comprehensive capital facilities inventory to meet insurance requirements that is incorporated by reference into the Comprehensive Plan and available upon

request. The County existing public facility inventory is updated annually. General capital facilities owned and maintained by the County include:

- County administrative office support including auditor, treasurer, assessor, prosecuting attorney, planning and building, coroner, facilities and recreation, and road
- Construction and maintenance of rural and "farm to market" roads
- Law and justice, including the operation and administration of the courts, jail, and sheriff's functions
- Juvenile justice facilities including detention
- Regional parks and recreational facilities
- Bi-county regional health and human services
- Drainage improvement districts for low lying areas along river mainstems
- Waste management
- Regional fairground facilities

8.59.5 Capital Improvement Plan

The CIP is a 6-year list of projects updated at least biannually and used by the County to identify, maintain, and pay for current and future infrastructure needs for services provided by the County. [The CIP includes the County 6-year TIP by reference along with County park improvements per the latest Parks and Recreation plan.](#) The County prepares a comprehensive capital projects list that correlates funding sources to needed improvements and identifies project funding. The CIP is reviewed and updated in conjunction with the County budget process. Each update to the County's CIP is adopted by reference into the Comprehensive Plan. [The County also considers the latest state requirements in preparing and updating its adopted CIP. Per the latest Washington State Department of Commerce GMA Fully Planning Update checklist, this includes:](#)

- [Funding strategies, public facilities and services to serve UGAs, in coordination with the cities](#)
- [Ensuring capital budget decisions conform with the current Comprehensive Plan](#)
- [Proposed locations and capacities of expanded or new capital facilities](#)
- [Updated inventory of facilities](#)
- [Forecast of capital needs, based on current Comprehensive Plan and adopted levels of service](#)
- [Proposed locations and capacities, as applicable of expanded or new capital, and with consideration of equity and potential displacement impacts, as applicable](#)

- Funding plan for at least the next 6 years

Because the CIP is a working document regularly amended, it is not included in its entirety as a part of the Comprehensive Plan but is incorporated by reference.

8.69.6 Siting of Essential Public Facilities (RCW 36.70A.200)

The GMA requires that the comprehensive plans of each county and city include a process for identifying and siting essential public facilities. Essential public facilities include those facilities that are typically difficult to site, such as airports, state education facilities, state or regional transportation facilities, state and local correctional facilities, solid waste handling facilities, and inpatient facilities including substance abuse facilities, mental health facilities, group homes and secure community transition facilities. The OFM maintains a regional list of such facilities that are required to be built within the next 6 years. Because of their nature, these facilities may have large land parcel requirements and unique siting needs with regard to public services and transportation or produce noise and raise complex public health and safety concerns. These requirements and impacts would be imposed upon those living and working in the surrounding area of such facilities. Benton County shall provide land use zones that are compatible and development regulations that are consistent with the statutory requirements applicable to these facilities. The County uses a review process that allows citizen, city, and state agency input when such facilities are proposed. The siting process is summarized in Table 9-2: Essential Public Facilities Siting Matrix.

Airports and heliports operated for the benefit of the public must be appropriately planned to assure that adjacent land uses are compatible. The Benton County Zoning Ordinance shall provide development regulations that protect life, property, and prevent the establishment of airspace obstructions and other hazards which interfere with safe airport operations.

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**Table 9-2
Essential Public Facilities Siting Matrix**

Use: Essential Statewide Facility	Zone	SEPA	Public Utilities		Reviewing Board		Responsible Jurisdiction (local/ federal/ state)	Benton County Permits	Special Siting Criteria
			Water	Sewer	PC/ BOCC	BOA ¹			
Airport ²	RL 5, GMA-AG, LI, HI	Yes	X	X	A/H Overlay	X	RTPO/FAA/WSDOT/ Ecology	BC-Building	Transportation access public services
State Education	UGAR, RL 5, GMA-AG	Yes	X	X		X	Ecology/DOH	BC-Building	Transportation access public services
State & Regional Transportation	All Zones	Yes				X	Ecology/WSDOT/RTPO	BC-Building Structures only	Public services structures only
State Correctional	HI, GMA-AG	Yes	X	X		X	Ecology/DOH	BC-Building	Transportation access public services
Solid Waste Handling	LI, HI, GMA-AG	Yes	X			X	Ecology	BC-Building	Transportation access public services
In-patient Health ³	UGAR, RL 5	DOS ⁴	X	X		X	Ecology/DOH/DSHS	BC-Building	Transportation access public services
Secure Community Transition ⁵	HI	DOS	X	X		X	Ecology/DOH/DSHS	BC-Building	SCTF's land and cell access, not in close proximity to risk potential activities
Others as listed by OFM ⁶	TBD ⁷	DOS	TBD	TBD	TBD	TBD	TBD	TBD	TBD

Notes:

Source: 2006 Benton County Comprehensive Plan, Appendix 4

3. Conditional Use Permit

4. Airport/Heliports are subject to the provisions of 11A.86

5. Substance abuse, mental health, and group homes

6. Depending on size of facility

7. SCTFs as required by RCW 36.70A.200 & RCW 71.09 (civilly committed sex offender housing)

8. Facilities listed by the OFM required or likely to be built within the next 6 years (RCW36.70A.200)

9. To be determined by Benton County Planning Department as projects are identified

A/H: Airport/Heliports

BC: Benton County

BOA: Board of Adjustment

BOCC: Board of County Commissioners

DOH: Department of Health

DOS: Determination of Significance

DSHS: Department of Social and Health Services

Ecology: Department of Ecology

FAA: Federal Aviation Administration

GMA-AG: Growth Management Act Agriculture

HI: Heavy Industrial

LI: Light Industrial

OFM: Office of Financial Management

PC: Planning Commission

RCW: Revised Code of Washington

RL: Rural Lands

RTPO: Regional Transportation Planning Organization

SCTF: Secure Community Transition Facility

SEPA: State Environmental Policy Act

TBD: To be determined

UGAR: Urban Growth Area Residential

WSDOT: Department of Transportation

5 Economics Development Element

5.1 Introduction and Purpose

The purpose of the Economic Development element is to provide context, economic development priorities and how where they might occur and summarize the County's role in supporting economic development ~~synthesize the various components within the Comprehensive Plan that relate to current and emerging land use, growth, and economic issues into a summary from which deliberate and sustained action toward economic objectives can be formulated and pursued.~~ A strong diversified economy provides a high quality of life for the citizens of Benton County and the region. This, in turn, generates the resources through which local governments provide for the health, safety, and welfare of its citizens. The Economic Development element has been ~~developed designed to provide direction and specific actions~~ consistent with other plan elements, goals and policies (Section 2.6), the Benton County Economic Development Plan (2024) and the ~~2026-2030~~ 2026-2030 Comprehensive Economic Development Strategy for Benton and Franklin counties ~~(BFCG 2026-2030)~~ The County Economic Development Plan, including future updates, is adopted by reference into the Comprehensive Plan. This element and the County's Economic Development Plan are designed to communicate a coherent and consistent message about the County's approach to sustainable community and economic development. The County's Economic Development Plan includes detail on projects funded in whole or in part by the County's "Rural County Capital Fund" along with other funding sources used by the County to support economic development, and provides a comprehensive economic development strategy specific to the County. This strategy is part of the larger regional strategy outlined in the ~~The 2026-2030~~ 2026-2030 Comprehensive Economic Development Strategy. This regional strategy is designed to create employment opportunities, improve local conditions, foster more stable and diversified local economies, and provide a mechanism for guiding and coordinating the efforts of local organizations and individuals concerned with the economic development of this area. This Element integrates findings from the Benton County Industrial Lands Inventory and Energy Overlay Analysis to ensure that future development is strategically located to support economic resilience, maximize infrastructure investments, and protect agricultural and environmental resources.

~~While during World War II and the post-war years, the region's economy was largely dependent on federal funding for Hanford projects, it has since become a diverse center for agriculture, energy, advanced manufacturing, and transportation, as well as tourism (conferences, wineries, etc.) The county grows more than 100 commercial crops including apples, sweet corn, potatoes, onions and grapes, which produces 900 million dollars in sales annually (WSU citation). The clean energy programs of the region encompass the Columbia Generating Station, the Nine Canyon Wind Project with a maximum potential of generating 95.9 megawatts, as well as the Juniper Canyon Wind Farm. The Port of Benton is also a great hub for transportation, offering systems for rail, barge, and two~~

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airports. Almost 400 million dollars in goods and services come in each year, creating more than 10,000 jobs (Port of Benton site). In 2025 the county acquired 9.56 million dollars through the RAISE grant for improving the infrastructure and updating track on the industrial rail line connecting Kennewick and Richland. The county is also a strong draw for tourism, specifically in regard to its more than 200 wineries within a 50-mile radius. Visitors to the region spent upwards of 600 million dollars in 2024, and there are almost 6,000 travel-related jobs between Benton and Franklin counties. The county has also made strides in areas of construction and advanced manufacturing, producing medical equipment and fabricating nuclear fuel. Construction jobs make up about 8% of employment. Healthcare is also a growing field and is now the county's largest employer. Though still Benton and Franklin counties' largest single employer, as of 2023, the region is no longer as reliant as it once was on the Pacific Northwest National Laboratory and its direct ties to the Hanford projects and continues to make significant strides in economic diversification.

For the future economic growth of the county, there are seven key ongoing and planned areas for development. BFCG 2026-2030. For the future economic growth of the county, there are seven key ongoing and planned areas for development, as outlined in BFCG 2026-2030:

- The Horn Rapids Business Center and Industrial Park has an already existing infrastructure that is accessible for transport with efficient and lower-cost options of exports and transportation of goods. The Business Center houses battery manufacturing, nuclear component manufacturing, and storage (the country's largest fully-automated freezer resides here) facilities. Agricultural companies have also expressed interest in the area.
- The I-82 South Sub Area and Lewis and Clark Ranch are both areas being transitioned from agricultural use to urban developments, both commercial and recreational.
- Kennewick's Historic Waterfront District has plans to revitalize the area and become a tourist destination for food, wine, and art with recreation, as well as some residential living.
- Similar plans have been made for the Southridge District, but with an added area for industrial use due to its easy interstate access.
- The Northwest Advanced Clean Energy Park in Richland is an industrial and technological development area and is set to include agriculture, advanced manufacturing and clean energy.

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- Lastly, the land at Vista Field, formerly an airport, has an ambitious initiative to become a town center, drawing innovation with the intent to create high-wage jobs. This will be a community centered key location for the future of the county (BFCG 2026-2030 CEDS).

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While not called out specifically in the CEDS, the Plymouth/Patterson area in Benton County is also an important industrial development area. AgReserves and other businesses have made significant investments in recent years in agriculture products processing (onion packing and corn flaking facilities) and atmosphere controlled storage facilities to help diversify the types of products the region can provide.



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The strategic priorities for development in the region over the next five years are as follows:

Adequate and Resilient Infrastructure - A focus on maintaining natural and built assets, namely those for transportation and digital technology; energy innovation is key to attracting new industries. There is also an added focus on filling skill gaps in the workforce.

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Economic Resilience and Disaster Preparedness - To ensure adaptability and recoverability from any potential economic harm (economic, environmental, tech changes, health crises, global market changes) the region must have a proactive approach for as little disturbance as possible. This strategy must include collaboration between major stakeholders to share funding and assistance.

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Efficient and Effective Collaboration - Unity of all interested parties in the county is an important resilience strategy for joint grants, shared data, and workforce partnerships.

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Strengthen and Diversify Industries - An effort to decrease reliance on government jobs and expand and innovate will bring a diverse industry base. The region will seek to support entrepreneurship and small business growth competitiveness. Strengthening the connection between business/workforce/education is also vital in providing access to training for broad, transferable skills and digital literacy.

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Workforce development - Seek to find and fill gaps in training and education by encouraging the creation of local workforce training programs, to ensure a skilled and adaptable workforce who can adjust to shifts in the industry

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5.2 Hanford Nuclear Reservation

With the creation of the Hanford Reservation in 1943, the local economy became bimodal: pre-existing agriculture work outside the site and defense related construction and activities on the site. Due to the secret and hazardous nature of the site, it discouraged local private center investments and the region's economy remained stagnant for the next 50 years.

This situation remained until the end of the Cold War in the late 1980s, which enabled a new mission of cleanup of the Hanford Site. There has been a gradual reduction in the Hanford workforce over time. A Tri-Party Agreement was signed in 1989 by the State of Washington, the Environmental Protection Agency, and the U.S. Department of Energy which sets forth Site cleanup objectives, projects, and milestones. If funded by congress annually, it does extend but gradually reduces Hanford employment levels as cleanup is achieved over time. The current mission is fundamentally different in scope, purpose, and effect, driving new science and technologies that are often marketable worldwide, in effect creating a more diversified and resilient economy.

The local economy, while still dependent on Hanford, especially in the Tri-Cities area, has adapted and diversified its economy. Most recent data have indicated that economic conditions continue to improve over the past two years with the growth of renewable energy projects, such as wind and solar energy, and a scaled down emphasis on agriculture and federal energy (BFCG, 2026-2030) (Oneza & Associates 2017).

The Hanford area's B Reactor, consisting of historic facilities at Hanford, was authorized by Congress in December 2014 to be included in the Manhattan Project National Historical Park. The Hanford area and the Vernita Bridge area's public access to recreational facilities attract Hanford based tourism in the region. In 2025, the US House and Senate approved a continued nuclear energy tax credit for the Columbia Generating Station on the Hanford site. The station is crucial to the Northwest with a generating capacity of up to 1,207 megawatts, the equivalent of powering a million homes. This paves the way for new jobs and research and development opportunities for the region.

Energy Northwest (ENW) and X-Energy have also partnered to pursue permitting to develop smaller nuclear reactors at the



Commented [BF67]: Adam has some resources and you could also find them online for development happening in north Richland and on Hanford - X energy/Amazon ENW, expansion of PNNL etc, solar and energy area - all this plus other future plans can be summarized in here

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Commented [BF70]: Solar farm adjacent to power transmission lines in north Richland WA

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Hanford site to help power Amazon data centers using clean energy. Advancements also continue to be made in solar and wind energy. [The U.S Department of Energy identified PNNL as a strategic location for next-generation clean energy development and advanced computing infrastructure due to its proximity to existing transmission capacity, access to hydropower and nuclear power, and the potential deployment of small modular reactors \(SMRs\) to provide reliable baseload energy. The City of Richland currently holds 295 acres of federally transferred land reserved specifically for economic development to support these initiatives. PNNL’s workforce, favorable climate conditions, and absence of major natural hazards position the region as a premier location for AI-driven data centers and energy-intensive research facilities. These national investments will drive future employment, infrastructure expansion, and energy system upgrades, reinforcing Benton County’s role as a national hub for clean energy innovation, advanced manufacturing, and information technology.](#)

5.3 Energy

[Renewable energy continues to be a state priority, and energy infrastructure and innovation are central to Benton County’s long-term economic competitiveness. Washington State has enacted comprehensive policies to transition toward renewable energy such as wind and solar. The Clean Energy Transformation Act \(CETA\)1 mandates that electric utilities achieve carbon-neutral electricity by 2030, and supply 100% renewable or non-emitting electricity by 2045. Additionally, the Energy Independence Act \(RCW 19.285.040\) requires large utilities to meet specific renewable energy targets \(source AC Geo energy memo - <https://bentoncountywa.municipalone.com//files/documents/DraftEnergyOverlay1423050301082525PM.pdf>\).](#)

~~Add brief discussion about energy overlay from Adam’s memo.~~

[Benton County’s economy benefits from a growing renewable energy sector that complements the region’s agricultural, industrial, and manufacturing activities. Utility-scale solar and wind projects, along with energy storage facilities, are increasingly part of the County’s economic landscape. These projects support local employment, contribute to the regional tax base, and provide opportunities for collaboration with existing industrial centers and transportation infrastructure, including rail and barge systems at the Port of Benton. Energy development also encourages innovation in advanced manufacturing and construction, while contributing to regional energy reliability and sustainability goals. Future economic opportunities in Benton County are expected to include continued growth in solar and wind energy, battery storage, and emerging technologies such as small modular reactors and anaerobic digestion facilities.](#)

[To guide renewable energy development while protecting high-value agricultural lands and sensitive habitats, Benton County has established an Energy Overlay. Analysis for the Energy Overlay identifies “lower conflict” areas where utility-scale solar and wind facilities can be sited with minimal impacts](#)

Commented [BF71]: Jared - see Adam Cares’ memo on Energy
<https://bentoncountywa.municipalone.com//files/documents/DraftEnergyOverlay1423050301082525PM.pdf>

Commented [AC72]: U.S. Department of Energy. (2025, April 10). *Request for information on artificial intelligence infrastructure on DOE lands* [RFI]. <https://www.energy.gov/sites/default/files/2025-04/RFI%20to%20Inform%20Public%20Bids%20to%20Construct%20AI%20Infrastructure%20%28website%20copy%29%20-%202025.04.10.pdf>

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on farmland, priority habitats, wetlands, and steep slopes. This approach ensures that energy development contributes to the local economy in areas suitable for such uses while maintaining protections for agricultural and environmentally sensitive lands.

With the recent global advancements in Artificial Intelligence and the growing demand for the country to stay at the forefront of this field, demand for reliable electricity is increasing rapidly. Major energy and technology initiatives have been proposed in the region due to its existing transmission infrastructure, availability of carbon-free power resources such as hydropower and nuclear energy, and access to a highly skilled workforce. As a result, Benton County and the surrounding region are expected to experience continued interest in energy-dependent industries such as data centers, advanced manufacturing, and research facilities. Many large data centers have already been constructed across the Columbia River in Oregon, where access to transmission lines, tax increment financing, and industrial land has enabled co-location of energy generation, storage, and high-demand users. In Benton County, strategically co-locating energy generation with industrial uses in areas served by existing or planned infrastructure may help reduce pressure on agricultural lands, maximize grid efficiency, and support long-term economic resilience. Incorporating strategies such as the Energy Overlay helps guide energy development to support economic opportunities while remaining compatible with agricultural uses, environmental resources, and community values. With the recent global advancements in Artificial Intelligence and the growing demand for the country to stay at the forefront of this field, the US Department of Energy has selected PNNL as a possible site for developing much needed infrastructure. Benton county and the surrounding region will continue to see growth in this area and an increase in the need for data centers. Many data centers, with high energy consumption needs, have been constructed in recent years across the river from Benton County in Umatilla and Morrow counties in Oregon.

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5.35.4 Existing Conditions

Benton County's economy is characterized by a diverse mix of traditional sectors such as agriculture, food processing, freight transportation, and federal employment, alongside growing sectors including health care, education, clean energy, advanced manufacturing, and professional and technical services. The Tri-Cities region continues to serve as a center for agricultural production, scientific research, energy generation, and regional trade. Economic diversification is occurring as new industries emerge in response to energy transition policies, infrastructure investments, and technological change.

Current ~~in large measure, current~~ trends at the regional level indicate growth and resurgence of the region's historic economies (agriculture and food processing, water and rail transportation for commerce). Additional trends that are related to historic activities and the natural resource base of

this area are agri-tourism, anchored by an emerging viticulture (wine) industry and specialty crop farming and retailing, and visitor-serving commercial and recreational activities, with the center attractions being the riverine environments at the confluence of the Snake, Columbia, and Yakima rivers in the Tri-Cities. The trend on the Hanford Site has been to continue to open the site to a much broader range of uses and activities.

[Agriculture in Benton County grew rapidly in the 1960s and 1970s as the Columbia Basin Project was completed, spurring growth in both agricultural production and value-added areas such as food processing and chemical fertilizer development. Agriculture and food processing remains a central part of Benton County's economy. The county grows more than 100 commercial crops including apples, sweet corn, potatoes, onions and grapes, which produces 900 million dollars in sales annually \(WSU citation Agriculture WSU 2025\). The sector has increasingly diversified through value-added processing, controlled-atmosphere storage, and specialty crops that support both domestic and export markets. However, agriculture is also subject to challenges such as drought conditions, input costs, and labor constraints. Agri-tourism has emerged as an important component of this sector, with wineries, farm-based events, and specialty crop activities drawing regional and national visitors. Agricultural producers face increasing pressure from input costs, drought conditions, and labor availability, which affect long-term viability. The clean energy programs of the region encompass the Columbia Generating Station, the Nine Canyon Wind Project with a maximum potential of generating 95.9 megawatts, as well as the Juniper Canyon Wind Farm.](#)



[Agricultural lands in Benton County](#)

[Industrial activities play an important role in the County's economy and include manufacturing, logistics, warehousing, clean energy technologies, and emerging energy-intensive uses. A substantial portion of industrial activity in the County supports agriculture through food processing, controlled-atmosphere storage, and crop transportation facilities. These agricultural-related industrial uses are](#)

strategically located near agricultural areas and transportation corridors, reinforcing the County's role as a hub for value-added agricultural processing and distribution.

The region's energy economy includes existing hydropower, nuclear, wind, and solar facilities, and is expected to expand as demand increases for clean energy generation, storage, and grid reliability. The clean energy programs of the region encompass region's existing clean energy programs include the Columbia Generating Station, the Nine Canyon Wind Project with a maximum potential of generating 95.9 megawatts, as well as the Juniper Canyon Wind Farm. Additional large scale wind, solar, and nuclear energy projects have been proposed but have not been completed. Proposed energy projects reflect both state policy requirements and market demand from industrial and data infrastructure sectors.

The Port of Benton is also a ~~great hub for transportation~~ multimodal transportation hub, offering systems for rail, barge, and two airports. Almost 400 million dollars in goods and services come in each year, creating more than 10,000 jobs ("Economic Development" Port of Benton site). In 2025 the ~~county~~ Port acquired 9.56 million dollars through the RAISE grant for improving the infrastructure and updating track on the industrial rail line connecting Kennewick and Richland.

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Tourism remains a key contributor to Benton County's economy, generating more than \$600 million in visitor spending in 2024 and supporting approximately 6,000 travel-related jobs in Benton and Franklin counties. With more than 200 wineries within a 50-mile radius, wine-focused tourism continues to drive visitor spending and support hospitality-related jobs. The tourism sector is diversifying through agri-tourism, river recreation, event venues, and outdoor activities, helping to broaden the economic base. However, growth in tourism also presents challenges, including pressures on agricultural lands, increased demand for supporting infrastructure, and land use compatibility issues where tourism-related activities occur within working agricultural areas. Broader macroeconomic factors—such as fluctuations in agricultural markets, labor availability, and the cost of inputs—also influence the long-term viability of agriculture and related tourism activities. The county is also a strong draw for tourism, specifically in regard to its more than 200 wineries within a 50-mile radius. Visitors to the region spent upwards of 600 million dollars in 2024, and there are almost 6,000 travel related jobs between Benton and Franklin counties.

The county has also made strides in areas of construction and advanced manufacturing, producing medical equipment and fabricating nuclear fuel. Construction jobs make up about 8% of employment. Healthcare is also a growing field. Though Benton and Franklin counties' largest single employer, as of 2023, the region is no longer as reliant as it once was on the Pacific Northwest National Laboratory and its direct ties to the Hanford projects and continues to make significant strides in economic diversification.

A presentation of the history of the County's economic foundations of natural resource trade and commerce as it has evolved, and as it may be applicable to emerging economic opportunities and trends in Benton County and the region, occurs in the Land Use element (Chapter 3).

5.3.15.4.1 State and Regional Growth Trends

As required by state planning law, the focus within this Element is on "regional" and even global economic issues. The Pacific Northwest region of the country is experiencing rapid population and economic growth. The state of Washington has been growing at an average of over 7090,000 persons per year in the last decade and is projected to continue growing over the next 20 years that [pace \(OFM 2024\)](#). A regional growth trend can be seen in the Benton and Franklin counties' cumulative population growth shown in Figure 3-2. Benton County also continues to experience high levels of growth. In unincorporated Benton County, the farm economy has been very strong, with steady increases in "farm gate" and "value added" dollars, as well as employment numbers. Table 5-1 presents population and economic indicators in Benton and Franklin counties.

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**Table 5-1
Population Growth and Economic Indicators**

County	Population ¹		Civilian Labor Force ² (% of total population)	
	2015	2024	2015	2024
Benton	188,590	218,190	62.9	62.2
Franklin	87,150	101,238	75.0	66.1

Notes:
1. Washington State Office of Financial Management
2. U.S. Census Bureau

Notwithstanding the local effects from the Hanford Site, the regional focus is a natural one for the County, which is a "regional service provider." The local and regional economic history (the custom and culture) has been one of resource-based commodities trade (fisheries, fur, livestock, agriculture, minerals, and hydroelectric power), and related regional road, water, and rail transportation.

The custom and culture economy is largely the same today, except that some technologies have evolved into their own industries (e.g., irrigation systems and technology), and productivity has increased. The transportation systems that move these products have also undergone changes in technology and scale; they now serve global markets.

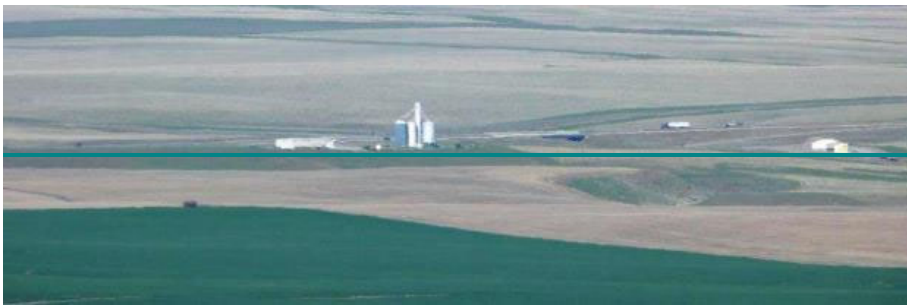
Within the last decade there have been local economic spin-offs (e.g., agri-tourism) from these traditional economic activities and new regional economies (visitor-serving commercial and recreation), which have expanded economic opportunities locally.

Agriculture grew rapidly in the 1960s and 1970s as the Columbia Basin Project was completed. The associated growth was not only in agricultural production, but also in value-added areas such as food processing and chemical fertilizer development. Recent economic trends indicate a shift in Benton County's employment growth away from agriculture toward other sectors such as construction. Unlike growth trends in previous years, however, which saw agriculture as the region's fastest-growing industry, more recent data shows a much faster growth in construction (+76%), health care (+38%), and leisure/hospitality employment (+33%). Comparatively, agriculture employment grew only around 10% over the last decade. The county has also seen an increase in transportation, warehousing, and utilities jobs. In the same time frame, there has been a decrease of jobs in manufacturing, retail trade, and government sectors. jobs (BFCG 2026-2030 ESD 2025). Top sectors for short and long-term future employment growth are summarized in Table 5-2 below.

Table 5-2 | **Fastest Growth in Employment**

Major Growth Sectors	Growth Rate Short Term (2023-2028)	Growth Rate Long Term (2028-2033)
Arts, Entertainment, and Recreation	2.13	0.98
Transportation and Warehousing	2.13	0.50
Education Services	2.53	1.15
Professional, Scientific, and Technical Services	2.68	0.87
Health services and Social Assistance	2.33	1.35

Source: Washington State Employment and Security Department Projections (August 2025)



Agricultural lands in Benton County

5.3.2 Benton County Economic Conditions

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Based on the ~~2023~~¹⁵ American Community Survey, the median household income in Benton County is ~~\$60,254~~^{87,316} (U.S. Census Bureau ~~2024~~¹⁵). The Washington State Employment and Security Department is forecasting all industries in Benton and Franklin counties to have a positive, though slowing, growth rate between ~~2024~~²⁴ and ~~20324~~²⁴. Short term non-farm projected growth has decreased slightly from 1.31 percent between 2019 and 2024 to about 1 percent between 2025 and 2029 (~~BFCG 2026-2030~~^{CEDS-2025}).

~~New specialty crop plantings have increased, along with innovations in harvesting, storage, and transport. However, in recent years droughts in the central Washington area have been detrimental to agriculture. The Roza Irrigation District received only 42% of its water rights in 2025. Improved irrigation efforts continue, but they are costly and slow. Farmers are occupied so much with short-term problem solving, it makes it difficult to plan ahead. Farm income dropped 42% across the state between 2022 and 2023 (Capitol Press 2025). Viticulture and agri-tourism continue to grow in the agricultural economy and may be a path forward for struggling income. Winery experiences, farm-to-table events, and U-pick operations create opportunities to lighten the strain of reduced production. Value added processing plants, as well as cold storage and transport facilities have also been constructed.~~



Vineyards in Benton County

~~Both the County and its farm products remain advantageously situated to serve expanding Asian markets.~~

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Table 5-2 | **Fastest Growth in Employment**

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Health services and Social Assistance	2.33	1.35

Source: Washington State Employment and Security Department Projections (Suljic August 2025)

5.4.2 Economic Diversification

Economic diversification is essential to Benton County’s long-term resilience. This includes both diversification within existing core sectors such as agriculture and the continued growth of expanding sectors such as tourism, renewable energy, and technology-based industries.

In recent years droughts in the central Washington area have been detrimental to agriculture. The Roza Irrigation District received only 42% of its water rights in 2025. Improved irrigation efforts continue, but they are costly and slow. Farm income dropped 42% across the state between 2022 and 2023, and the need to address immediate challenges leaves many farmers with limited capacity for long-term planning (Capitol Press 2025). Viticulture and agri-tourism continue to grow in the agricultural economy and may be a path forward for struggling income. Agritourism and related enterprises such as winery experiences, farm-to-table events, and U-pick operations create opportunities to lighten the strain of reduced production. Value-added processing plants, along with new cold storage and transport facilities, have strengthened the County’s agricultural supply chain and supported surrounding farm operations. Continued investment is needed to help producers grow high-quality crops that meet changing global consumer demands for sustainably produced, specialty, and premium products. Supporting infrastructure—such as advanced storage, processing, transportation, and marketing facilities—will be essential to maintain competitiveness in these markets. Benton County and its agricultural products remain strategically positioned to serve expanding Asian and international export markets.



Vineyards in Benton County

There is a continued need to further diversify the local non-farm economy's dependence on federal funding of Hanford projects. This must be done before those projects begin to wind down as cleanup milestones are completed, or before congressional budgetary considerations negatively affect project outlays. Meaningful strides toward a diversified local economy, independent of federal budgets for Hanford, have been made and these efforts are expected to continue.

5.3.3

Despite the above optimistic outlook in the eastern Washington region, the continued need remains is to further diversify to reduce the local non-farm economy's dependence on federal funding of Hanford projects. This must be done before those projects begin to wind down as cleanup milestones are completed, or before congressional budgetary considerations negatively affect project outlays. Meaningful strides toward a diversified local economy, independent of federal budgets for Hanford, have been made and these efforts must are expected to continue.

5.45.5 Summary of Economic Development Priorities

Items 1 through 9 on the following pages are currently the highest priorities for the commitment of County resources toward the objective of economic growth and development.

Though the items are shown as discrete economic activities, many in fact are naturally interrelated. For example, agriculture, agri-tourism, and visitor-serving recreational and commercial activities are mutually supportive and related, especially when located in the same geographic area of the County (e.g., the Tapteal Greenway and Red Mountain Wineries). These symbiotic relationships should be identified, facilitated, and encouraged for economic growth.

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Each of the priorities listed is a "regional" activity. For example, vineyards and wineries dot the regional landscape of Benton, Franklin, and Yakima counties. The recently constructed viticulture center, the Walter Clore Wine & Culinary Center, in Prosser which showcases regional wines and wineries would be an appropriate project for County involvement.



Columbia Crest Winery in Benton County

All the priorities listed below should be pursued simultaneously, with the overall level of effort allocated to each at any point in time being a reflection of its timeliness and cost/benefit outlook. For example, the local opportunities and demands of an expanding rail and waterborne transportation system for global commerce, and linked to area agricultural commodities, is currently significant and will likely continue to increase.

Where appropriate, partnering with local jurisdictions and other private, public, and governmental entities for planning, public processes, and financing capital improvements is preferred.

1. Commodities, Trade, and Transport

Engage other public entities (e.g., the State of Washington, the federal government regarding Hanford and the Columbia River, and local port and utility districts) in planning for the provision of land and infrastructure capacities that anticipate the expanding demands of commerce, trade, and transport.

Locations: Opportunities for enhancing local employment through this economic sector exist in:

- The Ports of Benton and Kennewick properties and other properties within both urban and rural areas of the County
- The area in north Richland, recently transferred from the U.S. Department of Energy to the City of Richland, the Port of Benton, and Energy Northwest for industrial use

2. Agriculture, Processing, and Value-Added Industries

Assure through coordination with other public entities (e.g., the State of Washington, the federal government regarding Hanford and the Columbia River, and local port and utility districts) that the complexity of land and infrastructure resources necessary to support the expanding demands for agricultural products and food processing and value-added industries exists. Essential components are all season farm to market roads, utilities service, and multi-modal transportation access to

processing, shipping, and storage areas; water resources for irrigation and processing; and industrial waste disposal facilities.

Locations: Opportunities to meet these needs exist in:

- Prosser industrial area
- Plymouth industrial area – An emerging industrial area with significant crop storage infrastructure and access to railway transport. Recent development has included new atmosphere-controlled onion storage buildings and a commercial steam corn flaker capable of making up to 800 tons of flaked corn daily (See photos below). The river, rail, and highway access, and proximity to Umatilla, Oregon, make Plymouth a key hub for processing and distribution of locally produced agricultural products to wider markets. The growth of industrial uses at the site is expected to continue over the next 20 years.
- Plymouth industrial area – An emerging industrial area with access to railway transport and storage sheds that fit — Grain Handling Inc has built a commercial steam corn flaker capable of making up to 800 tons of flaked corn daily. (See photos below)
- Rural areas of the County next to agriculture production areas

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Locational requirements that can be integrated with those of Priority No. 1 above should be fully maximized.



Plymouth Industrial Area



3. Agri-tourism

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Work with agricultural and related interests whose focus is on visitors and tourism (e.g., specialty retail, wineries, breweries, bed and breakfasts, farmers markets) to assure that zoning, development standards, and improved road access facilitate such activities.

Locations: Commercial agriculture in Benton County is ubiquitous over the landscape; any farmer or resident may seek to engage in agri-tourism enterprises. There are, however, locations that provide

notable opportunities due to location and/or the stated intent of the farmers to engage in agri-tourism. These are:

- The Prosser area, Wine Country Road, and Wittkopf Loop
- East of Benton City, in the Red Mountain AVA vineyards and wineries
- South Finley vineyards and orchards
- Paterson area vineyards and wineries

4. Visitor-Serving Recreation and Commercial

Develop County owned recreational lands and facilities, and implement recreational plans of the Comprehensive Plan, which will improve the quality of life for local residents and "spin-off" economic benefits to the local community from the regional visitor-serving and recreational economic sectors. Integrate and connect County facilities with those of the cities, e.g., Rivershore Enhancement and the Tapteal Greenway.

Locations: Along over 100 miles of shoreline extending from the Vernita Bridge on the Columbia River and Benton City on the Yakima River to Hover Park in south Finley and further down river to Plymouth in south Benton County:

- The Tapteal Greenway in the lower Yakima River has the potential to connect Columbia Point to Benton City and Red Mountain via West Richland and Horn Rapids County Park (see discussion of the Tapteal Greenway in Chapter 8)
- Hover Park in South Finley, with intertie access, brings visitors to south Finley orchards and vineyards
- [Badger and Candy mountain hiking trails](#)
- Two Rivers Park in Finley
- Vernita Terrace and through the Hanford Reach (Hanford Reach National Monument) and B Reactor Museum
- The island area partially owned by the Port of Kennewick off the rural community of Plymouth in the southern area of the County

5. Industrial Development

Work with the port and utility districts, WSDOT, and owners of industrially zoned land to provide lands zoned for industrial uses with transportation access and power (gas and electric). Work with municipalities or the state and local health districts to provide water and waste treatment capabilities sufficient to render industrial zoned lands marketable for industrial uses.

Locations: Notable locations of such lands in the unincorporated County are:

- All Rural Industrial lands

- The area in north Richland, recently transferred from the U.S. Department of Energy to the City of Richland, the Port of Benton, and Energy Northwest for industrial use
- Approximately 85 acres of industrial zoned land at the Interstate 82 and Badger Road interchange
- Rural Industrial lands ~~by Paterson and at~~ Plymouth in the south County
- ~~Rural Industrial land at Paterson in the south County~~

6. Agricultural Water Resources

Maintain a primary support role in the implementation of the Yakima Integrated Plan, work with agricultural and other stakeholders to address future water needs, and work with the broad range of water using interests to identify and obtain additional supplies and improve water quality (see discussion on Water Resources, Section 4.5).

Locations: The geographic areas within which this effort should be pursued are as follows:

- Yakima River Basin in conjunction with Yakima and Kittitas counties
- Within ~~the rest of~~ Benton County for those water supply and quality objectives that can be accomplished ~~unilaterally with County partners~~

7. Hanford Site Industrial

Energy, national defense, nuclear medicine, and more general industrial are among the opportunities on the Hanford Site:

Locations: Within the Industrial and Research & Development Zones of the Hanford Site, anchored by existing rail, road, energy, and nuclear infrastructure:

- Medical isotope production by the Fast Flux Test Facility in the Hanford Site's 400 Area
- Development of an industrial energy park in the recently transferred industrial land from the U.S. Department of Energy to the City of Richland, the Port of Benton, and Energy Northwest

8. Resource Use at Sustainable Levels

Coordinate with local jurisdictions and state and federal resource agencies to manage and conserve natural and biological resources at sustainable levels to sustain local economic growth. This requires that it be based on a broad array of sustained resources.

Locations: Generally within land features identified as "critical areas" (Chapter 4), but also relating to resource issues which transcend specific areas, such as ground and surface waters, air quality, and species survival:

- Along the mainstems and tributaries of the Yakima and Columbia rivers and their associated riverine wetlands and near-shore uplands
- Within the Hanford Reach and on the Hanford Site that combined represent a biological resources "bank" within Benton County
- Within Benton County's jurisdictional portion of the Yakima River watershed relative to conservation of ground and surface waters

9. Law and Justice

The quality of life and economic growth of an area are fundamentally influenced by the actual conditions and perception of public safety and welfare. These perceptions are held by residents, visitors, and prospective new business and industry. The expansion of public safety facilities is favorable to economic growth.

Locations: The County Justice Center in Kennewick

10. Education

Coordinate with educational institutions to maintain robust educational programs that are relevant to the regional economy. Although education constitutes a smaller share of the regional economy, this sector has seen more growth than other economic sectors in the region. Washington State University's research activities are also integrated with local economy, such as agriculture and wine based research.

Locations: The Washington State University Richland Campus and the following:

- Washington State University Extension's agricultural and natural resource based program unit, community and economic development program unit, and youth and family program unit
- Columbia Basin College's Richland campus expansion
- Other K-12 and vocational schools

5.5.6 The County's Role in Economic Development and Diversification

The County's role is identified in its vision and policy statements at the beginning of this Chapter; it promotes economic development by providing basic regional services and infrastructure, where such provisions will promote economic development, public health and welfare, and environmental quality.

Though the range of regional service responsibilities of the County is broad, within the context of economic development, the principal responsibilities are:

- ~~L~~ong range planning
- ~~P~~roductive coordination with other jurisdictions and interests
- ~~the provision and/or operation and maintenance of i~~nfrastucture necessary to support the current economic base and provide competitive advantages to attract new economic growth

Depending upon the circumstance, the County may fulfill these responsibilities ~~unilaterally on its own~~ or in partnership with other entities such as the port districts, private industry and business, the state, or other local and regional political jurisdictions. For any given issue or project, the County's contribution may range from direct capital expenditures to in-kind services or coordination, integration, and/or facilitation.

4 Natural Resources Element

4.1 Introduction

This Chapter describes the physical and biological setting of the County, along with soils and agricultural, mineral and water resources. Critical resources-areas (Wetlands, Critical Aquifer Recharge areas, Frequently Flooded Areas, Geologically Hazardous Areas and Fish and Wildlife Habitat Conservation Areas) within the County are identified, including their "functions and values," and the current trends associated with regulatory and voluntary protections for these resources. This Chapter also presents Benton County's approach for the protection of critical resources.

4.2 Natural Setting of Benton County

The natural setting of Benton County typifies that of the larger Columbia Basin area. The County is located in southeastern Washington and encompasses approximately 1,715 square miles. The Columbia River borders the north, east, and south sides of the County and the Yakima River intersects the middle of the County, flowing from Prosser to its confluence with the Columbia River at Richland. The County contains portions of three Water Resource Inventory Areas (WRIAs), including the eastern portion of the Lower Yakima Watershed (WRIA 37), the Rock-Glade Watershed (WRIA 31), and the Alkali-Squilchuck Watershed (WRIA 40).

4.2.1 *Climate*

Benton County is located in the central part of the Columbia Basin, which is surrounded by the Cascade and Rocky mountain ranges to the west and east, respectively. These ranges have a pronounced effect on the region's climate, which is dry and arid. The growing season in the region is approximately 185 days from mid-April to mid-October, with high temperatures exceeding 90 °F during the summer months and as low as 6 °F or colder during the winter months. Mean annual precipitation in the area ranges from 5 to 10 inches, with mean annual precipitation levels ranging from 10 inches or greater in discrete areas in Horse Heaven and Rattlesnake Hills (see Appendix A: Map Folio, Figure 6 – Precipitation Map). Approximately 70 percent of the precipitation in the region occurs between November and April with intermittent thunderstorms and other precipitation events occurring between March and October. Winter season snowfall accumulation ranges between 4 to 21 inches during the winter months, with snow melt and/or river icing during the winter and spring seasons occasionally causing flooding of the Yakima River.

4.2.2 *Topography*

The topography of Benton County is characterized by basin and valley lowlands, separated by the upland plateaus and ridges of the Yakima Folds Belt. The landscape is the product of seismic upheavals, volcanic eruptions, magmatic flows, glacial epochs, and cataclysmic floods. The legacy of

this history is the present geologic landscape that includes the Hanford area, productive soils on the flanks of anticlinal ridges, the Horse Heaven plateau, Rattlesnake Hills, Saddle Mountain, water resources of three major rivers, and the basaltic vertical columns and outcrops.

A thin layer of biology has adapted to the area's geologic base. The layer is relatively sparse and fragile on the dry uplands of shrub-steppe and bunch grasses, but diverse and resilient along reaches of rivers, tributaries, and creeks that flow throughout the County. From north to south, the major topographic features of Benton County are as follows:

Pasco Basin. A basal plane that comprises most of what is now the Hanford Site. Topography is flat to hilly, with elevations ranging from around 300 feet in the east to nearly 1,000 feet at the base of Rattlesnake Mountain.

Rattlesnake Hills. This segment of the Yakima Folds separates the Pasco Basin from the Yakima Valley. The ridge extends in a southeasterly-northwesterly alignment from its beginning in eastern Yakima County to a point where it merges with the Horse Heaven Hills south of Finley. Rattlesnake Ridge is discontinuous through the middle of the County where it has been perforated by the Yakima River (resulting in Red, Candy, and Badger mountains) and contains Rattlesnake Mountain, the highest unforested "peak" in Washington State. At 3,629 feet, Rattlesnake Mountain is also the highest point in Benton County.

Yakima River. The river bisects the County into north and south portions and is responsible for much of the varied topography of central Benton County. The river has been cutting the valley sediments in this syncline that separates Rattlesnake Ridge from the Horse Heaven Hills for tens of thousands of years. The present valley floor ranges from about 300 feet above sea level, at its confluence with the Columbia River at the City of Richland, to around 700 feet at the Yakima County line.

Horse Heaven Hills. This plateau constitutes the southern half of Benton County. The elevations of the Horse Heaven Hills rise from the County's low point of 265 feet near Crow Butte to 1,600 to 2,200 feet along the ridgeline which overlooks the Yakima Valley and the Badger Coulee. The Horse Heaven Hills are unique among the Yakima Folds: it is the southern-most and longest running ridge in the system at some 60 miles; it is the most severely "lop-sided" of the ridges, becoming more of a monocline than an anticline in areas; and it takes a definitive, 90 degree turn to the south at Kiona, which is the geographic center of the County. The ridgeline is highest at Jump Off Joe Butte south of Kennewick, and the plateau slides southward toward the Columbia River.



Horse Heaven Hills

4.3 Soils and Agricultural Resources

Benton County has highly productive agricultural soils with over \$9500 million generated by Benton County crops and livestock per year ([BERK Consulting 2017BentonFranklinTrends.org 2022](#)). Designated agricultural resource lands make up a majority of the County. (See Appendix A: Map Folio, Figure 4 and 5 for existing and proposed Land Use Designations Maps and Appendix L Agricultural Resource Land Reclassification Memo.) The soils in Benton County are generally suitable for both agriculture and structural development, with localized constraints relating to slope, geohydrology, and pockets of sandy soils and fines. Soils in the region are very susceptible to wind and water erosion once stripped of their natural cover. However, in undisturbed condition, the indigenous shrub-steppe and bunch grass vegetative cover has adapted to hold basin soils in place. When stripped of natural cover, prevention of erosion requires the application of deliberate and aggressive management techniques.

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4.3.1 Agricultural Soils

Agricultural lands in Benton County are primarily used for dryland agriculture (487 percent), with the remaining areas used for irrigated agriculture (4037 percent) and rangelands (15 percent; [BERK Consulting 2017AC Geo 2025](#)). The primary crop grown by acreage in Benton County is dryland wheat and wheat fallow ([BERK Consulting 2017AC Geo 2025](#)), which is generally planted higher-quality soils with sufficient natural precipitation. High-value irrigated crops such as vegetables, potatoes, and grapes are often grown on soils that require more management or receive lower rainfall, but have available water supplies. Generally, but with some notable localized exceptions, the addition of water and fertilizer to soils in Benton County will result in productive agriculture. The principal exceptions are on steep erosive slopes, in pockets of very sandy soils, or where near surface basalt formations are accompanied by thin soils and poor hydrologic conditions.

Agricultural lands of long-term commercial significance are located throughout Benton County. These lands are characterized in RCW 36.70A.030(10) as land that “includes the growing capacity, productivity, and soil composition of the land for long-term commercial production, in consideration with the land’s proximity to population areas, and the possibility of more intense uses of the lands.” As described in Appendix L, these lands are determined by assessing a variety of factors including, but not limited to, classification of prime and unique farmland soils, proximity to urban areas, proximity to markets, and other factors. Areas containing soils of long-term commercial significance are described in more detail in Section 3: Land Use Element. Appendix A: Map Folio, Figure 7 – General Soils Map provides a generalized depiction of the soils types and their locations within Benton County. Figure 9 in Appendix L shows lands having a Prime Farmland designation, including farmland of statewide importance, farmland of unique importance, and prime farmland if irrigated.

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Shrub-steppe and agricultural land

4.3.2 Soil Construction Limitations

Development in Benton County is generally not constrained by soil types, with few exceptions. For the purposes of structural development, soil limitations and development in geologically hazardous areas are addressed in the County’s CAO (BCC Title 15). The ordinance requires that developments avoid or maintain setbacks from potentially unstable areas or adequately assess the degree of instability and locate, design, and engineer the development to address the level of hazard.

Soil ratings developed by the Natural Resources Conservation Service are used to indicate the potential degree of limitations for different types of development on different soil types. For example, a soil type might be rated as having slight, moderate, or severe limitations for the development of roads or dwellings. A variety of criteria are used in making such determinations, including such factors as depth to bedrock, shrink-swell potential, permeability, and slope.

It should be noted that even a "severe" rating does not preclude construction from occurring. Rather, it means that the potential limitation should be recognized and that the construction techniques employed may have to take the special soil conditions into consideration. In all cases, Natural Resources Conservation Service emphasizes that an on-site inspection or soil survey would be necessary before it can be determined for certain if such soil characteristics are present.

4.3.3 Current Trends

Agricultural production is expected to continue to be a major activity and to play a vital role in the Benton County and Washington State economies. Population growth in the region will require proper management of soils and agricultural resources to protect them from development-induced erosion, contamination, and other impacts.

4.3.4 Future Considerations

Benton County currently requires a 150-foot setback for residential dwellings from agricultural districts to protect agricultural lands of long-term commercial significance and to avoid future land use conflicts. Because of their importance to the local and state economy, agricultural lands of long-term commercial significance should continue to be protected from future development. Additionally, the implementation of the VSP, a new, non-regulatory, incentive-based approach that balances the protection of critical areas on agricultural lands, while promoting agricultural viability, will encourage conservation practices such as erosion control measures that will protect and enhance agricultural soils.

4.4 Mineral Resources

4.4.1 Existing Conditions

In Benton County, mineral resources are aggregates (i.e., sand and gravel deposits and crushed quarry rock). Mineral resource areas in Benton County include lands with commercially viable mineral resource deposits. Most of the mineral resource areas in Benton County are located along the Columbia and Yakima rivers. Mineral resource lands are required to be protected under provisions of GMA. Constraints for the extraction of these resources typically include incompatible land uses (e.g., residential or commercial) on adjacent lands or biologically sensitive areas.

The major use of aggregate resources is for urban and rural residential developments. Construction of both dwellings and road networks consumes substantial amounts of sand and gravel as well as quarried and crushed basalt, which is used in local landscaping. The Mineral Resource lands scattered throughout the County represent an important economic opportunity because sourcing these materials locally is more cost effective than importing them from other regions.

At the Hanford site, active borrow pits provide mineral resources used for remediation, restoration, and closure activities (DOE 2015). State law requires that such mineral resources of long-term commercial significance be protected from having their future exploitation affected by adjacent developments that may be incompatible with the mining and processing activities associated with these resources on the site.

4.4.2 Current Trends

Mineral resources in Benton County will continue to be responsibly extracted from commercially viable sites to support local business and development. Mineral resources at the Hanford site will continue to be used to support ongoing remediation, restoration, and closure activities. [Based on DNR data, Benton County has 26 active permits for surface mining of aggregate resources, including rock, stone, sand, and gravel. These resources supply the concrete, asphalt, and construction industries, as well as the public transportation sector, including WSDOT and Benton County Public Works.](#)

4.4.3 Future Considerations

The principal considerations for the future use of these resources are: i) the identification of additional sites; and ii) providing the owners of known commercially viable sites the opportunity to apply the provisions of the County's Mineral Resources Protection Ordinance in BCC Title 15 to the sites. Such protection can prevent the sites from having their future exploitation compromised by the location of incompatible land uses on adjacent lands. Mineral resource extraction on the Hanford Site will follow the U.S. Department of Energy *Draft Hanford Industrial Mineral Resource Management Plan* (2001). [DNR is completing additional mapping of statewide aggregate resources to provide more detailed information on the extent of resources, but the data is not yet available for Benton County. This information will be incorporated into Mineral Resource Lands designations as available.](#)

4.5 Water Resources

4.5.1 Introduction

Benton County includes portions of three major WRIs: Rock-Glade Watershed (WRIA 31), Lower Yakima Watershed (WRIA 37), and Alkali-Squillchuck Watershed (WRIA 40). Water resources are a key component to maintaining a vibrant and growing county. As with much of the West, water in Benton County serves competing, and at times, conflicting uses. Securing certainty in the water supply is a major issue for the County for the foreseeable future. See Appendix A: Map Folio, Figure 8 – Water Resources Map.

Water is one of Benton County's most valuable natural resources. Reliable access to surface and ground water is necessary for household uses, irrigated agriculture, recreation, commercial and

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industrial development, and for fish and wildlife. Today, irrigated agriculture is the biggest user of water in the County, with supplies coming from the Columbia and Yakima rivers as well as from groundwater. The County's water resources also provide benefits for the natural environment and aesthetic amenities that contribute to the ambiance and lifestyle of the area. Water is a limited resource under numerous competing and changing demands, but improved management of the water resource system will allow for managed growth.



Irrigated agriculture in Benton County
Source: Washington State Department of Ecology

4.5.2 Existing Conditions

4.5.2.1 Surface Water

Benton County is located where the Snake and Yakima rivers flow into the Columbia River. Vast quantities of water, approximately 191,000 cubic feet per second or over 100 billion gallons each day, flow past Benton County on the way to the Pacific Ocean. This river system serves multiple uses, including power generation, fisheries, endangered species habitat, agriculture, and recreation. The system is culturally relevant for and connected to native and non-native Americans of the Pacific Northwest. The purpose of the following policies, however, is to focus on the needs of Benton County residents specifically.

Within the County, approximately 330 miles of shorelines meet the jurisdiction criteria of the Benton County SMP. The total acreage of upland shoreline area regulated by the SMP is approximately 15 square miles (The Watershed Company and BERK Consulting 2012). Critical areas within shoreline jurisdictions are also protected under the Benton County SMP (Appendix F).

The Columbia and Yakima rivers and their tributaries and creeks are the most prominent water resources within Benton County. Both rivers are classified as Shorelines of Statewide Significance by Washington State. The Columbia and Yakima rivers are directly related to critical area functions

throughout the County as a water source for critical aquifer recharge areas and provide floodplain, wetland, and fish and wildlife habitat. Within the central Columbia Basin's desert environment, it is estimated that up to 75 percent of indigenous wildlife species depend upon these riverine corridors for cover and other sustenance essential to their lifecycles.

A major overriding issue for both the Columbia and Yakima rivers is the survival of salmon and steelhead. The principal impacts to salmonids are:

- Water quality and habitat conditions within watersheds and estuaries
- Passage conditions and predation concerns at diversion dams
- Hydroelectric dams and pools on the Columbia which have an impact on out-migrating smolt mortality
- Fishing pressures in the ocean as well as the local river system

Pressures on salmon and other aquatic species may be further exacerbated as increased variation in both ocean and freshwater hydrologic conditions occurs from changes in climactic conditions.

Several anadromous species within the river system are listed as threatened, endangered, or candidates under the federal Endangered Species Act. Recovery efforts are ongoing to help reverse these trends, with many projects being implemented in both the Yakima and Columbia rivers to help improve passage, flow, and habitat conditions.

4.5.2.1.1 *Columbia River*



Columbia River
Source: Washington State Department of Ecology

The Columbia River bounds the north, east, and south sides of Benton County, flowing through the Alkali-Squilchuck and Rock-Glade watersheds. Besides the Yakima River, tributaries within the County are primarily small, ephemeral streams that flow through confined canyons. In the mid-Columbia region, the Columbia River hydrology is regulated by dams, with the highest flows occurring between April and June. The McNary Dam, located along the County's southern boundary, is operated by the U.S. Army Corps

of Engineers for navigation, hydroelectric power generation, recreation, and irrigation (The Watershed Company and BERK Consulting 2012).

4.5.2.1.2 Yakima River

The Yakima River within the County flows east to west from the City of Prosser to its confluence with the Columbia River located on the southeast side of the City of Richland. Most of the streams within the Yakima River watershed originate at elevations where annual precipitation is higher. Five major reservoirs and one smaller reservoir (Clear Creek) operated by the U.S. Bureau of Reclamation are located upstream of Benton County in the upper Yakima and Naches watersheds. These reservoirs contribute to recent higher summer flows in the Yakima River compared to historical conditions, particularly in the upper Yakima. Lower Yakima flows are often lower in the summer than historical conditions, primarily due to irrigation diversions. Backwater effects from the McNary Dam on the Columbia River limit channel migration on the Yakima River within Benton County (The Watershed Company and BERK Consulting 2012).

The current condition of the Yakima River, especially in its lower reaches in Benton County, is degraded and poor due to high ambient air temperatures, lower summer flows, non-point source pollution, and areas of higher water temperatures, all of which are functionally related. This condition jeopardizes both the native and anadromous fisheries, it threatens the long-term survival of the agricultural economy, reduces recreational opportunities, may lower real estate values of river front property, and limits the utility of the river for municipal and industrial uses.

4.5.2.2 Groundwater

Benton County is located in the central portion of the Columbia River flood basalt area, which includes basalt flow layers such as the Saddle Mountain, Wanapum, and Grande Ronde basalt layers (EA West 2017). The Columbia River basalts of the Columbia Plateau provide a locally important aquifer system, along with the unconfined, alluvial aquifers primarily along rivers and streams in the County, but also in sediments on top of the upper basalt layers. Groundwater production occurs in the sediments and the upper and lower basalt layers, which can often extend several hundred feet below ground.

Today, the reduction in flood frequency and floodplain connectivity resulting from reservoir management and diversion of irrigation water has altered the timing and character of streamflow and groundwater recharge through the Yakima watershed (The Watershed Company and BERK Consulting 2012). Additionally, nitrate groundwater contamination is a documented public health issue in Benton County (EA West 2017). The potential contaminant sources and pathways on the County's groundwater supply have not historically been well characterized nor have their effects been fully understood. As a result, the Benton Conservation District has developed the *Benton County Groundwater Nitrate Monitoring Study* "to help develop an essential foundation for groundwater quality restoration in Benton County with regard to elevated nitrates" (Benton Conservation District 2015). This study was followed up with the 2017 *Groundwater Nitrate Characterization Report* (EA West), which includes a description of geology, hydrogeology, and

elevated nitrate risk areas throughout Benton County, along with potential sources and suggested management and mitigation actions. [Finally, this work led to the development and adoption of a Benton County Groundwater Nitrate Community Action Plan in 2018. This action plan includes the current understanding of the nature of the groundwater nitrate problem and sources that may contribute nitrate to groundwater in Benton County, recommended management strategies, and a process to implement the strategies and monitor their progress. The Action Plan contains specific goals used to guide the implementation of nitrate management strategies \(Benton CD 2018\).](#)

4.5.3 Current Trends

4.5.3.1 Surface Water

Current trends regarding protection of rivers and creeks continue to improve. Regulatory requirements such as the GMA, Shoreline Management Act, and federal and state water quality laws require protection of these resources. Problems are recognized as essentially "watershed-wide," cumulative, and more complex than can be dealt with by the State unilaterally, or by individual jurisdictions, even if they "coordinate" efforts. Efforts continue both for the Columbia and Yakima river basins to address water management to meet in and out of stream needs and manage hydropower operation. The Columbia River Treaty renegotiations may further modify operations on the Columbia River, and this could impact river uses and how flow is managed for fisheries and out of stream water uses. Additionally, climatic variation could affect the levels of snowpack in the upper Columbia River and, in particular, in the lower elevation mountains of the Yakima River, and the associated timing of runoff, further potentially impacting the amount of water available for fish, farms and cities in the spring and summer months, and existing and future drought resiliency.

~~What is r~~Required in the Yakima River Basin is an integrated plan covering all aspects of water and land use that potentially impact water quantity and quality. In 2013, the U.S. Bureau of Reclamation signed a Record of Decision for the Yakima Integrated Plan, a 30-year, \$3.8 billion program to restore the Yakima River System and accommodate agricultural, municipal, and domestic needs (USBR 2013). The Yakima River Basin occupies portions of Benton, Kittitas, Klickitat, and Yakima counties. Since that time, state and federal funding has been obtained to implement several projects to improve conditions within the Yakima River Basin under the Yakima Integrated Plan.

4.5.3.2 Groundwater

Regionally, the trend is one of declining ground water levels in lower aquifers and declining water quality in both the upper and some of the lower aquifers. This regional phenomenon is largely attributed to expansions in the amount of acreage under irrigated agricultural production, along with other anthropogenic factors. Specific areas are identified and evaluated in the 2017 study by EA West on groundwater conditions in Benton County [and the associated Groundwater Nitrate Community Action Plan \(Benton CD 2018\).](#)

4.5.4 Future Considerations and Water Resource Management

The protection and management of water resources is expected to continue under the County's CAO, SMP, and the VSP, along with regional management plans including the Yakima Integrated Plan and ~~various~~ salmon recovery plans. Implementation of watershed-level management programs such as the Yakima Integrated Plan and the Rural Water Supply Proram will help to address water supply issues in the ~~region~~lower Yakima, particularly during drought conditions, and improve flows and habitat conditions for fish.

The purpose of the water resource guiding principles, goals, and policies in this Comprehensive Plan are to guide Benton County as it interacts with the federal government, Washington State, external local government agencies, and residents throughout Benton County. The principles and policies herein will provide a guide for Benton County elected officials and staff in addressing water and water-related responsibilities and issues affecting Benton County.

It is the intent of Benton County to protect the quantity and quality of water resources for the many uses that make Benton County a desirable place to live, now and in the future.

4.5.4.1 Guiding Principles

Following are the guiding principles and beliefs the County will consider in addressing water resource issues:

1. Support and promote sustainable water resource management. Sustainable water resource management will allow for the preservation of current economies, population growth with improved quality of life, and future economic expansion and diversification, all while protecting the quality and quantity of water necessary to support and enhance native fish and wildlife.
2. Use water resources to promote economic and social well-being in concert with reasonable environmental objectives. There must exist a realistic balance among water use benefits and economic costs.
3. Focus on improving water resource management at all jurisdictional levels by supporting the efforts of municipal and special purpose governments within Benton County and a legislative agenda at the federal and state level. Though limited in some geographical areas, water resources physically exist within most areas in Benton County to meet current and future needs. Effective water management and innovative strategies are required to allow beneficial use of these water resources.
4. Intervene in state and federal decision-making processes as required to promote the best interests of the citizens of Benton County. This intervention may include policy, planning, administrative, and legal processes.

5. Support sustainable water resource management in rural and municipal areas and take a leadership role in unincorporated areas. Work with municipalities to develop joint standards in unincorporated UGAs.
6. Maintain policies that support the belief that a water right is a property right.
7. Develop county regulations and policies in full consultation with local governments that support federal and state regulations where they meet the needs of the local population and municipalities.
8. Support securing long-term, sustainable water supplies sufficient to realize the build out of the land uses designated in the Comprehensive Plan as well as the Hanford Comprehensive Land Use Plan.
9. Maintain good working relationships with water users upstream and downstream from Benton County.

4.5.5 *Focus on the Yakima River Basin*

4.5.5.1 Yakima River Basin Water Rights

A large portion of the Benton County irrigated agriculture within the Yakima River Basin, including both the Kennewick (KID) and Roza (Roza) irrigation districts, receives irrigation surface water through the U.S. Bureau of Reclamation's Yakima Project. Roza and KID have 1905 water rights that are junior and subject to pro-rationing in droughts and other low water years. In years of drought these supplies are curtailed to an amount that is based upon total water supply available. Roza only received 47 percent of its supply in the 2015 drought, and KID also had a reduced supply. [Additional droughts have occurred in recent years, also reducing water supplies at various levels.](#) These reduced supplies can have significant impacts on crops and the regional economy.

The Yakima River Basin has been involved in a water rights adjudication process for more than 40 years. The adjudication and other state and federal court decisions have determined that water supply in the Yakima River Basin is over appropriated. Ecology settled with the U.S. Bureau of Reclamation and the Yakama Nation in the late 1990s over proposed groundwater permits in the Blackrock area and Rattlesnake Ridge. In September 2011, the U. S. Geological Survey released the final report of a 12-year, multi-million-dollar study confirming that some groundwater and surface water are directly connected, which means some groundwater withdrawals have the potential to impair senior surface water rights.

Ecology, in cooperation with the U.S. Bureau of Reclamation and the Yakama Nation, has determined that groundwater management in some areas may need to occur in order to protect senior water rights, flows for fish, and economic development. Ecology has stated they will seek solutions that address uncertainty and exposure faced by existing post-1905 groundwater users. In seeking water

management solutions, Ecology will build upon the broad-based support for the Yakima Integrated Plan (Ecology 2017).

4.5.5.2 Yakima River Basin Integrated Water Resource Management Plan

The Yakima Integrated Plan (Ecology and USBR ~~2014~~2013) was developed by a diverse Work Group made up of tribal, federal, state, local, private, and nonprofit entities to address a variety of water resource and ecosystem problems affecting fish passage and habitat and agricultural, municipal, and domestic water supplies. The Yakima Integrated Plan provides a balanced approach to address water shortages through increased water storage, enhanced water conservation, water marketing, and better use of existing infrastructure. The Yakima Integrated Plan also improves the overall ecological integrity of the Yakima River Basin by protecting and enhancing riparian and headwaters habitat, providing fish passage at reservoirs, and making targeted land acquisitions on a willing-seller basis.

The Yakima Integrated Plan includes seven elements: reservoir fish passage, structural and operational changes to existing facilities, surface water storage, groundwater storage, habitat/watershed protection and enhancement, enhanced water conservation, and market reallocation. Benton County supports the seven elements of the Yakima Integrated Plan and efforts by Kennewick Irrigation District and Roza Irrigation District to secure water supply during drought conditions to reduce drought impacts. The County supports other efforts in the Yakima River Basin and in the lower Yakima River to improve water supply, flow, and habitat conditions, including improving water quality.

4.5.5.3 Addressing Exempt Wells to Meet Long-term Growth Needs

The County recognizes the need for developing and implementing a long-term strategy for addressing permit exempt wells needed to support rural development consistent with State law (RCW 19.27.097, RCW 58.17.110, and others), meet the goals of the Comprehensive Plan and Yakima Integrated Plan, and ensure future domestic water supplies (see Section 3.7 for Population Projections) are both physically and legally available for water withdrawal.

Demand for water to serve the County's growing urban and rural areas is projected to significantly increase. Since surface waters within the Yakima River Basin are over appropriated, dependence on groundwater for domestic uses is likely to continue. To sustain growth, residents of Benton County must meet the ongoing challenge of protecting and managing our water resources.

It is understood that some surface and ground water in the Yakima River Basin are hydrologically connected. Rural domestic water supply is generally provided from groundwater sources (i.e., private wells). The withdrawal of water from groundwater sources hydrologically connected to surface water may have an adverse impact on senior water rights established before and including 1905.

4.5.5.3.1 Exempt Wells Legal Framework

RCW 90.44.050 provides for the supply of rural domestic water through the use of “exempt wells,” which can pump up to 5,000 gallons per day for residential use. The permit well exemption also allows pumping of 5,000 gallons per day for industrial use, 5,000 gallons per day for irrigation up to half an acre, and an unlimited amount for stock water purposes. Permit exempt groundwater withdrawals do not require a water right permit. However, to the extent the groundwater is beneficially used, the water user withdrawing groundwater under the exemption establishes a water right that enjoys the same privileges as a water right permit or certificate obtained directly from Ecology. Though such withdrawals are “permit exempt,” they are still subject to Washington State law regarding the seniority of water withdrawals. Water use of any sort is subject to the “first in time, first in right” clause, originally established in historical western water law and now part of Washington State law. This means that a senior right cannot be impaired by a junior right. Seniority is established by priority date—the date an application was filed for a permitted or certificated water right or the date that water was first put to beneficial use in the case of claims and exempt groundwater withdrawals. Although exempt groundwater withdrawals don’t require a water right permit, they are subject to state water law.

In some instances, Ecology has had to regulate, stop, or reduce groundwater withdrawals when they interfere with prior or “senior” water rights, including instream flow rules. Recent state court decisions on the requirements of the GMA and County land use plans have resulted in a duty for Benton County to ensure that water for development is legally and physically available.

Closure of the portions of the Yakima River Basin to exempt well construction has already occurred in Kittitas County, which in turn has had effects on the development patterns and a large effect on the value and marketability of legal lots which can now only be developed with the use of a mitigation program for exempt wells operated by Kittitas County. Benton and Yakima counties face similar risks. Benton County is committed to taking the necessary steps to secure future domestic water supply and associated mitigation for projected rural population growth.

4.5.5.4 ~~Developing a Yakima River Basin~~ Rural Water Supply Program

Benton County understands that groundwater withdrawal ~~may have~~has effects on Yakima River Basin senior water rights, including the Yakama Nation Water right for protecting fish. ~~Thus, the potential~~ ~~e~~Effects of future groundwater withdrawals within the Yakima drainage on senior water users and habitat conditions ~~will be~~are being addressed through the County’s Rural Water Supply program effective in 2020 in the next several years by the County. The County will complete this work program was developed in coordination with Ecology, the Yakama Nation, the U.S. Bureau of Reclamation, and stakeholders in the County and Yakima River Basin.

The Benton County Rural Water Supply Program was established to provide mitigation for any new residential use within the Mitigation Area (a portion of the Lower Yakima Watershed known as WRIA 37, as shown on the official Benton County Mitigation Area Map) in the form of acquiring senior water rights in order to offset groundwater use and managing the metering of wells. To date the County has acquired 425 acre-feet of senior water rights for the Benton County Water Bank.

Applicants for a subdivision/short plat or a new- building permit for a new dwelling unit within the mitigation area are required to purchase a mitigation certificate for each proposed lot (of a subdivision/short plat) or building permit. Building permit applicants for a new dwelling unit must also purchase and install a meter for their residential well and report water use.

This work will include identifying mitigation strategies for providing water for rural development in the basin, while avoiding impacts to flows in mainstem reaches and the few Yakima River tributaries that exist in Benton County. The specific next steps planned for Benton County include:

1. ~~Confirming baseline groundwater conditions~~
2. ~~Developing future growth projections and water demands for future groundwater supply~~
3. ~~Developing mitigation strategies~~
4. ~~Formulating the County rural water supply program for areas that will be served through permit-exempt wells, including considering policy options and selecting elements for the establishment of the rural groundwater supply program in Benton County, to ensure water supply risks are mitigated for the next 20 to 50 years, and beyond if possible~~

~~The County will complete this work in coordination with Ecology, the Yakama Nation, the U.S. Bureau of Reclamation, and stakeholders in the County and Yakima River Basin.~~

4.5.6 *Columbia River*

The County will comply with the 2018 law passed by the Washington State Legislature addressing rural exempt well development for the portion of the County that drains to the Columbia River.

4.6 Critical Areas

Critical areas include ecosystems, landforms, or processes that are protected or enhanced under the GMA for the biological or physical functions and values that they provide. Critical areas are located throughout Benton County.

According to RCW 36.70A.030, the five critical areas protected by the GMA include:

- Wetlands
- Critical Aquifer Protection Areas
- Frequently Flooded Areas
- Geologically Hazardous Areas

- Fish and Wildlife Conservation Areas

Many critical areas provide habitat for species listed as threatened, endangered, sensitive, or candidates by the federal or state government. Figures 8 through 13 of Appendix A: Map Folio depict the general location of critical areas in Benton County. The key functions and values provided by the five critical areas in the County can be summarized into the following four major functions: 1) water quality; 2) hydrology; 3) soil; and 4) habitat. Each critical area provides one or more of these key functions and values, which are summarized in Table 4-1.

**Table 4-1
Critical Area Functions**

Critical Areas	Key Functions			
	Water Quality	Hydrology	Soil Health	Habitat
Wetlands	•	•		•
Critical Aquifer Recharge Areas	•	•		
Frequently Flooded Areas	•	•	•	•
Geologically Hazardous Areas (Erosion)	•	•	•	•
Fish and Wildlife Habitat Conservation Areas	•	•	•	•

The following includes a description, current trends, and future considerations for each of the critical areas. Section 4.6.6 includes additional information on the VSP and the intersection of critical areas with agricultural lands.

4.6.1 Wetlands

4.6.1.1 Existing Conditions

Wetlands in Benton County are concentrated within the floodplain of the Yakima and Columbia rivers. Similar to stream flows, irrigation drainage may contribute to wetland conditions in some areas where wetland conditions did not historically occur. Many wetlands have formed adjacent to irrigation conveyance systems and in low-lying areas where irrigation occurs (see Appendix A: Map Folio, Figure 9 – Wetlands, River, and Streams). A wetland is considered artificial, and not subject to state or local regulation as a wetland, only if it meets both of the following characteristics:

- Intentionally created
- Formerly non-wetland (upland) site

In irrigated agricultural areas, wetlands can result from localized conditions (e.g., a leaking irrigation ditch) or from a region-wide rise in groundwater resulting from regional irrigation projects. These types of wetlands are regulated by state wetland law and cannot be filled or drained without

appropriate permits and mitigation (Ecology 2010). However, if the irrigation practices that led to the incidental wetland creation are changed (for example through implementation of water conservation practices), and the wetland dries up and no longer performs wetland functions, then no mitigation is required (Ecology 2010).

4.6.1.2 Current Trends

The current regulatory trend is for the protection of wetlands as a resource vital to sustaining biological productivity and water quality.

Within Benton County, the most noticeable trend is the gradual loss of artificial wetlands resulting from water conservation projects by irrigation districts and more efficient irrigation practices by farmers. Though there is no clear evidence of it to date, if the result of these efforts is to leave more water in the rivers as instream flow, then the natural wetlands along the riverine corridor should benefit.

4.6.1.3 Future Considerations

By both policy and ordinance, the Comprehensive Plan protects natural wetlands from non-agricultural developments. It also protects previously unfarmed wetlands from new agriculture. It is expected that the database for wetlands within the County will be improved over time and that such resources will be protected consistent with the requirements of state law and local interest.

4.6.2 Critical Aquifer Recharge Areas

4.6.2.1 Existing Conditions

The Columbia River basalts of the Columbia Plateau provide a locally important aquifer system. Within the lower Yakima River Basin, from the western County border east to Horn Rapids, the mainstem channel of the river flows through a relatively narrow inner valley of basalt bedrock covered with an unknown thickness of coarse alluvium. Downstream from Horn Rapids, the river flows through the broad alluvial fill of the Columbia River.

Within Benton County, the majority of wells and wellhead protection areas (Appendix A: Map Folio, Figure 10 – Critical Aquifer Recharge Areas) are concentrated along the Yakima River Valley and in the incorporated cities of Richland and Kennewick. Other Group A water system wells are located near irrigated lands in the southern portion of the County near Paterson. Studies have found nitrate concentrations exceeding drinking water quality standards in shallow wells in eastern and southern Benton County (WSIGC 1996; Ecology 2016). Based on the number of wells and the percentage of wells exceeding 10 milligrams per liter of nitrate, Ecology identified eastern Benton County as one of the top ten nitrate priority area candidates for improved water management within Washington. Actions implemented under the VSP, along with other management measures can help to prevent further degradation and potentially improve conditions.

4.6.2.2 Current Trends

Nitrate contaminations occur principally in upper aquifer wells drilled in the lower lying areas of the County. The spatial correlation between elevated concentrations of nitrates in groundwater and irrigated lands indicates that the major source of contamination is applied fertilizers on irrigated lands including crops, lawns, golf courses, and parks.

A complicating factor in the nitrate picture is evidence that suggests currently seepage from irrigation district canals actually serves to dilute what would otherwise be higher nitrate levels within groundwater (USGS 1993). As federal and State sponsored conservation projects reduce or eliminate this seepage, nitrate concentrations in the upper aquifer may actually rise.

4.6.2.3 Future Considerations

The protection and management of critical aquifer recharge areas in and around Benton County should continue to reduce pollution and maintain water storage levels for future use.

Benton Conservation District is also leading efforts to improve groundwater conditions through additional management measures. The Conservation District has been collecting sampling data from approximately 200 groundwater wells throughout the County to identify the influence of potential nitrate sources or nitrate dilution sources, as well as seasonal fluctuations in nitrate levels (Benton Conservation District 2015). These efforts are helping the County to build a more effective and targeted management program, including ~~developing~~ ~~a~~ stakeholder group, ~~supporting~~ a public health campaign and outreach activities, and implementing groundwater quality improvement efforts countywide, as documented in a 2017 report (EA West) and described in Section 4.5: Water Resources.

4.6.3 Frequently Flooded Areas

4.6.3.1 Existing Conditions

There are several types of landforms in Benton County that are subject to flood hazards. Most notably, the low-lying lands along the Yakima River flood significantly under varying winter and spring conditions. However significant flooding and flood damage can occur off the river as well in the Yakima's tributary streams, "dry" canyons, and other natural drainage features throughout the County, which are susceptible to "flash floods" or heavy run-off from snow melt.

The entirety of the Yakima River is mapped as a floodplain and floodway. The floodplain of the Yakima River is widest downstream (east) of Benton City. Floodplains are also mapped along the Columbia River, particularly in the northwest corner of the County, along the southeast near Kennewick and Richland, and along the south side of the County. Designated floodplains are shown in **Appendix A: Map Folio, Figure 11 – Frequently Flooded Areas.**

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Flood areas pose constraints to development because construction within them can put both life and property at risk and require frequent and recurring expenditures of public and/or private funds for the repair of public and private property.

The most damaging floods in Benton County are associated with the Yakima River. This is because Benton County is the most downstream county in the entire Yakima River drainage, which contains 6,155 square miles, or four million acres, and the basin has limited flood control facilities. Annually, the snowpack on the east side of the Cascade Range melts and passes through Benton County within a river channel ("floodway") that is in some places less than 60 feet across. Depending upon the size of the snowpack, the rate and timing of its melt, and the ground conditions within the watershed, the lower Yakima River floodway may or may not be sufficient to carry the flow. When it is insufficient to carry the flow, water leaves the floodway and moves overland onto the floodplain.

If the snowpack melts gradually over the spring months the river channel may be full, but not flood. However, if a warm Chinook wind melts a portion of the snowpack in January, while the river and ground in Benton County are still frozen, the melt water will reach its ice clogged channel and leave the river to spread overland; or if warm temperatures come suddenly in early spring the entire watershed may thaw simultaneously and inundate the lower river valley.

The areas along the lower Yakima in Benton County are especially vulnerable to flooding annually and extend from Benton City downstream through West Richland to the delta where the Yakima empties into the Columbia River. This area is characterized by low-lying river bottom lands and ancient river channels which are historically the river's natural floodway and floodplain.

4.6.3.2 Flood Management

One of the products of the Federal Emergency Management Agency's (FEMA) flood insurance program has been the mapping of flood hazard areas throughout the nation. The primary area of concern in this effort has been the 1% annual chance floodplain (formerly known as the 100-year flood hazard area). The 1% annual chance floodplain has been adopted by FEMA and, by extension, the County as the base flood for purposes of floodplain management measures.

Encroachment on floodplains, such as placing artificial fill, reduces the flood-carrying capacity and increases flood heights, thus expanding the area susceptible to flooding and increasing flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard.

For purposes of the National Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1% annual chance floodplain is divided into a "floodway" and a "floodway fringe." The floodway is

the channel of a river, plus any adjacent floodplain areas that must be kept free of encroachment to carry the 1% annual chance floodplain without substantial increases in flood heights. As a minimum standard, the Federal Insurance Administration limits such increases in flood heights to one foot, provided that hazardous velocities are not produced.

The area between the floodway and the boundary of the 1% annual chance floodplain is termed the "floodway fringe." The floodway fringe thus encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 1% annual chance floodplain more than one foot at any point.

4.6.3.3 Current Trends

The maximum known flood of the Yakima River occurred in December of 1933, with a depth of approximately 9.5 feet above the top of the riverbank at Benton City. Its estimated recurrence interval is approximately 170 years. Severe flooding of the Yakima River recently occurred in 1996, resulting in the largest and most devastating floods in recent history. More recently, flooding occurred in 2015 and 2017 in parts of Benton County. The likely trend is for the frequency and magnitude of floods within the lower reaches of the Yakima River to stabilize or even reduce as the upper watershed restores natural storage capacity through levee setbacks, watershed restoration, and other measures.

4.6.3.4 Future Considerations

Any new development located within the floodway will be reviewed by Benton County to meet current FEMA and BCC [Titles 3.26 \(Flood Damage Prevention\) and Title-15 \(Critical Areas Protection\) development standards/codes](#).

4.6.4 Geologically Hazardous Areas

4.6.4.1 Existing Conditions

Geologically hazardous areas encompass channel migration zones, steep slopes with moderate to severe erosion potential, landslide hazard areas, and seismic hazard areas. Channel migration in the Lower Yakima watershed is limited by a low gradient (average one percent gradient in the lower 47 miles of the river; BERK Consulting 2017) and geologic and structural controls in the eastern portion of Benton County. Similarly, the geology and topography of the Columbia River in Benton County, combined with dam regulations and shoreline stabilization measures, substantially limit channel migration.

Although the Department of Natural Resources identifies few landslide hazard areas within Benton County, steep slopes with erodible soils intersect agricultural areas along the northern face of the Horse Heaven Hills and eastern drainages within the Rock-Glade watershed, including along the Columbia River shoreline at Wallula Gap. Steep slopes with erodible soils are also mapped as

intersecting rangelands in the northwestern (Blackrock) portion of the County. See Appendix A: Map Folio, Figure 12 – Geologically Hazardous Areas for steep slopes and erosion hazard areas mapped within Benton County.

Steep sloped areas have the potential for mass movement and slope erosion hazards. Mass movement is the movement of rock or soil material down slope in response to gravity. Slope erosion is the removal of soil or weathered bedrock that occurs as a result of sheet wash (no conspicuous channels), rill erosion (numerous small rivulets), or gully erosion (larger, more nearly permanent channels).

Steeply sloped and unstable geologic structures pose a constraint to development because associated developments require more expensive design and engineering work. Additionally, a much greater land area per structure is necessary on steep slopes. Left in their undeveloped condition, the opportunities provided by these resources range from aesthetic (visual), to open space (for recreation), and, for basalt outcroppings and steep canyons, important habitats (nesting areas for birds of prey).

Slopes of fifty percent can be found in both the Rattlesnake and Horse Heaven Hills. Due to the unique problems inherent in developing steeply sloping areas, special care must be exercised in the planning and development of such areas.

4.6.4.2 Current Trends

As land use intensifies over the landscape with agriculture and residential developments competing for ground, and as higher income households target view lots on slopes and ridges, new residential developments will increasingly occupy the more geologically difficult terrain. These are the areas which present problems associated with geologic hazards.

4.6.4.3 Future Considerations

Future development should be consistent with the Benton County CAO in BCC Title 15.

4.6.5 Fish and Wildlife Conservation Areas

4.6.5.1 Existing Conditions

Due to the arid nature of Benton County, many streams classified by mapping as streams are dry washes that follow topographic lows and only transport water during large runoff events and therefore are not conducive to aquatic species habitat. Outside of irrigated areas, only streams modeled as greater than 7th order are likely to carry stream flow (even on an intermittent or ephemeral basis) and, in irrigated areas, streams that are greater



Shrub-steppe and riparian habitat

than 3rd order are likely to carry at least ephemeral flows (BERK Consulting 2017). Often the source of water for flow in streams in the County is from irrigation as many otherwise dry washes are used for irrigation water conveyance as part of an irrigation district system. Per RCW 36.70A.030(5), fish and wildlife habitat conservation areas do not include artificial features or constructs as irrigation delivery systems, irrigation infrastructure, irrigation canals, or drainage ditches that lie within the boundaries of and are maintained by a port district or an irrigation district or company. Field evaluation would still be necessary to verify stream occurrence at the site scale. Additionally, anadromous fish in Benton County use the Yakima and Columbia rivers to migrate, spawn, and rear. Anadromous salmon spawning is documented in some tributaries to the Yakima and Columbia rivers. See Appendix A: Map Folio, Figure 9 for a map of streams and rivers within the County.

Benton County contains protected habitats that are prioritized in various guidance and plans. WDFW's Priority Habitats and Species (PHS) Program provides key fish, wildlife, and habitat information to inform land use decisions. In addition to protecting individual habitat types, maintaining connectivity between habitats is important to sustaining ecological function. Habitat connectivity refers to the degree to which wildlife can move across the landscape to access food and shelter, migrate seasonally, establish new territories, and maintain healthy populations over time. Open space corridors that serve as biodiversity corridors and core habitat areas are mapped as PHS and play a critical role in maintaining ecological connectivity across the landscape. WDFW's Washington Habitat Connectivity Action Plan (WAHCAP) is a statewide strategy (currently in draft status) that guides habitat connectivity planning by mapping key wildlife corridors and identifying priority areas to reconnect important landscapes, including shrub-steppe habitats.

Shrub-steppe habitat is identified as a state priority and locally important habitat in the County, and consists of sagebrush, bunch grasses and forbs (broadleaf flowering plants). Shrub-steppe habitat was historically present throughout the County but agriculture and urban development has reduced much of this habitat. Large blocks remain on the Hanford Reservation and it is still extensive

Commented [GW62]: I think the CAO also calls it out a locally important species...

Commented [AC63]: Scott suggested using WDFW PHS definition in the shrubsteppe doc (although I like yours better): "A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs."
<https://wdfw.wa.gov/sites/default/files/publications/00165/wdfw00165.pdf>

throughout the County but each year additional development impacts this habitat. WDFW's Washington Habitat Connectivity Action Plan (WAHCAP) is a statewide strategy (currently in draft status) that guides habitat connectivity planning by mapping key wildlife corridors and identifying priority areas to reconnect important landscapes, including shrub-steppe habitats. The WDFW Washington Shrubsteppe Restoration and Resiliency Initiative (WSRRI) identifies core and corridor areas for shrubsteppe and other habitats. Shrub-steppe habitat and related WSSRI spatial priorities in the County are documented in Map Folio figure X and in a Open Space Corridors memorandum developed to support the 2026 Comprehensive Plan update (AC Geo 2025). The Blackrock area, which consists of a patchwork of private and publicly owned lands used predominantly for rangeland agricultural activities, is of significance for shrub-steppe habitat conservation. Additionally, State threatened ferruginous hawk is of importance on agricultural lands. See Appendix A: Map Folio, Figure 13 for mapped priority habitats within the County.

Several managed and protected fish and wildlife habitat areas are located in the County as described below:

Umatilla National Wildlife Refuge. The Umatilla National Wildlife Refuge is intensively managed to provide habitat for migratory birds and resident wildlife. Management practices include restoration of wetlands, manipulation of seasonal wetlands to encourage native food supplies, farming, prescribed burning, native planting in riparian areas, removal of exotic weed species, and planting native grasses in upland areas. Approximately 1,400 acres of refuge lands are irrigated croplands which provide food and cover for wildlife. Local farmers grow corn, wheat, alfalfa, and other crops under a cooperative agreement whereby the refuge's share of the crop is left in the field for wildlife.

McNary National Wildlife Refuge. Established in 1956, the McNary National Wildlife Refuge was created to replace wildlife habitat lost to construction of the McNary Dam downstream. The 15,000 acres of sloughs, ponds, streams, and islands include islands north of the City of Richland. Seasonal wetlands are managed to promote diverse wetland plant growth. Upland areas are managed with prescribed burning, removal of exotic weed species, and planting of native grasses. Native willows and cottonwoods are planted in riparian areas. Approximately 700 acres of refuge lands managed in agriculture specifically provide waterfowl with winter forage opportunities.

Barker Ranch. Barker Ranch is approximately 2,400 acres of alluvial and glacial floodway and floodplain with extensive riparian shoreline and wetlands that are a product of variously applied water, upwelling from subsurface hydrology, and seasonal river flooding. The ranch is located within the Yakima River migration zone primarily on the north side of the river extending up and down river from the Twin Bridges and the intersection of Snively and Twin Bridges roads. The north boundary is the Horn Rapids Ditch, the south boundary is the ordinary high-water line at the north side of the Yakima River. Today under the federal Wetland Reserve Program easement, approximately 1,865 acres of the ranch is under permanent conservation easement, with waterfowl and habitat

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Commented [GW64]: Should we mention shrub steppe mitigation program in this section?

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production the primary management objectives. Limited grazing continues under a grazing management plan that is wildlife and habitat driven rather than cattle driven.

Hanford Reach National Monument. In 2000, the Hanford Reach National Monument was established by Presidential Proclamation to protect, preserve, and expand critical shrub-steppe habitat and other cultural and biological resources. [The National Monument and the Hanford Reservation provide the largest intact and connected shrub-steppe habitat area in the County.](#)

4.6.5.2 Current Trends

The current trends relative to sustainability of fish and wildlife resources in Benton County is a mix of ~~success and failure conditions.~~ [On the successful side,](#) the Hanford site, occupying five percent of the County's land area is a large and functional habitat area of indigenous biological resources. Under federal ownership for the past 50 years, it has been left untouched by the far-reaching developments that have converted the off-site landscape. The shrub-steppe and wetlands complex of the Wahluke Slope to the north of the Columbia River and the U.S. Army's Yakima Training Facility to the west add hundreds of additional square miles of indigenous habitat, potentially "connectable" as a single unit.

Within the lower, flood prone reaches of the Yakima River, where private development is relatively sparse and large acreages are within local or federal ownership, a rich riverine environment of islands, wetlands, braided channels, and back water provide lush habitat and breeding and nursery areas for aquatic species.

Additionally, shore lands owned by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service in the south of the County along the Columbia river's hydroelectric pools provide significant fish and wildlife resources.

In contrast, biological resources generally found outside of the Hanford Site experience pressure from development, farming, recreation, and other activities, ~~specifically, including~~ native shrub-steppe habitat ~~as discussed above that is being eliminated by the expansion of urban and agricultural developments.~~ [The County Voluntary Stewardship Program has measures to address preservation of shrubsteppe habitat and the County is also taking steps to develop a mitigation program for ongoing development, as discussed further below.](#)

Additionally, the Yakima River's anadromous and resident fisheries are threatened by ~~poor water quality due in large part to non-point source pollution combined with~~ low summer flows ~~and river habitat that is being increasingly dominated by aquatic vegetation such as stargrass.~~ Overall, outside of publicly held lands, the current regional and local trend further threatens biological resources and wet environments as habitat through development and land conversion, ~~including on Department of Natural Resources lands in eastern Washington.~~

The continuing loss of biological resources is evidenced by fragmentation of natural habitat, declining water quality, and the growing number of terrestrial and aquatic species listed as candidate, threatened, and endangered by the federal and state governments.

Within the larger watershed, there are also sub-trends. For example, there are projects that continue to be implemented each year for the conservation of surface water resources by irrigation districts under federal and state sponsored water conservation projects. The typical project is the lining or piping of antiquated irrigation water delivery infrastructure to reduce leakage loss. Additional programs seek to reduce the total of "applied" water. The impact of these These programs have is likely to be improved flow and water quality in river mainstems and tributaries, while eliminating some of the significant acreage of wetlands created by conveyed or applied water run-off. Other areas have seen new wetland and riparian habitat emerge from additional irrigated agricultural development in the County (often converted from prior grazed land), particularly in the southern portion of the County.

4.6.5.3 Future Considerations

As the trend to convert raw land continues, fragmentation of natural habitats will further reduce biological productivity and diversity. Remaining productive terrestrial and aquatic habitats will be confined largely to floodways and floodplains, canyons, undevelopable terrain, undeveloped areas designated "Rural" on the Land Use Plan Map, and on lands in government ownership (other than Washington Department of Natural Resources).

Maintaining public holdings and encouraging conservation easements on larger private land holdings, because of their size and uncomplicated ownerships, holds promise for successfully protecting eastern Washington's Benton County's remaining natural wildlife heritage. The acreage of these holdings may be augmented by additional private lands protected and enhanced through the VSP and other programs.

Actions for protecting habitats on public lands should be pursued under a federal, state, and local partnership, with non-impactive recreational uses a goal secondary to wildlife protection:

- Conserve suitable acreages of existing public lands for habitat purposes, augmented where needed by additional purchases, exchanges, conservation easements to "connect" large tracts of habitat into functional systems. Additionally, the County is using the 2026 update to develop and establish a shrub-steppe mitigation program (see Appendix X?) that seeks to preserve high quality habitat areas within the County that can help offset impacts to shrub-steppe habitat being lost through development through a common framework that all the cities and County can utilize. Benton CD is an important partner to the County and cities in implementing this program. WDFW has provided technical information and guidance during program development.

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- Apply and monitor for effectiveness regulatory provisions to protect and enhance near-shore riverine and wetland environments.
- Apply water conservation standards to non-farm developments.
- Increase upper watershed storage capacity to provide additional low season flows and reduce the competition between in- and out-of-stream uses for available water supplies.
- Encourage land use practices that eliminate or significantly reduce non-point source pollution.
- In concert with state resources agencies, undertake local educational outreach programs including grant monies for demonstration projects on private lands associated with sensitive resource issues.

4.6.6 Voluntary Stewardship Program

In 2011, the Legislature amended the GMA with the intent to protect and/or voluntarily enhance critical areas in places where agricultural activities are conducted, while maintaining and improving the long-term viability of agriculture. This amendment established the VSP, a new, non-regulatory, and incentive-based approach that balances the protection of critical areas on agricultural lands, while promoting agricultural viability, as an alternative to managing agricultural activities in the County under the Critical Areas and Resources Protection Ordinance.



- Cattle grazing below shrub-steppe and cliffs and bluff habitat

Agricultural lands mostly have small intersections with critical areas in Benton County. Frequently flooded areas, geologically hazardous areas, and wetlands all have less than a 2 percent intersection with agricultural lands. Most critical aquifer recharge areas have small intersects with agricultural areas (less than 2.5 percent of agricultural lands); only areas with alluvial parent material or hydrologic soil group A have a moderate intersect (12.7 percent of agricultural lands). Fish and wildlife habitat conservation areas have the largest intersect (22.1 percent of agricultural lands). The Benton County VSP Work Plan (draft) provides additional information regarding the intersect of agricultural lands with critical areas (BERK Consulting 2017).

4.6.6.1 Future Considerations for Critical Areas Under the Voluntary Stewardship Program

Critical areas goals and protection benchmarks are included in the VSP Work Plan as measures that may be taken by agricultural producers to protect and/or enhance critical areas functions and values through voluntary, incentive-based measures. The plan is currently under development and the draft

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<https://www.vsp.wa.gov/county/benton>

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goals and protection benchmarks are provided as future considerations for each of the critical areas below. These goals and protection benchmarks may be updated as the Work Plan is finalized with the Work Group in coordination with Benton County.

- Wetlands
 - Manage runoff and erosion associated with agricultural activities through voluntary maintenance of conservation practices.
 - Maintain riparian vegetation to support biofiltration and bank stability in areas of agricultural intersect through voluntary practices, including managing livestock access to streams and wetlands.
 - Manage invasive species in and around wetlands, and maintain native species diversity.
 - Encourage voluntary enhancement of surface water quality in streams, wetlands, and agricultural drains in hydrologic study areas.
- Critical Aquifer Recharge Areas
 - Protect groundwater recharge in areas of declining water tables or where recharge can help maintain base flows for rivers and streams.
 - Maintain practices that limit leaching of nitrogen and other contaminants into groundwater.
 - Encourage implementation of groundwater recharge by passive infiltration or direct injection.
 - Promote voluntary on-farm water conservation practices, such as irrigation water management and efficient irrigation systems in areas with agricultural wells.
 - Promote voluntary conservation practices that minimize leaching of nitrogen and other contaminants into groundwater.
- Frequently Flooded Areas
 - Maintain floodplain connectivity in areas of agricultural intersect.
 - Maintain or reduce hazards to physical safety associated with flooding. New agriculture in floodplains should not require alterations that diminish floodplain functions or increase safety risks.
- Geologically Hazardous Areas
 - Maintain integrity of steep slopes in areas of agricultural intersect through the following:
 - Avoid increases in erosion
 - Avoid steep slopes or help to stabilize steep slopes where practical
 - Avoid irrigating unstable slopes
- Fish and Wildlife Conservation Areas
 - Maintain shrub-steppe habitat through voluntary management and protection measures, examples include, but are not limited to the following:
 - Timed/less intense grazing at appropriate times

- Native vegetation propagation
- Advanced fire protection strategies, including managed grazing and maintaining firebreaks
- Voluntary protection of set-asides (e.g., easements, acquisition, federal conservation programs, and other strategies)
 - [Supporting the County's shrub-steppe mitigation program](#)
- Manage invasive species on agricultural lands and maintain native species diversity.
- Promote voluntary measures to enhance shrub-steppe habitat and shrub-steppe corridors with the first priority being basins where the benchmark of shrub-steppe protection of functions and values is at risk of degrading compared to baseline. Within basins, enhancement opportunities should first include current blocks and currently utilized corridors and then historical or likely suitable corridors that could be established or renewed.
- Encourage diversity of native grasses in place of cheatgrass to promote resiliency.

78 Parks and Recreation Element

7.18.1 Introduction

This Parks and Recreation element, including parks and recreation goals and policies (see Section 2.9) and the County's Parks Plan ~~(adopted by reference) (Appendix I)~~ are the long-range policy and planning documents for Benton County parks and recreation facilities and properties and future opportunities. The Parks Plan ~~included in Appendix I~~ is ~~incorporated by reference as a~~ part of the County's Comprehensive Plan and will guide future decisions related to the County's parks system and parks facilities, with input from the Benton County Park Board. The Park Board advises the County Commissioners on matters of policy, programs, and projects for the development and operation of Benton County's park system.

This Plan Element applies to a 20-year planning horizon, with major review for possible revisions occurring every ~~8-10~~ years as part of the overall review of the Comprehensive Plan. Review of the Parks Plan ~~(Appendix I)~~ occurs every 6 years.



Two Rivers Park

7.18.1.1 Park Planning, Management, and Maintenance

Park maintenance is the responsibility of the County Parks Department. Park planning, capital facilities, and operations and maintenance are overseen by the Sustainable Development Manager,

who provides administrative support to the seven-member Benton County Park Board that advises the Benton County Board of Commissioners.

After coordination with appropriate County departments, consultation user groups, partnering organizations, and the public, the Park Board submits its planning and capital projects to the County Board of Commissioners for adoption. Park budgets are the responsibility of the Board of Commissioners.

7.28.1.2 *Washington State Requirements for Recreation Planning*

The Washington State Recreation and Conservation Office is the state agency that manages grant programs for outdoor recreation opportunities. The County's Parks Plan (2014) was prepared in accordance with the requirements specified in the GMA (RCW 36.70A). Additionally, the Parks Plan must be updated every 6 years to remain eligible for funds requested through the Washington State Recreation and Conservation Office.

7.28.2 **Existing Conditions**

7.28.2.1 *Inventory of County Park Facilities*

Benton County currently owns, or operates under lease, ten park facilities on 2,384 acres providing outdoor recreational opportunities and amenities such as lawn activities and picnicking, water and swimming, natural open space and habitat conservation, boat launches, a model airplane facility, a recreational vehicle campground, an equestrian camp, developed shooting facility, and a pioneer cemetery. Benton County subleases all or portions of two parks to non-profit entities (see Appendix A: Map Folio, Figure 15 – Parks and Recreation Map). The parks and recreation facilities are organized into the following:

- **Regional Parks** are intended for more diffuse and passive outdoor uses and serve a large region including rural county residents. These parks are meant to preserve large areas of natural open space and support types of recreation that require large areas or uncommon amenities, such as horse riding or miniature aircraft flying.
- **Natural Parks (Preserves) and Trails** are undeveloped areas mostly in their natural conditions that are managed for educational or recreational purposes. These trails preserve native plant and wildlife habitat and promote passive recreation, with established low-intensity use trails developed on many of these properties and future opportunities to promote trails between existing holdings.
- **Special Use** areas include sites that are either smaller and have focused uses or are managed for specific uses and may be subleased and managed by other organizations.

7.2.1.18.2.1.1 Regional Parks

The County owns or operates two regional parks.

Horn Rapids Park is located 6 miles north of Benton City and along over 5 miles of the north shore of the Yakima River, with about 565 acres of transitional river-to-upland shrub-steppe habitat nestled among other adjoining public lands. The park has an improved campground with full recreational vehicle hookups, showers, restrooms, a horse camp, a model airplane facility, a boat launch, and several miles of multi-use trails. Horn Rapids Park is also used as an outdoor educational center by area schools and [scouting-community](#) organizations. Via trails that continue off-site, visitors can travel up-and-down the Yakima River and hike or ride up onto the Rattlesnake Slope. The park may also become a key location for a future potential recreational trail through the Hanford Site.

Two Rivers Park lies on property leased from the U.S. Army Corps of Engineers about 2 miles east of Kennewick near the community of Finley. The developed portion of the park is centered around two [large-shelteredlarge-sheltered](#) lagoons on the west end, while the east end of the park features the 100-acre Rockwell Woods Natural Area consisting of beaver ponds, riparian woodlands, and marshes



Two Rivers Park Playground

and bisected by a nearly mile-long nature trail. Two Rivers is home to the last downstream developed boat launch in the Tri-Cities area and is used heavily throughout the year. First developed in the late 1960s after the McNary Dam Project levees were built, the west end of the park features a playground, extensive picnicking areas, [and](#) a disc golf course that was added in 2009, [and recently upgraded restroom facilities.](#)

7.2.1.28.2.1.2 Natural Parks and Trails

The County owns three preserves, with its most recent acquisition of Candy Mountain Preserve in June 2016. [The County is pursuing a fourth preserve opportunity for state-owned land in Badger Canyon through the Washington State Department of Natural Resources Trust Land Transfer Program, as discussed further in Section 8.4.1.](#)

Badger Mountain Centennial Preserve is located on the upper ridges and slopes of Badger Mountain in the south Richland area. Shrub-steppe vegetation, primitive trails, expansive views of the Columbia River Basin, and steep slopes characterize the property. The preserve was purchased in partnership with public, private, and state funds with the goals to preserve views, protect upland habitat, and provide for hiking, biking, and horse riding opportunities. Per Resolution 05-27 that created the preserve in 2005, the acreage is also “banked” by Benton County for possible use as

mitigation for shrub-steppe disturbances that may occur elsewhere in the County. Additionally, there is opportunity to potentially connect the Badger Mountain Preserve with the Candy Mountain Preserve.

Candy Mountain Preserve is located north of Badger Mountain in the Goose Gap and upper slopes of the Candy Mountain. Added to the park system in 2016, the preserve includes a 1.7-mile trail to the summit with a parking area at the trailhead.



Candy Mountain Preserve

Wallula Gap Preserve is located in eastern Benton County above Lake Wallula and across from the 'Twin Sisters' feature in Walla Walla County. The park unit consists of three disconnected parcels that are approximately 110 acres that have remained unchanged since the properties were deeded over to the County in 1984 by the U.S. Department of the Interior. The parcels are remote and generally inaccessible, with one parcel consisting primarily of sheer basalt cliffs. Current legal access to the property is by water only, although the railroad corridor limits that access. In order to access the property by land, an easement would have to cross about 5 miles of privately owned property. The properties are managed as part of the National Natural Landmarks program of the National Park Service, and Benton County provides regular reports to the Park Service on the status and condition of the site.

7.2.1.38.2.1.3 Special Use Parks

The County owns or operates five special use parks, including two vista parks and a shooting facility.

Horse Heaven Cemetery was developed south of Benton City in the Horse Heaven Hills as a private pioneer cemetery beginning in 1893. The last burials were in the 1940s, and Benton County took possession of the parcel through a property foreclosure in 1954. Recent improvements include a perimeter driveway and fence, an interpretive sign, and some sitting benches.

Horse Heaven Vista, first developed in 1964, is located southeast of Prosser along State Route 221 on the crest of the Horse Heaven Hills overlooking the Lower Yakima Valley. The site offers a sheltered view point, paved parking area, and restrooms.

Vista Park is located in the Tri-City Heights neighborhood of northwest Kennewick. It is a small neighborhood park with picnic tables and swing sets that was originally developed by the local Vista Junior Women's Club in 1970. County staff maintains the park including general repair of play equipment, irrigation, and general care of the park. It is the only small park owned by the County in an urban environment.

Rattlesnake Mountain Shooting Facility (RMSF) is located approximately 6 miles north of Benton City adjacent to Horn Road. RMSF is the County's largest park unit at about 740 acres. A portion of the property is owned by the State of Washington and used through an agreement with the Washington Department of Fish and Wildlife. The remainder of the property was formerly leased from the Bureau of Land Management but was purchased by the County in 2010. Benton County subleases the entire property to its concessionaire—the Tri-Cities Shooting Association (TCSA)—who has overseen maintenance, administration, and operations of the facility since the late 1980s. TCSA is responsible for all capital improvements, though the County occasionally assists financially with certain projects at the advisement of the Park Board. The RMSF is large enough to contain several discrete ranges designed and managed for different shooting disciplines. The facility is open to the public several days per week.

Hover Park is located approximately 10 miles southeast of Kennewick along the Columbia River and downstream of Two Rivers Park on property leased from the U.S. Army Corps of Engineers. Presently undeveloped, this park has good potential for future use. It has a pleasant beach area in a protected lagoon. The Burlington Northern Railroad bisects the property. The area also has historical significance. The first wagon train to the area, the Longmire Wagon Train, crossed the Columbia River on rafts near the park in 1853. The first major ferry crossing from Wallula was in the vicinity, and the park is in proximity of the original Hover town site, established in 1898.

7.2.28.2.2 *Other Park and Recreation Opportunities*

In addition to County provided parks facilities, there are other facilities provided by state and local agencies such as Crow Butte and Plymouth arks. Also, some park facilities are provided by the cities,

but serve regionally, such as the Columbia Park located in Kennewick and Howard Amon Park in Richland.

Crow Butte Park is owned by the U.S. Army Corps of Engineers and operated by the Port of Benton. The park is located 15 miles west of Paterson on the historic Lewis & Clark Trail. It is also adjacent to the McNary National Wildlife Refuge, a wintering grounds for hundreds of thousands of migratory waterfowl each year. The 275-acre park provides camping areas, recreational vehicle sites, a marina, boat ramps, swimming, fishing, a bath house, and hiking trails, among other amenities.

Plymouth Park is located 1.2 miles west of the Umatilla Bridge on a near-shore in the Columbia River near the Town of Plymouth. The park is owned and operated by the U.S. Army Corp of Engineers. The campground offers 32 sites with electric hookups. Amenities include flush and pit toilets, showers, drinking water, a dump station, and playground. The day use area has a swim beach, boat ramp, flush toilets, vault toilet, and courtesy dock (Recreation.gov 2017).

Other Public Lands Many of the County's rural residents recreate in natural areas suitable for hunting, fishing, and hiking. In the more remote planning areas of the County, such as Paterson, Plymouth, and Finley, recreational opportunities are often provided by the federally owned waterfront lands that lie along the hydroelectric pools behind each dam.

7.2.38.2.3 *Greenway Connections*

Improved public recreational trails are lacking throughout most of the rural County; however, the Tapteal Greenway currently offers connections as discussed below.

Tapteal Greenway is a 35-mile corridor along and including the Yakima River extending from Kiona Bend at Benton City to the mouth of the river at Bateman Island in Richland. Recognizing that the Yakima River provides an entirely different kind of recreational experience than the Columbia, the Greenway corridor features a mixture of ecological landscape types and a relatively high percentage of public lands and public river access locations (Table 8-1).

**Table 8-1
Public Rivershore Land Ownership**

Agency	Acres	Linear miles
U.S. Army Corps of Engineers	292	13.5
Richland	236	2
West Richland	N/A	1
Washington Department of Fish and Wildlife	10	25
Benton County	784	5.1
Total	1,322	21.85

The Tapteal Greenway Plan seeks to link these ownerships with a system of river and shoreline trails and paths over the 30-mile stretch of river and to use or improve each public property according to an overall plan. The plan aims to connect public spaces in Benton City, West Richland, and Richland via a network of trails and parklands anchored by the Yakima River.

The Tapteal Greenway Plan was developed jointly during the mid-1990s through a planning effort involving local, state, and federal interests; and implementation of the Tapteal Greenway Plan is the primary mission of the Tapteal Greenway Association²⁶.

7.3.18.3 Current Trends

7.3.18.3.1 Recreational Demand

Demand for public recreational opportunities and facilities is increasing and will continue to increase as both the urban and rural populations of the County grow and as the growth in overall state population results in "out of area" visitors looking for recreational opportunities (Washington population growth is 100,000 per year).

Based on Washington State Recreation and Conservation Office's 2013 State Comprehensive Outdoor Recreation Plan, walking and hiking continue to be popular activities in Washington. Outdoor team and individual sports (which includes fitness activities like jogging), nature activities, and picnicking and barbequing are also popular in the State.

7.3.28.3.2 Levels of Service and Park Management

The County's Parks Plan has adopted LOS standards that are meant to be used as guidelines, ~~not absolutes only~~. The LOS identified in Table 8-2 is based on the four park types described above:

Table 8-2
Level of Service Standards

Park Type	Service Area	Level of Service
Regional	15-mile radius and within an hour drive	5 acres per 1,000 population
Natural	20-mile service radius	5 acres per 1,000 population
Trails	N/A	1.37 miles per 1,000 populations
Special Use	N/A	Case by Case

²⁶ Tapteal Greenway Association mission available from www.tapteal.org.

In addition to LOS designations, Benton County organizes its ten parks by "level of management," resulting in a two-tiered system.

- **Tier One** parks have daily operational oversight, either by an assigned County park ranger or by concessionaires or volunteers.
- **Tier Two** parks are smaller, have significantly less use overall, and do not have daily active management.

Table 8-3 provides specific information on ownership/lease, size, type, and level of management at each park. [See Appendix A: Map Folio, Figure 15 – Parks and Recreation Map.](#)

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Table 8-3
Types and Level of Management at Benton County Parks

Sites	Owner	Acres	Level of Management
Regional			
Horn Rapids Parks	County	564.5	Tier 1
Two Rivers Park	U.S. Army Corps of Engineers	159.0	Tier 1
Natural			
Badger Mountain Preserve	County	627.1	Tier 1
Candy Mountain Preserve	County	186.0	Tier 1
Wallula Gap Preserve	County	110.0	Tier 2
Special			
Horse Heaven Cemetery	County	2.0	Tier 2
Horse Heaven Vista	County	6.3	Tier 2
Hover Park	U.S. Army Corps of Engineers	175.0	Tier 2
Rattlesnake Mountain Shooting Facility	State and County	740.0	Tier 1
Vista Park	County	0.3	Tier 2

As mentioned, the LOS standards for parks are meant to be used as guidelines, not absolutes. The Parks Plan develops standards to fit with the current population and feedback during the workshop sessions and questionnaire.

According to the Parks Plan, the current park system is not meeting the LOS standards by 374 acres and will need a total of 900 more acres of land to meet those standards 20 years from now (Table 8-4). This acreage analysis does not include special use parks, trail connections, or community

desire for preservation of open space lands in certain sensitive and view corridors. Local citizen requests and interest for improvements, whether they be federal- or County-owned lands, generally focus on improved vehicular and boat access. However, "natural area" recreation is only one type of opportunity. There is also an unmet demand for recreational opportunities that rely upon a higher level of facilities and improvements in more developed parks.

**Table 8-4
County Parks Level of Service Requirement by 2035**

Park Type	2014 Level of Service (Population 183,400)	2035 Level of Service (Population 236,007)
Regional	917 acres	1,180 acres
Natural	917 acres +	1,180 acres +
Special Use	Case by Case	Case by Case
Total Parkland to meet Level of Service	1,834 acres	2,360 acres
Trails	253 miles	323 miles

Source: Benton County (2014)

7.48.4 Future Considerations

8.4.1 Open Space Preservation

In accordance with Benton County's 2026 Comprehensive Plan and the GMA's requirement to identify open space corridors within and between urban growth areas, the Open Space Preservation memorandum was created to uphold the focus of safeguarding open space land. The Open Space Preservation memorandum details the County priorities for of the county regarding the protecting of open space lands and corridors, and more specifically those "naturally vegetated steep slopes and elevated ridges" and the lands surrounding these areas (AC Geo 2025). It also reviews how the county currently meets these state mandates and evaluates the corridors' environmental and recreational uses. It recommends strategies that promote open space protection while working with county policies around recreation, wildlife habitat, and natural resource conservation.

Benton County has mapped and identified priority open space corridors by focusing on key habitats, wetlands and floodplains, and linkage routes providing connections along rivers and ridgetops, and between larger spaces. Rivers and ridges are essential characteristics of Benton County's landscape and are key elements of the open lands network. The Columbia, Yakima, and Snake rivers offer essential ecological functions along with the floodplains and wetlands which function for water

quality, food storage, and habitat connectivity. The plan gives guidance on important shoreline vegetation conservation that preserves ecological functions and reduces flood risks. It provides instructions for conserving habitats and scenic resources that provide trails and public access recreation areas, as well as preserving additional area along the Horse Heaven Hills and Red Mountain ridges, to complement the open space areas already protected along Rattlesnake, Badger and Candy mountains, and Red Mountain ridges. These ridges contribute to natural vistas and support the mostly undisturbed shrubsteppe habitat. Together with the above-mentioned rivers, they form the backbone of a connected open space network that connects urban growth areas and natural virtues.

The Open Space memorandum explains the interest of the county identifies an early opportunity to enhance open space in the County by in acquiring DNR lands from the Washington State Department of Natural Resources for in Badger Canyon for conservation purposes. The land is located north of the Kennewick Irrigation District canal and extends along the hillside. in the Badger Canyon area contains two parcels totaling 429 acres. This land contains valuable shrubsteppe habitat as well as opportunities for mountain biking, hiking and other low-intensity recreational activities. It is also next to federal land that could also be protected in the future as open space and support similar recreational activities.



DNR Land in Badger Canyon

7.4.18.4.2 *Key Opportunities-Capital Improvements to Meet Demands*

Capital expenditures to enhance recreational use of County parklands are developed as part of the Capital Facilities element, Chapter 9, and should be prioritized to focus first on locations that have current facilities deficits and/or on park lands where the provision of additional recreational facilities can leverage other recreation related economic and visitor benefits beyond the park itself. Major improvements considered in the Parks Plan are mentioned below.

Horn Rapids Park. Within the unincorporated area, the land and water resources of the park are the central element of the Taptal Greenway Plan. Development of Horn Rapids Park according to its Master Plan would provide a regional destination point, as well as an activity center for the Greenway. The County ~~2025-2030~~²⁰¹⁷⁻²⁰²² CIP identifies ~~four~~^{three} projects for Horn Rapids Park: 1) addition of a new shop expansion of the maintenance shop; 2) paving of the driveway to the office/maintenance area; and 3) development of a new master plan for the park. A parking lot improvement plan, and 4) a gardens renovation project.

Two Rivers Park. Improvements are needed for the boat launch, dock, nature trail (boardwalk addition), restroom facilities, and signage. The County CIP considers ~~three~~^{two} major capital projects for Two Rivers Park: 1) remodel of the boat launch, including replacement of all floating docks; ~~and~~ 2) complete replacement of the main restroom at the central part of the park, and 3) rapidly replace the swimming boundary.

Badger Mountain Centennial Preserve Improvements. Anticipated improvements include ~~trail connections to adjacent properties both to the east (Badger Butte/Little Badger Mountain) and to the west (Candy and Red mountains). The 2017-2022 CIP includes improvement to the Summit Road that connects Dallas Road to the summit area along the west ridgeline. This road follows a utility easement and is used numerous times daily by vendors who need access to the summit, as well as for park business. Improvements would include choosing a formal route, grading in some areas, removal of large cobbles, and placement of suitable coarse gravel.~~



Badger Mountain Preserve

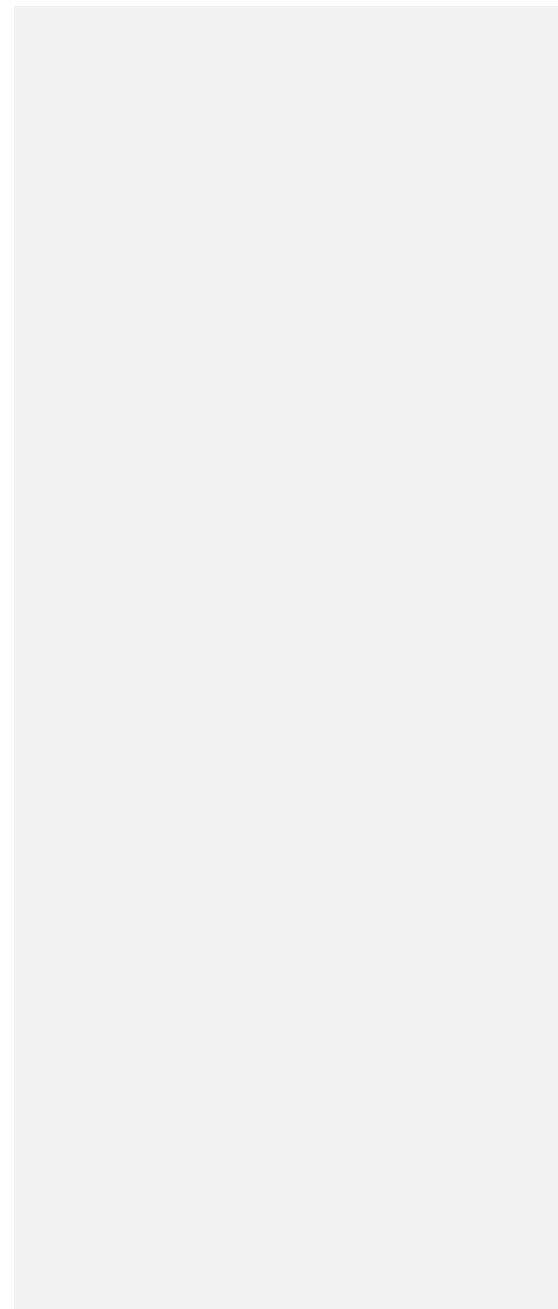
Improvements to Other Parks and Facilities. In the special use parks, trail and access improvements and maintenance are important. These improvements are done as funding becomes available and are based the County's Parks Plan and as prioritized by the Park Board. Some facilities are operated by County partners who are responsible for maintenance and improvements (e.g., RMSF is operated by the TCSA).

Other improvements as indicated in the CIP are listed below:

- Horse Heaven Vista will have a large entrance sign and placement of two standard alert signs (one each direction) along the highway.
- Horse Heaven Cemetery will also have a large entrance sign as well as placement of a marker recognizing all known burials in the cemetery.
- Hover Park will add a dedicated, purpose-built parking area at the end of Hover Road, lined with barriers, and able to easily accommodate multiple horse trailers. The gravel lot will measure approximately 200 feet by 50 feet and will include appropriate vehicle access controls.
- If the County is successful in acquiring the DNR property in Badger Canyon then improvements for this property may also be included in the County's CIP.

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SCTF: Secure Community Transition Facility
SEPA: State Environmental Policy Act
TBD: To be determined
UGAR: Urban Growth Area Residential
WSDOT: Department of Transportation



910 Utilities Element

9.110.1 Introduction and Purpose

Utilities include the supply, treatment, and distribution, as appropriate, of domestic and irrigation water, sewage, storm water, natural gas, electricity, telephone/cellular service, cable television and internet service, microwave transmissions, and streets. Such utilities consist of both the service activity along with the physical facilities necessary for the utilities to be supplied. Utilities are supplied by a combination of general purpose local governments as well as private and community based organizations.

The primary regulatory agency for most utilities in Washington State is the Washington Utilities and Transportation Commission (WUTC). The WUTC ensures that safe and reliable service is provided to customers at reasonable rates. The WUTC regulates the rates and charges, services, facilities, and practices of most of Washington's investor-owned gas, electric and telecommunication utilities. ~~As defined by the WUTC, some utilities are considered a critical service, namely electricity and standard telephone, and must be provided "upon demand." In order to fulfill public service obligations, these utility providers must plan to extend or add to their facilities when needed. On the other hand, natural gas is not considered a necessity, but rather a utility of convenience.~~ All utilities regulated by the WUTC are prohibited from passing the cost of new construction onto the existing rate base. Federal agencies also play a role in regulating some of these utilities. For example, the Federal Communications Commission regulates telecommunications. In addition, the Federal Energy Regulatory Commission, an independent commission with the U.S. Department of Energy, sets rates and charges for the transportation and sale of natural gas, the transportation of oil by pipeline, the transmission and sale of electricity, and the licensing of hydroelectric power projects. Local government, too, has a role in regulation for certain utilities, such as franchise agreements. However, the effort behind meeting GMA requirements is not primarily regulatory; rather, it is to promote coordination and cooperation between among jurisdictions and utility providers.

The GMA has given local jurisdictions the obligation and requirement to plan for utilities including identification of utility corridors. The intent of this element is to support utility providers in meeting their public service obligations to provide service on demand to existing and future customers. It is also the intent to minimize negative impacts resulting from the provision of services on the residents, infrastructure, and environment of the County. The County's responsibilities for utilities ranges range from regulating their land use, to permitting their activities in public rights-of-way.

Virtually all land uses require one or more of the utilities discussed in this Chapter. Local land use decisions drive the need for new or expanded utility facilities. In other words, utilities follow growth. Expansion of the utility systems is a function of the demand for reliable service that people, their land uses, and activities place on the systems.

Existing and updated maps of utilities in Benton County are maintained by the County GIS to meet the requirements of the Utilities element as outlined in state law. In addition, Capital Facilities Plans of utility providers available in Benton County are hereby adopted by reference to meet the requirements of identifying proposed facilities, along with information provided in Section 9.2.4. See Appendix A: Map Folio, Figure 16-XX – Public Utility and Rural Electric Association Service Areas.

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Information on other special service providers such as fire, port, and school districts, is included in this chapter.

9.2.10.2 Electricity

9.2.10.2.1 Bonneville Power Administration

The Bonneville Power Administration (BPA) is an agency of the U.S. Department of Energy. It wholesales electric power produced at 29 federal dams located in the Columbia-Snake River Basin, as well as one non-federal nuclear plant. BPA does not own or operate any federal dams; however, it does sell the power produced by these dams as well as power produced and by the Energy Northwest-operated nuclear power plant located just north of Richland. The U.S. Army Corps of Engineers owns and operates Bonneville Dam, and Grand Coulee Dam is owned and operated by the U.S. Bureau of Reclamation. Between them, these two agencies run all of the dams whose power is sold by BPA.

Electricity is purchased from the BPA and supplied to areas in unincorporated Benton County via two local public utilities: the Benton County Public Utility District (Benton PUD) and Benton Rural Electric Association (Benton REA).

9.2.10.2.2 Benton County Public Utility District

The Benton PUD was established by vote of the residents and began electric distribution operations in October 1946. The Benton PUD service area is entirely within Benton County and includes the cities of Kennewick, Benton City, Prosser, and portions of West Richland. Benton PUD serves Benton County except for the City of Richland, the U.S. Department of Energy's operations on the Hanford Reservation, and those rural areas of the County that are served by Benton REA. It maintains offices in Kennewick and Prosser.

9.2.10.2.3 Benton Rural Electric Association

Incorporated in 1937, Benton REA is a consumer owned rural cooperative, which serves portions of Benton, Lewis, and Yakima counties. Benton REA's 1,300 square mile territory extends from the Columbia River at Paterson, north to the Hanford Reservation, and west to White Pass in the Cascade Mountains.

Benton REA serves the rural areas of the Benton County and some urban areas. While Benton REA was originally set up to serve the rural customers of Benton and Yakima counties, the cooperative is becoming more of an urban player as the cities expand into rural areas. Benton REA also serves the community of West Richland and many parts of the UGA around Richland, Benton City, Prosser, and parts of the Hanford Reservation.

9.310.3 Wind Energy

The deregulation of the electric industry and evolving energy supply needs have increased demand for diverse, low carbon energy sources in the BPA service area, including wind power. Deregulation of the electric industry and subsequent energy supply issues have emphasized the need for new and diverse energy sources in the BPA's service area. Wind is a renewable resource that provides an environmentally friendly (or green) source of energy and allows BPA to diversify its energy sources. Several "wind farms" have located in the County on privately owned agricultural land pursuant to leases between landowners and the project developer. Large turbines are strategically placed along the major ridges to capture wind and generate power which is fed back to BPA facilities through substations. Existing wind projects have contributed to Benton County's energy portfolio through utility-scale projects located on agricultural lands with access to transmission facilities. However, in recent years the pace of new wind development has slowed due to transmission constraints, land use compatibility concerns, and reduced viability compared to solar and battery storage alternatives. Large-scale wind proposals reviewed through the Washington State Energy Facility Site Evaluation Council (EFSEC), such as the Horse Heaven Wind Farm, have faced significant challenges related to scenic impacts, protected species, and agricultural land conversion, resulting in heightened public review and permitting complexity. To help manage the siting of future energy facilities, the County has adopted an Energy Overlay that identifies areas where renewable energy development may be more compatible with existing land uses and infrastructure. These areas are generally limited to smaller or previously disturbed sites, which are less suitable for large turbine arrays, which may limit the feasibility of new large-scale wind projects in the County outside of the EFSEC process.

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Commented [GW90]: I like this addition!



Wind turbine in wheat fields

10.4 Solar Energy

Solar energy is an increasingly prominent component of Benton County's energy landscape due to the region's favorable solar exposure, available transmission infrastructure, and growing energy demands to support economic growth. Several utility-scale solar projects have been developed, and additional projects are in the permitting process through EFSEC. Unlike large-scale wind projects, which typically require extensive, contiguous land areas, solar facilities can be adapted to smaller or previously disturbed sites and developed at utility, community, or distributed scales. This flexibility allows solar development to align with the lower conflict areas identified in the County's Energy Overlay, which are intended to minimize impacts on agricultural production and critical areas. Emerging approaches such as agrivoltaics, which co-locates solar energy with agricultural production, may also provide opportunities to support both energy generation and agricultural viability in appropriate locations. Solar development supports energy reliability, particularly when paired with battery storage or integrated into industrial and agricultural operations. Discuss existing conditions and energy overlay.

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9.410.5 Natural Gas

9.4.110.5.1 Williams Northwest

Williams Northwest Pipeline operates and maintains its natural gas pipeline that runs through Benton County near Plymouth. Virtually all natural gas is now transported through pipelines. "Gathering" lines collect and carry the natural gas from wells to transmission lines or plants for processing. A series of compressor stations propel the fuel long distances overland through major transmission pipelines to local distribution and service lines or storage facilities. A network of small-diameter distribution mains and service lines transport the gas to end-users. Related facilities include, but are not limited to cathodic protection stations, test posts, mile markers, meter stations, and valves.

Future pipeline safety concerns are related to the adverse impact and encroachment of development near transmission lines. With more people living and working near transmission lines, the severity of pipeline failures from all causes ~~are likely to~~ may increase.

9.4.210.5.2 Cascade Natural Gas

Cascade Natural Gas Corporation builds, operates, and maintains natural gas facilities serving Benton County. Cascade Natural Gas is an investor owned utility serving customers in 16 counties in Washington State. The Pacific Northwest receives its natural gas from the Southwest United States, and from neighboring Canada. Natural gas is supplied to the entire region via two interstate pipeline systems. The Northwest Pipeline Corporation owns and operates the network that supplies natural gas to Benton County. Natural gas is stored in a facility in Plymouth.

9.510.6 Telecommunications

The Telecommunications Act of 1996 enacted into law the first comprehensive rewrite of the Communications Act of 1934. The act establishes national guidelines for enabling equitable competition in all telecommunication markets, including the local telephone market, and identifies respective roles of the Federal Communications Commission and the states to accomplish the transition. Several telephone companies supply local, long distance, and cellular service in Benton County.

9.610.7 Water and Sewer Systems

Benton County does not currently own, operate, or maintain a water or sewage treatment facility with the exception of occasional temporary responsibility for water systems under "receivership" per RCW 70.119A. Sources of water and sewer disposal for housing units are shown in Table 10-1.

Table 10-1
Sources of Water and Sewer Disposal

Source	How Served
Water	Public/Private System
	Private Well/Other
Sewer Disposal	Public System
	Septic Tank/Private

9.6.110.7.1 Existing Conditions

A public supply is generally defined as any system, excluding systems serving only one single-family residence that provides piped water for human consumption. Washington State Department of Health keeps an inventory of water systems in the County that includes a classification of systems according to type of system and number of customers served. The criteria used in establishing the classifications are described in Table 10-2.

Table 10-2
Washington State Department of Health Water System Criteria

Class	Water System Criteria
Group A	15+systems/ or serves 25+ people for over 60 days a year
Group B	System with 4+ service connections but <15, serving <25 people a day for over 60 days a year.

Washington State Department of Health defines a “community” water system as a public water system that serves a permanent or seasonal population (e.g., subdivisions, mobile home parks), and a “non-community” water system as a public water system that serves a transitory population (e.g., restaurant, motel). Benton County has Group A water systems, including both non-transient and transient (e.g., campgrounds) and Group B water systems.

The source of water supply is ground water for all these systems with the exception of the Cities of Kennewick and Richland, which in addition to ground water receive water from the Columbia River. Information for each city’s water system, the population served, and the average daily amount of water used, can be found in each entities’ comprehensive plans [and water system plans](#).

Most rural residents rely on on-site septic tanks and drain fields for their wastewater system needs. While adequately designed and installed on-site septic systems can be appropriate for rural level development, maintenance of such systems varies from excellent to none at all. Poorly maintained septic systems are a source of ground and surface water pollution and have been identified both at the state and local level as significant contributors to high nitrate levels in soil and coliform bacteria

in surface water. All on-site systems in the County are permitted and regulated by the Benton-Franklin Health District.

9.6.210.7.2 Current Trends

Living in rural areas ~~has become~~continues as a lifestyle preference in today's society. The influx of people moving into newly-developed areas of Benton County means more individual or community wells that depend on groundwater and an increased demand on the groundwater supply.

Under state law, all new public water systems must be owned or operated by a Satellite Management Agency or a SMA. This ensures that the new system has sufficient management and the financial resources to provide safe and reliable service to the system users.

If a SMA is not available to receive ownership/or operation of the system and Washington State Department of Health determines that the new system has met sufficient management and financial resource criteria to provide safe and reliable service, then the new system may be conditionally approved. The conditions may include future inclusion into a SMA, or findings that the system meets the Washington State Department of Health criteria for management, and include an ongoing review of its operational history and status.

Currently the City of Richland and ~~an entity named Water System Management~~five other organizations are approved to operate SMAs in Benton County. If a system loses its owner/operator due to non-compliance, the system goes into "receivership." During receivership actions, Washington State Department of Health meets with water systems owners and users to discuss restructuring options. If no other SMA or person is willing to be named as a receiver, the court appoints the County as receiver. ~~At present the County is in receivership of one such water system, with the City of Richland SMA operating the system.~~

State regulations include criteria for sewage treatment systems located in gravelly or coarse sand soils such as minimum land area requirements, or special engineered systems (i.e., mound, sand line trench systems). There are several areas in the County where these soils exist. The Benton-Franklin Health District oversees the placement and permitting of on-site sewer systems. Systems over 3,500 gallons per day are permitted through Ecology.

9.6.310.7.3 Future Considerations

On-site water and waste systems for multiple users may be a desirable alternative to the single user systems and the extension of municipal systems. The option to cluster development in Rural Community Centers opens the opportunities for the use of such systems.

In the rural communities of Whitstran, Paterson, ~~Plymouth~~, and Finley, ~~some there is a desire among~~ residents have expressed interest in being part of a public water systems, which are perceived to

be more affordable than individual wells. If such systems were to become a reality, the logical next step could be public waste disposal systems. [The Plymouth Water District serves the Plymouth community with a public water system.](#)

A water resource management program to conserve and maintain the County's groundwater supply ~~will~~ may be necessary to provide a long term dependable supply sufficient to sustain the future needs for potable water and water for agricultural purposes, as discussed further in Section 4.5.

9.7.10.8 Solid Waste

9.7.10.8.1 Existing Conditions

The 2013 Benton County Comprehensive Solid Waste Management and Moderate Risk Waste Management Plan (20~~2~~13 Plan; ~~Appendix K~~) provides background and guidance for a long-term approach to solid waste and moderate risk waste management in the region. This 20~~2~~13 Plan comprises the combined comprehensive solid waste management plan and Local Hazardous Waste/Moderate Risk Waste Plan for the incorporated and unincorporated areas of Benton County.

The purpose of the 20~~2~~13 Plan is to serve as a roadmap to managing the comprehensive solid waste and moderate risk waste management systems in Benton County. The 20~~2~~13 Plan was developed as a joint effort of Benton County and the cities of Benton City, Kennewick, Prosser, Richland, and West Richland. It is intended to provide citizens and decision makers in Benton County with a guide to implement, monitor, and evaluate future activities in solid waste for a 20-year period. The recommendations for the 20~~2~~13 Plan not only guide local decision makers, but substantiate the need for local funds and state grants to underwrite solid waste and moderate risk waste projects.

9.8.10.9 Special Service Providers

9.8.10.9.1 School Districts

The County is divided into seven school districts. All districts are located entirely within the County, with the exception of the Grandview District, which is principally located in Yakima County, but includes approximately 6 square miles of Benton County (stretching 3 miles north and south of Highway 12 at the Yakima County line).

All school districts offer kindergarten through twelfth grade education except the Paterson School District, which contracts sixth through twelfth grades (middle and high school levels) with the Prosser School District.

9.8.210.9.2 Higher Learning

Increasingly, education is the key to individual economic success. Frequently, this means a college degree. For counties, a well-educated population is also an ingredient in economic success.

Columbia Basin College, located at Pasco in adjacent Franklin County, is the primary college in the area; they also have a branch campus in Richland. Columbia Basin College is a two-year community college offering a wide range of academic, vocational, and night school programs.

Washington State University (Pullman) has a branch campus located in Richland, offering both graduate and masters education programs. This campus continues to grow in both facilities and programs offered, and Washington State University degree programs are often integrated with Columbia Basin College programs.

9.8.310.9.3 Library Districts

The Mid-Columbia Library includes both Benton and Franklin counties and is directed by a board of seven members appointed jointly by the Benton and Franklin County Commissioners. The district's main library is located in Kennewick, while branch libraries are located in towns in both counties. The rural areas are served by a bookmobile that maintains a scheduled route throughout the district. The City of Richland has its own city library.

9.8.410.9.4 Fire Districts

The five incorporated communities and portions of the remaining unincorporated area of Benton County are served by a mixture of municipal and rural fire departments. Richland and Kennewick municipal fire departments are manned by full-time firemen. Prosser, Benton City, and West Richland operate with full and part-time positions along with volunteer staff. The rural districts are principally manned by volunteer personnel. A mutual aid cooperative-agreement exists between Richland, Kennewick, Pasco, Benton City, Prosser, and the rural districts.

Long-range fire protection needs will also require increases in equipment and manpower to maintain an effective level of protection. With increased urbanization of the County, increased full-time employment due to increased LOS required by residents as opposed to volunteer service can be expected to occur in some of the County's fire protection organizations.

An additional factor is the integration of fire protection needs with long-range water needs. The source, storage capacity, and distribution systems of water systems, as well as fire hydrant placement in urban density developments, must be adequate to provide sufficient volume and pressure for firefighting needs.

9.8.510.9.5 Hospital Districts

General hospitals are located in Richland, Kennewick, and Prosser providing County residents with inpatient care. The Kennewick and Prosser hospitals are each operated by a public entity in the form of a hospital district directed by elected board members, while the Richland hospital is privately owned and operated. Benton County is also served by a variety of public and private medical clinics providing treatment for most medical concerns.

9.8.610.9.6 Benton-Franklin District Health

This regional health agency is responsible for a wide variety of health-related programs in Benton and Franklin counties. Some examples of its activities are in the environmental health division: solid waste, permitting community wells (2 to 4 hookups), approval of on-site sewage disposal systems, and restaurant inspections. The public health division serves the public with immunizations, tuberculosis and sexually transmitted disease clinics, and registration of birth and death certificates.

9.8.710.9.7 Benton Conservation District

Benton Conservation District is a non-regulatory organization established to provide landowners with technical and financial assistance and dedicated to the wise stewardship of soil, water, air, fish, and wildlife in Benton County. Benton Conservation District is funded by grants and a special assessment authorized by Benton County Commissioners.

9.8.810.9.8 Mosquito Control District

The Benton County Mosquito Control District is established to eradicate mosquitoes, particularly the mosquito *Culex tarsalis*, which is a carrier of sleeping sickness. The district is administered by a manager, who is directed by a 12-member board appointed by the Commissioners of Benton and Yakima counties, and mayors from the respective city councils of the cities who are within the district (Kennewick, Benton City, Prosser, Richland, West Richland, Mabton, and Grandview). There are three board members representing the unincorporated area of Benton County. The district encompasses 354 square miles within the Yakima and Columbia river drainages, exclusive of the Horse Heaven and Rattlesnake hills, and the Hanford Reservation.

9.8.910.9.9 Benton Clean Air Authority

The Benton Clean Air Authority carries out the requirements of the Washington State Clean Air Act, RCW 70.94, within the boundaries of Benton County. The agency functions as a single county authority to control the emissions of air contaminants from all sources within the County. The agency is charged with implementing and overseeing agricultural and backyard burn programs; air quality monitoring; asbestos removal notifications and inspections; industrial and commercial air permitting; and enforcement of federal, state, and local air quality regulations.

~~9.8.10~~9.10 *Irrigation Districts and Private Irrigation Systems*

Agricultural production that takes place across the midsection of the County, from the Yakima County line to the Finley area, is made possible by the Yakima Project developed by the U.S. Bureau of Reclamation, and by several large water rights on the Columbia River. The Yakima Project was developed primarily for the purpose of providing irrigation water for the fertile Yakima River Valley and consists of over 200 miles of canals and laterals. This project provides the water that enables the Yakima Valley, which extends into Benton County, to continually be one of the Nation's premier producers of such crops as apples, mint, hops, cherries, and grapes.

The irrigation district locations in Benton County are listed below:

- Roza District
- Sunnyside Valley Irrigation District
- Benton Irrigation District
- Kennewick Irrigation District
- Kiona Irrigation District
- Columbia Irrigation District
- Badger Mountain Irrigation District

~~9.8.11~~9.11 *Noxious Weed Control District*

The Benton County Noxious Weed Control District is directed by a board of five members appointed by the County Commissioners. The intent of the district is to promote weed control by instituting a program that emphasizes education as a means to assist landowners in the identification and control of noxious weeds listed on the County's noxious weed list.

~~9.8.12~~9.12 *Port Districts*

Ports can develop property for industrial use and can lease and sell land, buildings, and facilities to private industry in accordance with state laws. State laws specify that ports may acquire, construct, maintain, operate, develop, and regulate within the district harbor improvements; rail or motor vehicle transfer and terminal facilities; water transfer and terminal facilities; air transfer and terminal facilities; and other commercial transportation, transfer, handling, storage, and terminal facilities and industrial improvements.

Port districts are funded by revenues from the operation of terminals, the sale or lease of properties, and tax levies. A port district may incur debt including issuing general obligation bonds up to 0.25 percent of the assessed value of taxable property in the district without vote of the people. An additional 0.05 percent debt may be incurred if 60 percent of the electorate approves. Port districts also have the power to issue revenue bonds for the acquisition, construction, reconstruction, or extension of various improvements.