

Franklin County, Washington

Natural Hazard Mitigation Plan 2018 Revision



Franklin County Emergency Management

1011 E. Ainsworth St.

Pasco, WA 99301

(509) 545-3546



Prepared By

Northwest Management, Inc.

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Foreword

Franklin County Emergency Services is dedicated to the protection of life, property, economic and environmental resources throughout Franklin County. Seeking to inform and educate citizens, provide training and resource coordination and ultimately reduce the vulnerability of Franklin County citizens through comprehensive disaster planning and mitigation.

“Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. Mitigation activities may be implemented prior to, during, or after an incident. However, it has been demonstrated that hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.”¹

The **Franklin County, Washington Hazard Mitigation Plan** was updated in 2017-18 by the Franklin County Hazard Mitigation Steering Committee in cooperation with Northwest Management, Inc. of Moscow, Idaho.

This Plan satisfies the requirements for a local natural hazard mitigation plan under 44 CFR Part 201.6, in addition this plan integrated the FEMA’s Natural Hazard Mitigation Plan with the Community Wildfire Protection Plan as outlined in the Healthy Forest Restoration Act. Integration was accomplished through incorporating necessary information from the existing CWPP (2015) into the NHMP document.

¹ Federal Emergency Management Agency. “Local Multi-Hazard Mitigation Planning Guidance.” July 1, 2008.

Overview: 2018 Plan Update

The process followed in accomplishing the 2018 update of the Franklin County Hazard Mitigation Plan essentially mirrored the process that was followed in developing the plan in 2011 with one significant exception. During the initial stages of the update process the planning Committee participants had to meet individually by agency group because of the focus on recovery from FEMA Disaster Declaration 4309-DR for Franklin County WA. Throughout this process, every effort was made to comply with the requirements of 44 CFR, Part 201.6 of the Interim Final Rule as well as National Flood Insurance Program requirements. The Franklin County Hazard Mitigation Steering Committee reviewed the original plan in Spring 2017. The steering committee determined that it was important to retain much of the original plan to maintain a historical perspective.

The Franklin County Hazard Mitigation Steering Committee determined that revisions to Chapter 1 would reflect changes in plan participants and committee membership and document plan updates and the adoption process. The special purpose districts did not participate in this review and will not be part of the plan adoption process.

The Franklin County Hazard Mitigation Steering Committee determined that revisions to Chapter 2 would note occurrences of natural hazard events since the 2011 plan was written such as the 2016 Kahlotus fire and spring 2017 flooding. Chapter 2 also includes the National Flood Insurance Program (NFIP) continuing compliance actions. It is determined that all NFIP participating jurisdictions should work toward updating their flood risk maps and increasing the knowledge of their residents about the local flood risk in their community. Chapter 2 was divided into three chapters to improve document flow. Chapter 2 is a description of the different communities in Franklin County, chapter 3 is a description of the seven hazards addressed in this plan, and chapter 4 is the hazard vulnerability and risk assessment broken out by jurisdiction.

The Franklin County Hazard Mitigation Steering Committee reviewed Chapter 3 of the plan in 2017. The planning committee reviewed the Multi-Jurisdiction/Multi-Hazard Mitigation Goals and reviewed the list of Multiple-Hazard Mitigation Initiatives. Due to local budget constraints, most of the mitigation measures incorporated into this plan are dependent upon local jurisdictions receiving outside funding. Local funding is generally not available. As a result, local jurisdictions are unsure as to when these mitigation measures will be implemented and the conditions and/or requirements under which implementation may occur.

Special Thanks and Acknowledgements

This plan was made possible because of the cooperation demonstrated by each member of the Franklin County Emergency Management Board. Without their commitment and dedication to the hazard mitigation planning process this plan might not have been written.

Franklin County Emergency Management Board

Bob Koch	Chair	Franklin County Board of Commissioners
Brad Peck	Commissioner	Franklin County Board of Commissioners
Bob Metzger	Police Chief	City of Pasco
Patti Bailie	Mayor	City of Mesa
Matt Watkins	Mayor	City of Pasco (Alternate)
David Wooten	Mayor	City of Kahlotus
Chris Schulte	Fire Chief	City of Connell

Additionally, special thanks go to the following individuals for their assistance in the development of this plan:

Robert Koch	Commissioner	Franklin County Board of Commissioners
Mike Harris	Chief	Franklin County Fire Department #3
Matt Mahoney	Director	Franklin County Public Works Department
Lee Barrow	Mayor	City of Connell
Bruce Blackwell	Former Mayor	City of Connell
Larry Turner	Public Works Director	City of Connell
Chris Turner	Chief of Police	City of Connell
Steve Marks	Franklin County Assessor	Franklin County Assessor Office
Terry Standridge	Clerk/Treasurer	City of Mesa
Cade Scott	Public Work Superintendent	City of Mesa
Michael Morgan	Manager	Franklin County GIS
Gabrielle Sperling	Archivist	Franklin County Historical Museum
Mark Nielson	District Manager	Franklin Conservation District
Mylan Muhlstein	Human Resource Manager	South Columbia Irrigation District
William Scott	Geologist	USGS Cascades Volcano Observatory
Allen Greggs	Civil Engineer	U.S. Bureau of Reclamation
Len Riggan	Fire Prevention Coordinator	Washington State Department of Natural Resources
Rebecca Niggermann	Division of Geology and Earth Resources	Washington State Department of Natural Resources
Steve Walsh	Division of Geology and Earth Resources	Washington State Department of Natural Resources
Steve Palmer	Division of Geology and Earth Resources	Washington State Department of Natural Resources
Alan Rohay	Seismologist	Pacific Northwest National Laboratory
Bill Steele	Director of Information Services	Pacific Northwest Seismology Network, U. Washington
Dennis Hull	Warning Coordination Meteorologist	National Weather Service – Pendleton Oregon
Steven Williams	REP Program Manager	Washington State Emergency Management Division
Bob Gear	Fire Chief	City of Pasco

Washington State Military Department, Emergency Management Division State Hazard Mitigation Programs Manager
Hazard Mitigation Grant Program (HMGP) Planning Program Coordinator All-Hazards Plans Coordinator

Point of Contact

For information regarding this plan or to comment on this plan, please contact Franklin County Emergency Management:

Mailing Address: Sean Davis
Franklin County Emergency Management
1011 E. Ainsworth St.
Pasco, WA 99301

Telephone: (509) 545-3546
(800) 258-5873 (North County residents)

Fax: (509) 545-2139

E-Mail: sdavis@co.franklin.wa.us

List of Plan Recipients

Agency	Location
Franklin County	Commissioners Office
City of Pasco	City Manager's Office
City of Connell	City Administrators Office
City of Mesa	City Hall
City of Kahlotus	City Hall
Franklin PUD #1	Operations Office
Franklin County FPD #1	Fire Station 10
Franklin County FPD #3	Fire Station 36
Franklin County Mosquito Control Board	Office
Franklin County Emergency Management	Office
North Franklin School District	Superintendent's Office
Pasco School District	Superintendent's Office
Port of Pasco	Port Office
Mid-Columbia Regional Library District (Acquisitions) (2 copies)	Keewaydin Branch
Washington State EMD	Mitigation Section
FEMA, Region X	Mitigation Section

Each agency received one copy unless otherwise noted. Due to high printing costs, all other requests for copies of the Hazard Mitigation Plan will be provided an electronic copy via download from www.franklinem.org or on a USB or CD-ROM.

Approval Letter from FEMA

U.S. Department of Homeland Security
FEMA Region 10
130 – 228th Street, SW
Bothell, Washington 98021



FEMA

March 15, 2019

The Honorable Robert Koch
Chairman, Board of County Commissioners
1016 N. Fourth Avenue
Pasco, Washington 99301-3706

Dear Chairman Koch:

On March 15, 2019, the U.S. Department of Homeland Security’s Federal Emergency Management Agency (FEMA) Region 10, approved the *Franklin County, Washington Natural Hazard Mitigation Plan 2018 Revision* as a multi-jurisdictional local plan as outlined in Code of Federal Regulations Title 44 Part 201. This approval provides the below jurisdictions eligibility to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act’s, Hazard Mitigation Assistance (HMA) grants projects through March 14, 2024, through your state:

Franklin County	City of Connell	City of Kahlotus
City of Mesa	City of Pasco	

FEMA individually evaluates all application requests for funding according to the specific eligibility requirements of the applicable program. Though a specific mitigation activity or project identified in the plan may meet the eligibility requirements, it may not automatically receive approval for FEMA funding under any of the aforementioned programs.

Approved mitigation plans may be eligible for points under the National Flood Insurance Program’s Community Rating System (CRS). For additional information regarding the CRS, please visit: www.fema.gov/national-flood-insurance-program-community-rating-system or contact your local floodplain manager.

Over the next five years, we encourage your communities to follow the plan’s schedule for monitoring and updating, and to develop further mitigation actions. To continue eligibility, jurisdictions must review, revise as appropriate, and resubmit the plan within five years of the original approval date.

If you have questions regarding your plan’s approval or FEMA’s mitigation grant programs, please contact Michael Levkowitz, Mitigation Strategist with Washington Emergency Management Division, at (253) 512-7467, who coordinates and administers these efforts for local entities.

Sincerely,



Mark Carey, Director
Mitigation Division

Enclosure

JS:vl

www.fema.gov

Promulgation

The Franklin County Hazard Mitigation Plan, dated 2018, is adopted this day, the 17th day of January 2019, as the official Hazard Mitigation Plan for Franklin County, City of Pasco, City of Connell, City of Mesa, and City of Kahlotus. The participation in and adoption of multi-jurisdictional pre-disaster mitigation plan shall not necessarily imply advocacy of, or support for, individual mitigation initiatives proposed by other participating jurisdictions, and adoption of the plan by each jurisdiction shall be subject to limitation as set forth in each jurisdiction's adoption resolution.

Franklin County Emergency Management

RESOLUTION NO. 01 - 2019

BEFORE THE FRANKLIN COUNTY EMERGENCY MANAGEMENT BOARD

RE: A resolution of the Franklin County Emergency Management Board declaring support and adoption of the Franklin County Multi-Hazard Mitigation Plan, which incorporates the Community Wildfire Protection Plan.

WHEREAS, the Franklin County Emergency Management Board supports the Franklin County Multi-Hazard Mitigation Planning, and

WHEREAS, The Franklin County Emergency Board has authorized and participated in the preparation and development of the Franklin County Multi-Hazard Mitigation Plan to protect life and property, and.

WHEREAS, The Franklin County Multi-Hazard Plan has been reviewed by the Washington Emergency Management Division and the Federal Emergency Management Agency (FEMA), and

WHEREAS, FEMA has issued a letter of commitment to approve the plan upon receiving documentation of the Franklin County Multi-Hazard Mitigation Plan adoption by Franklin County and incorporated communities, and

WHEREAS, The Franklin County Multi-Hazard Mitigation Plan will be utilized as guidance related to planning and project proposals, eligibility for mitigation project grants once FEMA approves the plan and other purposes as deemed prudent and appropriate by the adopting communities, and

NOW, THEREFORE, BE IT RESOLVED the Franklin County Emergency Management Board does hereby adopt, support, and will facilitate the Franklin County Multi-Hazard Mitigation Plan's implementation, as deemed appropriate.

Approved this 17th day of January 2019.

Franklin County Emergency Management Board

Attest:



Secretary to the Board



Patti Bailie, FCEM Board Chairman

Franklin County Resolution

Franklin County Resolution 2018 335

BEFORE THE BOARD OF COUNTY COMMISSIONERS
FRANKLIN COUNTY, STATE OF WASHINGTON

A resolution of the Franklin County Board of Commissioners declaring support and adoption of the Franklin County Multi-Hazard Mitigation Plan, which incorporates the Community Wildfire Protection Plan.

WHEREAS, The Franklin County Board of Commissioners supports the Franklin County Multi-Hazard Mitigation, and

WHEREAS, The Franklin County Board of Commissioners have authorized and participated in the preparation and development of the Franklin County Multi-Hazard Mitigation Plan to protect life and property, and

WHEREAS, The Franklin County Multi-Hazard Plan has been reviewed by the Washington Emergency Management Division and the Federal Emergency Management Agency (FEMA), and

WHEREAS, FEMA has issued a letter of commitment to approve the plan upon receiving documentation of the Franklin County Multi-Hazard Mitigation Plan adoption by Franklin County and incorporated communities, and

WHEREAS, The Franklin County Multi-Hazard Mitigation Plan will be utilized as guidance related to planning and project proposals, eligibility for mitigation project grants once FEMA approves the plan and other purposes as deemed prudent and appropriate by the adopting communities, and

THEREFORE, be it resolved that the Franklin County Board of County Commissioners do hereby adopt, support, and will facilitate the Franklin County Multi-Hazard Mitigation Plan's implementation, as deemed appropriate.

Passed and approved this 20 Day of NOVEMBER 2018 by the Board of County Commissioners, Franklin County, Washington.


Chairman Brad Peck


Chair Pro Tem Rick Miller


Member Robert Koch

Attest: 
Acting
Clerk of Board

City of Connell, Washington

RESOLUTION NO. 2018-10

**A RESOLUTION OF THE CITY OF CONNELL, WASHINGTON,
DECLARING SUPPORT FOR AND ADOPTION OF THE FRANKLIN
COUNTY, WASHINGTON MULTI-HAZARD MITIGATION PLAN.**

WHEREAS, City Council of Connell supports the Franklin County Multi-Hazard Mitigation Plan, and

WHEREAS, City Council of Connell has participated in the development of the Franklin County Multi-Hazard Mitigation Plan, and

WHEREAS, The Franklin County Multi-Hazard Mitigation Plan will be utilized as guidance for city mitigation planning, as related to mitigation projects and other purposes, as deemed appropriate by the City Council of Connell, and

WHEREAS, The City of Connell intends to consider and incorporate applicable Franklin County Multi-Hazard Mitigation Plan community risk assessments and mitigation strategies to address hazard conditions, as new policies, plans and projects are evaluated, and

NOW, THEREFORE, be it resolved, that the City Council of Connell does hereby adopt, support and will facilitate the Franklin County Multi-Hazard Mitigation Plan's implementation, as deemed appropriate.

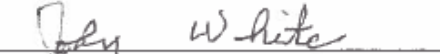
PASSED AND ADOPTED by the City Council of the City of Connell and **APPROVED** by the Mayor this 19 day of November, 2018.



Lee Barrow
Mayor



Ray Minor
Mayor Pro-Tem



John White
Councilmember



Pat Barrera
Councilmember



Joe Escalera
Councilmember



Kathy Silva
Councilmember

Attest:



Connell City Clerk

City of Kahlotus Resolution

CITY OF KAHLLOTUS, WASHINGTON

Resolution No. 2018-12-11

A Resolution of the City of Kahlotus, Washington declaring support for and adoption of the Franklin County, Washington Multi-Hazard Mitigation Plan.

WHEREAS, The City Council of Kahlotus supports the Franklin County Multi-Hazard Mitigation Plan, and

WHEREAS, The City Council of Kahlotus has participated in the development of the Franklin County Multi-Hazard Mitigation Plan, and

WHEREAS, The Franklin County Multi-Hazard Mitigation Plan will be utilized as guidance for city mitigation planning, as related to mitigation projects and other purposes, as deemed appropriate by the City Council of Kahlotus, and

WHEREAS, The City of Kahlotus intends to consider and incorporate applicable Franklin County Multi-Hazard Mitigation Plan community risk assessments and mitigation strategies to address hazard conditions, as new policies, plans and projects are evaluated, and

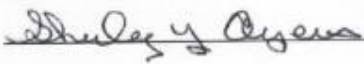
THEREFORE, be it resolved, that the City Council of Kahlotus does hereby adopt, support and will facilitate the Franklin County Multi-Hazard Mitigation Plan's implementation, as deemed appropriate.

Pursuant to law, one copy of this resolution shall be maintained in the office of the Kahlotus City Clerk, available for public inspection upon request.

Dated this 11 day of December, 2018.



Mayor




Councilmember



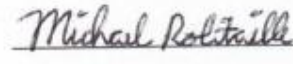
Councilmember



Councilmember



Mayor Pro-Tem



Councilmember

Councilmember

Attest:



Kahlotus City Clerk

**CITY OF MESA
RESOLUTION NO. 2018-04**

**A RESOLUTION OF THE CITY OF MESA, WASHINGTON CONCERNING THE
FRANKLIN COUNTY HAZARD MITIGATION PLAN:**

A Resolution of the City of Mesa, Washington declaring support for and adoption of the Franklin County, Washington Multi-Hazard Mitigation Plan

WHEREAS, The City Council of Mesa supports the Franklin County Multi-Hazard Mitigation Plan, and

WHEREAS, The City Council of Mesa has participated in the development of the Franklin County Multi-Hazard Mitigation Plan, and

WHEREAS, The Franklin County Multi-Hazard Mitigation Plan will be utilized as guidance for city mitigation planning, as related to mitigation projects and other purposes, as deemed appropriate by the City Council of Mesa, and

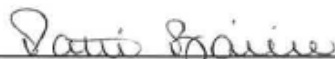
WHEREAS, The City of Mesa intends to consider and incorporate applicable Franklin County Multi-Hazard Mitigation Plan community risk assessments and mitigation strategies to address hazard conditions, as new policies, plans and projects are evaluated, and

NOW, THEREFORE, be it resolved by the City of Mesa on this 13th day of November 2018 as follows:

- 1) The City of Mesa hereby accepts and approves of its designated portion of the Franklin County Hazard Mitigation Plan including any required changes by FEMA or State Emergency Management.
- 2) The City of Mesa hereby accepts, approves of and commits to participate and cooperate in the implementation of the county-wide mitigation initiatives.
- 3) The directors and staff of the City of Mesa are requested and instructed to pursue available funding opportunities for implementation of the proposals designated therein.
- 4) The City of Mesa will, upon securing such funding or other necessary resources seek to implement the proposals contained in its section of the strategy.
- 5) The City of Mesa will continue to participate and cooperate in the Hazard Mitigation Task Force to update and expand the Franklin County Hazard Mitigation Plan in the years ahead.
- 6) The City of Mesa will further encourage other businesses, industries and community groups within Franklin County to also participate in the Hazard Mitigation Task Force to support the Franklin County Hazard Mitigation Plan in the years ahead.

Pursuant to law, one copy of this resolution shall be maintained in the office of the Mesa City Clerk, available for public inspection upon request.

ADOPTED by the City Council of the City of Mesa and **APPROVED** by the Mayor this 13th day of November, 2018.



Patti Baillie, Mayor

ATTEST 

Gayle Carrasco, Clerk Treasurer

RESOLUTION NO. 3885

A RESOLUTION OF THE CITY OF PASCO, WASHINGTON ACCEPTING AND ADOPTING THE REVISION OF FRANKLIN COUNTY, WASHINGTON MULTI-HAZARD MITIGATION PLAN

WHEREAS, the facilities, operations and personnel of the City of Pasco are vulnerable to the human and economic costs of natural, technological and societal disasters; and

WHEREAS, the City of Pasco recognizes the importance of reducing or eliminating these vulnerabilities for the overall good and welfare of the community; and

WHEREAS, the City of Pasco has been an active participant in the Franklin County, Multi-Hazard Mitigation Task Force, which has established a comprehensive, coordinated planning process to eliminate or decrease these vulnerabilities; and

WHEREAS, the City of Pasco’s representatives and staff have identified, justified and prioritized a number of proposed projects and programs needed to mitigate the vulnerabilities of the City of Pasco to the impacts of future disasters, **NOW, THEREFORE**,

BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF PASCO,

- 1) The City of Pasco hereby accepts and approves of its designated portion of the Franklin County, Washington Multi-Hazard Mitigation Plan including any required changes by FEMA or State Emergency Management.
- 2) The City of Pasco hereby accepts, approves of and commits to participate and cooperate in the implementation of the county-wide mitigation initiatives.
- 3) The directors and staff of the City of Pasco are requested and instructed to pursue available funding opportunities for implementation of the proposals designated therein.
- 4) The City of Pasco will, upon securing such funding or other necessary resources seek to implement the proposals contained in its section of the strategy.
- 5) The City of Pasco will continue to participate and cooperate in the Multi- Hazard Mitigation Task Force to update and expand the Franklin County Multi-Hazard Mitigation Plan in the years ahead.
- 6) The City of Pasco will further encourage other businesses, industries and community groups within Pasco to also participate in the Multi-Hazard Mitigation Task Force to support the Franklin County Multi-Hazard Mitigation Plan in the years ahead.

PASSED by the City Council of the City of Pasco at its regular meeting this 11th day of February, 2019.


Matt Watkins, Mayor

ATTEST:

Daniela Erickson, City Clerk

APPROVED AS TO FORM:

Leland B. Kerr, City Attorney

How to Use This Plan

Each section of the Franklin County Hazard Mitigation Plan provides information to assist local governmental jurisdictions and agencies and the citizens of Franklin County in understanding the community in which they live and work, and in understanding the hazard-related issues facing government, citizens, businesses, and the environment. Combined, the various sections of this plan work together to create a document that guides the mission to reduce vulnerability and minimize loss from future natural hazard events. The structure of this plan enables people to use only that portion of the plan that is of interest to them and/or pertains to their needs. It also allows local government to review and update specific sections as new data becomes available. New data can be easily incorporated, resulting in a hazard mitigation plan that remains current and relevant to the needs of the citizens of Franklin County.

In many cases, the word “entity” is found in the plan. For the purposes of this plan, “entity” refers to all the various local governmental jurisdictions and special purpose districts that participated in the development of this plan.

The Franklin County Hazard Mitigation Plan is organized into five chapters. Chapter 1 contains the introduction and an overview of the planning process. Chapter 2 contains information about each jurisdictional community within Franklin County, including the county itself. Chapter 3 profiles the various natural hazards that can affect Franklin County. Chapter 4 contains the jurisdiction-specific vulnerability and risk assessment. Chapter 5 contains the goals, objectives and proposed mitigation initiatives of this plan. Chapter 6 contains the various appendices to the plan.

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Chapter 1 – The Planning Process

IN THIS SECTION:

- Introduction to hazard mitigation
- Plan methodology
- Plan development and maintenance process
- Plan adoption
- Plan maintenance

Chapter 1
The Planning
Process

Introduction to Hazard Mitigation

Throughout history, various hazards have affected Franklin County and its residents. Photographs, journal entries, and newspapers from the mid to late 1800s up to the present day, recount events like flooding, severe windstorms, winter storms, wildfires, earthquakes, landslides, and even some volcanic activity. Franklin County has not always had the population that it has today, but hazards have always adversely affected the lives of those who depend on the land and the climate conditions of the region for food and welfare. With a continuing rise in population and the development of natural lands, the impact of these hazards will continue to escalate.

Franklin County is subject to flooding, severe storms, earthquakes, wildfires, volcanic activity, and to a much lesser extent, landslides, drought, and dam failure. It is impossible to predict exactly when or if these disasters will occur or the extent to which they will affect the county, but it is likely there will be some sort of disaster with some effect. With careful planning and collaboration among public agencies and private sector organizations as well as citizens and businesses within the community, it is possible to minimize potential losses.

What is hazard mitigation?

Hazard mitigation is the development and implementation of activities designed to reduce or eliminate losses resulting from hazards.

Why develop a hazard mitigation strategy?

Developing a mitigation strategy for Franklin County completes the process of planning that began with the Franklin County Comprehensive Emergency Management Plan (CEMP.) This plan serves to establish a foundation for coordination and collaboration among local agencies, jurisdictions, and the citizens of Franklin County in addition to identifying mitigation strategies and future mitigation projects as a means to assist in meeting the requirements of various federal assistance programs.

The rising cost of responding to and recovering from disasters has led to a renewed interest in identifying effective ways to reduce the vulnerability to hazards and the disasters these hazards can create. Hazard mitigation plans assist communities in identifying the hazards that could impact them, determining the vulnerability of the community to these hazards, and identifying mitigation strategies to prevent or reduce the impacts these hazards pose to the community through a coordinated, multi-jurisdictional approach.

What are the benefits of hazard mitigation?

- **Save lives and property** – communities can save lives and reduce property damage from hazards through mitigation actions, such as moving families and their homes out of harm's way or by limiting development and/or regulating the type of construction or structures allowed in certain areas.
- **Reduce vulnerability to future hazards** – by having a mitigation strategy in place, communities are better prepared to take the proper steps that will permanently reduce the risk of future losses.

- **Facilitate pre- and post-disaster funding** – by identifying mitigation strategies and projects before the next disaster, communities will be in a better position to obtain pre- and post-disaster funding because much of the background work necessary for funding assistance will already be in place.
- **Speed recovery** – by developing a mitigation strategy, communities can identify disaster mitigation opportunities in advance of a disaster.

Demonstrate commitment to improving community health and safety – developing a mitigation strategy demonstrates a community’s commitment to safeguarding its citizens and protecting its economic and environmental well-being.

Who does the natural hazards mitigation plan benefit?

The Franklin County Hazard Mitigation Plan was developed, written, and adopted as a multi-jurisdictional, hazard mitigation plan for the benefit of the following entities:

Franklin County	City of Connell	City of Kahlotus
City of Pasco	City of Mesa	

The information contained in this plan is applicable throughout Franklin County and provides the framework for hazard mitigation across the county. Developing this plan and establishing the basic mitigation strategies incorporated into this document have already benefited multiple groups and jurisdictions. Ideally, the inter-jurisdictional cooperation initiated with this planning effort remains active for many years, and continues to benefit the agencies, jurisdictions, and citizens of Franklin County. The Franklin County Hazard Mitigation Plan was developed by following the process set forth in the Disaster Mitigation Act of 2000 as well as the requirements of the National Flood Insurance Program. Some citizens living in Franklin County participate in the National Flood Insurance Program. If those citizens live in an adopting jurisdiction within the county, it’s possible they could see an additional decrease in their flood insurance premiums.

Land Use Policy in Washington

Planning for hazards in Washington state has taken shape over the past 30 years, beginning with the State Environmental Policy Act (1971) and the Shorelines Management Act (1971), and followed by the State Building Code Act (1974, 1985) and the Growth Management Act (2012) in accordance of RCW 43.62.035. It is an integral element of Washington’s statewide land use planning program. This program focuses on appropriate land use controls in critical areas that are prone to disasters and on staying current with the latest technology in construction methods to mitigate potential disasters.

Support for Hazard Mitigation

The primary responsibility for the development and implementation of mitigation strategies and policies lies with each jurisdiction. However, local jurisdictions are not alone. Various partners and resources exist at the local, state and federal levels to assist local government in the development of mitigation strategies and plans. Within Washington State, the Washington Military Department, Emergency Management Division is the lead agency for providing hazard mitigation planning assistance to local jurisdictions. Within Franklin

County, Franklin County Emergency Management (FCEM) is the lead coordinating agency for hazard mitigation planning assistance to local jurisdictions.

Plan Methodology

Because of the similarity in hazards that pose threats to the various communities within Franklin County, a decision was made early in the plan development process that the Franklin County Hazard Mitigation Plan should meet three basic goals to serve the needs of the citizens of Franklin County and governmental jurisdictions and agencies.

That the plan be multi-jurisdictional thereby satisfying the hazard mitigation planning requirements as specified in the Disaster Mitigation Act of 2000 for all jurisdictions within Franklin County.

That the plan be developed following the process outlined by the Disaster Mitigation Act of 2000 as well as the National Flood Insurance Program so that the plan coordinates with and compliments the programs that exist now or may exist in the future within Franklin County.

That the plan be written in such a way that it also serves as the Franklin County Hazard Identification and Vulnerability Analysis (HIVA) and incorporate the Franklin County Community Wildfire Protection Plan (CWPP).

The Franklin County Hazard Mitigation Plan was written using the best available information at the time. Information was obtained from a wide variety of sources such as the Franklin County Comprehensive Plan, the Franklin County Comprehensive Emergency Management Plan, the Growth Management Plan from each jurisdiction, Capital Improvement Plans, etc. A more complete list can be reviewed in Appendix B. Throughout the plan development process, a concerted effort was made to gather information from participating municipal and county agencies and staff as well as participating special purpose districts, key business and industry professionals, and the citizens of Franklin County.

Additionally, an effort was made to solicit information from local, state, and Federal agencies and individuals with specific knowledge of certain hazards and past historical events, as well as planning and zoning codes and ordinances and recent planning decisions.

The hazard mitigation strategies contained within this plan are the result of a lengthy and extensive planning process involving all local jurisdictions, special purpose districts, and a cross-section of the business community and citizens of Franklin County. However, during this review and update process the special purpose jurisdictions did not participate. The only participating jurisdictions were Franklin County, City of Pasco, City of Connell, City of Mesa, and City of Kahlotus.

Establishment of the Steering Committee

With the decision to develop a hazard mitigation plan, the committee was charged with the following responsibilities:

- Establish plan development goals and objectives.
- Establish a time line for completion of the plan.

- Ensure that the plan meets the requirements of the Disaster Mitigation Act of 2000 as well as the National Flood Insurance Program.
- Solicit and encourage the participation of municipalities, special purpose districts, stakeholders, and citizens in the plan development process.
- Assist local planning officials, special purpose district commissioners, and others in gathering information for inclusion in the plan.
- Organize and oversee the public involvement process.
- Gather all pertinent information to be included in the plan.
- And finally, write the plan.

Franklin County Hazard Mitigation Steering Committee Members:

Commissioner Robert Koch, Franklin County Board of Commissioners
 Commissioner Brad Peck, Franklin County Board of Commissioners
 Bob Metzger, Police Chief, City of Pasco
 Matt Watkins, Mayor, City of Pasco
 Chris Schulte, Fire Chief, City of Connell
 Pattie Baillie, City of Mesa
 David Wooten, Mayor, City of Kahlotus

The Franklin County Hazard Mitigation Steering Committee will disband when this plan is completed. To maintain continuity between the requirements of the Disaster Mitigation Act of 2000 and the plan development process, each member of the Franklin County Hazard Mitigation Steering Committee is also a member of the Franklin County Hazard Mitigation Planning Committee.

The Franklin County Hazard Mitigation Planning Committee will meet quarterly to gather and share information, assess vulnerabilities, identify critical facilities, assist in developing mitigation strategies, and provide continuity throughout the plan development process to ensure that jurisdictional-specific hazards vulnerability information and mitigation strategies were incorporated into the plan.

Franklin County Hazard Mitigation Planning Committee Members

In addition to the county and community representatives on the steering committee named above, the following were represented on the planning committee.

Emergency Management/Public Safety Agencies:

Chief Bob Gear	Pasco Fire Department
Deputy Chief Dave Hare	Pasco Fire Department
Chief Mike Harris	Fire Protection District #3
Chief Eric Mauseth	Fire Protection District #1
Sheriff Jim Raymond	Franklin County Sheriff’s Office
Sean Davis	Franklin County Emergency Management

Chief Chris Schulte	Connell Fire Department
<i>Public Works/Engineering:</i>	
Rick Terway	Pasco Public Works
John Millan	Pasco Public Works
Maria Serra	Pasco Public Works
Matt Mahoney	Franklin County Public Works
Larry Turner	Connell Public Works
Cade Scott	Mesa Public Works
Jessica Herron	Kahlotus Public Works
<i>Planning/Building Departments:</i>	
Matt Mahoney	Franklin County Planning & Building Dept.
Loren Wiltse	Franklin County Planning & Building Dept.
Rick White	Pasco Community & Economic Development

To facilitate better coordination and communication between the Franklin County Hazard Mitigation Planning Committee as well as stakeholders and citizens of the community, a larger planning group was formed and named the Franklin County Hazard Mitigation Extended Planning Committee. Information was gathered from these stakeholders and citizens via a series of interviews. These meetings helped to identify common concerns related to hazards as well as short-term and long-term mitigation activities and/or projects to reduce risk.

Franklin County Hazard Mitigation Extended Planning Committee Stakeholders

This group provided information regarding hazard identification, vulnerability assessment, and mitigation strategies for inclusion in this plan.

Coyote Ridge Correctional Center	Lamb Weston (Pasco)
Lourdes Health Network	Lamb Weston (Connell)
Qwest Communications	Oxarc
Twin City Foods	J R Simplot
Reser’s Fine Foods, Inc.	Western Farm Service
Tidewater Terminal Co.	Century Tel
Americold (Pasco)	BNSF Railway
Americold (Connell)	Simplot Growers Solutions
Franklin County Historical Museum	Syn-Genta
Mid-Columbia Kidney Center	

Some of the information provided by the organizations above is confidential in nature and was not included in the published version of this plan. The information has been made available to emergency management for use in planning and emergency response and recovery.

Hazard Specific Research

The Franklin County Hazard Mitigation Steering Committee, in close cooperation with Franklin County Emergency Management, compiled information and collected data for seven natural hazards: drought, earthquake, high winds, fire, flood, land movement, severe storms, and volcanic activity. Information was obtained from local historical records, and a wide variety of local, state, and federal agencies as well as the stakeholder interviews referenced above and from public workshops.

National Flood Insurance Program Compliance

Effective October 1, 2008, the Federal Emergency Management Agency (FEMA) will require jurisdictions that participate in the National Flood Insurance Program to link their mitigation strategy with continued compliance with the National Flood Insurance Program.

The Franklin County Hazard Mitigation Plan was originally developed in 2004 following the process outlined by the Disaster Mitigation Act of 2000 as well as the NFIP so that the plan would fully coordinate with and compliment NFIP flood mitigation programs that exist now or may exist in the future within Franklin County. To comply with NFIP standards, no development in Franklin County is occurring in designated flood zones and construction projects must be inspected by Planning, Zoning & Building Code Enforcement.

Jurisdictions that currently participate in the National Flood Insurance Program:

Franklin County

City of Connell

City of Pasco

City of Kahlotus

City of Mesa

Plan Development and Maintenance Process

The Disaster Mitigation Act of 2000

In the past, federal legislation has provided funding for disaster relief, recovery, and hazard mitigation planning. The Disaster Mitigation Act of 2000 is the latest legislation to improve this planning process and was put into motion on October 10, 2000, when the President of the United States signed the Act (Public Law 106-390). The new legislation reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur.

Mitigate: to cause to become less harsh or hostile; to make less severe or painful.

Planning: the act or process of making or carrying out plans; the establishment of goals, policies, and procedures for a social or economic unit.

Hazard Mitigation: any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. (as defined by the Disaster Mitigation Act of 2000)

The Disaster Mitigation Act of 2000 is intended to facilitate cooperation between state and local authorities, prompting them to work together. It encourages and rewards local and state pre-disaster planning and promotes sustainability as a strategy for disaster resistance. To implement the new Disaster Mitigation Act of

2000 requirements, the Federal Emergency Management Agency (FEMA) prepared an Interim Final Rule, published in the Federal Registry on February 26, 2002, at 44 CFR Parts 201 and 206, which establishes planning and funding criteria for state and local governments.

The primary purpose of hazard mitigation is to identify community policies, actions, and tools for implementation over the long term. These will result in a reduction in risk and potential for future losses across the community. This is accomplished by using a systematic process of learning about the hazards that can affect the community, setting clear goals, identifying appropriate actions, following through with an effective mitigation strategy, and keeping the plan current.

Local Involvement

All jurisdictions included in the Franklin County Hazard Mitigation Plan contributed to the development of the plan through the dedication of staff time to oversee the development of the plan, assist in writing the plan, and/or compile jurisdiction-specific information contained in the plan. Additionally, these individual and their associated staff will help further the goals and objectives of this updated mitigation plan by recognizing opportunities to incorporate this plan into other planning mechanisms or where other planning mechanisms and programs may contribute to the achievement of mitigation initiatives specific to their jurisdiction due to their knowledge of the hazard-specific content as well as mitigation action items.

Key contributors to the process:

City of Pasco

Rick White, Community & Economic Development Director
Rick Terway, Public Works Director
John Millan, Public Works Superintendent
Maria Serra, Senior Civil Engineer
Bob Gear, Fire Chief
Dave Hare, Deputy Fire Chief

City of Connell

Lee Barrow, Mayor
Bruce Blackwell, former Mayor
Chris Turner, Chief of Police
Larry Turner, Public Works Director
Chris Schulte, Fire Chief

City of Mesa

Terry Standridge, Clerk/Treasurer
Cade Scott, Public Works Supervisor
Patti Bailie, Mayor

City of Kahlotus

David Wooten, Mayor
Jessica Herron, City Maintenance

Franklin County

Robert Koch, Commissioner

Loren Wiltse, Planning & Building Department Assistant Director
Matt Mahoney, Public Works Director
Steve Marks, Assessor
Michael Morgan, GIS Manager

Franklin County and each municipality were involved in the plan development process through regular progress reports provided to each jurisdiction representative on the Executive Steering Committee. The County Board of Commissioners was also briefed on the status of the plan and at least one meeting was held in the city council chambers. Additionally, each jurisdiction participated in reviewing and commenting on the final draft of the plan.

The Franklin County Hazard Mitigation Plan is the result of a grassroots effort on the part of local jurisdictions, special purpose districts, agencies, and citizen involvement. Writing and organization of the plan was originally performed by staff from Franklin County Emergency Management. The 2018 update was facilitated by Northwest Management, Inc. of Moscow, Idaho. **Appendix D** contains documentation related to committee and jurisdictional involvement (meeting agendas, sign in sheets) and **Appendix E** contains documentation related to public involvement (public meeting ads and sign-in sheets, web-based HMP drafts).

The maintenance and upkeep of this plan will be the same process and group of agencies utilized in the original development of the plan to include the Local Emergency Planning Committee (LEPC). Hazard Mitigation Planning will be implemented as a main topic at the LEPC quarterly meetings.

Important dates and elements in the plan development/maintenance process:

<u>April-June 2017</u>	Reviewed plan for five-year updates soliciting input from city/county/private agencies. Attended webinar for incorporating CWPP.
<u>April 19, 2017</u>	Spring Fire Chiefs meeting regarding the HMP.
<u>June 29, 2017</u>	Notice posted in Franklin County Graphic for input to HMP. Copies available online at www.franklinem.org .
<u>Oct. 18, 2017</u>	Meeting with the Franklin County Chiefs to re-verify mitigation projects in CWPP and current HMP revision.
<u>Nov. 6, 2017</u>	HMP Planning Committee review/updates meeting in Connell.
<u>Nov. 16, 2017</u>	HMP Planning Committee review/updates meeting with Franklin County Public Works
<u>March 13, 2018</u>	Reviewed missing information and mitigation strategy initiatives with planning committee.
<u>March 13, 2018</u>	Public meeting in Pasco.
<u>March 14, 2018</u>	Public meeting in Connell.
<u>April 24, 2018</u>	Final draft reviewed by planning committee.
<u>May 25, 2018</u>	Final draft released for public review and comment.

Two (2) copies of the promulgated Franklin County Hazard Mitigation Plan were delivered to the Washington State Military Department, Emergency Management Division, Camp Murray, Washington.

Plan Adoption

Franklin County Emergency Management invited all participating jurisdictions to review and update their portions of the Hazard Mitigation Plan.

Following the completion of the Hazard Mitigation Plan, the governing body of each participating entity formally adopted the Franklin County Hazard Mitigation Plan (Table 1).

Table 1: Summary of adopting resolutions.

Agency/Jurisdiction	Approving Entity	Resolution Number
Franklin County	Board of Commissioners	2018-335
City of Pasco	City Council	3885
City of Connell	City Council	2018-10
City of Mesa	City Council	2018-04
City of Kahlotus	City Council	2018-12-11

Plan Maintenance

Evaluating and Updating the Plan

The Franklin County Hazard Mitigation Plan will be reviewed on an annual basis to determine the effectiveness of mitigation programs, projects, or other related activities, and to reflect changes in land development or programs that may affect mitigation priorities and/or strategies. The plan will be updated every five years. These five-year updates will be delivered to the Washington State Hazard Mitigation Program Manager for review and forwarding to the Federal Emergency Management Agency, Region X Office.

Annual Plan Review

To facilitate the annual plan review process, the Franklin County Hazard Mitigation Planning Committee will remain a semi-active group following the formal adoption of this plan and shall be charged with the responsibility of conducting an annual plan review during the fall LEPC meeting. The Director of the Franklin County Emergency Management or his/her designee will be responsible for contacting the chairperson and members of the Franklin County Hazard Mitigation Planning Committee and organizing the annual plan review process.

The Franklin County Hazard Mitigation Planning Committee will review the current hazard mitigation strategies to determine their relevance to changing situations within Franklin County, integrate known changes in State or Federal policy, and ensure mitigation strategies are addressing current and expected conditions.

Following the annual plan review process, the Chairperson of the Franklin County Hazard Mitigation Planning Committee, in cooperation with Franklin County Emergency Management, will prepare a written report describing: 1) the plan review process; 2) the status of any current mitigation activities or projects; and 3) any deficiencies identified as a result of the plan evaluation. Copies of this report shall be mailed to the governing body of each of the participating jurisdictions each calendar year. Additionally, a copy of this report will be mailed to the Washington State Hazard Mitigation Program Manager each calendar year.

Five-Year Plan Update

Updates to the Franklin County Hazard Mitigation Plan shall be conducted on a five-year cycle and shall commence at the direction of the Director of Franklin County Emergency Management. Upon such direction, staff from Franklin County Emergency Management, in cooperation with the chairperson of the Franklin County Hazard Mitigation Planning Committee, will begin the process of updating the plan. It is advised that during the third annual update the committee should begin the FEMA grant process for updating the plan with the following year (fourth year) used to update the plan. The governing body of each of the participating jurisdictions shall approve the updated plan and a copy of the updated plan shall be submitted to the Washington State Hazard Mitigation Program Manager.

Continued Public Involvement

All participating entities are dedicated to the continued involvement of the public in the hazard mitigation process.

Copies of the Franklin County Hazard Mitigation Plan will be kept and made available for public review at the following locations:

- Franklin County Emergency Management
- Franklin County Planning & Building Department
- City of Pasco Department of Community & Economic Development
- City of Connell City Hall
- City of Mesa City Hall
- City of Kahlotus City Hall
- Mid-Columbia Regional Library System (2 copies)
- Online at www.franklinem.org

Franklin County Emergency Management shall be responsible for receiving, tracking, and filing public comments regarding the Franklin County Hazard Mitigation Plan. Contact information for Franklin County Emergency Management is included in the Point of Contact information page. A public meeting will be held as a part of the review process as well as the final five-year plan update. Additional meetings may also be held as deemed necessary by the Chairperson of the Franklin County Hazard Mitigation Planning Committee. The purpose of these meetings is to provide a public forum so that citizens can express concerns, opinions, or ideas about the Franklin County Hazard Mitigation Plan. The Franklin County Hazard Mitigation Planning Committee will continue to meet at least annually and be made up of representatives from the participating

jurisdictions as well as entities, departments, and agencies involved or impacted by hazard events in Franklin County.

Assessment after a Significant Disaster Event

Within 90 days following a significant disaster or an emergency event impacting any portion of Franklin County, the Executive Steering Committee may begin an analysis of the event to capture any “lessons learned” for the purpose of continuing development of the plan. The Executive Steering Committee will assess direct and indirect damage as well as any response and recovery costs. The Executive Steering Committee will also assess the type and extent of the damages to determine any new mitigation initiatives that should be incorporated into the plan to avoid similar losses due to future hazard events. The results of the assessment will be provided to those affected jurisdictions for their review and to provide information to be used when considering new mitigation initiatives during the next plan update process.

Revisions between Plan Updates

This section intends to clarify questions that have been raised during the planning process regarding an entity’s ability to update, modify, or amend its information between plan updates which will occur every five years.

Can a new entity become part of the county-wide natural hazards mitigation plan between updates?

• **Yes – but only with the following protocol:**

1. Franklin County Emergency Management as lead agency would provide the new entity with a copy of the Franklin County Hazard Mitigation Plan, local planning requirements and any other pertinent data.
2. The new entity would then develop a plan that coordinates with the multi-jurisdictional plan and meets all the planning requirements specified in 201.66 of 44 CFR of the Disaster Mitigation Act of 2000 as well as the requirement of the National Flood Insurance Program. Portions of the multi-jurisdictional plan that meet the planning requirements for that entity could be referenced in the plan eliminating the need for redundancy.
3. The new entity would then submit the completed plan to Franklin County Emergency Management for review and comment to ensure conformance with the Franklin County Hazard Mitigation Plan.
4. Franklin County Emergency Management would then forward the new entity’s plan to the Washington State Hazard Mitigation Program Manager for review. After validation, the State would forward the plan to FEMA for review/approval.
5. The new entity would forward the approved plan to the Franklin County Emergency Management for incorporation into the existing Hazard Mitigation Plan.
6. The new entity would become part of the planning committee and would commit to participating in future plan-updates and maintenance cycles.

Can an entity reprioritize their mitigation initiatives?

• **Yes – but only with the following protocol:**

1. Before the action is taken, the entity sends a letter of intent to the Executive Steering Committee and other entities who have adopted the plan.
2. The entity’s decision-making body formally adopts the revised priority list following that organizations protocol for public process and notification.
3. The entity sends a copy of the revised priority list to the Executive Steering Committee, the entities who have adopted the plan, State Emergency Management and FEMA.
4. The entity will notify the Executive Steering Committee when it has received State and FEMA approval of the changes.

Can an entity adopt new mitigation initiatives or drop existing ones between plan updates?

• **Yes – but only with the following protocol:**

1. The entity sends a letter of intent to amend the plan to the Executive Steering Committee and the other entities who have adopted the plan before the action is taken.
2. The entity prepares the new mitigation initiative(s) or indicates which are being dropped using the “Mitigation Initiatives Characterization Form.”
3. The entity holds a public hearing with an appropriate level of public notification regarding the new mitigation initiative(s) and the new prioritization.
4. The entity’s decision-making body formally adopts the new mitigation initiative(s) or drops the existing ones, and new prioritization list.
5. Within a month of the entity’s action, it sends a copy of the new mitigation initiative(s) and new prioritization to the Executive Steering Committee, all the other entities which have adopted the plan, the State Emergency Management, and to FEMA.
6. The entity will notify the Executive Steering Committee when it has received State and FEMA approval of the changes. Any changes or approvals, which have been made to a governmental entity’s mitigation initiatives shall be incorporated into the next county wide plan update.

Incorporation into Existing Plans and Programs

The five main jurisdictions comprise the Franklin County Emergency Management Board. Each jurisdiction is intimately involved with the Hazard Mitigation Plan process, but also in the Hazardous Vulnerability Identification/Analysis and Comprehensive Emergency Management Plan process. Once approved by each jurisdiction’s councils/boards, it is incumbent upon those entities to ensure incorporation of the concepts deriving from these plans into their codes, planning, public works, building and finance departments. These plans convey hazard information and areas for improvement to current codes, zoning, urban growth, land-use and infrastructure for each of these jurisdictions.

To further ensure the entities that are signatories to these plans understand how they should be incorporated into their jurisdictions planning and budgets, each jurisdictional representative on the FCEM board will also be fully briefed on these plans.

Each governmental entity will be responsible for implementation of their individual mitigation initiatives based on funding availability, availability of resources, and entity priorities. Because the Franklin County Hazard Mitigation Plan is a multi-jurisdictional plan, the mechanism for implementation through existing programs will vary between jurisdictions and between special purpose districts. It is expected that many of the mitigation initiatives will be incorporated into existing jurisdictional planning programs such as comprehensive plans, critical areas ordinances and capital facilities plans. Franklin County and the municipalities are required to update their comprehensive plans and review the Growth Management Act development regulations, at a minimum, every seven years. Some jurisdictions such as Franklin County adopt amendments to its comprehensive plan every year. Other jurisdictions may amend their plan much less frequently. In addition to plans, programs, and regulations, the entities may also incorporate the mitigation measures into their capital facilities plans (CFP's). The CFP's identify major infrastructure or facility developments from a six, ten, or twenty-year time frame. When the CFP's are updated, jurisdictions will consider the impact of the mitigation initiatives they identified for this plan and their incorporation. Table 2 shows the other plans that have been adopted by jurisdictions participating in the HMP.

Local jurisdictions often adopt special purpose or "functional plans" separately from their comprehensive plan. These plans deal with a specific function or service such as a storm water or sewage. These are officially adopted by the jurisdiction and provide a level of detail not found in the comprehensive plan.

Table 2: City and county plans that have been adopted by jurisdictions participating in the Franklin County, WA Hazard Mitigation Plan per the capabilities assessments completed by each jurisdiction.

Plan Name / Type	Franklin County	Pasco	Connell	Mesa	Kahlotus
Comprehensive / Master Plan	Y	Y	Y	N	N
Capital Improvement Plan	Y	Y	N/A	Y (Partial)	Y (Partial)
Economic Development Plan	Y	Y	N/A	N	N
Local Emergency Operations Plan	Y	Y	Y	Y	Y
Continuity of Operations Plan	N	N	N	N	N
Transportation Plan	Y	Y	N	N	N
Stormwater Mangmenet Plan	N	N	N	N	N
Community Wildfire Protection Plan	Y	Y	X	Y	Y

Incorporating Plans: Descriptions of the Process by Jurisdiction

Franklin County

Comprehensive Plan: The Franklin County Comprehensive Plan (CEMP) was adopted in 2008 and is amended annually. The plan will be fully updated and adopted in 2018/19. During the annual review process Franklin County will identify MAI's that can be incorporated into and implemented through the CEMP.

Web Link: https://www.ezview.wa.gov/site/alias_1967/overview/37145/overview.aspx

Most of the non-fire MAI's have potential to be accomplished through the Franklin County Comprehensive Plan. Therefore the list of MAI's for Franklin County will be reviewed at the time of the next plan update.

Capital Improvement Plan: The Capital Improvement plan for Franklin County will be updated in this latest revision. During the annual review process, Franklin County will identify MAIs that can be incorporated into the HMP.

Economic Development Plan: The Franklin County Economic Development Plan is periodically updated and will be updated in the latest revision. The following MAI's will be considered for implementation through the Economic Development plan at the time of the next update:

- FC-MH1: Review and update/improve critical area regulations.
- FC-MH2: Incorporate Uniform Building Codes to county ordinances.
- FC-FIH4: Develop county wide ordinances for maintaining "defensible space" around homes/buildings.
- FC-FIH10: Incorporate the Fire Wise program standards with homeowners and builders.

Local Emergency Operations Plan: The Franklin County Local Emergency Operations Plan was developed using the hazards and vulnerabilities profiled in the HMP. The Local Emergency Operations Plan is updated every 5 years, with the next update in 2020. The following MAI's will be implemented through the Local Emergency Operations Plan:

- FCMH2: Incorporate and improve floodplain management through incorporation in the CEMP and Hazard Mitigation Plans.
- FC-FIH3: Develop delegation of authority concepts and procedures.

Transportation Plan: The Franklin County Transportation plan is incorporated in the Comprehensive Plan and will be updated again in the latest revision. Any relevant MAI's will be reviewed and incorporated in the HMP at the time of each update.

Community Wildfire Protection Plan: The Franklin County Community Wildfire Protection Plan is updated every 5 years and will be updated next in 2020. The MAI's included in the HMP that pertain to wildfire will be carried over and accomplished through the Franklin County Community Wildfire Protection Plan.

City of Pasco

Comprehensive Plan: The City of Pasco Comprehensive Plan was adopted in 2007 and is amended annually. The plan will be fully updated and adopted in 2027. During the annual review process, the City of Pasco will identify MAIs that can be incorporated into and implemented through the Comprehensive Plan.

Weblink: <https://www.pasco-wa.gov/653/Comprehensive-Plan>

Capital Improvement Plan: The Capital Improvement plan for the City of Pasco will be updated annually. During the annual review process, the City of Pasco will identify MAIs that can be incorporated into the HMP.

Economic Development Plan: The Franklin County Economic Development Plan is updated annually. During the review, the City of Pasco will identify any MAIs that can be incorporated into the HMP.

Local Emergency Operations Plan: The City of Pasco Local Emergency Operations Plan was developed using the hazards and vulnerabilities profiled in the HMP. The Local Emergency Operations Plan is updated every 5 years, with the next update in 2020. The following MAI's will be completed through the Local Emergency Operations Plan:

- P-SSH1: Inspect all trees within falling distance of critical facilities.
- P-MH1: Procure and install emergency generators for the water and wastewater treatment plants.
- P-MH3: Update and maintain all hazard-specific ordinances.
- P-MH4: Procure and install an adequate number of tone-alert radios for all city departments to ensure that each work area in all city buildings has an ability to receive rapid notification of emergency information during disasters or serious emergencies.

Transportation Plan: The City of Pasco Transportation plan was last updated in 2018 and is updated annually. Any relevant MAI's will be reviewed and incorporated in the HMP at the time of each update.

Community Wildfire Protection Plan: The Franklin County Community Wildfire Protection Plan is updated every 5 years and will be updated next in 2020. The MAI's included in the HMP that pertain to wildfire will be carried over and accomplished through the Franklin County Community Wildfire Protection Plan.

City of Connell

Comprehensive Plan: The City of Connell Comprehensive Plan was adopted in 2007 and is amended annually. The plan will be fully updated and adopted in 2018/2019. During the annual review process, Franklin County will identify MAIs that can be incorporated into and implemented through the Comprehensive Plan

Web link: http://www.cityofconnell.com/index.asp?SEC=FAB2B566-C8A5-4577-ACAA-0E2CD3347491&Type=B_BASIC

The following MAI's will be discussed during the next plan update:

- C-EH1: Replace/upgrade city water distribution system/lines to meet current seismic standards.
- C-FLH1: Improve design of the Esquatzel Coulee/Canal to prevent future flooding.

- C-EH2: Replace wastewater collection lines to meet current seismic standards.

Local Emergency Operations Plan: The City of Connell Local Emergency Operations Plan was developed using the hazards and vulnerabilities profiled in the HMP. The Local Emergency Operations Plan is updated every 5 years, with the next update in 2020. Funding for the following MAI's will be sought through the Local Emergency Operations Plan at the time of the next update:

- C-FIH2: Backup generator at fire department.
- C-MH1, 3 & 4: Install backup generators at city facilities.
- C-MH2: Relocate city hall and police to new location outside of known flood area.

Community Wildfire Protection Plan: The Franklin County Community Wildfire Protection Plan is updated every 5 years and will be updated next in 2020. The MAI's included in the HMP that pertain to wildfire will be carried over and accomplished through the Franklin County Community Wildfire Protection Plan.

- C-FIH1: Debris removal for urban interface.
- C-FIH2: Backup generator at fire department.

City of Mesa

Capital Improvement Plan (Partial): The Capital Improvement plan for the City of Mesa will be updated on an annual, as needed basis through the annual budget process. The City of Mesa has a 6 year Street Plan that was adopted in 2018. During each review, relevant MAIs will be identified and incorporated in the HMP.

Local Emergency Operations Plan: The City of Mesa Local Emergency Operations Plan was developed using the hazards and vulnerabilities profiled in the HMP. The Local Emergency Operations Plan is updated every 5 years, with the next update in 2020. The following MAI's will be completed through the Local Emergency Operations Plan:

- M-MH1: Install emergency electrical power generator at Water Well #1.
- M-MH2: Inspect trees around public facilities and trim/remove to prevent damage due to broken branches or downed trees during a severe storm.

Community Wildfire Protection Plan: The Franklin County Community Wildfire Protection Plan is updated every 5 years and will be updated next in 2020. The MAI's included in the HMP that pertain to wildfire will be carried over and accomplished through the Franklin County Community Wildfire Protection Plan.

City of Kahlotus

Capital Improvement Plan (Partial): The Capital Improvement plan for the City of Kahlotus occurs during the annual budget process on an as need basis. During the next review, the City of Kahlotus will identify any MAIs that can be incorporated in the HMP.

Local Emergency Operations Plan: The City of Kahlotus Local Emergency Operations Plan was developed using the hazards and vulnerabilities profiled in the HMP. The Local Emergency Operations Plan is updated

every 5 years, with the next update in 2020. The following MAI's will be completed through the Local Emergency Operations Plan:

- K-MH2: Develop and implement a Continuity of Operations Plan.
- K-MH3: Establish an emergency well as a backup source for city water.
- K-MH4: Install emergency generator for city hall and community evacuation center/shelter.

Community Wildfire Protection Plan: The Franklin County Community Wildfire Protection Plan is updated every 5 years and will be updated next in 2020. The MAI's included in the HMP that pertain to wildfire will be carried over and accomplished through the Franklin County Community Wildfire Protection Plan.

Chapter 2 – Community Profiles

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- Franklin County profile
- City of Pasco profile
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Chapter 2
Community
Profiles

Franklin County Profile

Franklin County Emergency Management (FCEM) is a political subdivision formed through an interlocal agreement between the County and each of the incorporated jurisdictions within the county. As such, FCEM provides emergency management services for each member of the Interlocal Agreement. FCEM provided the vast majority of administrative support for this project.

Geography

Franklin County is located in south-central Washington State, nestled between the Snake and Columbia Rivers, in what is generally known as the Columbia Basin. Franklin County is bounded by the Columbia River to the west and southwest and the Snake River to the southeast. The county is intersected by a major drainage called the Esquatzel Coulee, as well as several lesser canyons and drainages. Franklin County is bordered by Benton County to the southwest, Grant and Adams counties to the north, Whitman and Columbia counties to the east, and Walla Walla County to the southeast. With a geographical land base of 1,242.4 square miles, Franklin County ranks number 27 in size among Washington's 39 counties. The highest elevation in the county is 1,824 feet on the North Columbia Plateau and the lowest elevation is at 423 feet.

Incorporated cities and towns in Franklin County include Connell, Kahlotus, Mesa and Pasco. Most of the unincorporated areas within the county are rural areas with low-density, agriculture-based land use. However, there are also several distinct unincorporated communities, including Eltopia and Harder, and several census designated places, including Basin City and West Pasco. Franklin County was formed out of Whitman County in 1883 and Pasco is the county seat.

Pasco is located at the southern tip of the county just northwest of the confluence of the Columbia and Snake Rivers. Pasco, along with Richland and Kennewick in Benton County, are collectively referred to as the Tri-Cities due to their interlocking economic dependence and their geographic proximity to each other. Mesa lies in central Franklin County and Connell lies in the north-central part of the county, both along the U.S. Route 395 corridor. Kahlotus is in the eastern part of the county along State Route 260. Basin City is in the northwest along Road 170, and West Pasco lies at the southern tip of Franklin County and is surrounded by the City of Pasco. Eltopia lies between Pasco and Mesa along U.S. Route 395 and Harder is just east of Kahlotus along State Route 260.

The Columbia River was historically an important fishery and its associated lowlands were used as wintering ground by several Native American tribes including the Umatilla, Wallowa, Wanapum, Nez Perce, and Yakama tribes. Permanent settlement of the region accelerated in the 1890s with the completion of irrigation infrastructure that allowed cultivation of the arid shrub-steppe lands in the area. This, along with the completion of the Dalles-Celilo Canal in 1915, which first connected the Tri Cities to the Pacific Ocean, turned Franklin County into an important agricultural center. The proximity of the Hanford Nuclear Site, which was a key facility for the development of nuclear weapons during World War II, and the construction of three Washington Public Power Supply System (WPPSS) nuclear plants at Hanford in the 1970s also had significant impacts on the economic development of the region. In the 1950s, two major developments fueled regional growth—the Columbia Basin Irrigation Project and McNary Dam. These developments underscored the rich agricultural potential of the region. With the advent of irrigation not only did

agricultural production both boom and diversify, but the related food processing industry also flourished. The area has become one of the nation's leading agricultural production regions.

Climate

As a part of the larger network of Regional Climate Centers, the Western Regional Climate Center (WRCC) serves as a repository of historical climate data and information. The WRCC is administered by the National Oceanic and Atmospheric Administration (NOAA). The following information can be found in the WRCC's narrative description of Washington State's climate.

Eastern Washington Climate

This portion of the state is part of the large inland basin between the Cascade and Rocky mountain ranges. East of the Cascades, summers are warmer, winters are colder, and precipitation is less than in western Washington.

The average number of clear or only partly cloudy days each month varies from five to 10 in winter, 12 to 18 in spring and fall, and 20 to 28 in summer. The percent of possible sunshine received each month is from 20 to 30 percent in winter, 50 to 60 percent in spring and fall and 80 to 85 percent in summer. The number of hours of sunshine possible on a clear day ranges from approximately 8 in December to 16 in June. In the driest areas, rainfall is recorded on 70 days each year and on 120 days or more in the higher elevations near the eastern border and along the eastern slope of the Cascades.

Annual precipitation ranges from seven to nine inches near the confluence of the Snake and Columbia Rivers, 15 to 30 inches along the eastern border and 75 to 90 inches near the summit of the Cascade Mountains. During July and August, it is not unusual for four to eight weeks to pass with only a few scattered showers. Thunderstorms can be expected on one to three days each month from April through September. Most thunderstorms in the warmest months occur as isolated cells covering only a few square miles. A few damaging hailstorms are reported each summer. Maximum rainfall intensities to expect in one out of ten years are .6 of an inch in one hour; 1.0 inch in three hours; 1.0 to 1.5 inches in six hours; and 1.2 to 2.0 inches in 12 hours.

During most of the year, the prevailing direction of the wind is from the southwest or west. The frequency of northeasterly winds is greatest in the fall and winter. Wind velocities ranging from four to 12 m.p.h. can be expected 60 to 70 percent of the time; 13 to 24 mph, 15 to 24 percent of the time; and 25 mph or higher, one to two percent of the time. The highest wind velocities are from the southwest or west and are frequently associated with rapidly moving weather systems. Extreme wind velocities at 30 feet above the ground can be expected to reach 50 m.p.h. at least once in two years; 60 to 70 m.p.h. once in 50 years and 80 m.p.h. once in 100 years.

Central Basin Climate

To describe the climate in more detail, Eastern Washington has been divided into five sections, one of which is the Central Basin, in which Franklin County lies. Figure 1 shows average monthly temperature and precipitation for Eltopia, WA from 1974 to 2009 (Western Regional Climate Center; Eltopia, WA).

The Central Basin includes the Ellensburg valley, the central plains area in the Columbia basin south from the Waterville Plateau to the Oregon border and east to near the Palouse River. This is the lowest and driest section in eastern Washington. Annual precipitation ranges from seven inches in the drier localities along the southern slopes of the Saddle Mountains, Frenchman Hills and east of Rattlesnake Mountains, to 15 inches near the Blue Mountains. Summer precipitation is usually associated with thunderstorms. During July and August, it is not unusual for four to six weeks to pass without measurable rainfall.

The winter season snowfall is from 10 to 35 inches. Snow can be expected after the first of December and to remain on the ground for periods varying from a few days to two months between mid-December and the last of February. Other than in the Ellensburg valley, snow depths seldom exceed eight to 15 inches. The Central Basin is subject to "chinook" winds which produce a rapid rise in temperature. A few damaging hailstorms are reported in the agricultural areas each summer.

The average January maximum temperature is near 30° F in the colder localities in the Columbia Basin and 40° F in the lower Yakima valley, and minimum temperatures are between 15° to 25° F. Minimum temperatures between 0° to -10° F are recorded almost every winter and temperatures from -15° F to -30° F have been recorded.

In July the average maximum temperature is in the lower 90s, and the minimum temperature is in the upper 50s. The recorded high temperature for the state, 118° F, was recorded on July 24, 1928, at Wahluke, located along the southern slope of the Saddle Mountains and again on August 5, 1961, at Ice Harbor Dam on the Snake River. Maximum temperatures reach 100° to 105° on a few afternoons each summer. The last freezing temperature in the spring occurs during the latter half of April in the Yakima valley and the latter half of May in the colder localities of the Columbia Basin. The first freezing temperature in the fall is usually recorded between mid-September and mid-October.

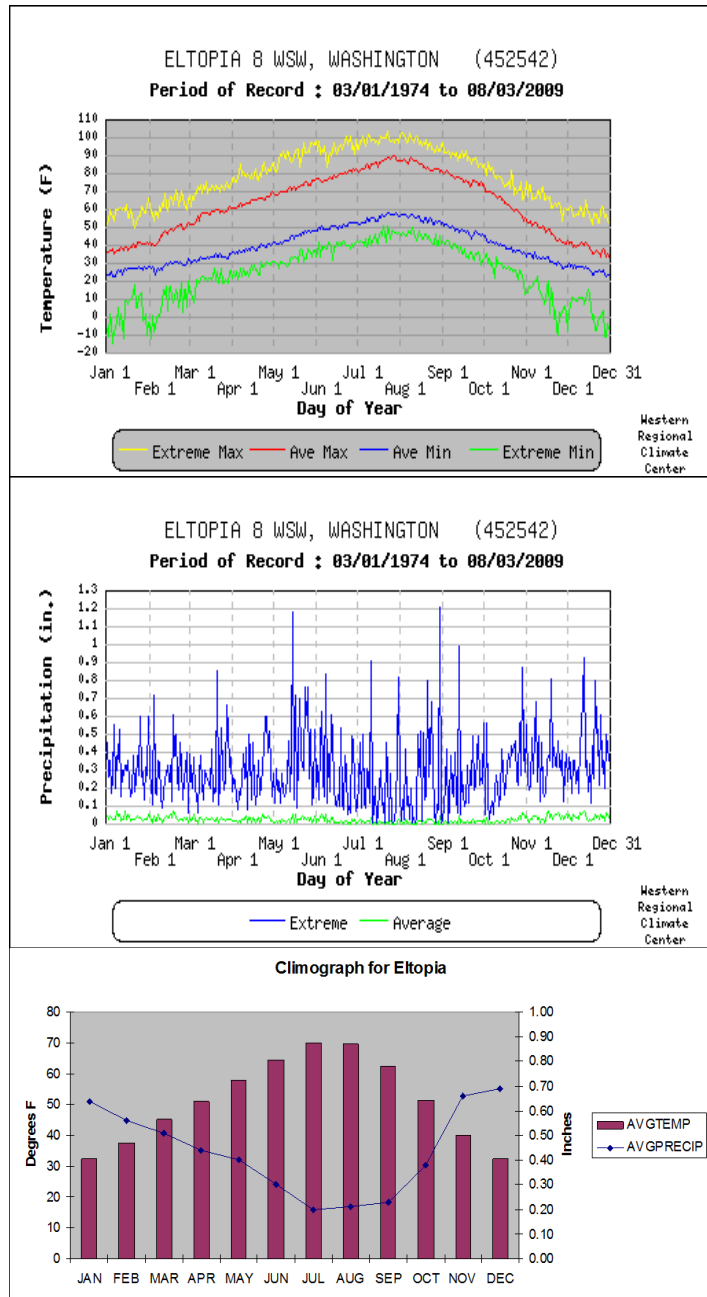


Figure 1: Western Regional Climate Center climate data for Eltopia, WA.

Soils and Geology

Franklin County is part of what is referred to as the Columbia Basin Province. The County contains many canyon and cliff features such as Palouse Canyon and Devils Canyon, as well as unique rock formations. Some of the most interesting geographical features are the sand dunes located northeast of Pasco in the Juniper Dunes area off the Pasco-Kahlotus Road.

The county lies at the south end of the Channel Scablands. The geology of Franklin County has been formed by alternate volcanism and flooding. Three of the five geological formations which characterize the entire Columbia River Basalt Group occur in Franklin County. From the youngest to the oldest, these are:

- Saddle Mountain Basalt (formed 6-13 million years ago), found primarily in the Mesa area extending southeast and northwest.
- The Wanapum Basalt (13.5 to 14 million years old), occurring primarily in the northeast and along the Snake River.
- Grande Ronde Basalt (15.6 to 17 million years old) found primarily at the eastern border.

The Grande Ronde Basalt Formation was formed 15 to 17 million years ago from large eruptions of molten lava, probably from a huge volcano located in the southeastern corner of Washington or northeastern Oregon. Flows associated with the volcano number in the hundreds and vary in thickness from a few inches to about 300 feet. Few sedimentary interbeds are found, indicating relatively short periods between eruptions.

The Wanapum Basalt Formation was formed 13.5 to 14 million years ago. Large and numerous linear vents discharging large, but less frequent, amounts of flood lava developed in the same areas as the Grande Ronde Volcano. Sedimentary interbeds were created within and between formations, mainly by the erosion of older rock surrounding the plateau and volcanic material associated with the creation of the Cascade Range. The continued deposition of flood basalts between six and thirteen million years ago are called the Saddle Mountain Basalts. These activities, primarily during the Miocene and Pliocene eras, combined with the shed sediments from the rising and volcanically active Cascade Range, form interbedded sedimentary formations within the Columbia River Basalts. These interbeds are of the Ellensburg Formation.

Deposition of sedimentary materials continued in the area during the Pleistocene era. These initial deposits are referred to as the Ringold Formation and consist of fluvial (stream) and lacustrine (lake) deposits of silts, sand, and gravel. Late in the Pleistocene Epoch, numerous glacial outwash and flood deposits occurred. These deposits are attributed to catastrophic flooding caused by the breakup of ice dams holding back impoundment, such as Lake Missoula in western Montana. Breakage of these ice dams was responsible for the area north of Franklin County known as the Channel Scablands. Outpouring from these lakes scoured the land, leaving large channels. The flood waters rushed out of Lake Missoula through Spokane, spread out over the basin, and then came together again at Wallula Gap, where a large lake was created, depositing silt in this area.

Land Use

The following description of land use is excerpted from the Soil Survey of Franklin County.

Franklin County is in the southeastern part of Washington. It consists of privately owned land; land that is managed by the U.S. Department of the Interior, Bureau of Reclamation and Bureau of Land Management; and land that is managed by the Washington State Game Department for the U.S. Department of Energy (Figure 2). The county is about 1,255 square miles, or about 806,000 acres. Of the total acreage, about 230,000 acres are irrigated cropland, 220,000 acres are non-irrigated cropland, 195,000 acres are rangeland, and the remaining 165,000 acres are urban land, roads, buildings, and water. Farming is the major enterprise in the area. The main crops include winter wheat, alfalfa hay, corn, potatoes, asparagus, peas, wine grapes, sweet corn, vegetable seeds, apples, cherries, and pasture. Most of the irrigated cropland is in the western part of the survey area, and most of the non-irrigated cropland is in the eastern part. A wheat-fallow crop rotation is used on the non-irrigated cropland because of the low annual precipitation.

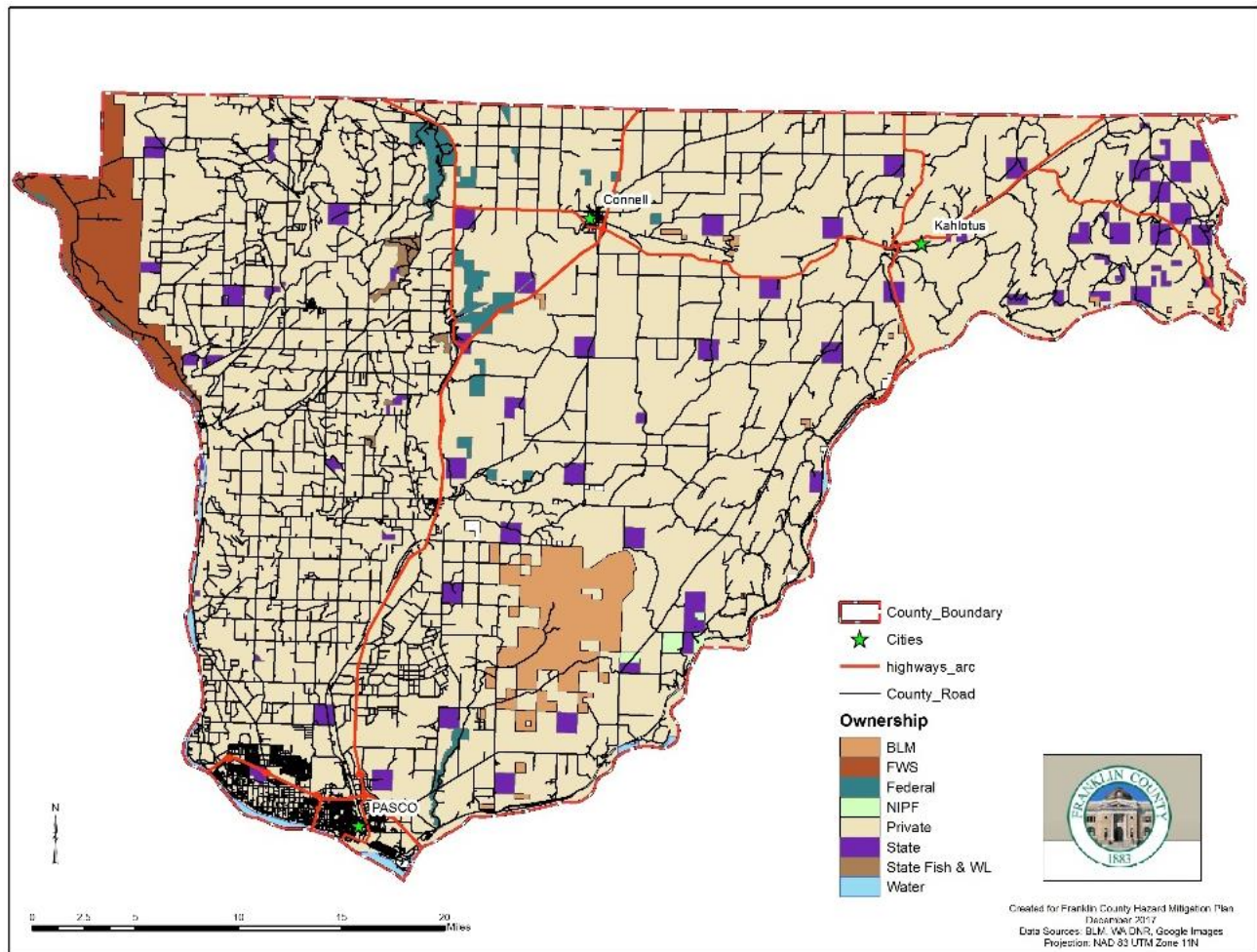


Figure 2: Land ownership map of Franklin County, WA.

In Franklin County, rural lands are those lands that are currently experiencing development pressures and are inappropriate for agricultural uses. These lands run south along the Columbia River and across the northern part of the City of Pasco. The rural element also includes rural service centers that have been identified, such as Merrill's and Mathew's Corners, and rural settlements such as Eltopia, and Basin City (Basin City having an Urban Growth Boundary because it is more of a full-service area - i.e., supporting schools, churches, libraries, etc.) all unincorporated.

Population and Demographics

Franklin County was created by the Washington State Legislature on November 28, 1883. The County government is an elected County Commission consisting of three full time County Commissioners. The Commissioners are elected to four-year terms in a general election. Each commissioner represents a district determined by population boundaries. Other elected county officials include: County Administrator, Assessor, Auditor, Clerk, Coroner, Prosecuting Attorney, Treasurer, Sheriff, and Superior Court and District Court judges.

The U.S. Census Bureau, Census of 2010 reported Franklin County’s population at 78,163 – a 58 percent increase since 2000. The 2016 population was estimated to be 90,160. The median age was 29.3, with approximately 65.8 percent of the County population 18 years and over. Approximately 40.7 percent of the population is White and 53 percent is Hispanic or Latino. The Census reports there are 30,764 residents (39.4 percent) who speak a language other than English at home, including 30.2 percent (23,605 people 5 years and over) who speak English less than “very well.” Spanish is the language other than English most often spoken at home by 28,019 residents (35.9 percent). Of those speaking Spanish at home, 17,736, or 22.7 percent of Benton County’s population, speak English less than “very well.” Franklin County is the first Hispanic-majority county in the Pacific Northwest and is one of the region’s fastest growing counties.

Table 3: Historical and current populations by community for Franklin County, WA (source U.S. Census Bureau).

Jurisdiction	1960	1970	1980	1990	2000	2010	2016*
Franklin County	23,342	25,816	35,025	37,473	49,347	78,163	90,160
Connell	906	1161	1,981	2,005	2,956	4,210	5,414
Kahlotus	131	308	203	167	214	193	189
Mesa	263	274	278	252	425	489	486
Pasco	14,522	13,920	18,425	20,337	32,066	59,781	70,579
Unincorporated**	7,822	10,069	14,619	14,712	13,686	13,490	13,492

*2016 population estimated based on 2010 census

**The unincorporated population of Franklin County has been decreasing since 1996 due to the annexation of portions of the Riverview area to Pasco.

Transportation

Most of the roads in Franklin County are rural farm-to-market roads, but historically have not been all weather roads, thus resulting in road closures and load limits during spring when road break-up can occur. Outside of Pasco, there is very little opportunity in the County for mass transit. There is interest in providing public transportation throughout the remainder of the County, particularly to the elderly and the physically

challenged, with the general goal of providing mobility for the County's citizenry and to enable them to have a choice of living environments.

Franklin County is accessible by several modes of transportation. The area hosts major highways, railroads, marine ports, and an airport. Interstate 182 connects the county with major markets to the east and west. US 395 is the primary north-south highway and runs through the middle of the county passing through the three largest cities in the county. There is one airfield in Franklin County operated by the Port of Pasco. The Pasco Airport has three runways, the two runways for commercial aviation are 7,700 feet in length and the non-instrumented general aviation runway is 4,425 feet in length. The Port of Pasco also has waterfront facilities that service barge traffic. Burlington Northern-Santa Fe Railroad operates a major switching yard in Pasco along the main north-south rail line that connects the Tri-Cities to Spokane and Portland.

Capabilities Assessment

Franklin County Emergency Management (FCEM) is responsible for the administration and overall coordination of the emergency management program for Franklin County. The Franklin County Comprehensive Emergency Management Plan lays the framework for local-level emergency management planning and strategy.

Capabilities assessments were conducted for Franklin County, along with some fire districts within the county. The full assessment worksheet is located in Appendix C.

Existing codes, plans, and ordinances that may have an effect on hazard mitigation planning or assist in the implementation of mitigation action items include:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire Safety Code (Universal Fire Code)
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Participation in NFIP Program

Development Trends

The Washington State Office of Financial Management (OFM) prepares populations estimates for each county in the state. Table 4 below shows the OFM projected population totals in Franklin County for the years 2020 through 2040.

Table 4: Washington State Office of Financial Management population projections for Franklin County, WA.

Year	2020	2025	2030	2035	2040
High	128,310	153,318	179,327	206,066	233,862
Medium	100,926	115,142	130,284	146,103	162,900
Low	82,752	90,781	99,661	109,165	119,568

To accommodate this projected growth, Franklin County has developed a Comprehensive Plan to manage urban development across the county in an efficient and sustainable manner. The following General County Goals are identified within the plan:

- Goal 1. Urban Growth: Encourage development in urban areas where adequate public facilities exist or can be provided in a cost-efficient manner.
- Goal 2. Avoid Sprawl: The inappropriate conversion of undeveloped land must be avoided. Urban development will be confined to appropriate areas within urban growth boundaries.
- Goal 3. Property Rights: Private property rights will not be taken for public use without just compensation having been made. The property rights of land owners will be protected from arbitrary and discriminatory actions.
- Goal 4. Natural Resource Industries: Maintain and enhance natural resource-based industries including productive agriculture (cultivation and grazing), fisheries, and mineral industries. Encourage the improvement of productive agricultural lands and discourage incompatible uses.

The Franklin County Comprehensive Plan identifies areas allocated for urban development across the county. These Urban Growth Areas (UGA) include the incorporated cities and towns and most of the population in Franklin County. Each municipality has a designated Urban Growth Area. Growth in these areas consists of commercial and industrial activity and a wide range of residential densities.

Each UGA also includes unincorporated areas characterized by urban growth and/or adjacent areas within which urban infrastructure and services are provided or planned to be provided during the 20-year planning period covered in the Franklin County Comprehensive Plan. UGAs are currently designated for the cities of Pasco, Connell, Mesa, and Kahlotus.

The principal economic base in Franklin County is agriculture, which comprised about 85% of the County's land base in 2008. The current rate of new development on vacant land for residential and commercial purposes has been increasing for several years and is expected to continue. However, expansion, reconstruction, or redevelopment of existing properties is minimal. Development/Redevelopment is controlled by:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire Safety Code (Universal Fire Code)
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Participation in NFIP Program

City of Pasco Profile

Pasco is located at the confluence of the Columbia, Yakima and Snake Rivers in the southernmost part of Franklin County in southeastern Washington State. Pasco is part of the greater Tri-Cities, which includes the cities of Kennewick and Richland in Benton County. Pasco is the county seat for Franklin County and is the largest incorporated city within the County with a population of 70,579 (2010 Census Bureau 2016 projections). As such, the city contains all county and city governmental infrastructure including the county jail and courts. Pasco incorporates 33 square miles with a mixture of urban, sub-urban and rural population densities.

Pasco enjoys a diverse industrial base that includes manufacturing, transportation, agriculture (including wine making), food processing, communications, utilities and tourism. Pasco has several large consumer goods manufacturing facilities located along the major transportation corridors. The local industry includes companies like Reser's Fine Foods, Americold, Andeavor, BNSF Railway, and others. Retail and wholesale trade, financial and real estate services are also highly represented within the community.

Capabilities Assessment

Capabilities assessments were conducted for the city of Pasco. The full assessment worksheet is located in Appendix C.

Existing codes, plans, and ordinances that may have an effect on hazard mitigation planning or assist in the implementation of mitigation action items include:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire or Life Safety Code
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Municipal Code
- Flood Damage Prevention Ordinances
- Participation in NFIP Program

Development Trends

As part of the Growth Management Act, the Washington State Office of Financial Management (OFM) has provided the city of Pasco with a population growth estimate for a period ending in the year 2030. Pasco's official medium population forecast is a total of 110,192 in the incorporated area by the year 2030. The 2016 population estimate within the incorporated area is 70,579.

Pasco's Comprehensive Plan includes a land use inventory which summarizes developed and buildable lands within current City limits and the 20-year Urban Growth Area. It also provides an estimate of acres needed for development to accommodate the projected 2030 population. While the current Pasco UGA includes sufficient acres to accommodate expected industrial and commercial development, there is insufficient area to accommodate expected residential needs. Overall, the Comprehensive Plan indicates that an additional

880 acres beyond the area already included in the Pasco UGA will be required to support the expected development.

The current Pasco UGA includes the entire City of Pasco and extends beyond City limits to the east near Alderson Road, to the north around US 395 and Kau Trail Road, and to the northwest around Shoreline Road and Dent Road.

Based on the recent OFM growth projection, with sewer service capacity and planned street improvements the community can more appropriately accommodate urban growth west of Road 68. By generally extending the UGB a quarter mile north of the city limits between Road 68 and Broadmoor Boulevard and extending a half mile to a mile northwest of Broadmoor Boulevard approximately 1,128 acres land could be added to the UGA of Pasco. Of the 1,128 acres approximately 880 would be available for development. The extension of Broadmoor Boulevard is more or less the center of the described area.

The principal economic base in Pasco is agriculture, which comprised about 18% of the land base in 2008. The rate of new development has been increasing for several years to keep up with the population expansion which is expected to continue, but redevelopment or reconstruction at this time is minimal. Development/Redevelopment is controlled by:

- A building code (1997 State-approved UBC)
- A land use plan
- A zoning code
- Hazard-specific ordinance: Floods

City of Connell Profile

The City of Connell is in the north-central part of Franklin County, 32 miles north of Pasco. The population estimate is 5,414 people (2010 Census Bureau 2016 projection). First incorporated in 1910, Connell encompasses 7.87 square miles of land.

Agriculture-based industry is a major employer in the Connell area. The Con-Agra/Lamb-Weston potato processing plant, the Americold cold storage facility, and the Pioneer Hi-Bred parent seed processing facility employ a large segment of the population. Irrigated and dry-land farming are also leading industries.

Coyote Ridge Corrections Center, a Washington state men's medium/minimum-security prison, is the leading employer in Connell and the largest prison in the state.

The North Franklin School District main office is located in Connell along with four of its six schools and a bus transportation facility. The schools are a focal point in the community and the district is a major employer in the community.

Capabilities Assessment

Capabilities assessments were conducted for the city of Connell. The full assessment worksheet is located in Appendix C.

Existing codes, plans, and ordinances that may have an effect on hazard mitigation planning or assist in the implementation of mitigation action items include:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire or Life Safety Code
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Municipal Code
- Zoning Ordinances
- Flood Damage Prevention Ordinances
- Participation in NFIP Program

Development Trends

As part of the Growth Management Act, the Washington State Office of Financial Management (OFM) has provided the city of Connell with a population growth estimate for a period ending in the year 2030. Connell's official medium population forecast is a total of 8,563 in the incorporated area by the year 2030. The 2016 population estimate within the incorporated area is 5,414.

Connell's Comprehensive Plan includes a land use inventory which summarizes developed and buildable lands within current City limits and the surrounding unincorporated areas. It also provides an estimate of acres needed for development to accommodate the projected 2030 population. Even at the lowest residential density range, there is currently enough residential acreage in Connell to easily accommodate the projected population growth.

The current Connell UGA includes the entire City of Connell and extends outside City limits to the southeast along State Highway 260, connecting the southeast portion of Connell to the main body of the City. The UGA also extends beyond Connell city limits to the west along State Highway 260 and to the east in the central portion of the City around US 395.

The principal economic base in Connell is agriculture, which comprised about 50% of the land use area in 2008. New development is occurring at a moderate rate and expected to continue; thus, some of the available land is being converted into mostly residential structures. Very little redevelopment or reconstruction is occurring. Development/Redevelopment is controlled by:

- A building code (1997 State-approved UBC)
- A land use plan
- A zoning code
- Hazard-specific ordinance: Floods
- Other

City of Mesa Profile

The City of Mesa is centrally located in Franklin County, 10 miles south of Connell and 22 miles north of Pasco. First incorporated in 1955, Mesa encompasses 1.64 square miles of land. The population estimate is 486 people (2010 Census Bureau 2016 projection). Mesa is an agriculturally-based community. The South Columbia Basin Irrigation District and Simplot Soilbuilders employ a good percentage of the population. In addition, both irrigated and dry-land farming, and a nearby dairy, provide employment opportunities.

Capabilities Assessment

Capabilities assessments were conducted for the city of Mesa. The full assessment worksheet is located in Appendix C.

Existing codes, plans, and ordinances that may have an effect on hazard mitigation planning or assist in the implementation of mitigation action items include:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Fire or Life Safety Code
- Adopted Building Code (State-approved 1997 Uniform Building Code)

Development Trends

The population of Mesa reached its peak in 2012 with 501 residents and has since been in slight decline. The estimated 2016 population of Mesa was 486 which is very near the low population estimate for the City prepared by the Washington State Office of Financial Management back in 2008. Although the OFM predicted a population increase in Mesa to 646 by the year 2030, development in the area has been stagnant for the past several years.

The City of Mesa UGA encompasses the entire City and extends beyond City limits to the east, northeast, and southwest. The current extent of the Mesa UGA is 1,455 acres. In 2008, the economic base was agriculture comprising about 30% of the land use area. No significant changes have occurred or are expected. Development/Redevelopment is controlled by:

- A building code (1997 State-approved UBC)
- A land use plan
- A zoning code

City of Kahlotus Profile

The City of Kahlotus is in the northeastern portion of Franklin County, 17 miles east of Connell and 30 miles northeast of Pasco. First incorporated in 1907, Kahlotus encompasses 0.47 square miles of land. The population estimate is 189 people (2010 Census Bureau 2016 projection). Kahlotus is an agricultural processing center with a well-educated work-force and a regional wheat terminal. Dryland farming has historically constituted the majority of the local economy. Relatively little irrigated agriculture occurs in the area. The Columbia Basin Irrigation Project does not deliver water to Kahlotus.

Capabilities Assessment

Hazard mitigation capabilities include existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Kahlotus relies heavily on state and county jurisdictions for capabilities, especially emergency planning and response.

Capabilities assessments were conducted for the city of Kahlotus. The full assessment worksheet is located in Appendix C.

Existing codes, plans, and ordinances that may have an effect on hazard mitigation planning or assist in the implementation of mitigation action items include:

- Comprehensive Land Use Plan
- Adopted Land Use/Zoning Code
- Adopted Building Code (State-approved 1997 Uniform Building Code)
- Participation in NFIP Program

Development Trends

The population of Kahlotus reached its peak in 1970 with 308 residents and except for an increase between 1990 and 2000, has since been declining. The estimated 2016 population of Kahlotus was 189, which is well under the low population estimate for the City prepared by the Washington State Office of Financial Management back in 2008. Although the OFM predicted a population increase in Kahlotus to 356 by the year 2030, development in the area has been sparse and there is little indication that this will change in the near future.

The City of Kahlotus UGA encompasses the entire City and extends beyond City limits in nearly every direction. The current extent of the Kahlotus UGA is 928 acres. This is primarily a residential area at 55% of the land use. There is little to no development or redevelopment currently or expected. Development/Redevelopment is controlled by:

- A building code (1997 State-approved UBC)
- A land use plan
- A zoning code

Chapter 3 – Hazard Profiles

IN THIS SECTION:

- Drought
- Earthquake
- Fire
- Flood
- Land Movement
- Severe Storms
- Volcano
- Technological Hazards

Chapter 3
Hazard
Profiles

Drought

Drought – an extended period of abnormally low precipitation; a condition of climate dryness that is severe enough to reduce soil moisture as well as water and snow levels below the minimum necessary for sustaining plant, animal, and economic systems.

Background information and History

While drought originates from a deficiency of precipitation over an extended period of time, usually a season or more; drought is also related to the timing and the intensity or number of rainfall events. Other climactic factors such as high temperature, high wind, and low relative humidity are associated with drought in many regions of the world and can significantly aggravate the severity of a drought. Drought differs from aridity, a permanent climactic feature common to regions with low rainfall.

In 1989, the Washington State Legislature gave permanent drought relief authority to the Department of Ecology and enabled them to issue orders declaring drought emergencies. (RCW 43.83B.400-430 and Chapter 173-166 WAC) In Washington State, the statutory criteria for drought is a water supply below 75% of normal and a shortage expected to create undue hardship for some water users.

Even in the Evergreen State, droughts are a natural part of the climate cycle. In the last century, there have been a number of drought episodes, including several that have lasted for more than a single season, such as the dry periods between 1928-1932 and 1992-1994. Severe drought episodes occurred in 1977 and 2001. The 1977 event set records for low precipitation, snow-pack, and stream flow totals that still stand today. The 2001 event was the second-worst drought year in state recorded history.

Rainfall for eastern Washington during the 2001 water year was approximately 30% below normal. On March 14, 2001, after several months of record low precipitation, Governor Gary Locke authorized the Department of Ecology (Ecology) to declare a statewide drought emergency. Washington was the first Northwest state to make a drought declaration. Due to above-average precipitation in the final two months of the year, the drought emergency formally expired on December 31, 2001. The National Weather Service reported that the winter of 2000-01 was the driest since 1976-1977. It was also one of the five driest in the past 100 years.

Washington State usually experiences drought during a regional climate event characterized by a period of below-normal precipitation. While Franklin County has experienced some periods of drought in the past, these events are typically low to moderate in severity and relatively short in duration. The agricultural industry usually experiences the greatest impact from a drought event in Franklin County.

Washington state drought occurrences

(Information obtained from Washington State Military Department, Emergency Management Division)

Date	Occurrence
July-August 1921	Drought in all agricultural sections.
June-August 1922	Statewide precipitation averaged .10 inches.
March-August 1924	Lack of soil moisture retarded germination of spring wheat.
July 1925	Drought occurred in Washington.
July 21-Aug 25, 1926	Little or no rainfall was reported.

June 1928-March 1929	Most stations averaged less than 20 percent of normal rainfall for August and September and less than 60 percent for nine months.
July-August 1930	Drought affected the entire state. Most weather stations averaged 10 percent or less of normal precipitation.
April 1934-March 1937	The longest drought in the region's history – the driest periods were April-August 1934, September-December 1935, and July-January 1936-1937.
1944	Water shortages in Spokane.
Spring, 1966	The entire state was dry.
June-August 1967	Drought occurred in Washington.
January-August 1973	Dry in the Cascades.
October 1976 - September 1977	Below normal precipitation in Olympia, Seattle, and Yakima. Crop yields were below normal # 3037-EM-WA.
October 1991 – September 1994	Water supply in Yakima River Basin was 65 percent of normal.
2000 – 2001	Governor Gary Locke authorized the Department of Ecology (Ecology) to declare a statewide drought emergency. National Weather Service reported that the winter of 2000-01 was the driest since 1976-1977. It was also one of the five driest in the past 100 years.
May 2015	Governor Jay Inslee authorized the Department of Ecology (Ecology) to declare a statewide drought emergency due to snowpack being 16% of average.

Hazard Identification

When a drought begins the agricultural sectors that depend heavily on water that is stored in the soil, such as dry land wheat farmers, are usually the first sector to experience the effects of a drought. Soil water can be rapidly depleted during extended dry periods. If precipitation deficiencies continue, people dependent on other sources of water will begin to feel the effects of the shortage. Those who rely on surface water (reservoirs and lakes) and subsurface water (ground water), for example, are usually the last to be affected. A short-term drought that persists for 3 to 6 months may have little impact on these sectors, depending on the characteristics of the hydrologic system and water use requirements.

When precipitation returns to normal and meteorological drought conditions have abated, the sequence is repeated for the recovery of surface and subsurface water supplies. Soil water reserves are replenished first, followed by stream-flow, reservoirs and lakes, and ground water. Drought impacts may diminish rapidly in the agricultural sector because of its reliance on soil water but linger for months or even years in other sectors dependent on stored surface or subsurface supplies. Ground water users, often the last to be affected by drought during its onset, may be last to experience a return to normal water levels. The length of the recovery period is a function of the intensity of the drought, its duration, and the quantity of precipitation received as the episode terminates.

Earthquake

Earthquake – A sudden slip on a fault and the resulting ground shaking and radiated seismic energy caused by the slip; or by volcanic or magmatic activity; or other sudden stress changes in the earth.

Epicenter – The point on the earth's surface vertically above the focus, the point in the crust where a seismic rupture begins.

Focus – The point within the earth where an earthquake rupture starts.

Liquefaction – A process by which water-saturated sediment temporarily loses strength and acts as a fluid, like when a person wiggles their toes in the wet sand near the water at a beach.

Seiche – The sloshing action of an enclosed body or partially enclosed body of water from earthquake shaking.

Background Information and History

Washington ranks second in the nation (after California) among states susceptible to earthquake loss according to a Federal Emergency Management Agency (FEMA) study. More than 1,000 earthquakes are recorded in the state annually, the vast majority of these occurring west of the Cascade Mountains. Most of these earthquakes are so small that only very sensitive instruments can detect them – a small number of these earthquakes cause shaking and occasional damage. Depending upon the magnitude and depth of an earthquake, the effects of an earthquake can be felt over large geographical areas. Large oceanic and continental tectonic plates move over the surface of the earth at a rate of a few centimeters each year. Where these plates collide, stresses build up, eventually releasing energy as earthquakes.

Of the many earthquakes that occur near Franklin County on an annual basis, very few are large enough to cause ground shaking and property damage. However, eastern Washington has experienced damaging earthquakes. Since 1872, there have only been two significant earthquakes (magnitude >5); the Lake Chelan quake (magnitude 7.2) in 1872 and the Stateline (magnitude 6.1) earthquake near Walla Walla in 1936. Since 1997, there have been 19 notable (magnitude >3) earthquakes in eastern Washington.

In recent years, geologists have discovered evidence that large earthquakes have occurred repeatedly in the past. The interval between these large earthquakes is estimated to range from hundreds to thousands of years.

Hazard Identification

In recent years, scientists have greatly expanded their knowledge concerning the seismic vulnerability of the Pacific Northwest region. Seismologists have identified three distinct sources of earthquakes. **Shallow (crustal zone) earthquakes** that occur along near-surface faults and fractures within the Earth's crust at depths less than 30 Kilometers. These are the type of earthquake that eastern Washington would experience. Shallow earthquakes with magnitudes of up to 7 on the Richter scale can happen anywhere in southeastern Washington. Fortunately, great crustal earthquakes are quite rare and occur perhaps only once every 1,000 years. **Deep (intraplate) earthquakes** occur from faulting in the subducting Juan de Fuca plate, usually at depths between 50 and 70 kilometers of the Earth's surface. Deep or intraplate earthquakes with magnitudes ranging from 6 to 7 (or greater) on the Richter scale are of concern in western Washington. **Subduction (Subduction Zone) earthquakes** are caused by the release of the friction and stresses generated as two converging tectonic plates slide past one another. The world's greatest earthquakes are observed at subduction zone boundaries. Subduction earthquakes have the potential of being large quakes (with magnitudes exceeding 8 on the Richter scale) that may affect a large geographical area and may be

accompanied by tsunamis and large aftershocks. Subduction zone earthquakes are a major concern to the greater Puget Sound region but not to eastern Washington.

Earthquakes cause damage primarily by strong ground shaking and secondarily from the effects of ground failures as well as tsunamis and seiches. One of the largest seiches ever experienced in Washington happened upstream of Grand Coulee Dam in Lake Roosevelt (Weaver, 2004.) A large landslide fell into the Columbia River and generated a fifty-foot wave. Ground failures caused by earthquakes include fault rupture, ground cracking, slumps, landslides, rock falls, liquefaction, uplift and subsidence.

As a rule, the severity of ground shaking generally decreases with distance from the earthquake source. Given an earthquake of a certain magnitude, the severity of ground shaking will generally lessen the farther you are located from the epicenter of the earthquake or the deeper the earthquake occurs. Also, the type of soil in the affected area is another factor in how damaging an earthquake will be. Structures sitting on stiff rock are less likely to receive damage than structures sitting on sandy soils. The National Earthquake Hazard Reduction program (NEHRP) has developed a soil classification system that is used to help determine damage susceptibility based upon how the particular soil reacts to shear wave velocities experienced during an earthquake (Table 5).

Table 5: NEHRP Soil Type Classifications

Class	Site Class Description
A	Hard Rock (Eastern U. S. only)
B	Rock
C	Very Dense Soil and Soft Rock
D	Stiff Soils
E	Soft Soils
F	Soils Requiring Site Specific Evaluations

Following the Nisqually Earthquake in March 2001, the Department of Natural Resources (DNR) received grant funding through the Hazard Mitigation Grant Program (HMGP) (FEMA-1361-DRWA). This grant requires the Division of Geology and Earth Resources to develop statewide liquefaction susceptibility and NEHRP soil type maps. Earthquake hazard maps such as these support hazard mitigation, emergency planning and response, planning of local zoning ordinances, and building code enforcement. The following figures display the preliminary findings of their efforts for Franklin County.

Faults and folds are the geologic features that are of greatest concern when determining earthquake risk and the most likely locations to experience thrust earthquakes. There are only a few known faults that have been identified in southeastern Washington; some examples include the Rattlesnake Hills Fault, Umtanum Ridge System, Wallula Fault, Saddle Mountain Fault, Hite Fault, and the Horse Heaven Hills Fault. The Saddle Mountain fault is the only fault that crosses into Franklin County.

Wildfire

Structure Fire – a fire of accidental or human-caused origin that results in the uncontrolled destruction of homes, businesses, and other structures in populated, urban or suburban areas.

Wildland Fire – a fire of exposure or human-caused origin that results in the uncontrolled destruction of forests, field crops and grasslands.

Wildland-Urban Interface – a fire of natural or human-caused origin that occurs in or near forest or grassland areas where isolated homes, subdivisions, and small communities are also located.

NOTE: This section consolidates the information from the Franklin County Community Wildfire Protection Plan, 2014. For detailed information please refer to that document.

Background Information and History

In general, wildland fire behavior describes how fire reacts to available fuels, local topography, and current weather conditions. The relationships between these three components are dynamic; changing one condition can often exacerbate the affects that the other conditions have on fire behavior. As such, fire behavior is often modeled as a triangle with fuels, topography, and weather serving as the three sides. Understanding the relationships between the fire behavior components has important implications for not only managing an active wildfire but also mitigating wildfire risk. Since fuel is the only component that can be managed directly, management decisions regarding fuel types and fuel loading across the landscape need to be made based on characteristics that are inherent of the region -climate and topography. Strategic fuel breaks, conservation and restoration of native species, and prescribed burns are examples of management activities that can reduce wildfire risk and simplify the process of assessing potential wildfire behavior.

A brief description of each of the fire behavior components follows in order to illustrate their effect on fire behavior.

Weather

Weather conditions contribute significantly to determining fire behavior. Wind, moisture, temperature, and relative humidity ultimately determine the rates at which fuels dry and vegetation cures, and whether fuel conditions become dry enough to sustain an ignition. Once conditions are capable of sustaining a fire, atmospheric stability and wind speed and direction can have a significant effect on fire behavior. Winds fan fires with oxygen, increasing the rate at which fire spreads across the landscape. Weather is the most unpredictable component governing fire behavior, constantly changing in time and across the landscape.

Topography

Fires burning in similar fuel types, will burn differently under varying topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influences vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on how fires burn. Generally speaking, north slopes tend to be cooler, wetter, more productive sites. This can lead to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. In contrast, south and west slopes tend to receive more direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. The combination of light fuels and dry sites leads to fires that typically display the highest rates of

spread. These slopes also tend to be on the windward side of mountains. Thus, these slopes tend to be “available to burn” a greater portion of the year. Slope also plays a significant role in fire spread, by allowing preheating of fuels upslope of the burning fire. As slope increases, rate of spread and flame lengths tend to increase as well. Therefore, we can expect the fastest rates of spread on steep, warm south and west slopes with fuels that are exposed to the wind.

Fuels

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest-floor litter, conifer needles, and buildings are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content, and continuity and arrangement all have an effect on fire behavior. Generally speaking, the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, “fine” fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grass fires burn. As fuel size increases, the rate of spread tends to decrease due to a decrease in the surface to volume ratio. Fires in large fuels generally burn at a slower rate but release much more energy and burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control. Thus, it is much easier to control a fire burning in grass than to control a fire burning in timber. The study of fire behavior recognizes the dramatic and often-unexpected effect small changes in any single component have on how fires burn. It is impossible to speak in specific terms when predicting how a fire will burn under any given set of conditions. However, through countless observations and repeated research, some of the principles that govern fire behavior have been identified and are recognized.

Wildfire Hazards

In the 1930s, wildfires consumed an average of 40 to 50 million acres per year in the contiguous United States, according to US Forest Service estimates. By the 1970s, the average acreage burned had been reduced to about 5 million acres per year. Accounting for the substantial reduction in burned acreage was an increase in fire suppression efforts and development of firefighting equipment and strategy. Since 1970, about 3.5 million acres burn annually in the western U.S.

The potential volatility of a fire season can be predicted from winter snowfall, snowpack longevity, spring temperatures, and totals precipitation. When winter snowfall is limited and snowpack melts early due to warm spring temperatures, conditions begin to favor fire activity as fine fuels dry out and spring storms generate lightning and high winds. Additionally, human activity increases in natural areas and recreation areas in warm weather months; typically April through October in the Columbia River Basin. This increases the likelihood of a human-caused ignition, particularly in natural areas where fuels are abundant, that could result in a wildfire, threatening both populated areas and natural resources.

Unlike other natural disasters, the effects of a wildfire, with the exception of smoke and fire brands, are local and can be contained with an effective management strategy. Even if a fire is successfully contained, communities in proximity to the fire may still experience disruptions as municipal resources are diverted to

suppression efforts. Should a wildfire grow beyond the capabilities of local fire agencies, other in-state resources as well and federal resources may be requested for additional support.

In the event that a wildfire exhibits extreme activity, it may be necessary for some communities to evacuate. The evacuation of densely populated areas will require extensive traffic control, safe routes that are capable of accommodating high traffic volumes, and additional resources and facilities will be required should evacuees need emergency shelter in the event that they do not have alternate lodging options. Accommodations for evacuees will place additional demand on community resources and may further disrupt neighboring communities. Local businesses could be affected in several ways, particularly if access to business districts are limited or restricted altogether. In addition to heavy smoke, closures of natural or recreational areas may also have adverse impacts on the tourist industry.

In Franklin County, most wildland fires are started by human activity including discarded cigarettes, fireworks, outdoor burning, and acts of arson. Many of these fires are extinguished before they grow beyond a few acres in size. However, should fuels, topography, and weather promote rapid fire growth, a wildland fire can quickly spread to hundreds or thousands of acres and may require millions of dollars in resources and several months to contain.

One challenge Franklin County faces regarding the wildfire hazard is from the increasing number of homes being built in the urban/rural fringe known as the wildland-urban interface. As Franklin County's population continues to grow and rural/isolated homes with scenic views become more desirable, communities continue to expand into natural, undeveloped areas that are susceptible to wildfire. Fires in undeveloped areas can be difficult to address due to limited access and response time from fire personnel who are often located far from the fire. Lightning and human activity are the primary causes of wildland fire in Franklin County, but fires rarely become large-scale due to the availability of firefighting resources and extensive irrigation occurring across the landscape.

Franklin County had not experienced any large-scale wildfires until the Kahlotus Fire of 2016. The fire burned nearly 6,000 acres and threatened the town of Kahlotus. Franklin County typically has several small rural wildfires each year. These fires are typically less than 5 acres in size and require minimal resources to control.

Fire History

Historically, most plant communities in the state of Washington were fire-adapted and regularly burned. Frequent, low intensity fires limited fuel accumulation across the landscape and contributed to the distribution of native, fire-adapted plant communities. In contrast to modern day conditions, fire return intervals (the amount of time between fires in a defined area) were shorter but fires burned with less intensity.

Shorter return intervals between fire events often resulted in less dramatic changes in plant composition. Across the landscape, fire typically burned 1 to 50 years apart in a given areas with most fire returning between 5 and 20 years. With infrequent return intervals, plant communities tended to burn more severely and were replaced by vegetation different in composition, structure, and age. Native plant communities in this region developed under the influence of fire, and adaptations to fire are evident at the species, community, and ecosystem levels.

Fire history for Franklin County is largely unknown, but large fires that have occurred since the 1970's have been mapped (Figure 3). Local knowledge suggests that Native Americans did frequently perform burns which played an important role in shaping the vegetation throughout the county. The Bureau of Land Management is helping to fund future research to further map fire history in central Washington through fire scars and charcoal deposits. Although this data is not available for the development of this document, it should be available for a future update of this plan.

The DNR and BLM (1994-2013) database of wildfire ignitions used in this analysis includes information for the extent and location of wildfires that occurred within DNR and BLM jurisdictions (It is important to note that the dataset does not include fires that happened beyond DNR and BLM jurisdictions). From 1994 to 2013, the agencies recorded an average of 1.5 wildfire ignitions per year resulting in an average total burn area of 1,815 acres per year. According to the data, the majority of fires that occurred in Franklin County were related to human activity while others originated naturally or the source of ignition was unknown. There were four fires in Franklin County in 2003; the most to occur in one fire season. The greatest number of acres burned in a single year in Franklin County occurred during the 2007 fire season with over 18,000 acres burned.

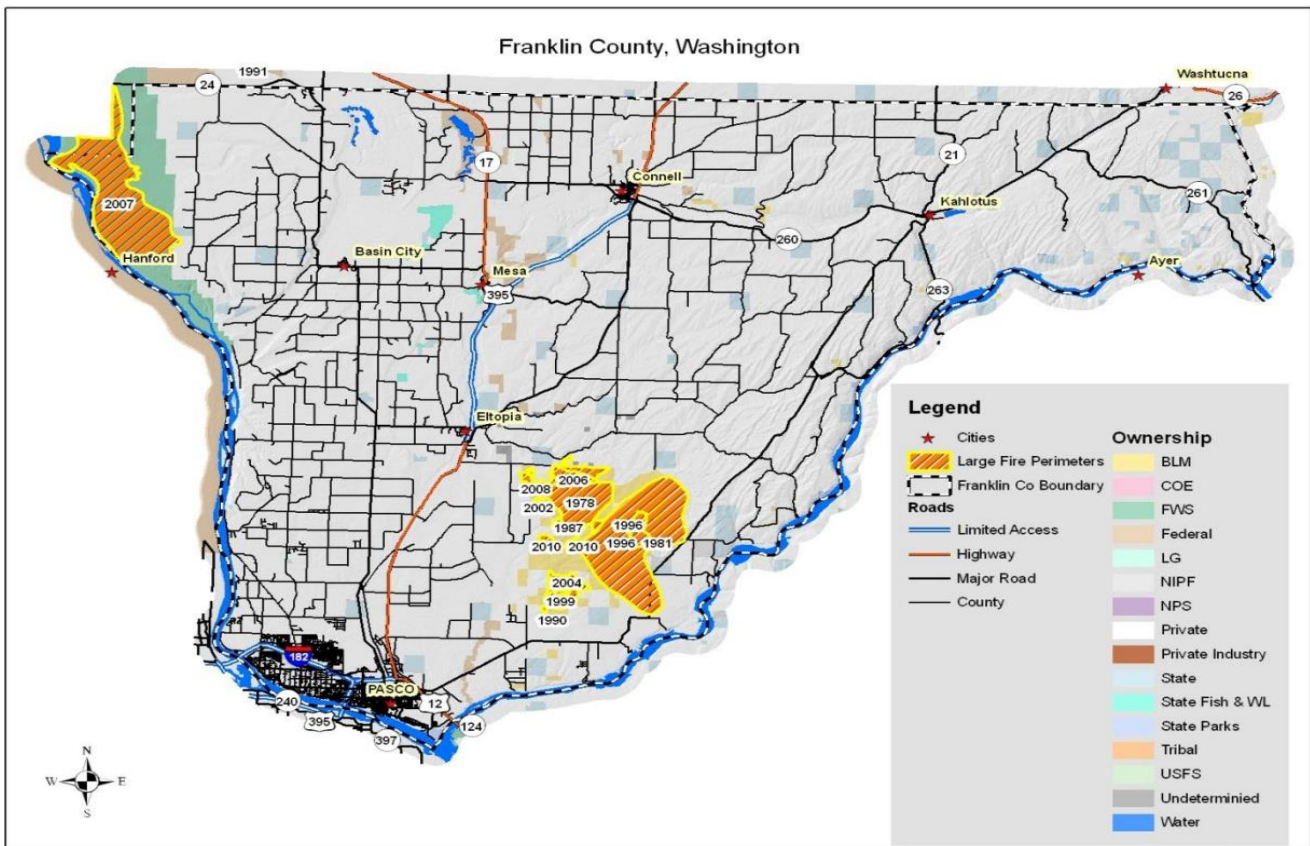


Figure 3: Fire History in Franklin County, WA.

Hazard Identification

Historic Fire Regime

Historical variability in fire regime is a conservative indicator of ecosystem sustainability, and thus, understanding the natural role of fire in ecosystems is necessary for proper fire management. Fire is one of the dominant processes in terrestrial systems that constrain vegetation patterns, habitats, and ultimately, species composition. Land managers need to understand historical fire regimes, the fire return interval (frequency) and fire severity prior to settlement by Euro-Americans, to be able to define ecologically appropriate goals and objectives for an area. Moreover, managers need spatially explicit knowledge of how historical fire regimes vary across the landscape.

“Natural” fires in Franklin County would have been disproportionately caused by Native Americans. Aboriginal peoples intentionally set fires throughout the region for the purposes of controlling tree and shrub expansion and for the cultivation of select plants. When we describe “natural” in the Range of Natural Variability we are including indigenous peoples as natural disturbance agents and contributors to perceptions of what is “natural”.

A primary goal in ecological restoration is often to return an ecosystem to a previously existing condition that no longer is present at the site given the assumption that the site’s current condition is somehow degraded or less desirable than the previous condition and needs improvement.

Land managers in Franklin County must determine if the past, Native American-influenced condition of the County was necessarily healthier, had a higher level of integrity, and was more sustainable than the current condition. In other words, is “restoration” an appropriate course of action? After a prolonged absence, if fire is reintroduced to these ecosystems the result could be damaging. Fuel loads throughout most of the County today are quite high, a consequence of extensive human activity and an increase in development and infrastructure. The ecosystem was adapted to fire in the past, but is no longer adapted today, especially in light of the human component.

In the absence of intensive Native American burning, a condition has developed where fire could/should not be reintroduced without some significant alteration of the current ecosystem structure. This would also require a significant assessment of social acceptance and financial contribution.

Many ecological assessments are enhanced by the characterization of the historical range of variability which helps managers understand: (1) how the driving ecosystem processes vary from site to site; (2) how these processes affected ecosystems in the past; and (3) how these processes might affect the ecosystems of today and the future. Historical fire regimes are a critical component for characterizing the historical range of variability in fire-adapted ecosystems. Furthermore, understanding ecosystem departures provides the necessary context for managing sustainable ecosystems. Land managers need to understand how ecosystem processes and functions have changed prior to developing strategies to maintain or restore sustainable systems. In addition, the concept of departure is a key factor for assessing risks to ecosystem components. For example, the departure from historical fire regimes may serve as a useful proxy for the potential of severe fire effects from an ecological perspective.

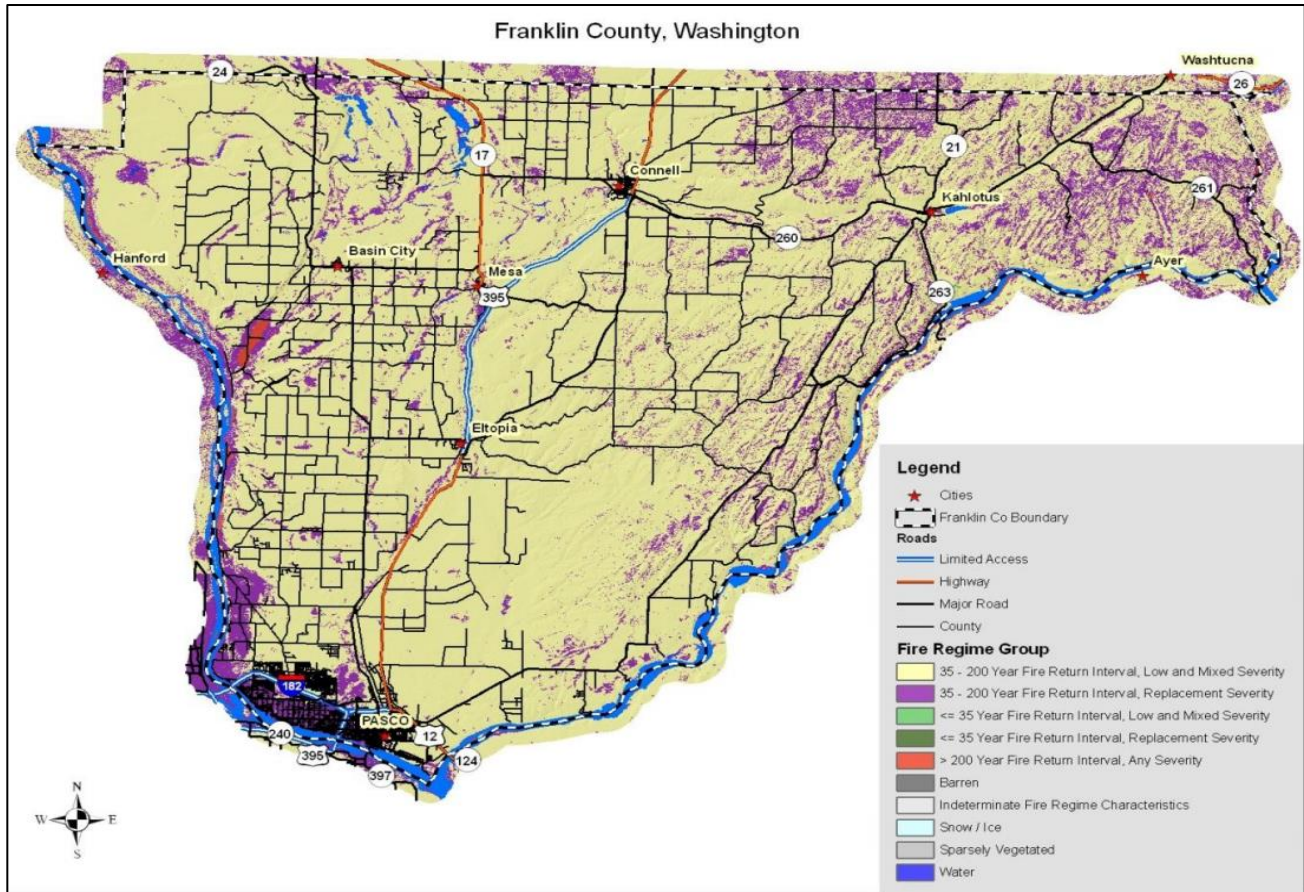


Figure 4: Historic Fire Regime for Franklin County, WA.

This model only uses the historic vegetation types to determine the historic fire regime. Native Americans reportedly burned throughout the county on a regular basis. The vegetation types were much different pre Euro-American settlement than they are today and believed to be a more grassland-dominated landscape. The Historic Fire Regime model suggests that fires in Franklin County historically burned with mixed severity fires on a longer return interval. The dry climate of this region likely contributed to sparse vegetation which would not have frequently carried fire.² The longer time between fires may allow fuels to build-up, which can burn very intensely when conditions are dry. For this reason, it may be reasonable to assume that a majority of the areas in the County that have been categorized as having a 35 to 200 year historical return interval with mixed severity fires (Figure 4), could likely be stand replacing fires with the current accumulation of fuels.

² Guyette, R.A.; Stambaugh, M.C.; Marschall J. M. 2010. Quantitative Analysis of Fire History at National Parks in the Great Plains. Final Report for: USGS – NRPP (06-3255-0205Guyette). Missouri Tree-Ring Laboratory, Department of Forestry, University of Missouri-Columbia. 138pp.

Vegetation Condition Class

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning. Coarse scale definitions for historic fire regimes have been developed by Hardy et al and Schmidt et al and interpreted for fire and fuels management by Hann and Bunnell. A vegetation condition class (VCC) is a classification of the amount of departure from the historic regime. The three classes are based on low (VCC 1), moderate (VCC 2), and high (VCC 3) departure from the central tendency of the natural (historical) regime. The central tendency is a composite estimate of vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated natural disturbances. Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside. An analysis of Vegetation Condition Classes in Franklin County shows that the majority of land in the county that has not been converted to agriculture (52%) is considered highly departed (38%) from its historic fire regime and associated vegetation and fuel characteristics (Table 6). Approximately 2% has a low departure and less than 1% is considered moderately departed.

Table 6: Summary of Vegetation Condition Class for Franklin County, WA.

Vegetation Condition Class	Description	Acres	Percent of Total
Vegetation Condition Class I	Low Vegetation Departure	17,107	2%
Vegetation Condition Class II	Moderate Vegetation Departure	6,614	< 1%
Vegetation Condition Class III	High Vegetation Departure	307,001	38%
Agriculture	Agriculture	422,650	52%
Water	Water	15,829	2%
Urban	Urban	39,924	5%
Barren	Barren	252	< 1%
Sparsely Vegetated	Sparsely Vegetated	91	< 1%
	Total	809,467	100%

The current Vegetation Condition Class model shows that much of Franklin County is considered to be highly departed (Figure 5). A majority of the County is dominated by various shrub species with a grass understory consisting of bluebunch wheatgrass, Idaho fescue, and many other grass species. The current structure and density of the shrublands in many areas makes it susceptible to health issues from competition, insects, and disease. The current fire severity model suggests that a higher severity fire than historical norms would be expected in these areas.

Franklin County, Washington

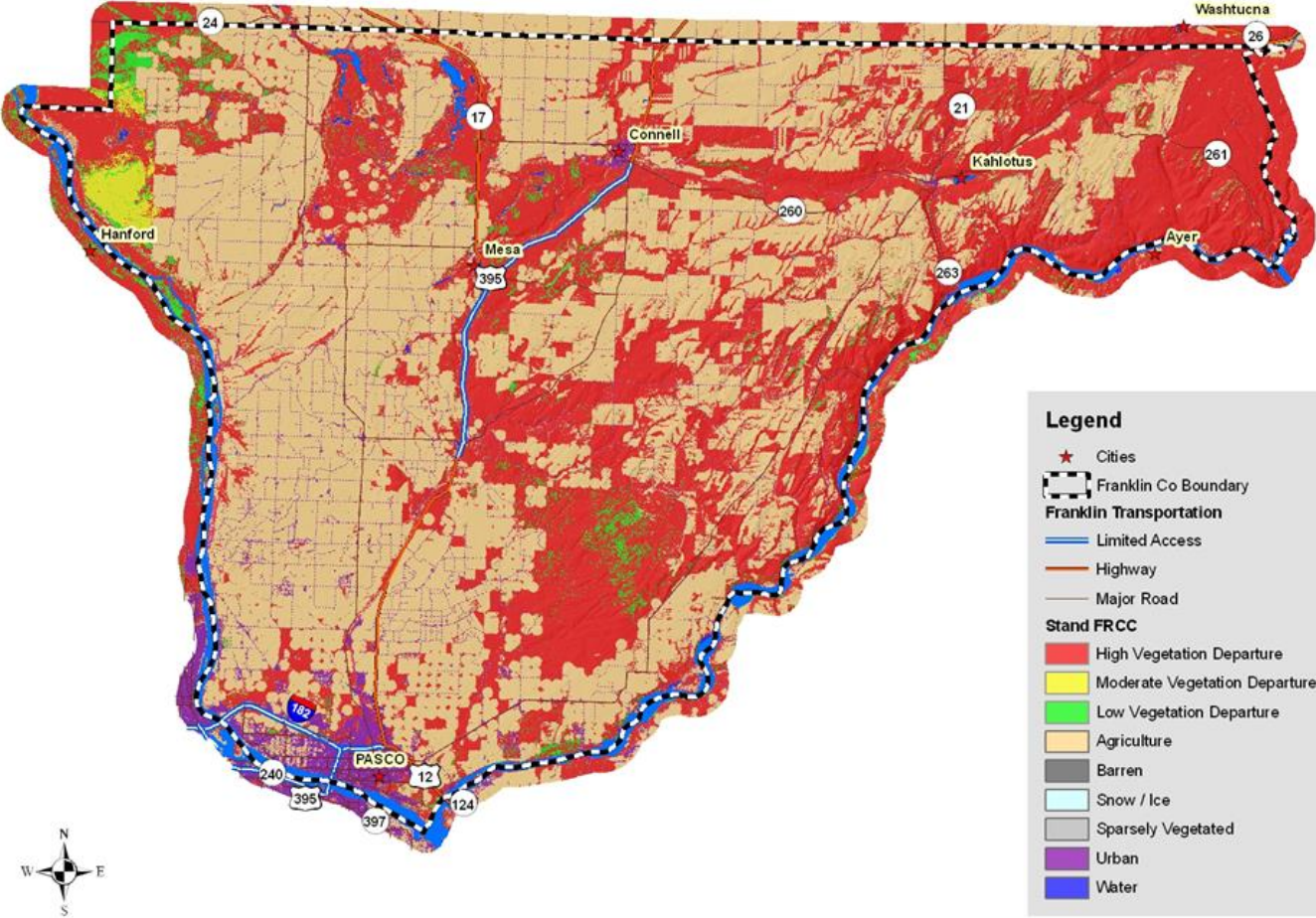


Figure 5: Vegetation Condition Class for Franklin County, WA.

Flood

Flood – An inundation of dry land with water caused by weather phenomena and events that deliver more precipitation to a drainage basin than can be readily adsorbed or stored within the basin.

Flood Watch – Issued by the National Weather Service when the probability of a hazardous flooding event has increased significantly but its occurrence, location, or timing is still uncertain. The public can set their plans in motion to prepare for the event. A Flood Watch is issued from 12 to 36 hours before the occurrence of the event.

Flood Warning – Issued by the National Weather Service when a hazardous flooding event is occurring, is imminent, or has a high probability of occurrence within 12 hours. A Flood Warning is issued for conditions posing a threat to life and/or property.

Flood Stage – A height at which a watercourse overtops its banks and begins to cause damage to any portion of the river valley.

Floodplain – The land area of a river valley that becomes inundated with water during a flood.

Floodway – That portion of the natural floodplain that is regularly inundated during the normal annual flood cycles of a river or stream. For most waterways, the floodway is where the water is likely to be deepest and fastest. It is the area of the floodplain that should be kept free of obstructions to allow floodwaters to move downstream.

100-Year Floodplain – The portion of the floodplain that would be inundated by water during a 100-Year Flood event.

500-Year Floodplain – The portion of the floodplain that would be inundated by water during a 500-Year Flood event.

National Flood Insurance Program (NFIP) – A Federal program enabling property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. Participation in the NFIP is based on an agreement between local communities and the Federal Government which states if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas, the Federal Government will make flood insurance available within the community as a financial protection against flood losses.

Community Rating System (CRS) – A voluntary program within the NFIP that encourages and recognizes community floodplain management activities that exceed the minimum NFIP standards for local mitigation, outreach, and education. Under the CRS, flood insurance rates are adjusted to reflect the reduced flood risk resulting from community activities that reduce flood losses, facilitate accurate insurance rating, and promote the awareness of flood insurance. Currently, Franklin County does not have any jurisdiction that participates in the CRS program.

Background Information and History

Flooding occurs on rivers and streams when excessive water discharge causes river or stream channels to overflow. The Columbia River, Snake River and Esquatzel Coulee are all susceptible to flooding.

The threat of flooding in Franklin County is greatest in the months of December through March, although flood events may occur during other months of the year. Winter flood events have the potential to produce

the highest peak flows when significant snowfall is present, followed by rapidly rising temperature and/or heavy rain. In addition, increased flow rates from the hydroelectric dams further increase the potential of flooding due to their effect on river discharge flows. The Columbia River is the second largest river system in the United States behind the Mississippi River. From its source in Canada, the Columbia River flows 1,243 miles and empties into the Pacific Ocean at Astoria, Oregon. The river drains an area of approximately 250,000 square miles.

The Snake River runs along the eastern boundary of Franklin County and includes two dams operated by the US Army Corps of Engineers. The height and composition of the terrain on the Franklin County side of the Snake River makes it very unlikely that Franklin County would ever receive much, if any, damage from a flood. Walla Walla County is far more susceptible to flood damage from the Snake River.

The Esquatzel Coulee is located in the central portion of the county. It starts in Connell at the confluence of the Washtucna Coulee from the northeast via Kahlotus, the Providence Coulee from the north in Adams County and the Othello Channels from the northwest. Additionally, the Old Maid and Dunnigan Coulees join from the east. The Esquatzel Coulee runs south from Connell following the general path of US 395, through Mesa and Eltopia, and ends just north of Pasco.

The Columbia River has a history of flood events. Floods have occurred in 1894, 1948, 1964, 1974, 1979 and 2017. Since several dams have been erected in the Columbia and Snake Rivers, the likelihood of river flooding occurring has been drastically reduced. The Esquatzel Coulee also has a history of flooding. Newspaper articles and photographs recorded Esquatzel Coulee flooding in 1907, 1956 and 1969. Of all the recorded floods in Franklin County, only four have resulted in Disaster Declarations.

(Information obtained from Washington State Emergency Management Division files)

- May 1948 – Property damage in Benton and Franklin counties totaled approximately \$702,000 in 1948 dollars.
- February 1956 – (Major Disaster Declaration #50) Flooding due to heavy snowfall followed by rapid raise in temperature. No public or individual assistance records available.
- March 1979 – (Emergency Disaster Declaration #3070) Flash Flood in Mesa. Locally declared emergency. No public or individual assistance records available.
- December 96 – February 1997 (Major Disaster Declaration #1159) – Public Assistance \$350,912 (Does not include Individual Assistance or Small Business Administration Loans Information)
- January 30 - April 21, 2017 (Major Disaster Declaration #4309-DR) – Total Public Assistance cost estimate \$26,612,080 (Does not include Individual Assistance or Small Business Administration Loans Information)

Hazard Identification

While dikes and other flood management devices have controlled much of the flood threat to Franklin County jurisdictions, these devices have also contributed to the vulnerability of the citizens and business located within these floodplains. Without the flood control management structures, minor flooding would occur on a much more frequent basis. The “inconvenience” of minor flooding would have most likely encouraged residential and commercial development to be located on higher ground and out of flood hazard areas.

With the flood control devices in place, the “inconvenience” of minor flood events has been minimized and the residents and business owners of Franklin County have perhaps gained a false sense of security - they may mistakenly assume that these devices will protect them from all floods in addition to the smaller, more frequent events. It should be noted that even though the floodplains of Franklin County only comprise 2.5% of the total land area, approximately 1500 people or about 3% of the population of Franklin County live within the floodway and the floodplain of the Columbia River or Esquatzel Coulee. Major intersections of our transportation and communication infrastructure are also located in the floodplain. A major Columbia River flood event that causes portions of the City of Pasco to be inundated with water has the potential to severely impact the overall economy of Franklin County as well as other communities within the Tri-Cities region.

While the Columbia River poses a flood threat in the southern portion of the county, the Esquatzel Coulee, located in the central and northern portion of the county, poses a significant threat of its own. This coulee does not have any flood control measures in place other than some floodway structures located in Mesa. The coulee has a history of flooding areas of Mesa, Connell, and Eltopia.

Land Movement

Alluvial Fan – the alluvial deposit of a stream where it issues from a gorge upon a plain or of a tributary stream at its junction with the main stream.

Landslide – ground movement that may include rock falls, deep failure of slopes, and shallow debris flows.

Swale - a low-lying or depressed and often wet stretch of land.

Background Information and History

Landslides occur in every state and U.S. territory. The Appalachian Mountains, the Rocky Mountains and the Pacific Coastal Ranges and some parts of Alaska and Hawaii have severe landslide problems. Any area composed of very weak or fractured materials resting on a steep slope can and will likely experience landslides. Although the physical cause of many landslides cannot be removed, geologic investigations, good engineering practices, and effective enforcement of land-use management regulations can reduce landslide hazards.

USGS scientists continue to produce landslide susceptibility maps for many areas in the United States. In every state, USGS scientists monitor stream flow, noting changes in sediment load carried by rivers and streams that may result from landslides. Hydrologists with expertise in debris flows and mudflows are studying these hazards in volcanic regions. The force of gravity acting on a steep slope is the primary reason for a landslide. However, there are other contributing factors that may include but are not limited to:

- Erosion by rivers or streams that undercut steep slopes.
- Weakening of rock and soil slopes through saturation by heavy snowmelt or irrigation.
- Ground movement due to earthquakes.
- Ground failure due to excessive weight from the accumulation of rain or snow; stockpiling of rock, ore, or waste piles; or large man-made structures.

Deep-seated landslides are found along the slopes of the shoreline, often referred to as ancient landslides, which may become active in particularly wet conditions. These large landslides range in size from less than an acre to several acres and may extend over a mile of shoreline. **Shallow landslides** with debris avalanches are the most common type, typically occurring during prolonged periods of heavy soil saturation from rain, snowmelt or irrigation, and involve a relatively thin layer of extremely dangerous wet soil and vegetation that can travel quickly with destructive force. **Mid-slope benches** can be hazardous slide areas. These relatively level benches on an otherwise steep slope may indicate past slope movement. **Shoreline or steep inland areas** are periodically struck with very large, rapid landslides. These large slumps or slides can cut 50 or more feet into the upland and involve tens of thousands of tons of earth.

Slope material that becomes super-saturated with water may develop into a debris flow or mud flow as it moves downhill. These flows generally occur during periods of intense irrigation or rapid snowmelt. Debris flows usually start on steep hillsides as shallow landslides that liquefy and accelerate to speeds that are typically about 10 miles per hour but can exceed 35 miles per hour. The consistency of debris flow ranges from watery mud to thick, rocky mud that can carry large items such as boulders, trees, and cars. These flows continue flowing down hills and through channels, growing in volume with the addition of water, sand, mud,

boulders, trees, and other materials. When these flows reach canyon mouths or flatter ground, the debris spreads over a broad area, sometimes accumulating in thick deposits that can damage developed areas.

Franklin County has some areas that exhibit steep terrain, are heavily irrigated and have an abundance of weak soils. All this combines to make portions of the county susceptible to land movements. It is important to note that not all of the conditions listed above guarantee that a landslide will occur just like assuming that a landslide will occur only if all of the conditions above have been met. Franklin County has had landslides in the past. Evidence is clearly present along the high cliffs and steep slopes of the Columbia and Snake Rivers. Additionally, inland portions of the county, particularly in the northeastern portion of the county, have some high slope areas that are susceptible to landslides. Two notable landslides that recently occurred in Franklin County are pictured below. One occurred during the irrigation season of May 2006 and covered state highway State Route 170 (Figure 6). The other landslide occurred along the White Bluffs along the Columbia River in August 2008.



Figure 6: 2006 Road 170 Landslide (left); and August 2008 Columbia River Landslide (right).

Hazard Identification

Some landslides move slowly and cause damage gradually, whereas others move so rapidly that they can destroy property and take lives suddenly and unexpectedly. Debris flows, sometimes referred to as mudslides, mudflows, lahars, or debris avalanches, are common types of fast moving landslides. These flows generally occur during periods of intense rainfall or irrigation or when there is a rapid snowmelt. They usually start on steep hillsides as shallow landslides that liquefy and accelerate to speeds that are typically about 10 mph, but can exceed 35 mph. The consistency of a debris flow ranges from watery mud to thick, rocky mud that can carry large items such as boulders, trees, and cars. Debris flows from many different sources can combine in channels where their destructive power may be greatly increased. They continue flowing down hills and through channels, growing in volume with the addition of water, sand, mud, boulders, trees, and other materials. When the flows reach canyon mouths or flatter ground, the debris spreads over a broad area, sometimes accumulating in thick deposits that can wreak havoc in developed areas. Areas that have experienced landslides in the past tend to be most susceptible to future landslides, especially during periods of rapid snowmelt or heavy irrigation. Because these areas consist of broken materials and frequently involve

disruption of ground water flow, these dormant sites can be more vulnerable to slides caused by construction activities than adjacent, undisturbed soil.

The Franklin Conservation District states that geologic hazards in the county are related to landslides occurring in the steep bluffs along the Columbia River and in Ringgold Coulee. They have attributed landslides in the steep bluffs along the Columbia River to three factors: (1) undercutting of the toe of the White Bluffs by the Columbia River, (2) unstable nature of the Ringgold formation (stratified fluvial-lacustrine deposits overlying Columbia River Basalt), and (3) increase in groundwater table since the Columbia Basin project became operational.³

Hays and Schuster (1987) note that active landslides are occurring at Locke Island (north of White Bluffs Ferry Landing) and Savage Island (north of Ringgold Flat) along the Columbia River. Both of the landslide areas are a result of irrigation from the Columbia Basin Project. They also state that evidence is present that confirms the presence of inactive landslides along the Franklin County side of the Columbia River.⁴

³ Marrat, W. J.,(1988). *Study of Landslides Along the Columbia River in the Block 15 Area of Franklin County, Washington*. Pasco, Washington: Franklin Conservation District

⁴ Schuster, R.L. & Hays, W.H. (1984). *Irrigation-Induced Landslides in Soft Rocks and Sediments along the Columbia River, South-Central Washington State, U.S.A.* Reprinted from the IV International Symposium on Landslides Toronto 1984 Proceedings, Vol. I, pp431-436

Severe Storms

Blizzard – sustained wind or frequent gusts to 35 mph or greater and considerable falling and /or blowing snow that frequently reduces visibility to less than one quarter-mile.

Dust Storm – a storm of dust and debris blown by wind gusts of at least 35 mph, or caused by a downburst from a dry thunderstorm that reduces visibility to less than one quarter mile.

Heavy Snow – accumulations of 4 inches or more of snow in 12 hours or 6 inches or more of snow in 24 hours in non-mountainous areas; accumulations of 8 inches or more of snow in 12 hours or 12 inches or more of snow in 24 hours in mountainous areas.

High Wind – sustained wind at greater than 40 miles per hour and/or gusts to greater than 58 miles per hour.

Severe Local Storm – an atmospheric disturbance manifested in strong winds, tornadoes, rain, snow, or other precipitation (hail, sleet, ice), and often accompanied by thunder or lightning.

Severe Thunderstorm – a storm that produces hail $\frac{3}{4}$ inch in diameter or larger and/or wind gusts of 58 miles per hour or more.

Thunderstorm – a local storm usually with gusty winds, heavy rain, and sometimes hail and accompanied by lightning.

Tornado – a violently rotating column of air attached to a thunderstorm and in contact with the ground.

Background Information and History

The climate of Washington State, including Franklin County) is regulated by two primary factors:

- The strength of the jet stream or the storm track.
- The degree to which the orographic effect of the Cascade Mountain influences the flow of maritime and continental air masses.

The jet stream affects the weather of Washington State much of the year, growing stronger as autumn progresses, reaching maximum strength in winter, and subsiding again in spring. In summer, the jet stream is usually very weak and is displaced to the north over Canada. Rainfall in the summer is infrequent and temperatures across the region are determined by the extent of marine air mass intrusions from the coast. Typical summer rainfall consists of showers and associated thunderstorms coming up from Oregon. The amount of shower activity is dependent upon the degree to which hot air masses with monsoon moisture work their way north from the desert southwest.

The strength, position, and orientation of the jet stream can change from year to year. This is the reason some winters are mild and comparatively dry, while others are cold and wet. The semi-permanent winter low-pressure system in the Gulf of Alaska and the jet stream are also influenced by factors such as El Nino and La Nina. Southeastern Washington receives most of its precipitation during the winter and early spring. When the jet stream sags south of Washington State, cold, dry wintertime continental air masses can sometimes blanket the entire Columbia Basin region.

Franklin County can experience all types of severe weather except hurricanes, although on occasion, windstorms exceed hurricane force winds. There have been some tornado sightings, albeit infrequently. On average, Franklin County experiences less than 10 thunderstorm days each year.

Most storms move into Franklin County with a southwest to northeast airflow. On occasion however, wind and snow events move into the county from the north accompanied by cold, arctic air. Windstorms with sustained winds of 50 miles per hour or greater occur somewhat regularly and are powerful enough to cause significant damage. Most of these storms cause transportation-related problems and damage to utilities. On occasion, homes and other structures are damaged either by high winds or falling trees. Due to its geographical position, Franklin County experiences all types of weather events, especially damaging wind. Furthermore, the varied topography that exists within Franklin County can generate variable wind patterns and locally accelerated winds. Likewise, the central and northern portions of Franklin County can also experience locally accelerated winds.

While there have been many severe storms that have impacted Franklin County, a few of the most notable storms to affect Franklin County were the 1948 Columbia River Flood, the January 1950 Blizzard, and the December 1996-January 1997 Winter Storm and Flood. A more complete listing of these types of events is described below.

- January 1929 – An extreme cold front moved into the Columbia Basin. Many homes damaged by broken pipes. The Columbia River froze over.
- December 1935 – Another severe cold front moved in from the Canadian Arctic. Extremely cold temperatures experienced from -10E to -20E ranges for a long period of time. The Columbia River froze over again.
- May/June 1948 – Greatest Spring Snowmelt Flooding: Snowmelt flooding on the Columbia River affected Pasco and other low lying areas along the Columbia River. The flood lasted for 45 days.
- January 1949 – An “arctic blast” moved down from Canada bringing extremely cold temperatures. The Columbia River froze over. The Tri-City Herald prints pictures of people driving vehicles over the ice between Kennewick and Pasco.
- January 13, 1950 – The January 1950 Blizzard: A massive winter storm caused blizzard conditions in much of eastern Washington. Record snow fall and a long period of subzero temperatures occurred throughout the Columbia Basin. Several dozen fatalities occurred.
- December 1996 & January 1997 – Snow & Wind: Heavy accumulations of snow fell throughout eastern Washington including Franklin County. Franklin County received several days’ accumulation of snow followed by high winds and rain. (FEMA Disaster Declaration #1159).
- January 30 - April 21, 2017 (Major Disaster Declaration #4309-DR) – Heavy snowfall, rain and melting. Total Public Assistance cost estimate \$26,612,080

Dates and frequency of severe storm events were obtained from the Special Hazard Events and Losses Database for the United States (SHELDUS) developed by the Hazard Research Lab at the University of South Carolina and from the National Climatic Data Center (NCDC) of the National Oceanic and Atmospheric Administration (NOAA.)

SHELDUS uses a variety of NOAA data sources. It covered severe weather events from 1960 through 2000 that caused more than \$50,000 in property and/or crop damage. Of the 80 events listed in SHELDUS, there were 39 high wind events, 11 thunderstorms, 8 floods, 17 winter weather events, 1 tornado, 1 volcanic event, 1 hailstorm, and 1 fog event.

Hazard Identification

The impacts on Franklin County resulting from a severe storm such as a thunderstorm, tornado, windstorm, ice storm, or snowstorm are likely to be similar in nature. Downed trees and power lines, the interruption of transportation routes, and damage to homes, businesses, and governmental buildings are all possible. Fatalities as a result of such events are uncommon in Franklin County, but they can occur. Electrical power outages are common with almost all types of severe storm events. Possible problems may be loss of heat, refrigeration, light, cooking, computers, cash registers, gasoline pumps, restaurant cooking, milking machines, chicken warmers, and green houses. In addition, persons could be electrocuted by coming in contact with downed electrical lines.

High Wind: Possible hazards or problems may be loss of power and phone lines, danger of fire and electrocution. Toppled trees, broken limbs, collapsed barns, damage to residential and commercial structures as well as damage to cars, trucks and trailers. Multiple vehicle accidents with injuries and deaths from blowing dust. Extremely violent wind storms could cause damage to large areas of the agricultural lands resulting in economic losses.

Lightning: Hazard areas may be sports venues and complexes such as soccer fields, football fields, baseball fields and golf courses that are without adequate shelter for participants and spectators. Lightning may cause electrical transformers to short resulting in power outages and/or fires in trees located near power lines. Boaters and those persons working outdoors are also vulnerable to lightning strikes. Lightning can also start fires in grassland areas.

Snow and/or Ice: The majority of problems associated with heavy accumulations of snow and/or ice will most likely be transportation related. Vehicle travel on roadways may be stopped or severely limited; essential government services and businesses may be closed because employees are unable to drive to work. Special transportation may need to be provided in order to ensure that hospital and emergency services personnel can report to work. There is a danger to the traveling public who may become trapped in their vehicles for an extended period of time. The weight of heavy accumulations of snow and/or ice may cause roofs to collapse and trees to fall causing damage to power lines. A rapid warming trend following large accumulations of snow and ice can lead to flooding.

Hail: The main hazard associated with hail is the damage that falling hail, particularly hail larger than $\frac{3}{4}$ inch, can inflict upon physical structures (i.e. windows, gutters, metal roofs, vehicles), farm products (livestock and crops), and people. Hail is closely associated with thunderstorms. Hazard areas are any area that is out in the open such as outdoor sport facility, pastures, parking lots, etc.

Tornado: The primary hazard associated with a tornado is the extreme wind velocities that they produce. Wind speeds up to 300 mph are possible. The winds from a tornado are extremely destructive. Not only do they tear apart buildings and uproot trees, but the debris causes collateral damage due to the speed and which it moves. No above ground structure is immune from the effects of a tornado.

Dust Storm: The primary hazard from a dust storm is the reduced visibility that it produces especially on roads and flight paths. Other effects include respiratory distress to people and livestock, damage to crops and removal of topsoil from farmland.

Volcano

Debris Flow – fast-moving slurry of rock, mud, and water that looks and behaves like flowing wet concrete; similar to, but coarser and less cohesive than a mudflow.

Pyroclastic Flow – a hot, fast-moving avalanche of ash, rock fragments and gas that moves down the sides of a volcano during explosive eruptions or when the steep edge of a dome breaks apart and collapses.

Tephra – fragments of rock and natural glass that is blasted from a volcano during a violent eruption and then falls to Earth.

USGS – United States Geological Survey

Volcanic Ash – small fragments of rock and natural glass that is blasted from a volcano during a violent eruption and then falls to Earth. During large events, volcanic ash can travel hundreds of miles.

Volcano – a vent in the earth's crust through which magma (molten rock), rock fragments, gases, and ashes are ejected from the earth's interior. A volcanic mountain is created over time by the accumulation of these erupted products on the earth's surface.

Background Information and History

The Cascade Range extends more than 1,000 miles forming an arc-shaped band extending from southern British Columbia to Northern California lying roughly parallel to the Pacific coastline and includes 16 major volcanic centers. In addition to the standard volcanoes in the Cascade Range, a stretch of these volcanoes (from about Mount Rainier to Lassen Peak) is made up of a band of thousands of very small, short-lived volcanoes that have built a platform of lava and volcanic debris. Rising above this volcanic platform are a few strikingly large volcanoes that dominate the landscape. The Cascades volcanoes define the Pacific Northwest section of the "Ring of Fire", a fiery array of volcanoes that rim the Pacific Ocean. Many of these volcanoes have erupted in the recent past and will most likely be active again in the future. Given an average rate of two eruptions per century during the past 12,000 years, these disasters are not part of our everyday experience.

While there are no volcanic peaks within Franklin County, the County can be affected by tephra associated with a volcanic eruption from the Cascade Range volcanoes. All of the other hazards associated with volcanoes (pyroclastic flow, lahars, lateral blast, lava flow, etc.) are too remote to be considered a serious threat to Franklin County. Therefore, for the purposes of this Plan, we will only focus on the volcanic hazards associated with tephra.

Geologic evidence indicates that most of the Cascade Range volcanoes have erupted in the past 4,000 years and will no doubt erupt again in the foreseeable future. Due to the topography of the region and the prevailing weather patterns, eruption events on Mount St. Helens, Mount Rainier, Mount Hood, and Mount Adams are the volcanoes most likely to produce conditions that would adversely impact portions of Franklin County.

Eruptions in the Cascades have occurred at an average rate of 1-2 per century during the past 4,000 years, and future eruptions are certain. Seven volcanoes in the Cascades have erupted within the past 225 years. Four of those eruptions would have caused considerable property damage and loss of life if they had occurred today, particularly without warning. The next eruption in the Cascades could affect hundreds of thousands of people.

The most recent volcanic eruption events within the Cascade Range occurred at Mount St. Helens in Washington (1980-1986) and at Lassen Peak in California (1914-1917).

Mount St. Helens

With an elevation of 8,364 feet, Mount St. Helens (Figure 7) is small compared to the other Cascade Range volcanoes. Her size belies her robustness. She is the most active of all of the Cascade Range volcanoes. Mount St. Helens is the most prolific producer of tephra in the Cascade Range. As reported by the USGS, volcanoes commonly repeat past behavior.⁵ It is quite likely that the conditions and impacts experienced during the May 1980 eruption will be similar the next time Mount St. Helens erupts.



Figure 7: Mount St. Helens, WA.

Mount Adams



Figure 8: Mount Adams, WA.

As one of the largest volcanoes in the Cascade Range, Mount Adams (Figure 8) soars 12,277 feet into the air. It dominates the skyline of south central Washington. As detailed in USGS research⁶, Mount Adams is of primary concern to Yakima, Klickitat, and Skamania counties due to the high potential of debris avalanches and lahars. While not as large of a tephra producer as Mount St. Helens, Mount Adams is still a threat. During much of its history, Mount Adams has displayed a relatively limited range of eruptive styles. Highly explosive eruptions have been rare. Compared to the tens of large explosive eruptions at nearby Mount St. Helens during the past 20,000 years, eruptions of Mount Adams have been meek.⁷

⁵ Wolfe, W.E. and Pierson T. C., 1995, USGS Open-File Report 95-497.

⁶ Scott, et al., 1995, USGS Open-File Report 95-492.

⁷ Ibid

Mount Hood

With an elevation of 11,237 feet, Mount Hood (Figure 9) ranks as the fourth highest and middle of the pack by volume of the Cascade Range. Mount Hood is located east of Portland, Oregon and presents a majestic picture on clear days. While not the most active volcano in the Cascade Range, Mount Hood is still a hazard. The primary threat to Franklin County is from tephra. Mount Hood has historically produced a relatively modest amount of tephra during past lava flow and lava-dome eruptions. Most tephra fallout was caused by clouds of sand and silt-size particles that rose from moving pyroclastic flows produced by lava-dome collapse.



Figure 9: Mount Hood, OR.

Tephra was also generated by explosions driven by volcanic gases. Both types of tephra clouds probably reached altitudes of 3,000 to 50,000 feet above the volcano and were then carried away by the prevailing wind, which blows toward sectors northeast, east, or southeast of Mount Hood about 70 percent of the time⁸.

Mount Rainier

At 14, 410 feet, Mount Rainier (Figure 10) is the tallest peak in the Cascade Range. It towers over the landscape of the southern Puget Sound area and is visible from Longview to Mount Vernon. Mount Rainier is a dormant volcano whose load of glacial ice exceeds any other mountain in the conterminous United States.⁹ A Mount Rainier eruption will probably produce lahars, pyroclastic flows, lava flows, debris avalanches and flows, and ballistic blasts. In terms of their potential effects, lahars from Mount Rainier constitute the greatest volcano hazard in the Cascade Range.¹⁰ Fortunately, these volcanic hazards



Figure 10: Mount Rainier, WA.

are not a concern to Franklin County. The only hazard that Mount Rainier poses to Franklin County is tephra fall. Mount Rainier is a moderate tephra producer relative to other Cascade volcanoes. Eleven eruptions have deposited layers of frothy tephra (pumice) near Mount Rainier in the past 10,000 years, most recently in the first half of the nineteenth century. Given the evidence discovered through research, it is estimated that Mount Rainier averages an eruption about once every 900 years.¹¹

⁸ Scott, et.al., 1997, USGS Open-File Report 97-89.

⁹ Hoblitt, et al, 1998, USGS Open-File Report 98-428.

¹⁰ Ibid.

¹¹ Hoblitt, et al, 1998, USGS Open-File Report 98-428.

Hazard Identification

We know from geological evidence that Mount St. Helens, Mount Rainier, Mount Hood, and Mount Adams have produced volcanic events in the past. Several of these events, if they took place today, would place Franklin County communities at risk. Volcanic hazards to Franklin County from Mount St. Helens, Mount Rainier, Mount Hood, and Mount Adams are limited to tephra fall (Figure 11).

Tephra consists of fragments of molten or solid rock which are ejected into the atmosphere and then fall back to the earth's surface. Tephra is further divided into three classes; block (>64 mm), lapilli (2-64 mm) and ash (<2 mm) (Figure 12). The fragments are usually carried away from the volcano by the wind. During magmatic eruptions, a volcano blasts the fragments into the atmosphere with tremendous force, forming a vertical eruption column. Eruption columns can be enormous in size and grow rapidly, reaching tens of kilometers (miles) in height and width in 30 minutes or less. As particles in the eruption column are carried downwind, they form an eruption cloud or tephra plume. Particles in the tephra plume begin to fall out of the plume almost immediately, with the larger and heavier particles (block tephra) falling out close to the volcano and progressively smaller and lighter particles falling out with increasing distance downwind. Thus, the distribution of tephra is largely controlled by the strength and direction of the wind during an eruption, whereas particle size and deposit thickness are largely controlled by how explosive the eruption is and the volume of material ejected. Figure 13 shows the annual probability of 1 cm or more of tephra accumulating in Washington and Oregon from the eruption of a major Cascade volcano.

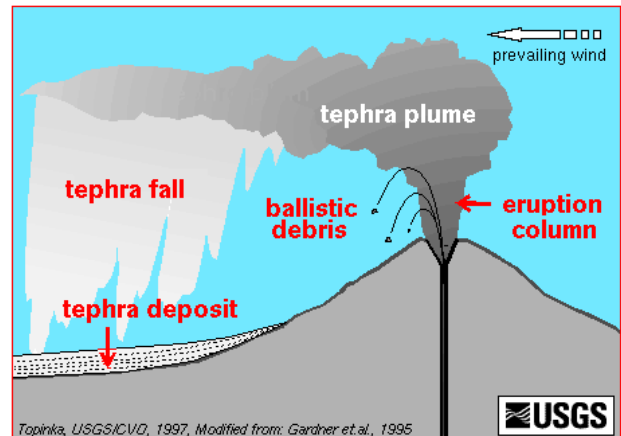


Figure 11: USGS depiction of tephra fall during an eruption.

Tephra hazards vary from a nuisance to life-threatening. Tephra plumes pose a serious hazard to aviation because particles in plumes can damage aircraft systems and jet engines, resulting in loss of power and damage to equipment. In addition, particles in a plume can sandblast



Figure 12: Samples of ash (left two piles) and lapilli (right two piles)

aircraft windshields such that visibility is lost. On the ground, the hazards to

life from tephra vary depending upon the amount that falls and the health of individuals. In general tephra hazards diminish downwind. High concentrations of tephra, such as ash, can make breathing difficult for people and livestock. Burial by tephra can collapse roofs of buildings and other structures, break power and telephone lines, and damage or kill vegetation. Wet tephra is 2 to 3 times heavier than dry uncompacted tephra and adheres better to sloping surfaces. Ten centimeters (4 inches) of wet tephra impose a load in the range of 20 to 25 lb/ft². This equates to between 2,000 and 2,500 pounds for a 10' x 10' area; sufficient to cause some roofs to collapse. Minor amounts of tephra pose little threat to healthy individuals but may affect

people with respiratory problems, the elderly, infants, and the infirm. Even minor tephra falls, however, can be detrimental to machinery (cars, lawn mowers, computers, etc.), can short out power transformers and electric lines, can be a nuisance to remove from roads and airports, can cause panic due to darkness during daylight hours, can cause traffic accidents because of reduced visibility, clog waterways such as municipal water system uptakes, wastewater treatment plants, irrigation ditches and machinery, and can cause respiratory and eye problems for pets and livestock.

Ash can clog and/or restrict breathing passages and may cause death. However, a short period of exposure has not been found to be harmful to persons in normal health. When an ash cloud mixes with rain, sulfur dioxide combines with water to form diluted sulfuric acid that may cause minor (but painful) burns to skin, eyes, nose, throat, and mucous membranes. In addition, acid rains may also affect water supplies and agricultural products. Even fairly small concentrations of ash fall can effectively wipe out all crops in a large area for at least one season, longer if the concentrations are deep enough.

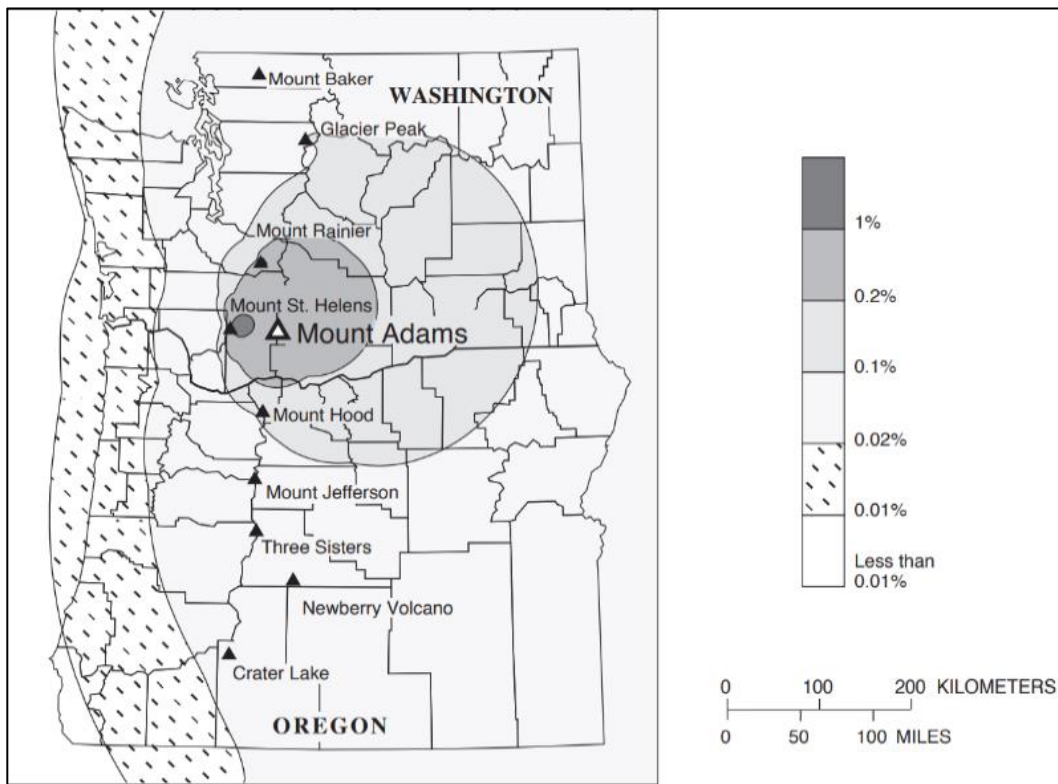


Figure 13: Annual probability of 1 cm or more of tephra accumulation in Washington and Oregon from major Cascade volcanoes (Scott, W.E., et al. 1995).

Technological Hazards

At this time, the Franklin County HMP Planning Committee will not include Technological Hazards in the 2018 update. Future updates may be amended to include Technological Hazards.

Chapter 4 – Vulnerability Assessments

IN THIS SECTION:

- Franklin County Annex
- City of Pasco Annex
- City of Connell Annex
- City of Mesa Annex
- City of Kahlotus Annex

Jurisdictional Risk and Vulnerability Assessment

The Franklin County Comprehensive Emergency Management Plan assigns a rating to the “Probability and Risk” associated with each of the seven profiled hazards. This process was also done for the past versions of the Franklin County Hazard Mitigation Plan.

This rating system was reviewed by the committee and is included in the 2018 update, along with additional analysis on the history of hazard events, probability of future events, potential hazard impacts, resource values that are at risk, and input from the community.

The terms “High”, “Moderate”, and “Low” are used to rate each hazard for “Probability”, “Vulnerability” and “Risk” in Franklin County. A definition for each category is listed below. The Risk rating is a combination of Probability and Vulnerability associated with the hazard.

Probability: The probability of an occurrence happening in Franklin County, sometimes without the regard to hazard history.

High	Probability of occurrence at least one chance in the next 1 to 10 years
Moderate	Probability of occurrence at least one chance in the next 10 to 25 years
Low	Probability of occurrence at least once chance in the next 25 to 50 years

Vulnerability: The potential effect a hazard could have on the percentage of people and property within an area in Franklin County.

High	25% or higher of population and property being affected by the hazard
Moderate	5% to 10% of population and property being affected by the hazard
Low	Less than 5% of population and property affected by the hazard

Risk: Risk is an estimate of the combination of Probability of occurrence and Vulnerability.

High	Strong potential for a disaster of major proportions occurring in the next 1 to 10 years
Moderate	Moderate potential for a disaster of less than major proportions occurring in the next 10 to 25 years
Low	Little potential for a disaster occurring during the next 25 to 50 years

Franklin County Annex

Drought Profile

Much of the information below was excerpted or derived from past Franklin County Hazard Mitigation Plans, the Franklin County Comprehensive Emergency Management Plan, or from the Washington Military Department’s Washington State Enhanced Hazard Mitigation Plan (EHMP).

Probability and Risk

The Franklin County Comprehensive Emergency Management Plan (CEMP) states that based on historical evidence, there is a **MODERATE PROBABILITY** of a drought occurring in Franklin County and a **MODERATE RISK** associated with such an event due to the typical duration of the historical droughts and the susceptibility of the agricultural community to the direct and indirect effects of a drought in Franklin County.

Local Event History

Through analysis of 100-year drought data (1895-1995), the EHMP reports that most of Washington State was in severe or extreme drought at least 5% of the time during that period. Franklin County experienced severe or extreme drought 20-30% of the time during that 100 years.

Probability of Future Occurrence

Using historical information, it is reasonable to expect that at least some parts of Franklin County will experience drought conditions in roughly 25 of the next 100 years. This does not specify when or how severe the drought conditions will be, nor does it fully incorporate any future effects of possible climate change.

Drought is difficult to predict for Franklin County but there are resources that attempt to forecast droughts, seasonal drought conditions, and climatic patterns. The National Integrated Drought Information System (NIDIS) is one interagency program, sponsored by the National Oceanic Atmospheric Administration (NOAA) that is mandated to “...coordinate and integrate drought research, building upon existing federal, tribal, state, and local partnerships in support of creating a national drought early warning information system.”¹²

NIDIS is a central hub for various types of information relating to drought. Some resources NIDIS utilizes include the United States Drought Monitor and NOAA’s U.S. Seasonal Drought Outlook. Another resource is the National Interagency Fire Center’s Significant Wildland Fire Potential Outlook, which examines national wildland fire risks. The U.S. Seasonal Drought Outlook expresses drought tendency over a given period. This outlook depicts large-scale trends by examining short and long-range forecasts, and current and expected conditions.

¹² “Drought.gov”. National Integrated Drought Information System. www.drought.gov.

Impacts of Drought Events

Agriculture is the most vulnerable industry to the impacts of a drought event in Franklin County. Annual crops may be damaged or lost in a single growing season but usually rebound with normal precipitation amounts the following year. Farmers and orchardists that use irrigation water from the Columbia Basin irrigation project are less susceptible to the early effects of a short-term drought. However, they may start to experience drought affects if the dry period extends much past six months. To make up for water shortages, some farmers, orchardists, and even municipal water systems have backup wells or capabilities to pump water directly from the Columbia or Snake River system or through irrigation canals.

A severe drought may result in a moderate number of wells going dry. The potable water supply for most of Franklin County's citizens (about 70%) is obtained from the Columbia River through the City of Pasco's municipal water system. The remaining people get their potable water from private or community wells. The effects of an extreme, long-term drought could theoretically result in less aquifer discharge thereby resulting in the implementation of strict water conservation measures for those dependent on wells.

A drought lasting for more than one season would most likely reduce the annual mountain snow-pack, thereby reducing normal river flows in the Columbia and Snake Rivers. A substantial reduction in river flow could severely impact the generation of electricity from the hydro-electric dams located on the Columbia and Snake Rivers. A reduction in hydro-electric generation would likely result in increased electricity rates for all residents, farms, and businesses in the area. In addition to the elevated electricity rates, reduced hydro-electric power generation will result in increased non-hydro power generation which will drive the price of diesel and natural gas sharply upward. The higher energy prices mean higher costs for transport of farm products, increased costs for processing and storage, as well as higher fertilizer prices.

According to the Washington State Hazard Identification and Vulnerability Assessment (HIVA), three energy curtailments during drought periods prior to 1977 caused temporary increase in the unemployment rate. Due to a drastic increase in electricity rates in 2001, several large manufacturing plants in some Washington counties closed their businesses and laid off many employees. A severe, long-term drought would no doubt have the same effect on large business and industry that rely on large amounts of electrical power and/or water to operate.

A severe drought could cause reduced river flows thereby creating a major impact on local salmon runs due to potentially warmer waters and low water levels. Recreational use of the lakes and rivers in Franklin County would suffer as well. In addition, rural settlements and residential areas bordering wildland could be at risk from wildfires ignited by lightning or intentional human actions.

Impacts of severe drought pose little direct threat to infrastructure, buildings, and human lives, but secondary effects may be felt due to losses in income and jobs, and disruptions in commerce. Property losses are typically related to crops and agriculture.

The State's EHMP identifies Franklin County as one of nine counties most at-risk and vulnerable to drought. This is based on Franklin County meeting specific criteria, such as a history of drought conditions, an

economy heavily-reliant on agriculture, significant acreage of irrigated farmland, and above average population growth for the state.

Table 7: U.S. Census Bureau population growth estimates for Washington State.

Jurisdiction	2010 Census	2016 Estimates	% Increase
Franklin County	78,163	90,160	15%
Benton County	175,177	193,686	11%
Whitman County	44,776	48,851	9%
Washington state	6,724,540	7,288,000	8%

The estimated population increase Franklin County has seen since 2010 is among the highest in Washington state (Table 7). Therefore, the number of people relying on the local agriculture economy is as high as it has ever been. According to the Washington Employment Security Department’s profile on Franklin County, the agriculture industry represented 19.3% of total employment in 2014. Service-providing industries made up 64.4% of the county’s total employment. The service industry includes things like public administration, healthcare, and retail trade, but these industries are undoubtedly tied to the revenue-influx created by agriculture.

Should a severe, long-term drought occur, it will be vital that local elected officials and governmental agencies work cooperatively with the Washington State Department of Health, the Washington State Department of Agriculture and the Washington State Department of Ecology to help ensure efforts are made to protect public water supplies, aid agriculture and local industry, and safeguard fish and river flows.

Development Trends

As both population and demand for development are projected to increase for Franklin County, an increase in water usage in Franklin County should be expected as well. With increased pressure on water sources, it is likely that Franklin County will become more sensitive to drought conditions and will likely have to implement water conservation practices sooner during a period of drought. Increased fire risk associated with drought conditions may also make additional development vulnerable to wildfire.

Values of Resources at Risk

At the time of the 2012 USDA Census of Agriculture, or Ag Census, there were 883 farms in Franklin County, totaling 625,047 acres of land. This is up just 3% from the 2007 Ag Census, but the market value of products sold during that five-year period rose much more significantly. The 2007 Ag Census reported the market value of products sold at \$467,014,000 while in 2012 it was reported at \$740,014,000 – a 58% increase.

Crop sales made up 68% of the market value of products sold in 2012 (more than \$503 million) and 72.3% of farmland was used as cropland. Livestock sales in 2012 comprised 32% of products sold with a value of more than \$236 million. Pastureland made up 21.5% of farmland use, while 6.2% was designated as “other uses”.

Franklin County ranked fourth in Washington state in 2012 in total market value of agricultural products sold and ranked number 48 out of 3,077 counties. Among individual commodities, Franklin County was third in the state in revenue from “vegetables, melons, potatoes, and sweet potatoes,” with a value of sales at more than \$160 million (ranked 19 nationally). The category of “fruits, tree nuts, and berries” for 2012 was valued at more than \$169 million (ranked sixth in Wash.), while the value of “milk from cows” was more than \$113 million and ranked fourth in the state.

The 2012 Ag Census reported Franklin County ranked third in the state in acres used for both potatoes and “vegetables harvested” at 30,853 acres and 63,696 acres respectively. Franklin County is also a national leader in those categories, ninth in potato acreage and number 12 in vegetable acreage. In 2012 Franklin County ranked third in the state for livestock inventory in both “cattle and calves” (93,038) and “colonies of bees” (8,204).

The following list is a compilation of comments and suggestions made by various stakeholders and the public regarding possible problems that could result from a drought.

In addition to a possible shortage of water in some areas of the county as well as likely damage to agricultural crops, a drought in Franklin County could potentially result in the following:

- Inadequate river flow volumes to support fish.
- Long-term burn bans throughout the county.
- An increase in the potential risk of wildland fires, wildland-urban interface fires, and cropland fires from a variety of natural and human-caused sources including the discharge of fireworks.
- Increased energy and food costs.

Earthquake Profile

Much of the information below was excerpted or derived from past Franklin County Hazard Mitigation Plans, the Franklin County Comprehensive Emergency Management Plan, or from the Washington Military Department’s Washington State Enhanced Hazard Mitigation Plan (EHMP).

Probability and Risk

Because of the infrequency of such devastating events, there is a **MODERATE PROBABILITY** for a potentially damaging earthquake to occur that would result in many people being injured or killed and damaging private property, government infrastructure and the local economy. However, there is a **HIGH RISK** to the citizens, infrastructure, and economy of Franklin County should such an earthquake occur.

Local Event History

The EHMP examines two significant earthquake events near Franklin County that have occurred since 1872. Figure 14 shows the location and magnitude of all earthquakes on record for Franklin County:

Lake Chelan – December 14, 1872

This earthquake had an estimated magnitude of 6.8 with an epicenter most likely northeast of the town of Chelan. It was reported to have been felt from British Columbia to Oregon and from the Pacific Ocean to Montana. Damaging ground shaking was reported to have extended to the southeast into or near present-day Franklin County. Due to the remote nature of the epicenter, reports of structural damage are limited. Most of the known information about this event reference ground effects such as huge landslides, ground fissures, and a 27-foot high geyser.

State Line Earthquake – July 15, 1936

This earthquake had an epicenter about five miles south-southeast of Walla Walla. It had a magnitude of 6.1 and was felt across the region. Shaking was felt through Oregon, Washington, and northern Idaho but most of the damage occurred in the Walla Walla area. Property damage was estimated at \$100,000 in 1936 dollars in an area that was sparsely populated at the time.

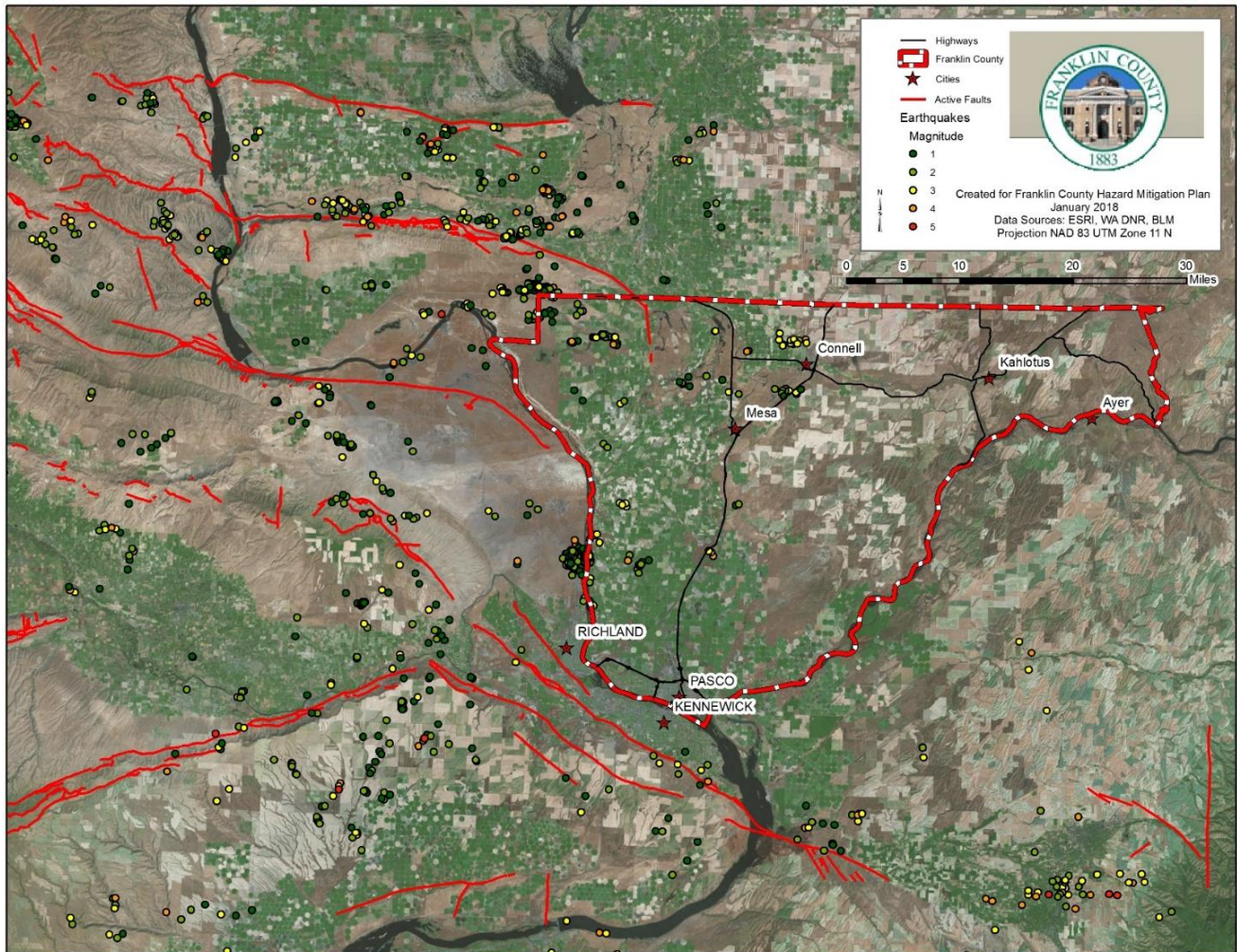


Figure 14: Earthquake history and active faults in Franklin County, WA.

Probability of Future Occurrence

The EHMP points out that existing technology does not make forecasting earthquakes possible. However, scientists use historic occurrences, known faults, and plate motions to make probability estimates. The EHMP reports that FEMA ranks Washington State second only to California among states most susceptible to damaging earthquakes in terms of economic loss. Communities in western Washington are most at risk for earthquakes. Though shaking magnitude and risk generally decreases in eastern Washington, several counties in the Columbia Basin (including Franklin County) are also considered vulnerable. Franklin County is considered particularly vulnerable, according to the EHMP, because it has greater seismic risk than most counties in Eastern Washington. Figure 15 shows potential ground acceleration for Franklin County based on a 7.4 magnitude Rattlesnake Wallula Earthquake scenario.

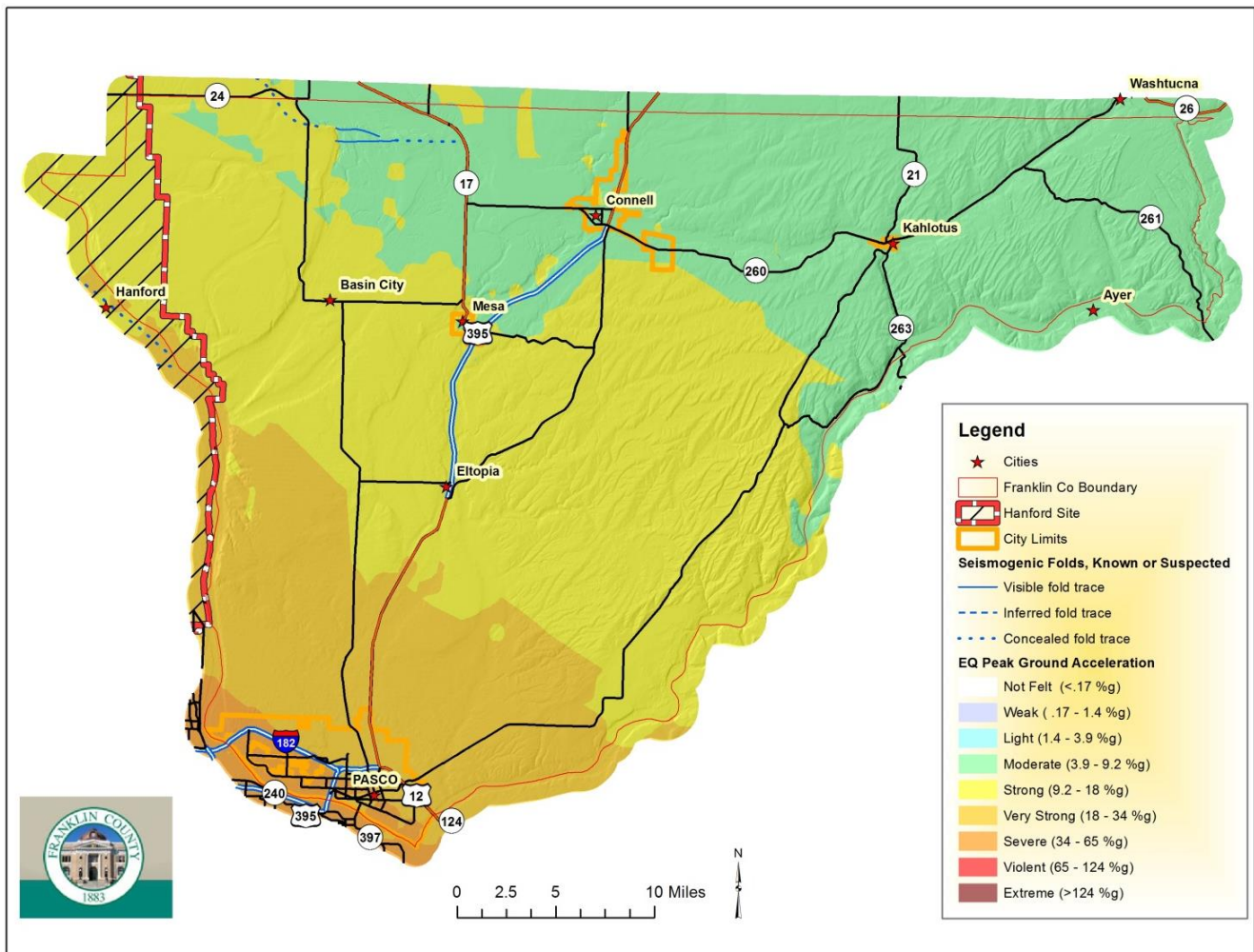


Figure 15: Earthquake ground acceleration map for Franklin County, WA.

Impacts of Earthquake Events

Most damage caused during earthquakes happens when ground shaking damages buildings and infrastructure. Other impacts include fire, flooding, dam-failure, ground rupture, landslides, seiches or other disasters that are caused by the earthquake. The number of buildings and critical infrastructure near an earthquake epicenter is a major factor in determining the severity of the impacts from the earthquake. Franklin County contains critical infrastructure that could theoretically be damaged by an earthquake event, thus causing further disaster or detrimental impacts. Road overpasses, bridges, rail lines, high-volume traffic areas, fuel storage facilities, fuel pipelines, and river transportation systems are some of the elements of infrastructure within Franklin County that might be affected during an earthquake event.

Any disruption to infrastructure, whether it be fuel/energy sources, transportation systems, or emergency response facilities, could escalate threats to human life, as well as cause damages to property and the local economy. Another potential impact of an earthquake event is the secondary-effect of any disaster associated with the Hanford Site. Though the Hanford Site is not located within Franklin County it is still a factor in discussing disaster response and economic impacts. As stated in the drought profile, service industry jobs make up more than 64% of total employment in Franklin County. Effects on Hanford would undoubtedly carry over to this sector of the economy.

The entire population of Franklin County is vulnerable to the effects and impacts of a moderate (magnitude 6 – 6.5) earthquake. The location of structures on soils of concern adds to the likelihood of damaging effects. Liquefaction of these soils as the result of a large earthquake is a serious concern. In addition, all commercial and residential buildings, government infrastructure, transportation systems, communication systems, utilities, and ultimately, the overall economy of Franklin County are vulnerable to the effects and impacts of a large earthquake.

The time of day at which an earthquake occurs is critical. Greater numbers of people are away from their homes and separated from other family members during commute times or during the regular business day, thereby increasing the level of chaos in the event of a major earthquake.

Possible types of damage from an earthquake may include but will probably not be limited to:

- Cracking and/or structural failure of foundations, chimneys, decorative cornices, parapet walls, and cantilevered porches or roofs.
- Wall failure in older buildings of non-reinforced masonry construction.
- Damage to waterfront buildings and piers built on pilings and artificial fill.
- Structural damage or failure of bridges and overpasses.
- Damage to streets and roads.
- Damage to railways and airport facilities.
- Broken water lines, natural gas lines, and natural gas/gasoline pipelines.
- Power and communication failures due to damage of electrical and telephone distribution systems.

If an earthquake causes considerable damage, grocery stores, banks, gasoline stations, and similar services may be closed. Additionally, citizens should expect and prepare in advance for a significant delay in fire,

emergency medical, law enforcement, and other day-to-day government services. As a general rule, citizens should be prepared to survive on their own for a minimum of three days following a large magnitude earthquake that causes major damage to transportation and communication systems, as well as roads and bridges.

In the event of a major earthquake, large areas of Franklin County lying within the floodplains of the Esquatzel Coulee and Columbia River are susceptible to liquefaction. Moreover, steep and/or unstable slopes in various locations throughout the county are susceptible to landslides.

Bridges and overpasses are the most vulnerable component of highway transportation systems and the loss of bridges and overpasses will have a direct effect on the delivery of emergency services to many Franklin County citizens. According to the local Washington State Department of Transportation manager, the primary bridges have been built to resist the effects of earthquakes. Also, all overpasses located along the I-182/US 12 and US 395 corridors are maintained by the State. The bridges listed below are state-maintained in Franklin County:

Cable Bridge (US 397)

Lyons Ferry Bridge (SR 261)

Snake River Bridge (US 12)

Interstate 182 Bridge

Blue Bridge (US 395)

Franklin County maintains 82 bridges and 19 box culverts within the county road system. All these structures span irrigation canals. Of the 101 spans, 31 have overload restrictions and another five are posted with specific weight restrictions. All county bridges built in the last ten years have been built to Federal standards. All future new construction, repairs and overhauls will bring the remaining structures up to Federal standards.

In addition to the potential loss of bridges, numerous roads may be damaged or otherwise unusable due to soil liquefaction, landslides, severe ground cracking, uplifting, or subsidence. Railways are also highly vulnerable to soil liquefaction, landslides, severe ground cracking, uplifting, and subsidence. Railway routes in Franklin County are owned and operated by the Burlington Northern-Santa Fe Railroad. In Franklin County, these routes are located along the US 395 corridor.

All of Franklin County is dependent upon pipelines for the delivery and distribution of natural gas, gasoline, potable water and the disposal of wastewater. All the incorporated cities' water systems are somewhat vulnerable to the effects of a major earthquake. In addition to water, wastewater, and natural gas distribution lines, several major transmission pipelines carrying gasoline are located within Franklin County.

Andeavor Logistics (formerly Tesoro and formerly Chevron) owns and operates a fuel storage facility within the City of Pasco. Tidewater Terminal Company has a fuel storage terminal just outside the city limits of Pasco. These facilities have numerous storage tanks containing large quantities of petroleum products. During earthquake events ground movement may cause connecting piping to break and the liquids contained in these tanks may slosh resulting in partial or complete failure of the tanks. Upon pipe or tank failure, these liquid fuels may ignite and burn.

There are several dams located in Franklin County. The two largest with the most potential for disaster are the Lower Monumental Dam and Ice Harbor Dam on the Snake River. These dams fall under the auspices of the U.S. Army Corps of Engineers (USACE). They have regulatory requirements for inspections and emergency planning. There are also several earth-fill dams in Franklin County. The majority of these dams are small, are located in sparsely populated or remote areas and would have a minor impact on nearby areas should a failure occur. However, there are two dams that are a concern to Franklin County citizens. These are the Lamb-Weston Dam in Connell and the Bureau of Reclamations WB5 Wasteway Detention Dam northwest of Basin City. The McNary Dam, located on the Columbia River near Umatilla, Oregon, maintains the navigation pool up into the Tri-Cities area and is the primary reason for the local levee system. According to USACE response management officials, a loss of the McNary pool would pose some economic impact to Franklin County.

There are also several historic buildings located in Pasco that may be more susceptible to and more likely to be damaged by ground shaking from an earthquake. Older structural designs may not hold up to severe ground shaking and should therefore be assessed if they have not been already. See *City of Pasco Annex* for a complete list of historic buildings in Franklin County.

It is difficult to identify any part of Franklin County that would not be vulnerable to a moderate-to-large earthquake. The citizens of Franklin County need to understand the earthquake risk they live with daily. Residents need to recognize that government is not able to totally protect them from the impacts of an earthquake and therefore, they need to take the necessary actions to prepare themselves, their families, and their businesses before an earthquake occurs – not after. The adoption and enforcement of building codes, land use planning, public awareness programs, school “Drop, Cover and Hold” training, and “Community Emergency Response Team” education and training are only part of the answer. Future population growth and urban development will require Franklin County to continually re-assess the earthquake hazard. Additionally, each business and citizen must accept the responsibility to take the necessary actions and prepare for the day a major earthquake occurs.

Development Trends

Both population and demand for development are projected to increase for Franklin County. With additional development and infrastructure, Franklin County will become more vulnerable to Earthquake hazards. However, land use planning, adherence to and development of building codes, seismically sound engineering, and community preparedness will make Franklin County less vulnerable to earthquake hazards.

Values of Resources at Risk

The Washington State Emergency Management Division performed three loss estimation runs specific to Franklin County using the HAZUS – MH modeling software. The modeling software uses a variety of database information (Census, Dunn & Bradstreet, etc.) and engineering calculations to generate an approximate “picture” of what damage is likely to occur as well as numbers of casualties, structural damage estimates and dollar values of the damage in 2004 dollars.

The scenarios involved a shallow, daytime earthquake measuring magnitude 6.5 that originated in each of the three fault systems that surround Franklin County; the Rattlesnake-Wallula fault system located in Benton and Walla Walla counties, the Saddle Mountain fault system located in northwestern Franklin and southern Grant counties, and the Horse Heaven Hills fault system located in southern Benton County. The HAZUS-MH program ran simulations on each of these scenarios and the results are shown in the figures that follow. The area was divided up by Census Blocks. The results were calculated in PGA (peak ground acceleration) which measures ground acceleration (or shaking). Ground shaking severity is represented by different colors on the HAZUS-MH earthquake scenario maps. Orange and red Census Blocks experienced severe ground shaking while green and blue blocks experienced light to moderate shaking, respectively.

A separate report in HAZAUS-MH estimated that the economic losses from damage to buildings, building contents, business interruptions and lifelines would be about \$400 million in 2004 dollars. It also estimated that there would be up to 10 deaths, 50-60 people would require hospitalization, and several hundred would require medical aid.

HAZUS Earthquake Scenarios

Rattlesnake-Wallula Fault System Earthquake Scenario

This scenario examines a magnitude 6.5 earthquake originating along the Rattlesnake-Wallula fault system in Benton and Walla Walla counties.

In this scenario, the red and orange census blocks, which are also a part of the Pasco Census County Divisions (CCD), would experience the most severe ground shaking (Figure 16). The western side of Pasco (blue) would experience moderate ground shaking while the North Pasco CCD and the Kahlotus CCD (green) would feel minimal ground shaking. Table 8 and Table 9 summarize total economic losses and structural damage, respectively, sustained by Franklin County in the 2004 HAZUS Rattlesnake-Wallula Fault earthquake scenario.

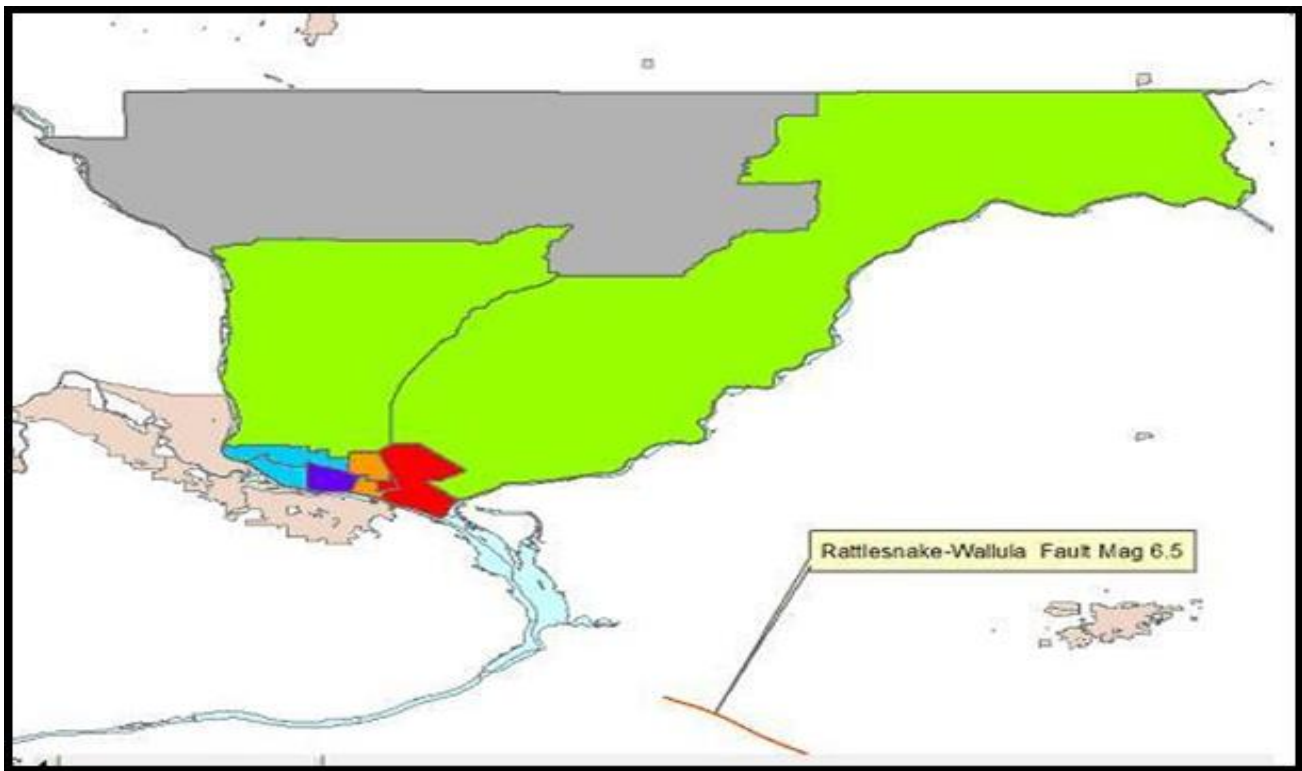


Figure 16: Rattlesnake-Wallula magnitude 6.5 earthquake ground shaking severity by Census Block for Franklin County, WA.

Table 8: Structural losses (in dollars) in Franklin County, WA as projected by the 2004 HAZUS Rattlesnake-Wallula Fault earthquake scenario.

Capital Stock Losses		Income Losses	
Cost Structural Damage	\$ 2,435,000	Relocation Loss	\$ 73,000
Cost Non-structural Damage	\$ 7,467,000	Capital related Loss	\$ 604,000
Cost Contents Damage	\$ 2,494,000	Wages Loss	\$ 814,000
Inventory Loss	\$ 90,000	Rental Income Loss	\$ 816,000
Total Loss	\$ 12,486,000	Total Loss	\$ 14,792,000

Table 9: Summary of building damage in Franklin County, WA for the 2004 HAZUS Rattlesnake-Wallula Fault earthquake scenario. Building damage is broken down by building type/occupancy category and damage severity.

Occupancy Category	Severity of Building Damage (Number of Buildings)					Total
	None	Slight	Moderate	Extensive	Complete	
Agriculture	13	1	0	0	0	14
Commercial	103	12	7	1	0	123
Education	1	0	0	0	0	1
Government	7	1	0	0	0	8
Industrial	7	1	1	0	0	9
Religion	5	1	0	0	0	6
Other Residential	2,647	421	255	20	1	3,344
Single Family	9,061	493	74	5	0	9,633
Total County	11,834	930	337	26	1	13,128

Horse Heaven Hills Fault System Earthquake Scenario

This scenario looks at a 6.5 magnitude earthquake along the Horse Heaven Hill Fault, located in southern Benton County. The major ground shaking would be felt throughout the city of Pasco (red), and to a much lesser extent in the area north of Pasco (green) (Figure 17). Table 10 and Table 11 summarize total economic losses and structural damage, respectively, sustained by Franklin County in the 2004 HAZUS Rattlesnake-Wallula Fault earthquake scenario.

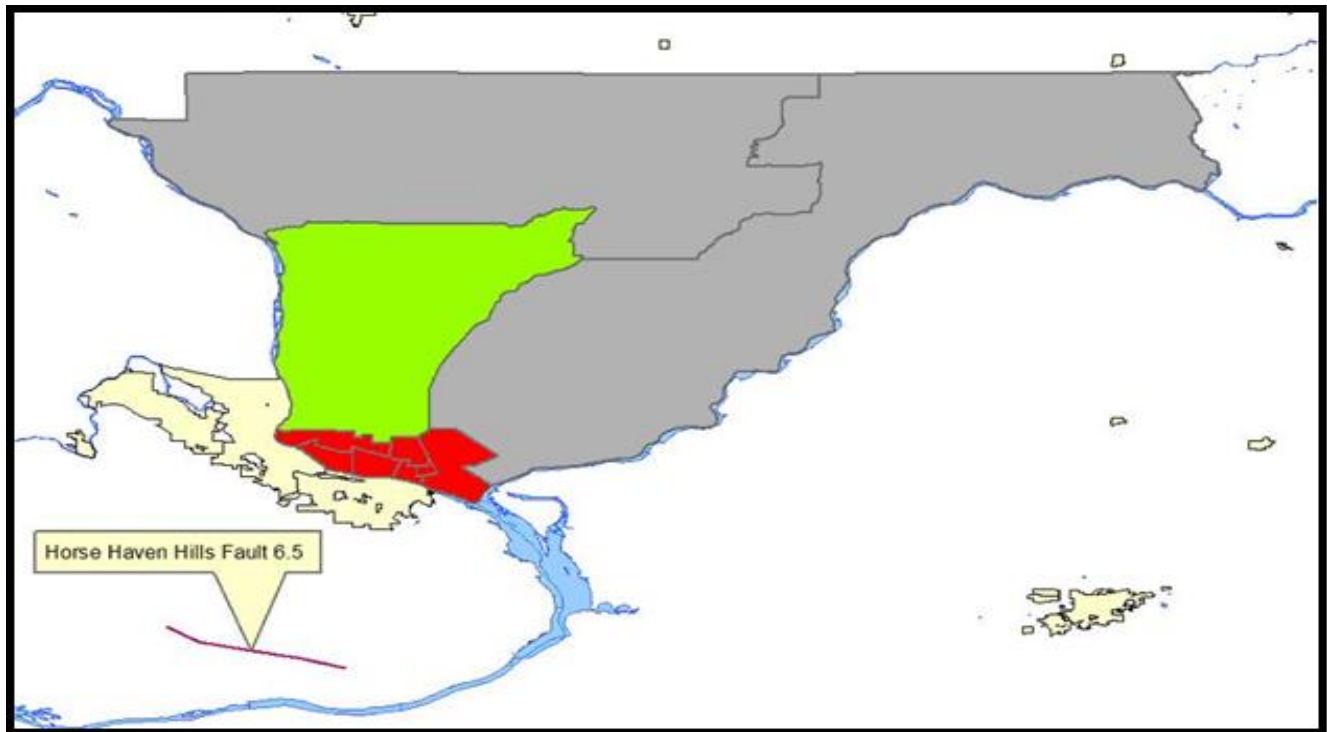


Figure 17: Horse Heaven Hills magnitude 6.5 earthquake ground shaking severity by Census Block for Franklin County, WA.

Table 10: Structural losses (in dollars) in Franklin County, WA as projected by the 2004 HAZUS Horse Heaven Hills magnitude 6.5 earthquake scenario.

Capital Stock Losses		Income Losses	
Cost Structural Damage	\$ 10,847,000	Relocation Loss	\$ 293,000
Cost Non-structural Damage	\$ 34,462,000	Capital related Loss	\$ 2,911,000
Cost Contents Damage	\$ 12,779,000	Wages Loss	\$ 4,079,000
Inventory Loss	\$ 352,000	Rental Income Loss	\$ 3,821,000
Total Loss	\$ 58,440,000	Total Loss	\$ 69,544,000

Table 11: Summary of building damage in Franklin County, WA for the 2004 HAZUS Horse Heaven Hills magnitude 6.5 earthquake scenario. Building damage is broken down by building type/occupancy category and damage severity.

Occupancy Category	Severity of Building Damage (Number of Buildings)					Total
	None	Slight	Moderate	Extensive	Complete	
Agriculture	12	1	1	0	0	14
Commercial	67	22	24	9	1	123
Education	1	0	0	0	0	1
Government	4	1	2	1	0	8
Industrial	5	2	2	1	0	10
Religion	4	1	1	0	0	6
Other Residential	1,987	606	591	146	14	3,344
Single Family	7,765	1,444	377	45	2	9,633
Total County	9,844	2,078	998	200	18	13,138

Saddle Mountain Fault System Earthquake Scenario

The Saddle Mountain fault system is located the southern parts of neighboring Grant and Adams counties, and even into parts of northwest Franklin County. In the scenario of a 6.5 magnitude earthquake along the Saddle Mountain fault, the Connell CCD (red) would be the most-affected census block (Figure 18). This includes the communities of Connell, Mesa and Basin City. Because of the more rural nature of this census block within Franklin County, the damage losses predicted below are much less severe. Table 12 and Table 13 summarize total economic losses and structural damage, respectively, sustained by Franklin County in the 2004 HAZUS Saddle Mountain earthquake scenario.

Table 12: Structural losses (in dollars) in Franklin County, WA as projected by the 2004 HAZUS Saddle Mountain magnitude 6.5 earthquake scenario.

Capital Stock Losses		Income Losses	
Cost Structural Damage	\$ 1,722,000	Relocation Loss	\$ 46,000
Cost Non-structural Damage	\$ 4,858,000	Capital related Loss	\$ 279,000
Cost Contents Damage	\$ 1,479,000	Wages Loss	\$ 362,000
Inventory Loss	\$ 55,000	Rental Income Loss	\$ 441,000
Total Loss	\$ 8,114,000	Total Loss	\$ 9,242,000

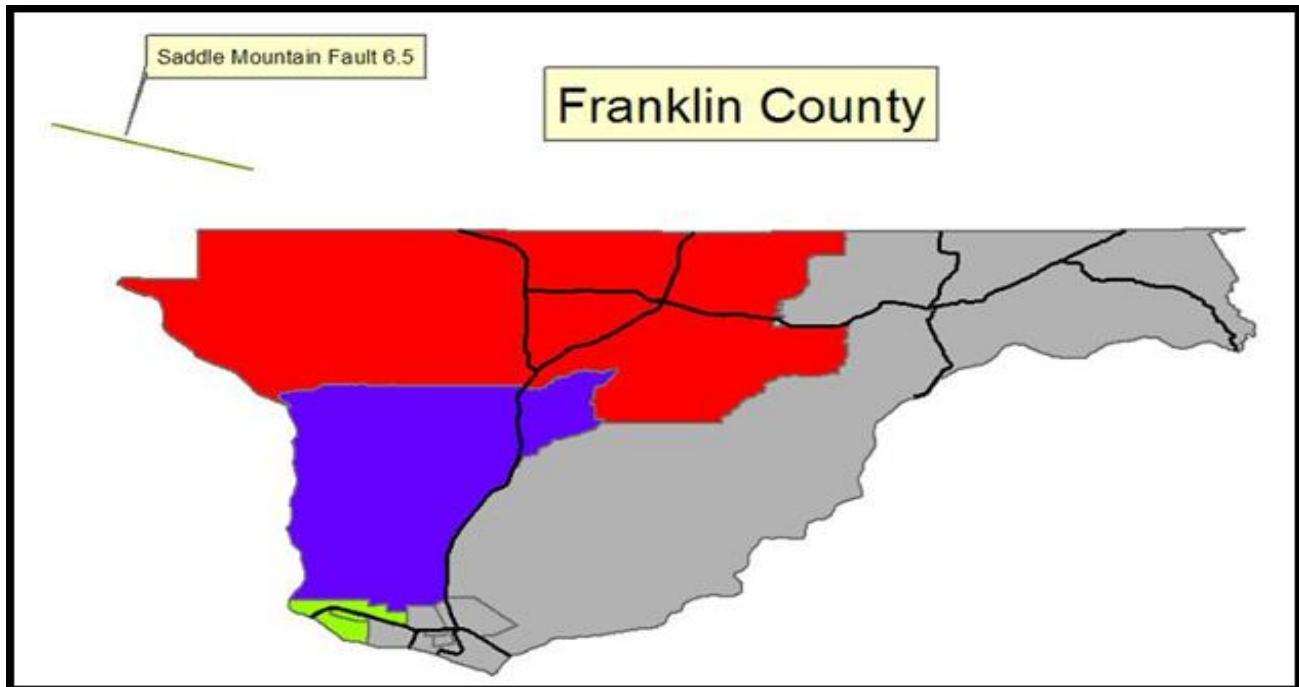


Figure 18: Saddle Mountain magnitude 6.5 earthquake ground shaking severity by Census Block for Franklin County, WA.

Table 13: Summary of building damage in Franklin County, WA for the 2004 HAZUS Saddle Mountain magnitude 6.5 earthquake scenario. Building damage is broken down by building type/occupancy category and damage severity.

Occupancy Category	Severity of Building Damage (Number of Buildings)					Total
	None	Slight	Moderate	Extensive	Complete	
Agriculture	12	1	1	0	0	14
Commercial	111	8	4	1	0	124
Education	1	0	0	0	0	1
Government	8	0	0	0	0	8
Industrial	8	1	0	0	0	9
Religion	5	0	0	0	0	5
Other Residential	2,642	406	268	26	1	3,343
Single Family	9,200	373	55	4	0	9,632
Total County	11,987	789	328	31	1	13,136

The HAZUS modeling done for 2004 *Projected Economic Losses* was the best available information at the time of this update. It provides a base for examining possible economic impact caused by a significant earthquake event. Given Franklin County’s observed growth since 2004, and the projected growth expected, the economic impacts of an earthquake near Franklin County have presumably only compounded since this modeling was done. Inflation is another thing to consider when reviewing these models. For example, a CPI inflation calculator used by the U.S. Bureau of Labor Statistics estimates \$1 in 2004 has the same buying power as \$1.35 in 2018.

As highlighted in the Franklin County profile, populations of the county, the city of Pasco, and the city of Connell spiked significantly between the 2000 and 2010 census reports. Increases have also been predicted in the 2016 population estimates and population growth trends are anticipated to continue over the next few decades. Population growth, economic growth, and expected expansion of jurisdictional acreage for the city of Pasco all lead to the conclusion that these projected loss figures will only continue to increase as well.

The following list is a compilation of comments and suggestions made by various stakeholders and the public regarding possible problems that could result from an earthquake.

In addition to damaging homes, businesses, property, and the environment, an earthquake in Franklin County could potentially result in the following:

- Utilities (above and below ground) including telephone, electricity, natural gas, water, and sewer as well as private wells and water systems could be damaged or destroyed.
- Transportation routes and/or systems including roads, bridges, and railroad transport may be damaged or destroyed.
- Emergency services could be totally overwhelmed and not able to respond to emergency situations due to damaged facilities and/or equipment, a lack of personnel, or compromised transportation routes.
- Critical facilities such as 9-1-1 centers, hospitals, emergency operations centers, fire stations, water treatment plants, and wastewater treatment facilities may be damaged or destroyed.
- Large areas of the county may be subject to liquefaction and/or land movement causing even greater damage in certain areas.
- Large hazardous-materials incidents may occur as the result of damage to local petroleum and chemical storage facilities.
- The dike along the Columbia River as well as irrigation canals throughout the county may be damaged.
- Seiche effects might cause severe erosion of the cliffs and shorelines along rivers.
- The arrival of outside resources might be delayed due to severe damage in adjacent counties with greater need. Such resources might be needed to assist with debris removal, repair critical facilities, and shelter victims.
- The overall economy of the county and possibly the region could be affected.

Wildfire Profile

This section consolidates the information from the Franklin County Community Wildfire Protection Plan, 2014. For additional information please refer to that document.

Probability and Risk

Based on historical evidence, there is a **MODERATE PROBABILITY** of a large wildland or wildland-urban interface fire occurring in Franklin County and a **MODERATE RISK** to people and property as a result of a large wildland or wildland-urban interface fire.

Local Event History

Franklin County does not experience a routine cycle of large-scale or disastrous wildfires. The area is more susceptible to small-scale fires that have low impacts on the community and require few resources with little costs. However, the Kahlotus Fire burned 5,942 acres in late August of 2016. The fire started August 21 near Copp Road, east of Connell, and the wind drove it east up the canyon toward Kahlotus very quickly. This threatened Kahlotus and many homes, businesses, and farms in the area. Responders included Franklin County Fire Districts 1, 2, 4, and 5; the City of Connell; and neighboring Grant and Adams counties. Local residents also responded to assist.

On August 22 state mobilization of fire resources was requested and immediately authorized, and state, federal, and regional resources were dispatched. Several power poles, four small structures and a hay barn were destroyed. The city of Kahlotus experienced power outages. The fire incurred an estimated \$500,000 worth of costs. Total resources utilized to fight the Kahlotus Fire included 81 engines, 1 helicopter, and 2 hand crews with a total of 138 personnel.

Probability of Future Occurrence

Franklin County's dry climate and vast grassland areas makes it a potential tinderbox for a major fire. While wildland and wildland urban-interface fires do occur in Franklin County on a regular basis during the warm summer months, these fires are typically very small and are usually extinguished with existing personnel and equipment. However, large fires have occurred in the recent past and the urban-interface problem continues to grow.

Those persons living in interface areas are most vulnerable to wildland or wildland-urban interface fires. Within Franklin County, approximately 85% of the land area is used for agricultural purposes. All these areas are vulnerable to wildland or wildland-urban interface fires. The potential for large wildland fires in Franklin County can be termed as moderate. Risk assessments should be accomplished using the national standard NFPA-299 for standardization of the risk potential. Irrigated farmlands, improved fire spotting techniques, better equipment, and trained personnel are major factors in the relatively small number of wildland fires that have occurred in the county. Most of the land areas of Franklin County receive about 8-10 inches of rainfall annually with some areas receiving a little less. This dry climate and the frequent occurrence of strong, dry winds can cause natural fire fuels to reach a combustible state. Additionally, high summer temperatures coupled with seasonal low rainfall amounts sometimes lead to summer drought conditions in

the agricultural industry. These conditions are reached more often than most people realize. Luckily, there have been a low number of ignitions during times of serious fire danger in Franklin County. The absence of large fires coupled with reduced burning has also resulted in greater fuel loading which could lead to a catastrophic fire given the right set of conditions.

Impacts of Wildfire Events

Should a wildland fire or wildland-urban interface fire occur, the impacts of the fire would vary greatly with the size and location of the fire, the weather, and time of year. It is unlikely that a major wildland or wildland-urban interface fire would seriously impact Franklin County as a whole.

In the event of a large wildland or wildland-urban interface fire, additional resources could be requested through activation of the Tri-County Fire Mutual Aid Agreement, Southeastern Washington Regional Fire Mobilization Plan and/or the Washington State Fire Mobilization Plan in addition to other state and federal fire resources.

While there have always been a certain number of people that have built homes in open areas, in recent years, the numbers of people choosing to build in or very near wildland areas has increased significantly as city limits have expanded into previously unpopulated and agricultural areas. As the population of Franklin County increases and people's desire to live in more rural or isolated areas outside of the Pasco area, development in the wildland-urban interface will continue to expand thereby increasing the potential risk to lives and property from wildland and wildland urban-interface fires.

Should a large wildland or wildland-urban interface fire occur in Franklin County, the effects of such an event would not be limited to just the loss of valuable rangeland, wildlife habitat, and recreational areas. The loss of large amounts of vegetation on steep slopes of watersheds would increase the risk of landslides and mudslides during the winter months and the depositing of large amounts of mud and debris in streams, rivers, and irrigation channels could threaten valuable fish habitat and watershed usage for many years. In addition, the loss of crops and grazing land could significantly impact the agricultural industry in Franklin County for a few years or more.

If a significant portion of the business area has been affected, the loss to the community can be overwhelming. Reduction of payrolls, infrastructure and long-term layoffs during recovery from a large fire could have a serious impact on the buying power of a large sector of the population. A long-term business closure could also have a large impact to the community's tax base.

The Washington State Department of Natural Resources, Southeast Region, has conducted a region-wide wildland fire hazard assessment utilizing the RAMS (Risk Assessment and Mitigation Strategies) program. RAMS considers the effects of fire on unit ecosystems by taking a coordinated approach to planning at a landscape level. It was developed for fire managers to be an all-inclusive approach to analyzing wildland fuel hazard, protection capabilities, ignition risk, fire history, catastrophic fire potential, and values.

The assessment of fuel hazard deals with identifying areas of like fire behavior based on fuel and topography. Protection capability assessment involves estimating the actual response times for initial attack forces and

how complex the actual suppression action may be once they arrive because of access, fuel profile, existence of natural or human-made barriers to fire spread, presence of structures and predicted fire behavior. Ignition risks are those human activities or natural events which have the potential to result in an ignition. Fire history looks the fire locations, cause, number of acres burned annually, and the average annual number of fire by cause. Catastrophic fire potential is an evaluation of fire history that reflects the potential for an event to occur. A value assessment looks at the natural or developed areas where loss or destruction by fire would be unacceptable.

This RAMS evaluation rated Franklin County as follows:

Fuel Load:	LOW	Ranking Values:	MODERATE
Protection Capability:	MODERATE	Catastrophic Potential:	MODERATE
Ignition Risk:	MODERATE	Composite Rating:	MODERATE
History:	HIGH		

The evaluation process provides the basis for determining the Franklin County wildland-urban interface fire risk.

Development Trends

As population and demand for development increase, Franklin County will likely become more vulnerable to wildland fire due to the desire to live in and resulting expansion of the wildland-urban interface. See the following section for more information.

Franklin County Wildland Urban Interface

A key component in meeting the underlying need for protection of people and structures is the protection and treatment of hazards in the wildland urban interface. The wildland-urban interface refers to areas where wildland vegetation meets urban developments or where forest fuels meet urban fuels such as houses. The WUI encompasses not only the interface (areas immediately adjacent to urban development), but also the surrounding vegetation and topography. Reducing the hazard in the wildland-urban interface requires the efforts of federal, state, and local agencies and private individuals. “The role of [most] federal agencies in the wildland-urban interface includes wildland firefighting, hazard fuels reduction, cooperative prevention and education, and technical experience. Structural fire protection [during a wildfire] in the wildland-urban interface is [largely] the responsibility of Tribal, state, and local governments”. The role of the federal agencies in Franklin County is and will be much more limited. Property owners share a responsibility to protect their residences and businesses and minimize danger by creating defensible areas around them and taking other measures to minimize the risks to their structures. With treatment, a wildland urban interface can provide firefighters a defensible area from which to suppress wildland fires or defend communities against other hazard risks. In addition, a wildland urban interface that is properly treated will be less likely to sustain a crown fire that enters or originates within it.

By reducing hazardous fuel loads, ladder fuels, and tree densities, and creating new and reinforcing existing defensible space, landowners can protect the wildland-urban interface, the biological resources of the management area, and adjacent property owners by:

- Minimizing the potential of high-severity ground or crown fires entering or leaving the area;
- Reducing the potential for firebrands (embers carried by the wind in front of the wildfire) impacting the WUI. Research indicates that flying sparks and embers (firebrands) from a crown fire can ignite additional wildfires as far as 1¼ miles away during periods of extreme fire weather and fire behavior;
- Improving defensible space in the immediate areas for suppression efforts in the event of wildland fire.

Three wildland-urban interface conditions have been identified (Federal Register 66(3), January 4, 2001) for use in wildfire control efforts. These include the Interface Condition, Intermix Condition, and Occluded Condition. Descriptions of each are as follows:

- **Interface Condition** – a situation where structures abut wildland fuels. There is a clear line of demarcation between the structures and the wildland fuels along roads or back fences. The development density for an interface condition is usually 3+ structures per acre;
- **Intermix Condition** – a situation where structures are scattered throughout a wildland area. There is no clear line of demarcation; the wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres; and
- **Occluded Condition** – a situation, normally within a city, where structures abut an island of wildland fuels (park or open space). There is a clear line of demarcation between the structures and the wildland fuels along roads and fences. The development density for an occluded condition is usually similar to that found in the interface condition and the occluded area is usually less than 1,000 acres in size.

In addition to these classifications detailed in the Federal Register, Franklin County has included two additional classifications to augment these categories:

- **Low Density Rural Areas** – a situation where the scattered small clusters of structures (ranches, farms, resorts, or summer cabins) are exposed to wildland fuels. There may be miles between these clusters.
- **High Density Urban Areas** – those areas generally identified by the population density consistent with the location of incorporated cities, however, the boundary is not necessarily set by the location of city boundaries or urban growth boundaries; it is set by very high population densities (more than 7-10 structures per acre).

Franklin County's WUI is mostly based on population density. Relative population density across the county was estimated using a GIS-based kernel density population model that uses object locations to produce, through statistical analysis, concentric rings or areas of consistent density. To graphically identify relative population density across the county, structure locations are used as an estimate of population density.

Aerial photography was used to identify structure locations in 2013 using 2009 and 2011 NAIP imagery and Franklin County’s cadastral data. The resulting output identified the extent and level of population density throughout the county.

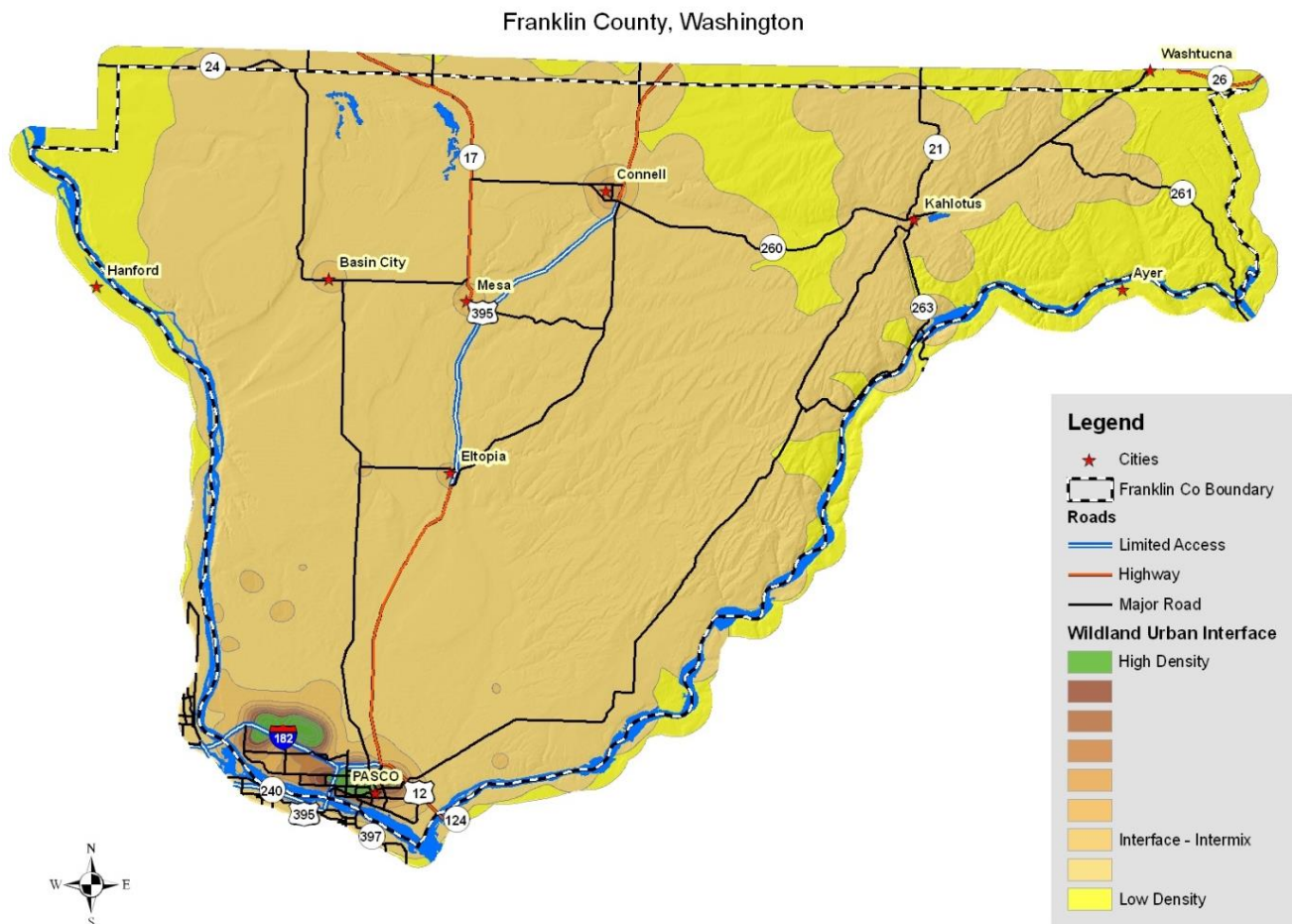


Figure 19: Wildland Urban Interface in Franklin County, WA.

In addition, the Franklin County planning committee determined that the entire County should be classified under WUI designation due to the rapid rates of spread that commonly occur within the County (Figure 19).

By evaluating structure density in this way, WUI areas can be identified on maps by using mathematical formulae and population density indexes. The resulting population density indexes create concentric circles showing high density areas, interface, and intermix condition WUI, as well as low density WUI (as defined above). This portion of the analysis allows us to “see” where the highest concentrations of structures are located in reference to relatively high-risk landscapes, limiting infrastructure, and other points of concern.

The WUI, as defined here, is unbiased and consistent and most importantly – it addresses the whole county, not just federally identified communities at risk. It is a planning tool showing where homes and businesses are located and the density of those structures leading to identified WUI categories. It can be determined

again in the future, using the same criteria, to show how the WUI has changed in response to increasing population densities. It uses a repeatable and reliable analysis process that is unbiased.

The Healthy Forests Restoration Act makes a clear designation that the location of the WUI is at the determination of the county or reservation when a formal and adopted Community Wildfire Protection Plan is in place. It further states that the federal agencies are obligated to use this WUI designation for all Healthy Forests Restoration Act purposes. The Franklin County Community Wildfire Protection Plan steering committee evaluated a variety of different approaches to determining the WUI for the county and selected this approach and has adopted it for these purposes. In addition to a formal WUI map for use with the federal agencies, it is hoped that it will serve as a planning tool for the county, state and federal agencies, and local fire districts.

Relative Threat Level Mapping

Franklin County recognizes that certain regions of the County have unique risk factors that increase their vulnerability to wildland fire. To demonstrate these risk factors, the planning committee developed a threat level model analyzing various risk factors on a scale relative to Franklin County specifically.

Risk Categories

Based on analysis of the various modeling tools, existing historical information, and local knowledge, a preliminary assessment of potentially high wildfire risk areas was completed. This assessment prioritized areas that may be at higher risk due to non-native or high fire risk vegetation, fire history profile, high risk fuel models, and/or limited suppression capabilities. This assessment also considered areas that had a high population or other valuable assets requiring protection from the impacts of wildland fires.

Non-native or High Fire Risk Vegetation

Fuel type, or vegetation, plays an important role in determining wildland fire danger. All fuel types can and will burn under the right conditions; however, some fuel types pose more danger than others due to the intensity at which they burn, the horizontal and vertical continuity of burnable material, and firefighters' ability to modify the fuel complex in front of an approaching wildfire. While rangeland or grass fires often spread rapidly, they burn quickly and at a lower intensity than forest fires. Additionally, local farmers and firefighters can often construct fuel breaks with dozers and other equipment relatively quickly. These tactics are not as effective in forested areas or on steep terrain.

Vegetation types that lead to increased wildfire intensity or severity were given a higher threat level rating.

High Risk Fire Behavior

Due to heavy fuel loads, much of the County could experience extreme wildfire behavior characteristics that result in very intense, stand replacing fires. The agriculture/grassland areas will likely experience lower intensity fires with rapid rates of spread, particularly under the influence of wind.

One of the factors contributing to potentially dangerous fire behavior is the preheating of fuels on steep slopes ahead of the actual flame front. Typically, fires spread very rapidly uphill, particularly in grass fuel types. Hot gases rise in front of the fire along the slope face preheating the upslope vegetation and moving a

grass fire up to four times faster with flames twice as long as a fire on level ground. This preheating of fuels, or radiant heat, is capable of igniting combustible materials from distances of 100 feet or more.¹³

Areas with a high potential for extreme fire behavior based on Fire Behavior Analysis Tool modeling and local knowledge were given a higher threat level rating. Based on local knowledge, the grass fuel model was given a higher intensity level than it normally would receive due to the vast amounts of available fuel. Although grass fires can generally be controlled relatively easily, fires burning in this fuel type can spread rapidly. Extreme rates of spread coupled with the remote nature of much of the County, can cause significant control issues for local fire districts.

Suppression Capabilities

Fire protection in each district in Franklin County is essentially the responsibility of the local fire district. The County has five active fire districts and two municipalities with resources available for fire suppression. However, each district is limited to the resources at hand until help from other districts or state or federal agencies can arrive.

Some parts of the County fall under BLM or U.S. Fish and Wildlife Service fire protection responsibility. The BLM and USFWS have cooperative agreements with Franklin County Fire Districts to provide initial attack on their respective districts. The response times for the DNR and USFWS can be several hours or longer due to the logistical challenge of mobilizing both crews and equipment from their respective duty stations.

Population Centers and Developing Areas

Due to the increased human activity within and surrounding Franklin County communities, these areas are inherently at a higher risk of ignitions.

The perimeter and outskirts of population centers and known developing areas were given a high threat level rating.

High Protection Value

There are several areas in Franklin County that constitute protection due to their high conservation value such as tribal and other culturally or historically significant sites, recreational areas, and critical infrastructure. Watersheds were included in this risk category due to the limited supply of this natural resource within the County. Communication towers and State Parks are other examples of “High Protection Value” assets that were ranked with a high threat level.

Field Assessments

Based on the preliminary review of the risk categories, high risk areas were identified and mapped. Field assessment of these areas were conducted in October and included visits to U.S. Fish & Wildlife property, Smith Canyon, Juniper Dunes, subdivisions north of Pasco, and agriculture/canyon area in the northeast

¹³ “Wildfires and Schools”. 2008. National Clearinghouse for Educational Facilities. National Institute of Building Sciences. Available online at <http://www.ncef.org/pubs/wildfires.pdf>.

corner of the County as well as tours of several of the communities in combination with interviews with local residents in identified high risk areas. Fire control and mitigation specialists conducted thorough field assessment to evaluate the accuracy of the models and other data, assess the extent of risk and hazardous fuels, and develop specific hazardous fuels treatment project plans. Additionally, experts from the local fire districts, the Bureau of Land Management, and Franklin County were consulted in order to address specific areas of concern and document local wildfire suppression operational tactics.

Determination of Relative Threat Level

Following the field assessments, the planning committee began development of the Relative Threat Level model. Risk categories included in the final analysis were slope, aspect, precipitation, fuel models, rate of spread, fire intensity, and population density. The various categories, or layers, were ranked by the committee based on their significance pertaining to causal factors of high wildland fire risk conditions or protection significance. The ranked layers were then analyzed in a geographical information system to produce a cumulative effects map based on the ranking. Following is a brief explanation of the various categories used in the analysis and the general ranking scheme used for each.

- Environmental Factors – slope, aspect and precipitation all can have an enormous impact on the intensity of a wildfire. Therefore, areas with steep slopes, dry aspects, or lesser amounts of precipitation, relative to Franklin County, were given higher threat rankings.
- Vegetation Cover Types – certain vegetation types are known to carry and produce more intense fires than other fuel types. For Franklin County, shrub and grass fuel models were given the higher rankings followed by short grass / agriculture, and forest types (shrubs understory) fuel models.
- Fire Behavior – areas identified by fire behavior modeling as having high rate of spread potential or high fire intensity were given a higher threat level ranking.
- Populated Areas – these areas were ranked higher due to the presence of human populations, structures, and infrastructure requiring protection from fire.

Each data layer was developed, ranked, and converted to a raster format using ArcGIS 9.3. The data layers were then analyzed in ArcGIS using the Spatial Analyst extension to calculate the cumulative effects of the various threats. This process sums the ranked overlaid values geographically to produce the final map layer. The ranked values were then color coded to show areas of highest threat (red) to lowest threat (green) relative to Franklin County (Figure 20).

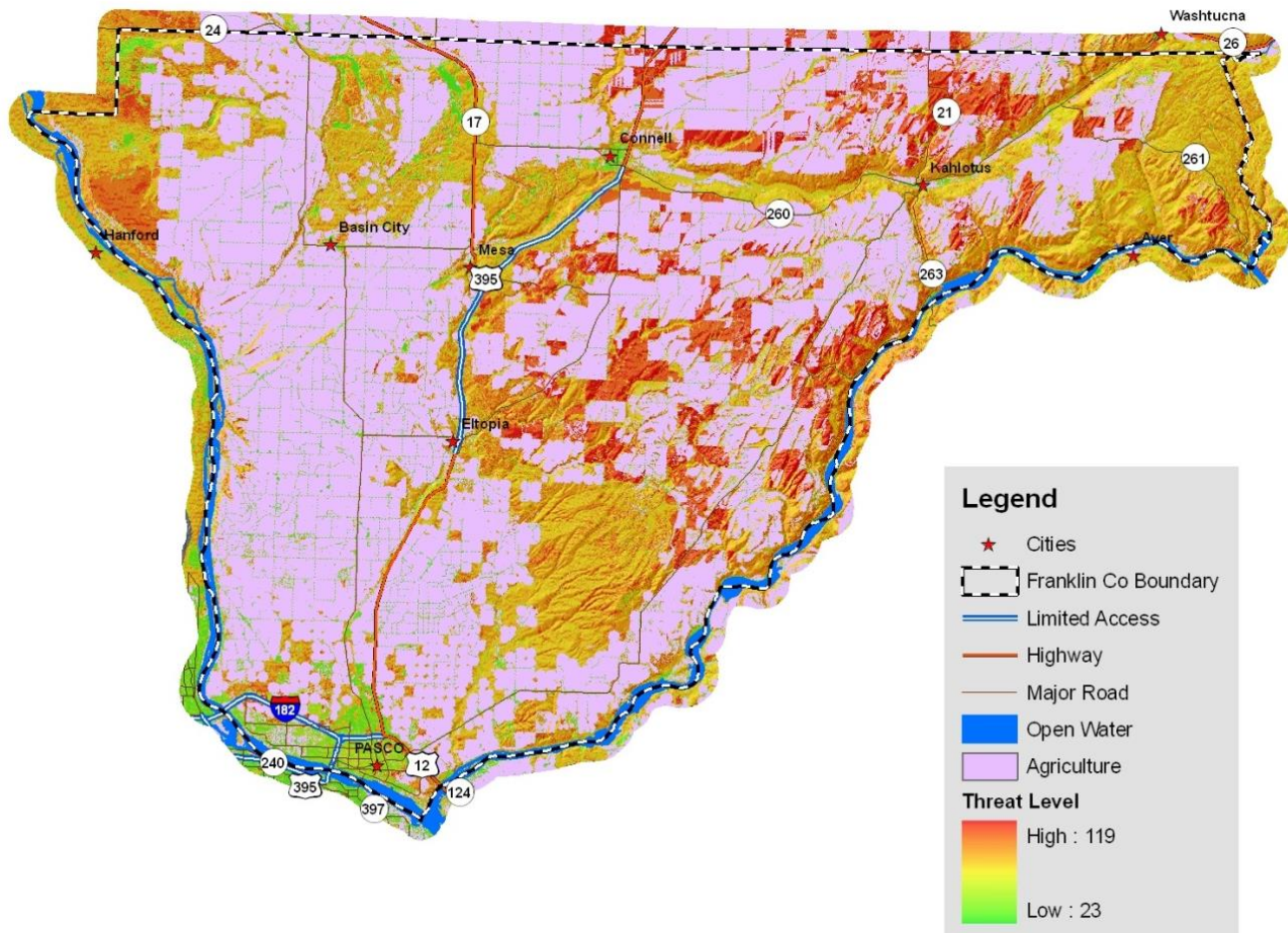


Figure 20: Franklin County Relative Threat Level Map, WA.

Fire Protection Issues

The following sections provide a brief overview of the many difficult issues currently challenging Franklin County in providing wildland fire safety to citizens. These issues were discussed at length both during the committee process and at the public meetings.

Address Signage

The ability to quickly locate a physical address is critical in providing services in any type of emergency response. Accurate road address and address signage is fundamental to ensuring the safety and security of Franklin County residents. Currently, there are numerous areas throughout the county lacking road signs, address markers, or both. Signage throughout the County needs to be updated to assure visibility and quick location by emergency responders.

Coordination with State and Federal Agencies

Efforts are being created to improve communication between local fire departments and the federal agencies through agreements and sharing communication plans. This presents a problem when there is confusion on who has initial attack responsibilities on federal lands and what restrictions are imposed by the jurisdictional agency responsible for fire protection.

Urban and Suburban Growth

One challenge Franklin County faces is the large number of houses in the urban/rural fringe. Since the 1970s, a segment of Washington's growing population has expanded further into traditional rural or resource lands. The "interface" between urban and suburban areas and the resource lands created by this expansion has produced a significant increase in threats to life and property from fires and has pushed existing fire protection systems beyond original or current design or capability. Franklin County has a low number of Firewise Communities; therefore, there are many property owners within the interface that are not aware of the problems and threats they face. Furthermore, human activities increase the incidence of fire ignition and potential damage.

Rural Fire Protection

People moving from mainland urban areas to the more rural parts of Franklin County, frequently have high expectations for structural fire protection services. Often, new residents do not realize that the services provided are not the same as in an urban area. The diversity and amount of equipment and the number of personnel can be substantially limited in rural areas. Fire protection may rely more on the landowner's personal initiative to take measures to protect his or her property. Furthermore, subdivisions on steep slopes and the greater number of homes exceeding 3,000 square feet are also factors challenging fire service organizations. In the future, public education and awareness may play a greater role in rural or interface areas. Great improvements in fire protection techniques are being made to adapt to large, rapidly spreading fires that threaten large numbers of homes in interface areas.

Debris Burning

Local burning of yard debris is highly regulated in Franklin County by the Washington Department of Ecology based on clean air standards. Burn permits are issued by the Franklin County Conservation District for acreage burned, while burn bans are a locally-based decision determined by fuel moistures (see Fire District Summaries for more information on burning). Some people still burn outside of the designated time frame, and escaped debris fires impose a very high fire risk to neighboring properties and residents. It is likely that regulating this type of burning will always be a challenge for local authorities and fire departments; however, improved public education regarding the County's burning regulations and permit system as well as potential risk factors would be beneficial.

Pre-planning in High Risk Areas

Although conducting home, community, and road defensible space projects is a very effective way to reduce the fire risk to communities in Franklin County, recommended projects cannot all occur immediately, and many will take several years to complete. Thus, developing pre-planning guidelines specifying which and how local fire agencies and departments will respond to specific areas is very beneficial. These response plans should include assessments of the structures, topography, fuels, available evacuation routes, available resources, response times, communications, water resource availability, and any other factors specific to an area. All of these plans should be available to the local fire departments as well as dispatch personnel.

Conservation Reserve Program Fields

Since the introduction of the CRP by the federal government, many formerly crop producing fields have been allowed to return to native grasses. CRP fields are creating a new fire concern all over the west. As thick

grasses are allowed to grow naturally year after year, dense mats of dead plant material begin to buildup. Due to the availability of a continuous fuel bed, fires in CRP fields tend to burn very intensely with large flame lengths that often jump roads or other barriers, particularly under the influence of wind. Many landowners and fire personnel are researching allowable management techniques to deal with this increasing problem.

Currently, large blocks of land as well as scattered parcels in Franklin County are enrolled in the CRP program. Hundreds of acres of continuous higher fuel concentrations as well as limited access to these areas have significantly increased the potential wildfire risk in these areas. Many CRP landowners are willing to conduct hazardous fuel reduction treatments to lessen the fire risk; however, they are often limited by the regulations of the CRP program.

Volunteer Firefighter Recruitment

The rural fire departments in Franklin County are predominantly dependent on volunteer firefighters. Each district spends a considerable amount of time and resources training and equipping each volunteer, with the hope that they will continue to volunteer their services to the department for at least several years. One problem that all volunteer-based departments encounter is the diminishing number of new recruits. As populations continue to rise and more and more people build homes in high fire risk areas, the number of capable volunteers has gone down. Many departments have difficulty maintaining volunteers available during regular work day hours (8am to 5pm).

Communication

There are several communication issues being addressed in Franklin County. Many of the emergency responders have identified areas of poor reception for both radios and cell phones. The lack of communication between responders as well as with central dispatch significantly impairs responders' ability to effectively and efficiently do their job as well as lessens their safety. The conversion to a narrow band communication system exacerbated these issues and will require numerous additional repeaters to be installed.

On a smaller scale, many subdivisions or unincorporated population centers have identified the need to improve emergency communication between residents. In an emergency situation, there is no existing way of notifying each resident in an area of the potential danger, the need for evacuation, etc. Many groups of homeowners have begun to establish phone trees and contact lists in order to communicate information at the individual scale; however, this is not being done in all of the high wildfire risk areas within the County.

Water Resources

Nearly every fire district involved in this planning process indicated the need to develop additional water resources in several rural areas. Developing water supply resources such as cisterns, dry hydrants, drafting sites, and/or dipping locations ahead of an incident is considered a force multiplier and can be critical for successful suppression of fires. Pre-developed water resources can be strategically located to cut refilling turnaround times in half or more, which saves valuable time for both structural and wildland fire suppression efforts.

Invasive Species

Fire behavior and fire regimes have been altered due to the proliferation of cheatgrass (*Bromus tectorum*) and other invasive species. Cheatgrass has a very fine structure, tends to accumulate litter, and dries completely in early summer, thus becoming a highly flammable, often continuous fuel.

Public Wildfire Awareness

As the potential fire risk in the wildland urban interface continues to increase, it is clear that fire service organizations cannot be solely responsible for protection of lives, structures, infrastructure, ecosystems, and all of the intrinsic values that go along with living in rural areas. Public awareness of the wildland fire risks as well as homeowner accountability for the risk on their own property is paramount to protection of all the resources in the wildland urban interface.

Landscape Risk Assessments

The following description was excerpted from the 2008 Franklin County Growth Management Comprehensive Plan.

Franklin County is located in the south-central part of the State of Washington. It is bounded on the west and separated from Benton County by the Columbia River. On the south and east the Snake River and its tributary, the Palouse River, separate it from Walla Walla County. On the north Grant and Adams Counties bound it. The area is arid to semiarid, receiving an average rainfall of about six to seven inches per year. The area averages about 10.3 days of snowfall and 7.5 days of rainfall annually. The median monthly temperature ranges from a low of 30.6 degrees Fahrenheit in January to a July high of 75.7 degrees Fahrenheit. High wind velocities, with peak gusts as high as 70 mph or higher, can be expected at any time of the year.

Franklin County is part of what is referred to as the Columbia Basin Province. The County contains many canyon and cliff features such as Palouse Canyon, Juniper Dunes wilderness, and Devils Canyon as well as unique rock formations. The County lies at the south end of the Channel Scablands. The geology of Franklin County was formed by alternate volcanism and flooding. Three of the five geological formations, which characterize the entire Columbia River Basalt Group, occur in Franklin County.

Franklin County can be characterized as a level to steep loessial upland steppe zone. Elevations range from about 345 feet above sea level at the southernmost part of the County to over 1,600 feet in the northeastern part. Even though rainfall amounts are small, the moisture that does fall escapes evaporation during winter months and seeps deeply into the soil. This provides water to sustain vigorous growth in the spring. The upland loams are dominated by bluebunch wheatgrass, Idaho fescue, and Sandberg's bluegrass (*Poa Secunda*). The sand soils support Indian ricegrass (*Achnatherum hymenoides*) and sand dropseed (*Sporobolus cryptandrus*). The remainder of the area is classified as "shrubsteppe" and is characterized by various sagebrush species. Dominance over much of the region is by nonnative cheatgrass. Because of the turbulent floods that inundated the area, the soils tend to be thin and stony. The varied terrain and major river environments that cut through the steppe region of Franklin County create many unique habitats for wildlife. Areas such as Scootene Lake, Eagle Lake, the Lower Palouse, and the Snake River and Snake River Island are some of those. The Washington Environment Atlas lists over 35 important species of birds and five

species of mammals, which range over the area. These include sage grouse, scaled quail, peregrine falcon, and coyote, among others.

The Columbia and Snake Rivers are an important ecosystem for Franklin County. The Columbia River between McNary Pool and Priest Rapids Dam is the only remaining free flowing segment in Washington, and the last spawning grounds of the fall Chinook salmon (*Oncorhynchus tshawytscha*). About 80 percent of the Great Basin Canada goose (*Branta canadensis*) population nest and live most of the year in the Columbia River region, which also provide wintering grounds for the rare giant Canada goose (*Branta canadensis maxima*).

Cover vegetation and wildland fuels exhibited across the county have been influenced by massive geologic events during the Pleistocene era that scoured and shifted the earth's surface leaving areas of deep rich soil interspersed with rocky canyons and deep valleys. In addition to the geological transformation of the land, wildland fuels vary within a localized area based on slope, aspect, elevation, management practices, and past disturbances. Geological events and other factors have created distinct landscapes that exhibit different fuel characteristics and wildfire concerns.

In order to facilitate a mutual understanding of wildfire risks specific to commonly known areas in the county, the landscape-level wildfire risk assessments in the following sections are based on four predominant landscape types that exhibit distinct terrain and wildland fuels. The three landscapes identified for the assessments are: agricultural lands, shrub steppe lands, and riparian areas. These landscapes, although intermixed in some areas, exhibit specific fire behavior, fuel types, suppression challenges, and mitigation recommendations that make them unique from a planning perspective.

Overall Fuels Assessment

The gentle terrain that dominates Franklin County facilitates extensive farming and ranching operations. Agricultural fields occasionally serve to fuel a fire after curing; burning in much the same manner as short to tall grassy fuels. Fires in grass and rangeland fuel types tend to burn at relatively moderate intensity with moderate flame lengths, rapid rates of spread, and short-range spotting. Common suppression techniques and resources are generally quite effective in this fuel type. Homes and other improvements can be easily protected from direct flame contact and radiant heat through adoption of precautionary measures around structures.

Rangelands with a significant shrub component will have much higher fuel loads with greater spotting potential than grass and agricultural fuels. Although fires in agricultural and rangeland fuels may not present the same control problems as those associated with large, high intensity fires in timber, they can cause significant damage if precautionary measures have not been taken prior to a fire event. Wind driven fires in these fuel types spread rapidly and can be difficult to control. During extreme drought and when pushed by high winds, fires in agricultural and rangeland fuels can exhibit extreme rates of spread, which complicates suppression efforts.

Riparian areas in arid environments often have a higher amount of fuel loading due to the relatively abundant water supply. Vegetation tends to be more abundant and robust in these areas. Fuel loading often compounds year after year as new growth replaces old growth. Deciduous trees and shrubs are common

along waterways and contribute to on the ground fuel loads as they lose their leaves every year. Riparian areas experience a higher amount of recreation use due to various outdoor opportunities (fishing, camping, swimming, etc.). The increased activity may lead to unusually high amounts of ignitions.

Values of Resources at Risk

At risk resources vary greatly depending on the location of the wildfire and the values of these resources can be far reaching and difficult to quantify.

The agricultural sector of the economy carries extensive values that a wildfire would put at immediate risk if the incident was in proximity to agricultural lands or facilities. Personal property, especially in the wildland-urban interface, consists of a wide range of values that would be at risk during a wildfire event. Response to any wildfire, especially a major one, would likely put stress on many support industries, critical infrastructure, and emergency response personnel and facilities within the county.

Flood Profile

Much of the information below was excerpted or derived from past Franklin County Hazard Mitigation Plans, the Franklin County Comprehensive Emergency Management Plan, or from the Washington Military Department's Washington State Enhanced Hazard Mitigation Plan (EHMP).

Probability and Risk

Based upon the historical record of flooding in the Columbia River and the Esquatzel Coulee, and the impacts that flood events have had on the citizens of Franklin County, there is a **MODERATE PROBABILITY** of future flooding and a **MODERATE RISK** for the people, businesses, and infrastructure located within the floodway and the floodplain of the Columbia River and Esquatzel Coulee.

Local Event History

The following is a list of selected flood events in Franklin County, some of which were mentioned in the *Flood* section of Chapter 3.

- May 1948: Property damage in Benton and Franklin counties totaled \$702,000 in 1948 dollars.
- March 1979: FEMA declared disaster for the town of Mesa due to flash flooding.
- December 1996-January 1997: Federal Disaster declared due to saturated ground, snow, freezing rain, rapid warming and high winds all within a five-day period throughout much of Washington state. More than two-dozen counties were impacted, including Franklin County. Western Washington saw the most destruction and loss of life, but major damage occurred across the state.
- January 2006: A month of steady rainfall, beginning mid-December, culminated with a Federal Disaster Declaration eventually extended to all 39 counties of Washington state. State and local transportation infrastructure was seriously impacted, and personal property was damaged.
- January-February 2017: A major Disaster Declaration was made on April 21, 2017. Several counties (most of them in eastern Washington), including Franklin County, received approval for public assistance grants for the period between January 30 and February 22. Severe storms, flooding and

landslides caused widespread destruction. Franklin County experienced major flooding in the Esquatzel Coulee and in the South Columbia Basin Irrigation District's canal system (Figure 21).



Figure 21: February 2017 Franklin County, WA - South Columbia Basin Irrigation Canal

Probability of Future Occurrence

In Franklin County, floods are a threat to property and the environment, and to a lesser extent, the safety of persons and livestock located within the floodway and the floodplain.

The citizens of Franklin County need to understand the flood risk in the areas they elect to live and do business. Citizens need to know what the terms FLOOD WATCH and FLOOD WARNING mean. They need to know that the existing dike system (or any other flood control device) will not protect their property from all flood events.

At this time the participating NFIP jurisdictions will work toward updating their flood risk maps. The jurisdictions, if funding is available, will work towards providing community outreach to increase the knowledge of the local flood risk to their residents.

Warning and evacuation of flood-prone areas has improved significantly in the past 25 years. River flow gauging systems operated by the United States Geological Survey provide the National Weather Service, the River Forecast Center, and Franklin County government with up-to-date river levels greatly increasing the ability to predict flood events on the Columbia River. The timeliness of these predictions, as well as the

familiarity of local agencies as to their roles and responsibilities, significantly improves the county’s preparedness level for flood events. During a flood event, every attempt is made to ensure that flood warning information is disseminated as widely as possible. In addition, 24-hour flood information is available via telephone and the Internet to aid citizen access to flood information. This information includes river-level gauge readings that are updated on a regular basis during flood emergencies.

Impacts of Flood Events

All persons, property, and businesses located within the floodway and the floodplain of the Columbia River or Esquatzel Coulee are directly vulnerable to flooding. In addition, the overall economy of Franklin County is directly or indirectly vulnerable to major flood events.

In the past, those mainly affected by flooding were the families that lived along the Columbia River shoreline or in the cities of Connell, Mesa and Kahlotus. Figure 22 shows National Flood Insurance Program (NFIP) flood zones by ownership in Franklin County and Table 14 displays descriptions of NFIP flood zones. With the dramatic increases in population and commercial development in the southern portion of Franklin County that has occurred in recent years, the effects of a major flood event could be long-term and very difficult to overcome.

The levee system monitored by the U.S. Army Corps of Engineers poses flood risk potential to Franklin County. The USACE identifies Franklin County as a contact in the event of an emergency.

Table 14: National Flood Insurance Program (NFIP) flood zone categories and descriptions.

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

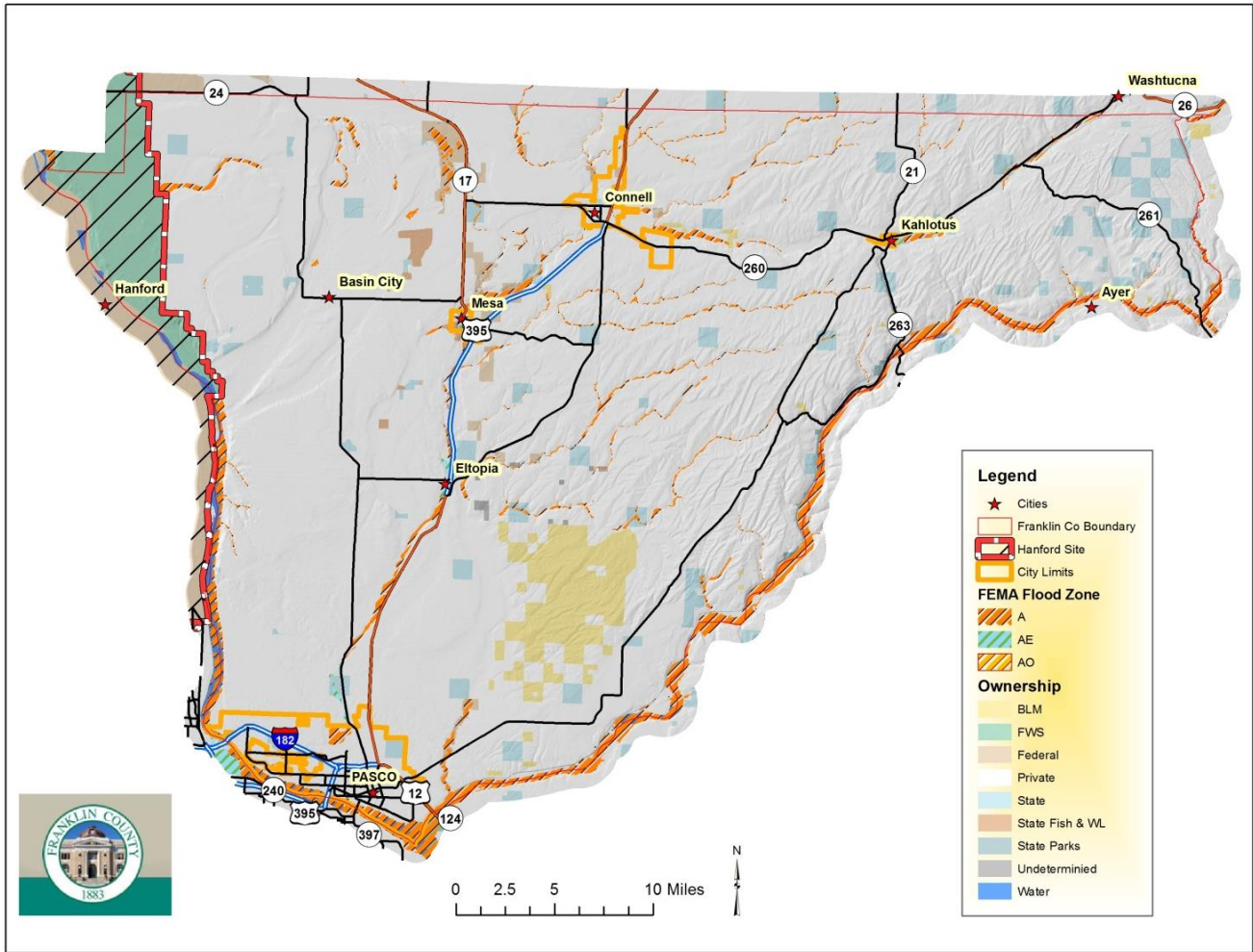


Figure 22: Map of National Flood Insurance Program flood zones by ownership in Franklin County, WA.

Development Trends

As both population and demand for development are projected to increase for Franklin County, it should be expected that Franklin County will have more infrastructure at risk during a flood event. Land use planning and adherence to building codes in flood sensitive areas should help reduce the amount of infrastructure at risk during a flood event. At this time, there are no plans for development in flood prone areas in Franklin County.

Values of Resources at Risk

Using Hazus-MH 2.1, the Washington Military Department examined loss projections caused by a riverine flood. This was reported in the EHMP as General Building Stock total losses, inflated to 2012 dollars, and presented by county. Summarizing the results for Franklin County, GBS total losses are projected at more than \$245.5 million. There are 93 structures located within National Flood Insurance Program flood zones in Franklin County (Figure 23) that have a collective value of over \$22 million. The majority of the structures are classified as single family homes that are valued at just over \$16.3 million in total (Table 15).

Table 15: Classification, number, and value of all structures located within National Flood Insurance Program flood zones in Franklin County, WA.

Structure Classification	Number	Total Value
Land - Undeveloped	1	\$ -
Residential - Other	9	\$ 1,649,700.00
Residential - Single Family	58	\$ 16,326,600.00
Resource - Agriculture	24	\$ 4,022,500.00
Trade - Other	1	\$ 23,600.00
Total	93	\$ 22,022,400.00

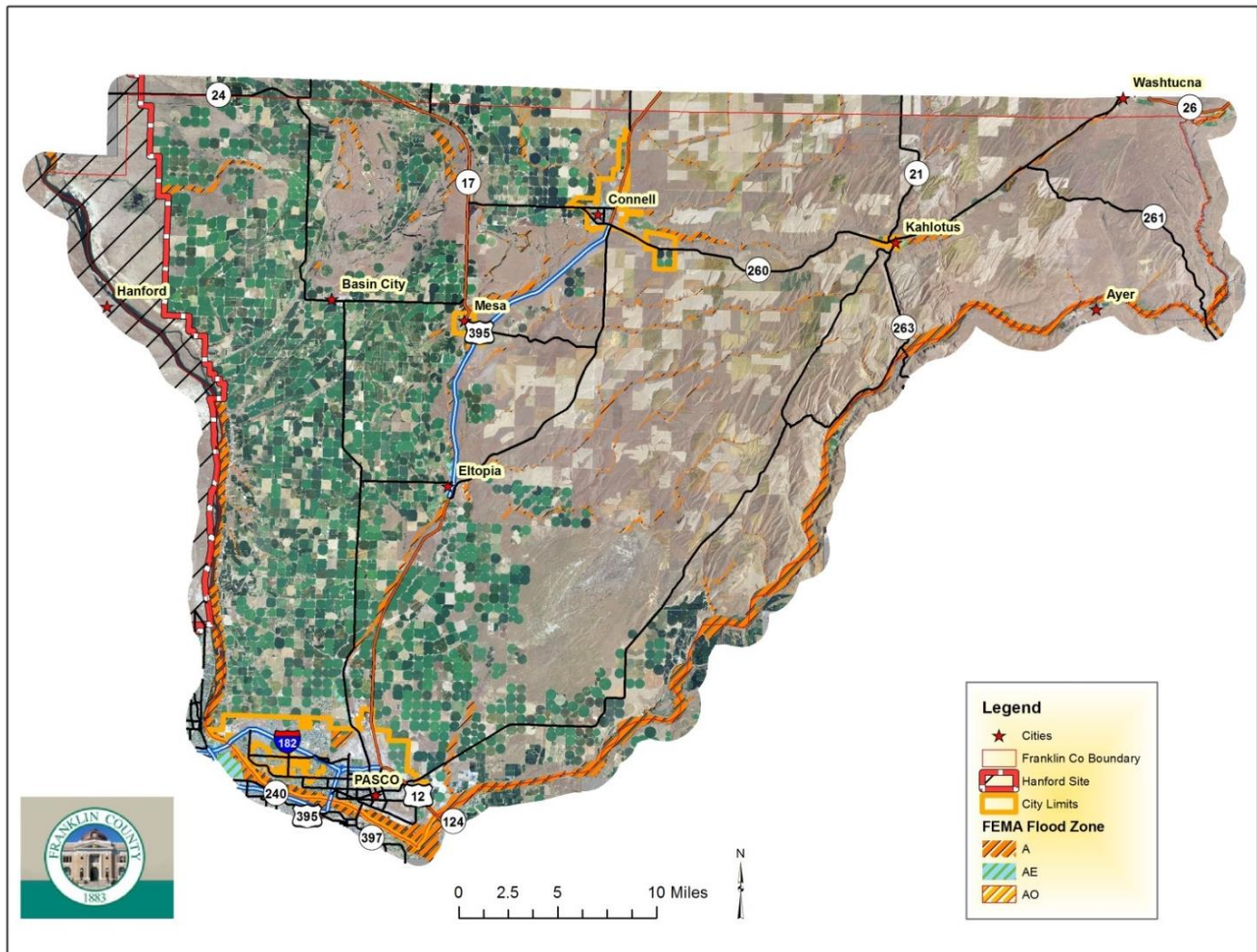


Figure 23: Map of National Flood Insurance Program flood zones in Franklin County, WA.

Those persons that choose to live and/or work in a flood hazard area need to recognize that government is not able to totally protect them from the impacts of a flood. Those people at risk need to take the necessary actions to prepare themselves, their families, and their businesses before a flood event – not after. Persons buying homes in the floodway and/or the 100-year flood plain are almost always required to purchase flood

insurance as a condition of financing; however, there is no requirement that all residential structures purchase flood insurance if not required by a lending institution. According to figures provided by the Washington State Floodplain Manager, there have been minimal flood insurance policies issued in Franklin County (Table 16).

Franklin County is a participant in the national Flood Insurance Program (NFIP). The identifying, analyzing, and prioritizing of mitigation measures is based (and will continue to be based) upon continued participation and compliance with the National Flood Insurance Program. No repetitive loss properties have been identified with the County of Franklin.

Table 16: Flood Insurance Policies by Jurisdiction (source: FEMA Region X - <https://www.fema.gov/policy-claim-statistics-flood-insurance> 03/31/2018)

Jurisdiction	Policies	Total Insurance in Force
Pasco	3	\$1,150,000
Connell	3	\$315,000
Mesa	0	-
Kahlotus	0	-
Unincorporated Franklin County	24	\$7,125,200
Total	30	\$8,590,200

Land Movement Profile

Much of the information below was excerpted or derived from past Franklin County Hazard Mitigation Plans, the Franklin County Comprehensive Emergency Management Plan, or from the Washington Military Department’s Washington State Enhanced Hazard Mitigation Plan (EHMP).

Probability and Risk

Based on historical evidence, there is a **MODERATE PROBABILITY** of a destructive landslide occurring in Franklin County. Because of the infrequency of landslide events occurring in populated areas of Franklin County, there is a **LOW RISK** associated with this hazard during the majority of the year with the risk increasing to **MODERATE** during the times when irrigation systems are up and operating; typically mid-March through the end of October.

Local Event History

The Washington State Enhanced Hazard Mitigation Plan discusses how increased irrigation over the last 50+ years, especially near Pasco, has compounded landslide potential. Recent significant landslide events have also occurred in non-irrigated areas of Franklin County. Two different recent landslide events are mentioned below.

On May 13, 2006 a large section of the bluff above Road 170 near Mesa, sloughed off and slid across a stretch of the road. Roughly a quarter-mile length of the road was buried about 40 feet deep. The

Washington State Department of Natural Resources, in their overview of landslide hazards in the state, reported that the costs to repair and reroute the road totaled approximately \$6 million.

On July 16, 2012 a landslide occurred on the Pasco-Kahlotus Highway (Figure 24). Rocks and dirt covered the road, obstructing travel temporarily. The landslide was the result of unusually heavy rainfall during a thunderstorm in an area with steep slopes and unstable soils. The Washington Department of Transportation approved up to \$100,000 in disaster maintenance funds and work crews took five days to clear the road for normal traffic use.



Figure 24: Rock slide on Pasco-Kahlotus Highway 07/16/12

Probability of Future Occurrence

As houses and roads are built on steeper slopes and hillsides, landslide hazards become an increasingly serious threat to life and property. Increasing residential development along slopes and cliffs such as the rapid development of homes along the cliffs overlooking the Columbia River and other similar cliffs and hillsides throughout the county are at a greater risk to land movement than older developments located on hillsides with less slope. In addition, wildland fires and land clearing for housing developments or agricultural use may cause soils to become less stable thereby increasing the threat of slides. One or a combination of factors may precipitate a landslide. Undercutting of a slope by river or stream erosion, wildland fire, or road building may cause landslides. Intense or prolonged irrigation, rapid snowmelt, freezing and thawing of soil or sharp fluctuations in groundwater levels are all normal for Franklin County and may be the cause of a sudden landslide which may be combined with flooding. Shocks or vibrations caused by earthquakes, large explosion, or construction activity can also lead to landslides. Land stability cannot be predicted with current technology but information about local soil types and hydrology can be used to make inferences about landslide susceptibility. Figure 25 shows the areas of Franklin County that are likely to be most susceptible to land movement events.

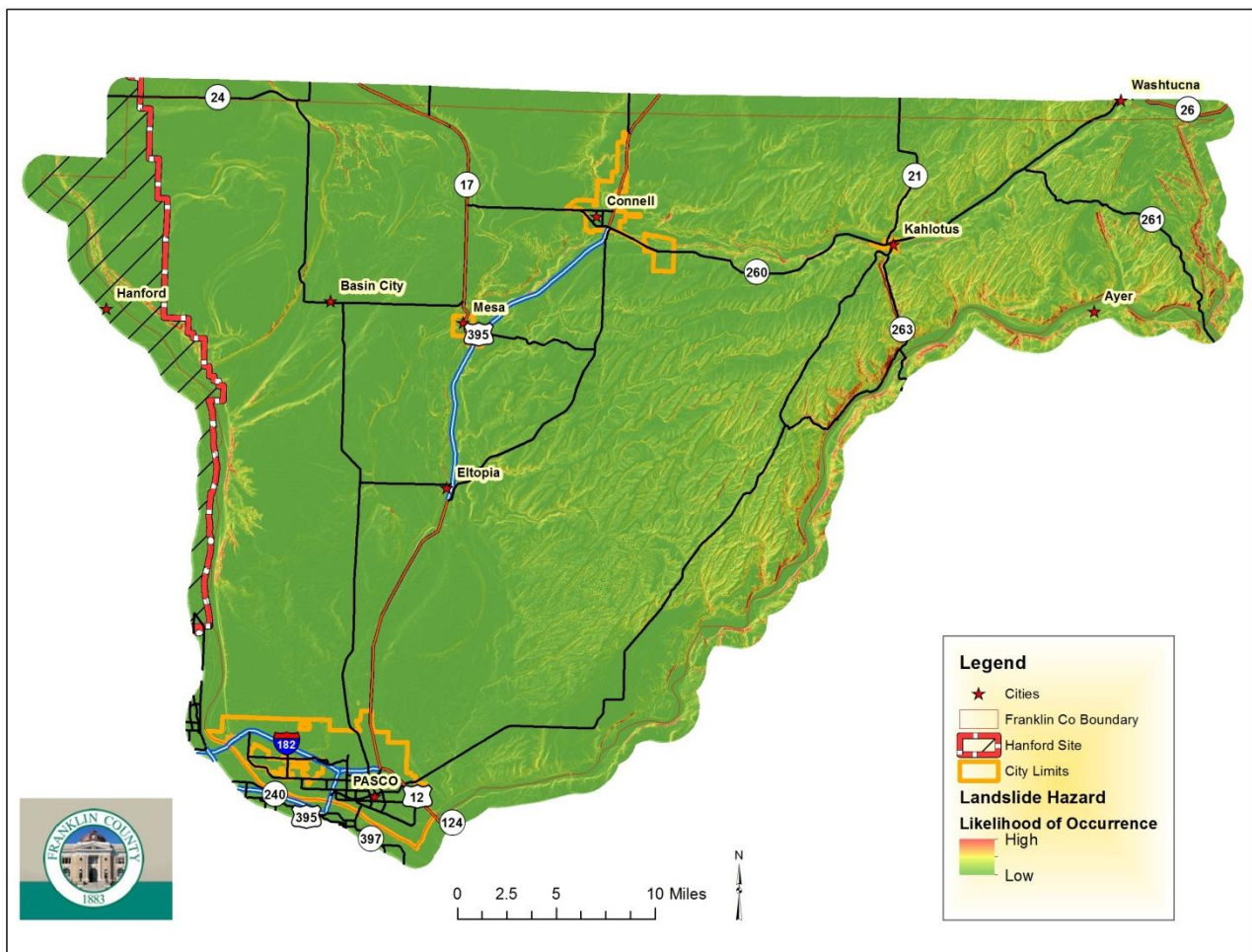


Figure 25: Land movement risk map for Franklin County, WA.

Due to population density and desire of people to have a home with a view, an increasing number of structures are built on top of or below slopes subject to land sliding. Landslides in these areas can take lives, destroy homes and businesses, undermine bridges, derail railroad cars, cover fish habitat and spawning grounds, interrupt transportation infrastructure, and damage utilities.

Impacts of Land Movement Events

Homes, businesses, schools, hospitals, roads, bridges, and other infrastructure located on or near previous slide areas, steep slopes, or alluvial fans are most vulnerable to the impacts of landslides, debris flows, or mudflows. Property and lives may be lost and transportation routes as well as utility infrastructure may be damaged. A large landslide that affects creek beds, rivers, or lakes may cause flooding. Canyon bottoms, stream channels, and areas near the outlets of canyons or channels are particularly hazardous. Multiple debris flows that start high in canyons commonly funnel into channels; there, they merge, gain volume, and can travel long distances from their sources. Debris flows commonly begin in swales on steep slopes making areas down-slope from swales particularly hazardous. Road cuts and other altered or excavated areas of slopes are particularly susceptible to debris flows. Debris flows and other landslides onto roadways are common during heavy rain events and can occur during milder rain events than those needed for debris flows on natural slopes. Areas where surface runoff is channeled (such as along roadways and below culverts) are common sites of debris flows and landslides to occur.

Washington is one of seven states listed by the Federal Emergency Management Agency as being especially vulnerable to severe land stability problems. Earthquakes combined with heavy saturated soils may increase risk for those previously thought to be on stable ground. With an increasing population desiring “view” property and tree removal to be able to “see the view” there is increasing risk of landslides in residential areas. Those buildings on or near steep slopes and bluffs could be at risk during the irrigation season or a rapid snowmelt. The property located below these steep slopes and bluffs is particularly vulnerable.

As with all other hazards, people need to become familiar with their surroundings. Slopes where debris flows have occurred in the past are likely to experience them in the future. Buildings should be built away from steep slopes, streams, rivers, and dry stream beds. Those persons who live in slide-prone areas need to be aware of storm-water drainage patterns on slopes near their homes and note places where runoff water converges. Residents of slide-prone areas should be aware of hillsides and watch for any signs of land movement such as very small landslides or debris flows or progressively tilting trees.

Development Trends

Both population and demand for development have increased and are expected to continue to increase for Franklin County. Future development could increase the vulnerability of Franklin County to land movement events as there are areas that are at moderate to high risk for landslides. Land-use planning and development of and adherence to building codes can limit future exposure to land movement events.

Values of Resources at Risk

Resources most at risk in a land movement event include infrastructure, economy, and personal and municipal property. These values vary significantly throughout the county. Most of the value associated with these resources is located in and near Pasco because it is the hub for commerce, industry, and transportation, and because it is the largest residential area.

Erosive areas exist throughout Franklin County, but not all those locations contain resources of monetary value. Landslide-prone areas do exist near in or near the cities of Pasco, Connell, and Mesa where valuable resources are located.

The following list is a compilation of comments and suggestions made by various stakeholders and the public regarding possible problems that could result from a land movement event.

In addition to damaging homes, businesses, property, and the environment, a land movement event in Franklin County could potentially result in the following:

- Disrupted and/or damaged transportation routes and systems.
- Damage to underground as well as above-ground utilities.
- Secondary damage may occur due erosion caused by broken water transmission lines/canals.
- Streams may be partially or completely blocked and/or diverted from their normal channels. A very large land movement event could possibly block river channels resulting in the formation of a lake upstream of the blockage and the threat of a sudden release of this trapped water upon failure of the material.

Severe Storms Profile

Much of the information below was excerpted or derived from past Franklin County Hazard Mitigation Plans, the Franklin County Comprehensive Emergency Management Plan, or from the Washington Military Department's Washington State Enhanced Hazard Mitigation Plan (EHMP).

Probability and Risk

Based on past events, there is a **HIGH PROBABILITY** of a severe storm event occurring in Franklin County. While the probability of such an event is high, there is a **MODERATE RISK** associated with this hazard due to the relatively short duration and localized impacts of such events.

Local Event History

Severe storms, especially severe wind storms are common in Franklin County during the spring and fall months and all areas of Franklin County are vulnerable to the impacts of severe storms.

The "Columbus Day Storm" of 1962 was a devastating windstorm that hit the Pacific Northwest and damaging winds were reported into eastern Washington.

In the winter of 1996-1997, Franklin County experienced a massive storm that brought heavy snow accumulation, high winds and rain and led to a FEMA Disaster Declaration.

In 2006 a windstorm affected all 39 counties in Washington, causing \$50 million in damage statewide.

The most recent severe storm event was in February 2017. Heavy snow and rain caused flooding and eventually led to a FEMA Major Disaster Declaration (Figure 26).



Figure 26: Pasco Marina damage from 2017 winter storm.

Probability of Future Occurrence

Of all the natural hazards, severe local storms (especially severe wind storms) are very likely to affect Franklin County. These storms have the ability to cause considerable destruction and can impact the lives of large numbers of people. Franklin County experiences nearly every type of weather including wind, rain, snow, fog, extreme heat, extreme cold, hail and thunderstorms. When severe weather events occur, they can significantly impact Franklin County posing a danger to life and property as well as possible causing economic losses.

Impacts of Severe Storm Events

Some storms are more severe and require assistance from a variety of governmental agencies or emergency responders such as: public works, fire service, emergency medical services, search and rescue, and law enforcement in addition to utility company personnel. While local electrical power outages can occur during severe storm events, the loss of power is usually only an inconvenience causing minor consequences unless the outage continues for an extended period of time or during a period of extremely cold temperature. Extended electrical power outages occurring during winter months may require the opening of emergency shelters, particularly in cold weather.

Livestock can be vulnerable to all types of winter storms although most large dairy herds have at least limited shelter available. A severe snow event followed shortly thereafter by extremely cold temperatures can have an adverse effect on wild animals and birds due to a lack of sufficient food, water and shelter.

Due to the frequency and possible destructive nature of severe storm events, individuals, families, and businesses should be aware of the impacts of a severe local storm and take the necessary actions to prepare themselves, their families, and their businesses before such events occur – not after. Citizens and businesses can prepare for severe storm events just as they plan for any emergency. To be better prepared for severe storm events, citizens should:

- Have a plan
- Prepare an Emergency Kit with a 3-day minimum of food and water supplies
- Take advantage of Community Emergency Response Team training
- Purchase and use a NOAA Tone-Alert Weather Radio or other Tone-Alert Radio
- Inquire about emergency plans at your work, schools and places that you frequent
- Practice your Plan with all of your family members

Development Trends

Both population and demand for development have increased and are expected to continue to increase for Franklin County. Future development could increase the vulnerability of Franklin County to severe storms as there are areas that are at moderate to high risk for landslides and well defined flood zones. Land-use planning and development of and adherence to building codes can limit future exposure to severe storm events.

Values of Resources at Risk

Values at risk to severe storms vary across county. Agriculture is a very valuable component of the local economy and agricultural lands make up roughly 85% of Franklin County. These lands and the values and incomes they produce are at risk during severe storm events. Agricultural values within the local economy continue to increase, and the population depending on the local economy has grown significantly as well. The Washington State Employment Security department reports that the population of Franklin County has seen a growth rate of almost 78% over the last two decades.

Residential and commercial property is also at risk to severe storms. Windstorms can directly damage property or cause damage via wind-blown debris. Severe storms can lead to other hazard events, especially flooding and landslides, and these can cause damage to property, infrastructure, and agriculture. Also, the threats that severe storms pose to human safety can deplete resources and disrupt transportation, which in turn impacts valuable resources further.

The following list is a compilation of comments and suggestions made by various stakeholders and the public regarding possible problems that could result from a severe storm.

In addition to damaging homes, businesses, property, and the environment, a severe storm event in Franklin County could potentially result in the following:

- Disrupted and/or damaged transportation routes and systems.
- Disruption of service and/or damage to above-ground utilities. Emergency response agencies may be delayed in responding to emergency incidents due to downed trees and utility power poles and lines or unusually heavy accumulations of storm water, snow, or ice.
- Unusually heavy rainfall or rapid snowmelt may cause surface flooding in low lying areas.

Volcano Profile

Much of the information below was excerpted or derived from past Franklin County Hazard Mitigation Plans, the Franklin County Comprehensive Emergency Management Plan, or from the Washington Military Department's Washington State Enhanced Hazard Mitigation Plan (EHMP).

Probability and Risk

Because of the historical infrequency of such events, it is unlikely that we will see a volcanic eruption in our lifetimes. However, due to the prevailing winds within Franklin County, the impacts of a major eruption from Mount Adams, Mount Hood or Mount Saint Helens to persons, property, infrastructure, and the environment in Franklin County would be serious though not necessarily catastrophic. Therefore, there is a **LOW PROBABILITY** of such an event occurring, but a **MODERATE RISK** to persons, property, and the environment in Franklin County should an eruption occur.

Local Event History

Franklin County has experienced the same volcanic history as the rest of the eastern Washington region. The most recent local volcano event to have any effect on Franklin County was the Mount St. Helens eruption of 1984. The region received windblown ash from Mount St. Helens several inches thick.

Probability of Future Occurrence

Although the probability of a volcanic eruption is low, if an eruption were to occur, the greatest threat to life, property, infrastructure, and the environment in Franklin County would most likely be from tephra originating from Mount Adams, Mount Hood, Mount Rainier, or Mount St. Helens. Based on past events and especially the 1980 eruption of Mount St. Helens, future eruptions from any of these volcanoes will almost certainly be preceded by an increase in seismic (earthquake) activity and possibly by measured swelling of the volcano and emission of volcanic gases. The University of Washington - Pacific Northwest Seismograph Network, in cooperation with the USGS, monitors seismic activity of the Cascade Range volcanoes that could signal a possible future eruption. In addition, the USGS monitors gas emissions from several volcanoes to detect possible changes in the volcano's interior "plumbing system" that may be a warning of impending magma activity or an increase in hydro-volcanic activity in an effort to predict the likelihood of an eruption

event. This ability to monitor seismic and other types of activity at the Cascade Range volcanoes provides a warning system of sorts for volcanic eruptions that could impact Franklin County.

Impacts of Volcano Events

The degree of volcanic hazard from the volcanoes of the Cascade Range depends upon the type, size, and origin of the eruption. While the possibility of a large volcanic eruption exists, these types of events are typically separated by several hundred to a few thousand years and it is unlikely that we will see such an event in our lifetimes. The effect to Franklin County from a volcanic eruption in the Cascade Range is primarily limited to tephra fallout. There is also a potential that watershed areas (Columbia River, Snake River, Esquatzel Coulee) could experience increased sediment loads. This is likely to affect fish spawning grounds and possibly municipal water and wastewater systems as well as irrigation systems on the Columbia River.

Because of the flow direction of prevailing winds, most airborne ash would most likely be carried toward the population of Franklin County should an eruption occur. Franklin County could receive tephra and ash from any number of Cascadian volcanoes however; Mount Adams, Mount St. Helens, Mount Rainier, and Mount Hood are the primary volcanoes of concern. The 1980 eruption of Mount St. Helens produced enough ashfall to cover the northern portion of Franklin County with about ¼-inch.

The 1980 Mount St. Helens eruption made it clear that preparing for and responding to a volcanic event must involve a wide variety of agencies and jurisdictions. Interviews were conducted with city and county officials present during the eruption. Most have stated that there were a variety of effects to city and county governments. For example, most jurisdictions took the simple precaution of checking roof loads and gutter systems, changing the air filters in city/county vehicles every few days, and minimizing the amount of driving done in city/county vehicles. Other precautions included monitoring ventilation filters, water and wastewater system quality, and air quality. Franklin County Public Works provided heavy equipment and crews to Adams County to assist with the ash clean-up. Most interviewees stated that Franklin County residents were lucky in comparison to similar communities to the north, such as Ritzville, that received over one foot of ash.

Development Trends

Despite a steady increase in population and demand for development, the vulnerability of Franklin County to volcanic activity has not changed. While difficult to prepare for the consequences of ash fall, mitigation strategies, such as keeping roadways clear for emergency crews and first responders, can help protect and save lives during a volcanic eruption.

Values of Resources at Risk

The resources of value that would be most at risk in a volcanic eruption event are those that would be adversely affected by the ashfall. The agricultural sector of the economy would likely suffer from such an event and that would significantly harm the overall economy of Franklin County. As stated in the *Drought Profile*, the USDA reported in their 2012 Ag Census that the market value of agricultural products from

Franklin County totaled more than \$740 million. A disruption to this part of the economy could have serious effects.

Another strain on valuable resources might be the response required in a volcanic eruption event. City, county, and state resources might be pulled from all over Washington to respond to emergencies and disaster situations that arise after an eruption. This impact could potentially trickle down to Franklin County and the jurisdictions within the county and people and governments could potentially experience losses as a result.

The following list is a compilation of comments and suggestions made by various stakeholders and the public regarding possible problems that could result from a volcanic event.

In addition to damaging homes, businesses, property, and the environment, a volcanic event in Franklin County could potentially result in the following:

- An ash fall event could cause numerous transportation-related problems and delay first response agencies in responding to emergency situations.
- Ash fall could cause electrical power failures to critical facilities.
- Drastically increased number of respiratory patients at hospitals and clinics.

City of Pasco Annex

Much of the information already stated in the *Franklin County Annex* is applicable to the city of Pasco. Any unique factors are mentioned or restated below.

Drought Profile

Local Event History

Using the countywide 100-year drought data previously mentioned in this plan, Pasco experienced drought roughly 20-30% of that time span.

Probability of Future Occurrence

Pasco is not different than the rest of the county regarding future drought probability. It is reasonable to anticipate drought in 20 to 30 out of the next 100 years, resulting in **MODERATE PROBABILITY** rating. Because the population relies heavily on agriculture, and support industries tied to agriculture, there is a **MODERATE RISK** associated with drought.

Impacts of Drought Events

The largest impacts drought would have on the city of Pasco include impacts to the agriculture industry, the water transportation industry, and increases in potential wildfire threats in the wildland-urban interface. Each of these areas relies on steady water flow in the Snake and Columbia Rivers. Drought impacts to agriculture and transportation would potentially harm the local economy and thus impact the city of Pasco greatly because Pasco is the largest population center in the area.

Increased wildfire threats are also possible if less water is available for both natural moisture levels and irrigation use. Decreases in either, but especially in irrigation, could potentially impact wildfire risk by expanding areas in proximity to the city of Pasco that are dry and susceptible to wildfire.

Development Trends

As both the population of Pasco and demand for development are expected to increase, the City of Pasco should expect an increase in water usage as well. With increased pressure on water sources, Kennewick will become more sensitive to drought conditions and will likely have to implement water conservation practices earlier during a period of drought. Increased fire risk associated with drought conditions may also make additional development vulnerable to wildfire.

Values of Resources at Risk

The agriculture industry represents the most at-risk values to the city of Pasco in the case of a severe drought. Those values are discussed in detail in the *Drought Profile* within the *Franklin County Annex*. The city of Pasco would be especially affected by impacts to these values because of the number of people relying on the local economy, directly or indirectly, for their own income.

Earthquake Profile

Local Event History

Refer to the *Franklin County Annex* for earthquake history of the region. As Pasco was established in 1885, 13 years after the Lake Chelan earthquake, it is likely that the 1936 State Line earthquake caused some damage to structures in Pasco. Figure 14 shows the locations of historical earthquakes and known fault lines in proximity to Pasco.

Probability of Future Occurrence

Because of the infrequency of such devastating events, there is a **MODERATE PROBABILITY** for a potentially damaging earthquake to occur that would result in many people being injured or killed and damaging private property, government infrastructure and the local economy. However, there is a **HIGH RISK** to the citizens, infrastructure, and economy of Pasco should such an earthquake occur.

Impacts of Earthquake Events

An in-depth examination of the impacts that the City of Pasco may experience during an earthquake even can be found in the *Franklin County Annex*. In the event of an earthquake the city of Pasco will likely experience very strong to severe ground shaking (Figure 27) and as a secondary effect, land movement could affect homes north of I-182; refer to Figure 29 in the *Land Movement Profile*.

There are several historic buildings in Pasco that are listed in the National Register of Historic Places. These buildings may be more susceptible to and likely to be damaged by earthquakes as older buildings in the region may not have been designed to withstand the severity of seismic activity that could potentially be produced by faults located in the Columbia River Basin. Included in the register are the Franklin County Courthouse, the James Moore House, the Pasco Carnegie Library, and Sacajawea State Park.

Development Trends

The population of Pasco has increased over the previous decade and therefore the demand for development has increased as well. With additional development and infrastructure, Kennewick may become more vulnerable to Earthquake hazards. However, land use planning, adherence to and development of building codes, seismically sound engineering, and community preparedness will help to minimize the impact of an earthquake on the City of Pasco.

Values of Resources at Risk

It is estimated that Pasco has more than 22,000 housing units and about 70% of those units are owner-occupied. The median value of the owner-occupied housing units is estimated at more than \$180,000. Any structure or housing unit could potentially be at risk in a large earthquake event. Other values at risk to an earthquake event include dams, irrigation canals, infrastructure (road systems, bridges, etc.), fuel storage facilities, fuel pipelines, and commercial buildings. Impacts to these values could be extensive and potentially devastating to the local economy and the health and safety of the people of Pasco.

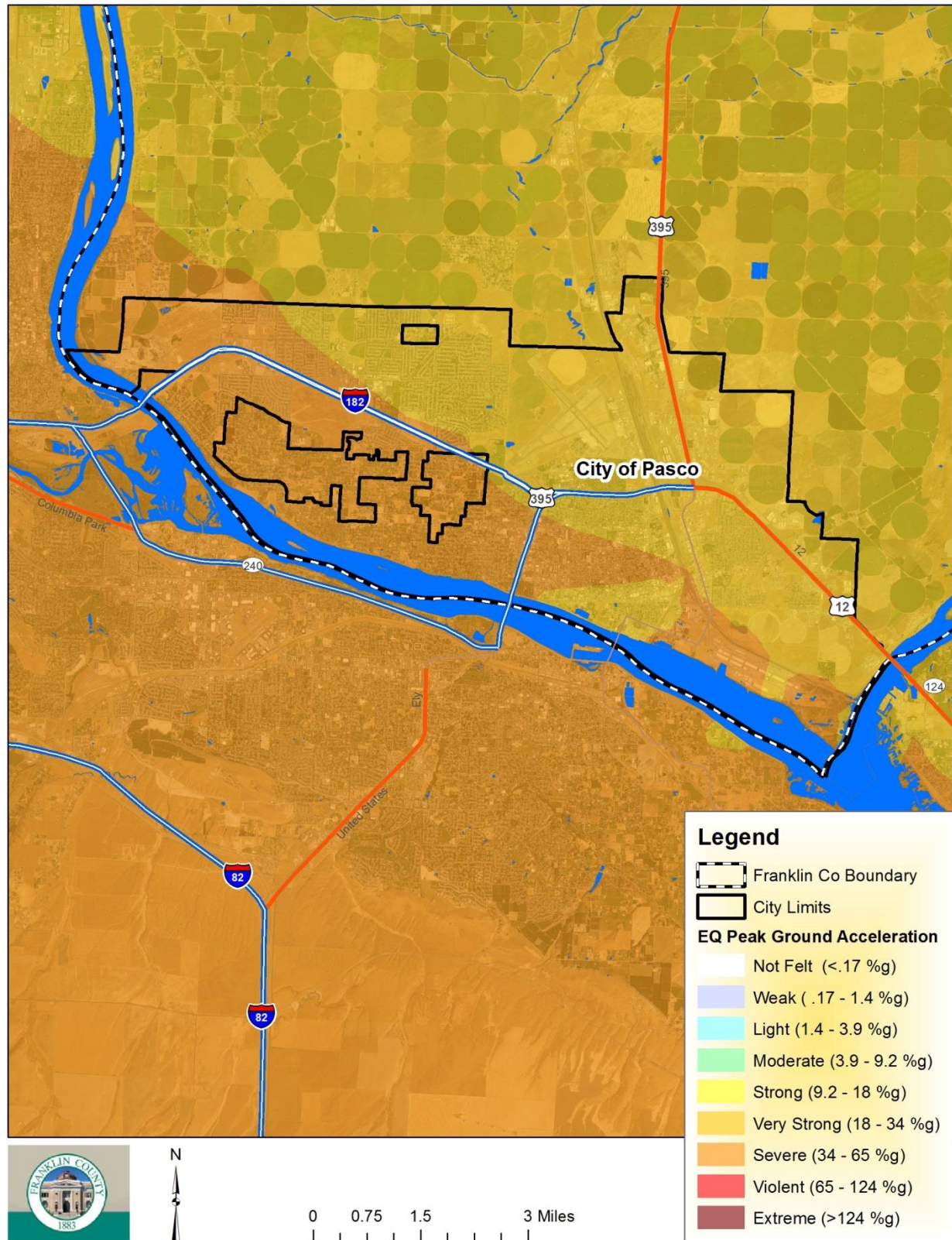


Figure 27: Peak ground acceleration map for Pasco, WA.

Wildfire Profile

Local Event History

Refer to the *Franklin County Annex* for wildfire history. The city of Pasco has not had any large-scale wildfire events in recent history although local fire personnel respond to numerous ignitions along the roadways, railways, and in undeveloped areas within and immediately surrounding the city annually.

Probability of Future Occurrence

There is a **HIGH PROBABILITY** of fire ignitions in the city; however, these ignitions are unlikely to result in large areas burned due to the availability of rapid response. Property that suffers damage to due wildfire could potentially harm the local agriculture industry or support industries. There is, therefore, a **MODERATE RISK** associated with wildfire in Pasco.

Impacts of Wildfire Events

With a large population, and therefore a greater number of people living and working in the wildland-urban interface, Pasco has greater impact potential in the case of a serious wildfire event. The impacts to the area, as discussed in the *Franklin County Annex*, are comparable to the potential impacts of Pasco.

Development Trends

As both population and demand for development are projected to increase, the City of Pasco, although at low risk for wildfire (Figure 20), may become more vulnerable to wildfire events. Land use planning, adherence to Firewise or other community wildfire standards in WUI areas, and fuels management should help reduce the vulnerability of Pasco during a wildfire event.

Values of Resources at Risk

The values of at-risk resources in and around Pasco are generally greater than the rest of the county. This is because of the greater number of structures and personal property, and because of the much larger population of Pasco compared to the rest of the county. This means there are more people relying on the local economy, infrastructure, and other elements that could be distressed by a serious wildfire event.

Flood Profile

Local Event History

Refer to the *Franklin County Annex* for flood history in and around Pasco. The Columbia River flood of 1948 would likely have had the greatest impacts on the City of Pasco.

Probability of Future Occurrence

Pasco has flooding potential due to its proximity to the Columbia and Snake Rivers. Flooding threat has been greatly reduced with the implementation of dams along these rivers but some potential still exists.

Therefore, Pasco has a **MODERATE PROBABILITY** of flooding. Due to the centrally-located, highly-valuable resources in Pasco, a flood event carries a **MODERATE RISK**.

Impacts of Flood Events

A flood event in the city of Pasco would pose potential impacts to personal property, commerce and industry, health and safety, and transportation. These impacts are significantly compounded due to the high density of residents in Pasco. The 2010 census reported the population density of Pasco at about 1,960 people per square mile.

One of the most-likely causes of a serious flood event to the city of Pasco would be dam failure. This would have serious effects on many elements of the city, including serious threats to health and safety, the economy, and the local infrastructure.

Development Trends

As both population and demand for development are projected to increase for the City of Pasco, it should be expected that Pasco will be more vulnerable to a flood event. Land use planning and adherence to building codes in flood sensitive areas should help reduce the amount of infrastructure at risk during a flood event. At this time, there are no plans for development in flood prone areas in the City of Pasco.

Values of Resources at Risk

The values of resources at risk in and near Pasco can be significant. Pasco is the industrial, economic, and political hub of the county, and a major component of the Tri-Cities metropolitan area. Because of the confluence of the Columbia and Snake rivers near Pasco, the prolific agriculture industry, and neighboring industries, Pasco contains substantial infrastructure, personal property, municipal facilities, and industrial facilities. Figure 28 shows the locations of National Flood Insurance Program (NFIP) flood zones and structures at risk within the City of Pasco (Refer to Table 14 in the *Franklin County Annex* for descriptions of NFIP flood zones). In total there are 12 structures located within flood zones, most of which are classified as single family homes, with a total value of just over \$2.67 million (Table 17).

Table 17: Classification, number, and value of all structures located within National Flood Insurance Program flood zones in Pasco, WA.

Structure Classification	Number	Total Value
Residential - Single Family	11	\$ 2,417,800.00
Resource - Agriculture	1	\$ 261,200.00
Total	12	\$ 2,679,000.00

The City of Pasco is a participant in the National Flood Insurance Program (NFIP). The identifying, analyzing, and prioritizing of mitigation measures is based (and will continue to be based) upon continued participation and compliance with the National Flood Insurance Program. Currently the City of Pasco has 3 active policies. No repetitive loss properties have been identified with the City of Pasco.

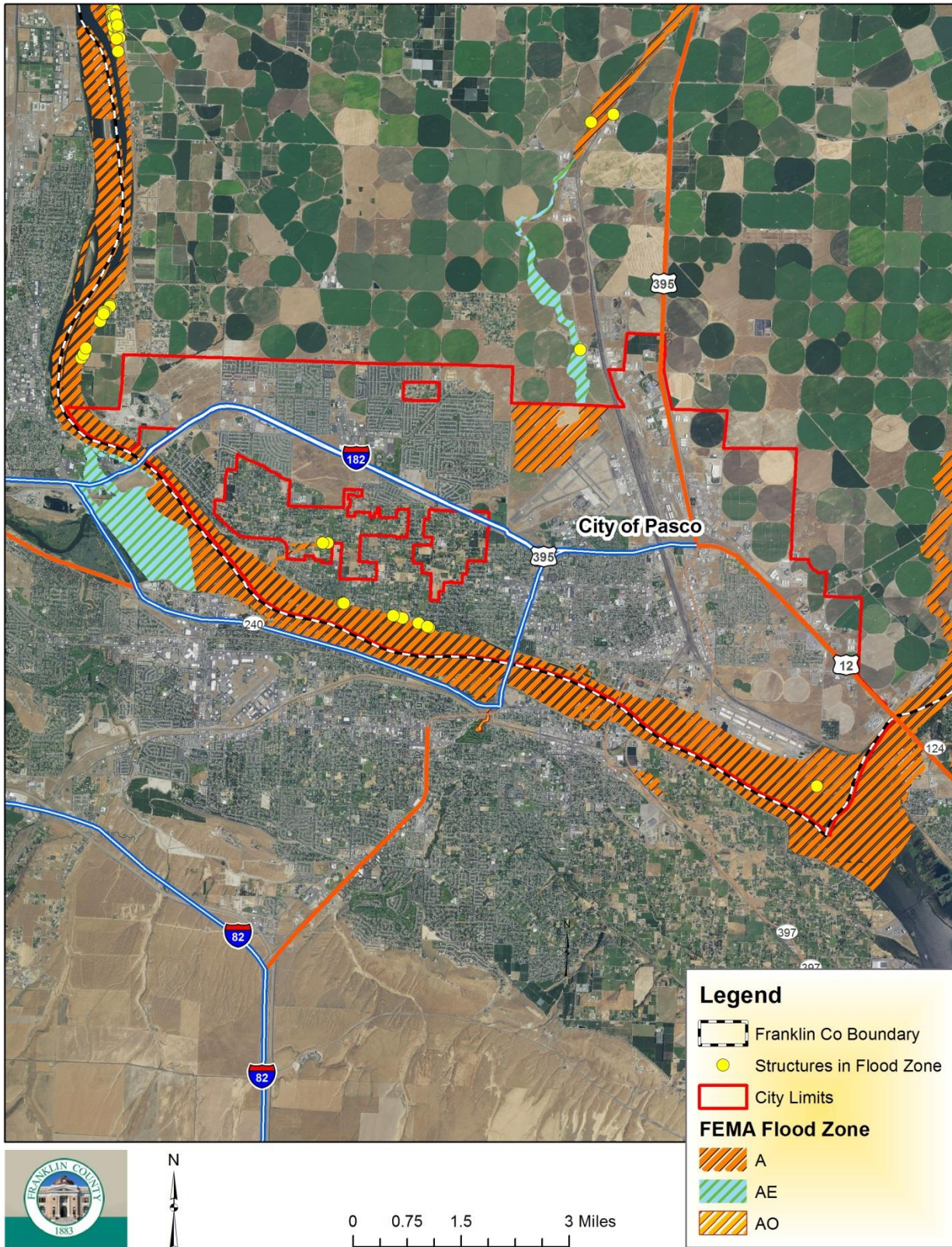


Figure 28: Map of National Flood Insurance Program flood zones and structures at risk in Pasco, WA.

Land Movement Profile

Local Event History

No major land movement events have occurred within the City of Pasco. Refer to the *Franklin County Annex* for regional land movement history.

Probability of Future Occurrence

The area around Pasco is heavily irrigated and, furthermore, the area contains erosive soils. Proximity to the banks of the Columbia River also adds to the probability of land movement within Pasco. The **PROBABILITY** of small-scale landslides with localized impacts in Pasco is **HIGH**, but larger-scale events are less probable. A small-scale landslide event carries with it a **LOW RISK**, while a larger-scale event has more potential for destruction and therefore poses **MODERATE RISK**.

Impacts of Land Movement Events

Potential impacts that the city of Pasco would experience in the case of a land movement event are comparable to those highlighted in the *Franklin County Annex*. The biggest concerns for Pasco are threats to human safety, disruptions to the local economy and infrastructure, and damages to personal and municipal property.

Development Trends

Both population and demand for development have increased and are expected to continue to increase for the City of Pasco. It is unlikely that future development will increase the vulnerability of Pasco to land movement events as most of the city is at low risk for landslides (Figure 29). Land-use planning and development of and adherence to building codes can limit vulnerability to land movement events.

Values of Resources at Risk

The values of resources at risk in and near Pasco can be significant. Pasco is the industrial, economic, and political hub of the county, and a major component of the Tri-Cities metropolitan area. Because of the confluence of the Columbia and Snake rivers near Pasco, the prolific agriculture industry, and neighboring industries, Pasco contains substantial infrastructure, personal property, municipal facilities, and industrial facilities. Figure 29 shows areas of Pasco that are the most susceptible to land movement events.

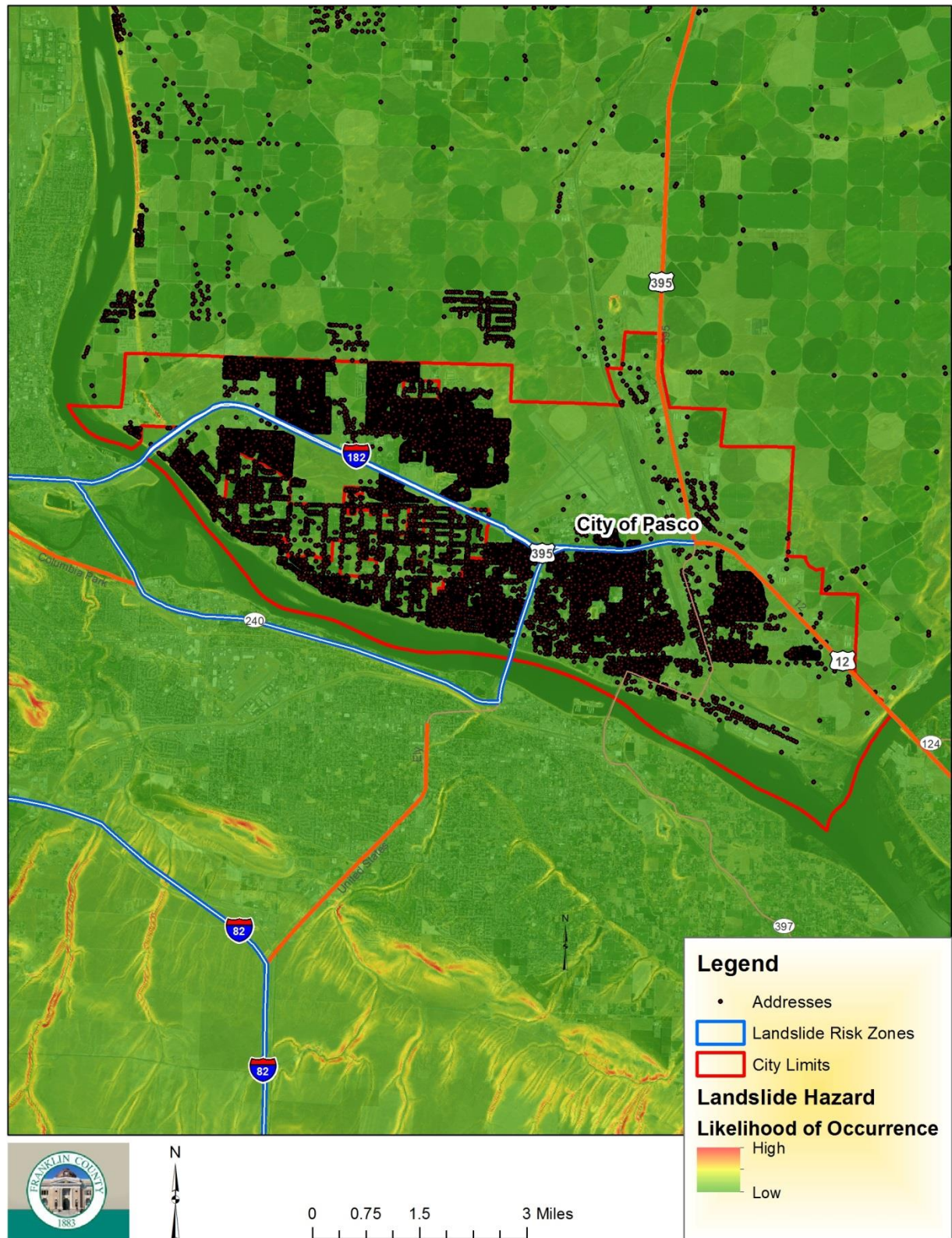


Figure 29: Land movement probability map of Pasco, WA.

Severe Storms Profile

Local Event History

Refer to the *Franklin County Annex* for regional severe weather and storm history. Windstorms are the most common form of weather disaster that has affected Pasco. Severe storms often precede other hazard events (flooding, landslides, etc.) that cause damage and turn into disasters.

Probability of Future Occurrence

Regionally, severe storms are expected to occur regularly resulting in a **HIGH PROBABILITY**. Pasco can anticipate at least one severe storm each year and very likely multiple storms. Disaster events caused by severe storms are not expected to happen as regularly, though, predicting when and what events will occur is not possible. Severe storms pose a **MODERATE RISK** to Pasco.

Impacts of Severe Storm Events

As mentioned above, impacts from severe storms often manifest in the form of another hazard type, such as flooding or landslides. Windstorms can greatly affect Pasco, possibly impacting power sources or causing debris hazards. Unexpected or unusually heavy snowstorms can also have a major impact on Pasco especially because of its large population. Stress on infrastructure or a major disruption of transportation caused by severe weather, could potentially create a disaster event that impacts human safety and commerce.

Development Trends

Both population and demand for development have increased and are expected to continue to increase for the City of Pasco. Future development could increase the vulnerability of Pasco to severe storms as there are areas of the city that are in defined flood zones. Land-use planning and development of and adherence to building codes can limit future exposure to severe storm events.

Values of Resources at Risk

The values of resources at risk in and near Pasco can be significant. Pasco is the industrial, economic, and political hub of the county, and a major component of the Tri-Cities metropolitan area. Because of the confluence of the Columbia and Snake rivers near Pasco, the prolific agriculture industry, and neighboring industries, Pasco contains substantial infrastructure, personal property, municipal facilities, and industrial facilities.

Volcano Profile

Local Event History

Refer to the *Franklin County Annex* for volcano history.

Probability of Future Occurrence

A volcanic event has a **LOW PROBABILITY** for Pasco as it does for the rest of Franklin County, but it carries a **MODERATE RISK** to persons, property, and the environment in Pasco, should an eruption occur.

Impacts of Volcano Events

Refer to the *Franklin County Annex* for descriptions of the potential impacts that a volcanic eruption could have on all jurisdictions within the region. Like the rest of the county, volcanic ash would pose the greatest threat to the City of Pasco along with any secondary events that may be induced by possible earthquakes associated with an eruption.

Development Trends

Despite a steady increase in population and demand for development, the vulnerability of Pasco to volcanic activity has not changed. While difficult to prepare for the consequences of ash fall, mitigation strategies, such as keeping roadways clear for emergency crews and first responders, can help protect and save lives during a volcanic eruption.

Values of Resources at Risk

Refer to the *Franklin County Annex* for an examination of values at risk to a volcano event. As ash would likely be the hazard of greatest concern, all resources within the City of Pasco would be at various levels of risk depending on the degree and duration of exposure to ash fall.

City of Connell Annex

Much of the information already stated in the *Franklin County Annex* is applicable to the city of Connell. Any unique factors are mentioned or restated below.

Drought Profile

Local Event History

Using the countywide 100-year drought data previously mentioned in this plan, Connell experienced drought roughly 20-30% of that time span.

Probability of Future Occurrence

Connell is not different than the rest of the county regarding future drought probability. It is reasonable to anticipate drought in 20 to 30 out of the next 100 years, resulting in **MODERATE PROBABILITY** rating. Because the population relies heavily on agriculture, and support industries tied to agriculture, there is a **MODERATE RISK** associated with drought.

Impacts of Drought Events

The largest impacts drought would have on the city of Connell include impacts to the agriculture industry and increases in potential wildfire threats in the wildland-urban interface.

Increased wildfire threats are possible if less water is available for both natural moisture levels and irrigation use. Decreases in either, but especially in irrigation, could potentially impact wildfire risk by expanding areas in proximity to the city of Connell that are dry and susceptible to wildfire.

Development Trends

As both population and demand for development are expected to increase, the City of Connell should expect an increase in water usage making it more sensitive to drought conditions. Even though the increase in water usage in Connell will be minimal due to its smaller size, it will likely have to implement water conservation practices earlier during a period of drought; particularly as larger neighboring communities place additional stress on water supplies. Increased wildfire risk associated with drought conditions will also make new development more vulnerable to wildfire, especially for rural communities like Connell.

Values of Resources at Risk

The agriculture industry represents the most at-risk values to the city of Connell in the case of a severe drought. Those values are discussed in detail in the *Drought Profile* within the *Franklin County Annex*. The city of Connell would be especially affected by impacts to these values because of the large percent of people relying on the local economy, directly or indirectly, for their own income.

Earthquake Profile

Local Event History

Refer to the *Franklin County Annex* for earthquake history of the region. As the city that eventually came to be Connell was established in 1883, 11 years after the Lake Chelan earthquake, it is likely that the 1936 State Line earthquake caused some damage to structures in Connell. Figure 14 shows the locations of historical earthquakes, many with epicenters close to Connell, and known fault lines in proximity to Connell.

Probability of Future Occurrence

Because of the infrequency of such devastating events, there is a **MODERATE PROBABILITY** for a potentially damaging earthquake to occur that would result in many people being injured or killed and damaging private property, government infrastructure and the local economy. However, there is a **HIGH RISK** to the citizens, infrastructure, and economy of Connell should such an earthquake occur.

Impacts of Earthquake Events

An in-depth examination of the impacts that an earthquake event might have on the area can be found in the *Franklin County Annex*. Even though it is a smaller city, the impacts discussed are comparable to those that could be expected in the City of Connell. The City of Connell does not have any historic buildings registered with the National Register of Historic Places.

Development Trends

The population of Connell has gradually increased over the previous decade and therefore demand for development has increased as well. With additional development and infrastructure, Connell will become more vulnerable to Earthquake hazards. However, land use planning, adherence to and development of building codes, seismically sound engineering, and community preparedness will help to minimize the impact of an earthquake on the City of Connell.

Values of Resources at Risk

Connell is estimated to have about 1,157 housing units, a little more than half of which are considered owner-occupied. The estimated median value of owner-occupied housing units is almost \$117,000. Any structure or housing unit could potentially be at risk in a large earthquake event. Connell also has a component of businesses, government facilities, and municipal infrastructure of varying values that would also be at risk during an earthquake; it should be expected that Connell will be subjected to moderate to strong ground shaking during an earthquake (Figure 30).

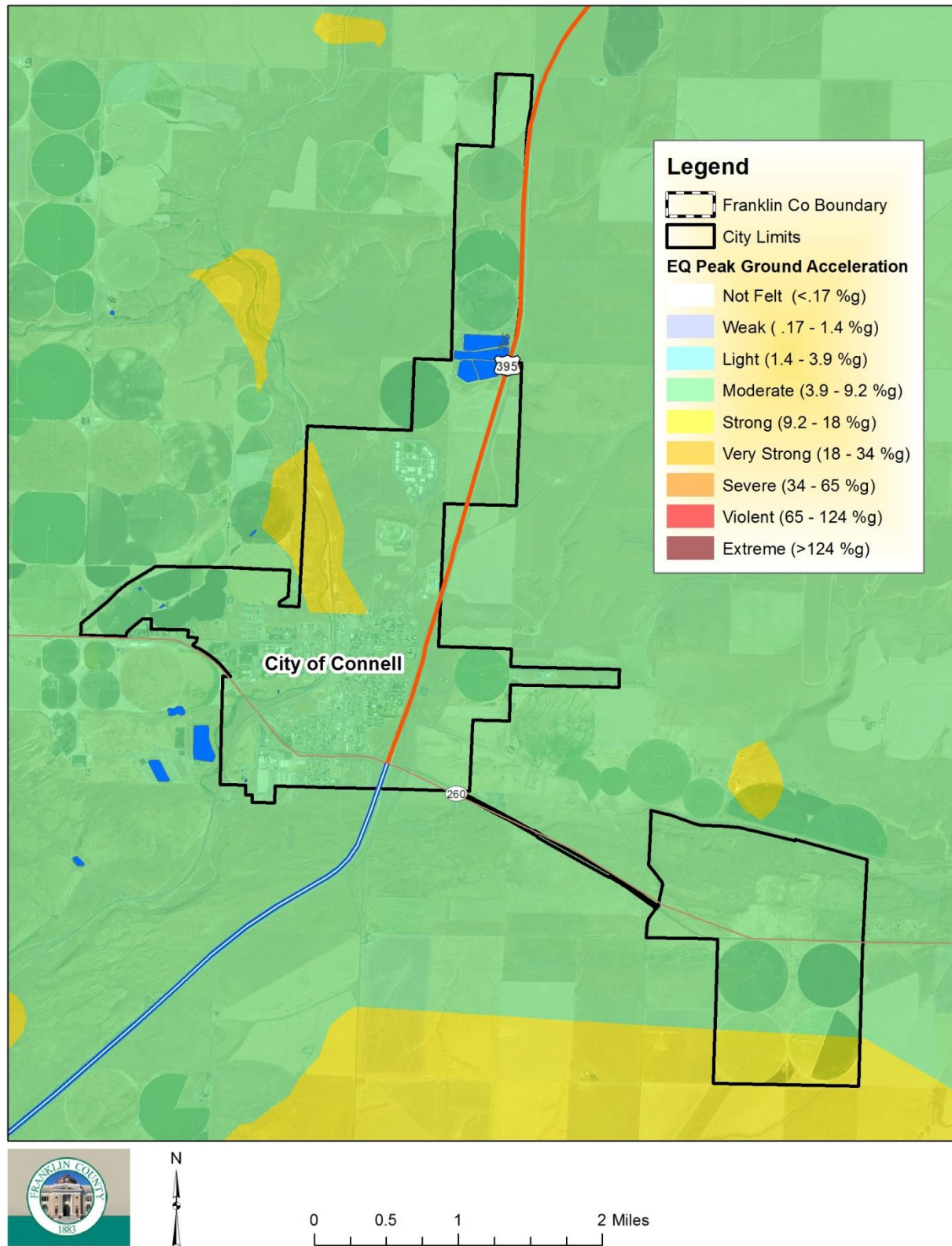


Figure 30: Peak ground acceleration map for Connell, WA.

Wildfire Profile

Local Event History

Refer to the *Franklin County Annex* for wildfire history. The city of Connell has not had any large-scale wildfire events in recent history (Figure 3).

Probability of Future Occurrence

There is a **HIGH PROBABILITY** of fire ignitions in the city; however, these ignitions are unlikely to result in large areas burned due to the availability of rapid response. Property that suffers damage to due wildfire could potentially harm the local agriculture industry or support industries. There is, therefore, a **MODERATE RISK** associated with wildfire in Connell.

Impacts of Wildfire Events

The impacts of wildfire events on the area, as discussed in the *Franklin County Annex*, are comparable to the potential impacts to Connell. Considering the expansive grass-shrubland and dry agriculture to the south and to the east of Connell, the entire town could potentially be affected by wildfire.

Development Trends

As both population and demand for development are projected to steadily increase, the City of Connell, although at low risk for wildfire (Figure 20), may become more vulnerable to wildfire events; particularly as most of the area right outside of Connell is at moderate to high risk for wildfire. Land use planning, adherence to Firewise or other community wildfire standards in WUI areas, and fuels management should help reduce the vulnerability of Connell during a wildfire event.

Values of Resources at Risk

Personal property, infrastructure, and agricultural resources have the greatest values that are at risk to a wildfire event. Personal property could potentially be damaged by wildfire directly. Infrastructure could be compromised, either directly by a wildfire or because of closures. Wildfires carry the potential to damage valuable agricultural lands and facilities.

Flood Profile

Local Event History

Refer to the *Franklin County Annex* for flood history of the area. Connell is not in proximity to any major rivers but it may have been impacted by some of the flash flood or spring melt flood events.

Probability of Future Occurrence

The **PROBABILITY** of a flood event associated with the Esquatzel Coulee is **MODERATE**. Due to the location of resources at risk, flooding poses a **MODERATE RISK** to the city of Connell.

Impacts of Flood Events

Potential impacts caused by flooding in Connell include increased landslide risk, damage to infrastructure or roads, and damage to personal property. Flooding can also cut off critical access routes resulting in delayed response times for emergency personnel. The BNSF Railway bridge routinely floods. Ownership and responsibility remain an ongoing debate. Public Works personnel, BNSF Railway representatives and other groups will need to establish a mitigation plan to address the effects of this issue.

Development Trends

As both population and demand for development are projected to increase for the City of Connell, it should be expected that Connell will be more vulnerable to a flood event. Land use planning and adherence to building codes in flood sensitive areas should help reduce the amount of infrastructure at risk during a flood event. At this time, there are no plans for development in flood prone areas in the City of Connell.

Values of Resources at Risk

If a flooding event were to occur in Connell, personal property values, agricultural values, and road and infrastructure values would be most at-risk. Figure 31 shows the locations of National Flood Insurance Program (NFIP) flood zones and structures at risk within the City of Connell. In total there are 9 structures located within flood zones with a total value of over \$500,000.00 (Table 18). Refer to Table 14 in the *Franklin County Annex* for descriptions of NFIP flood zones.

The City of Connell is a participant in the National Flood Insurance Program (NFIP). The identifying, analyzing, and prioritizing of mitigation measures is based (and will continue to be based) upon continued participation and compliance with the National Flood Insurance Program. Currently the City of Connell has three active policies. No repetitive loss properties have been identified with the City of Connell.

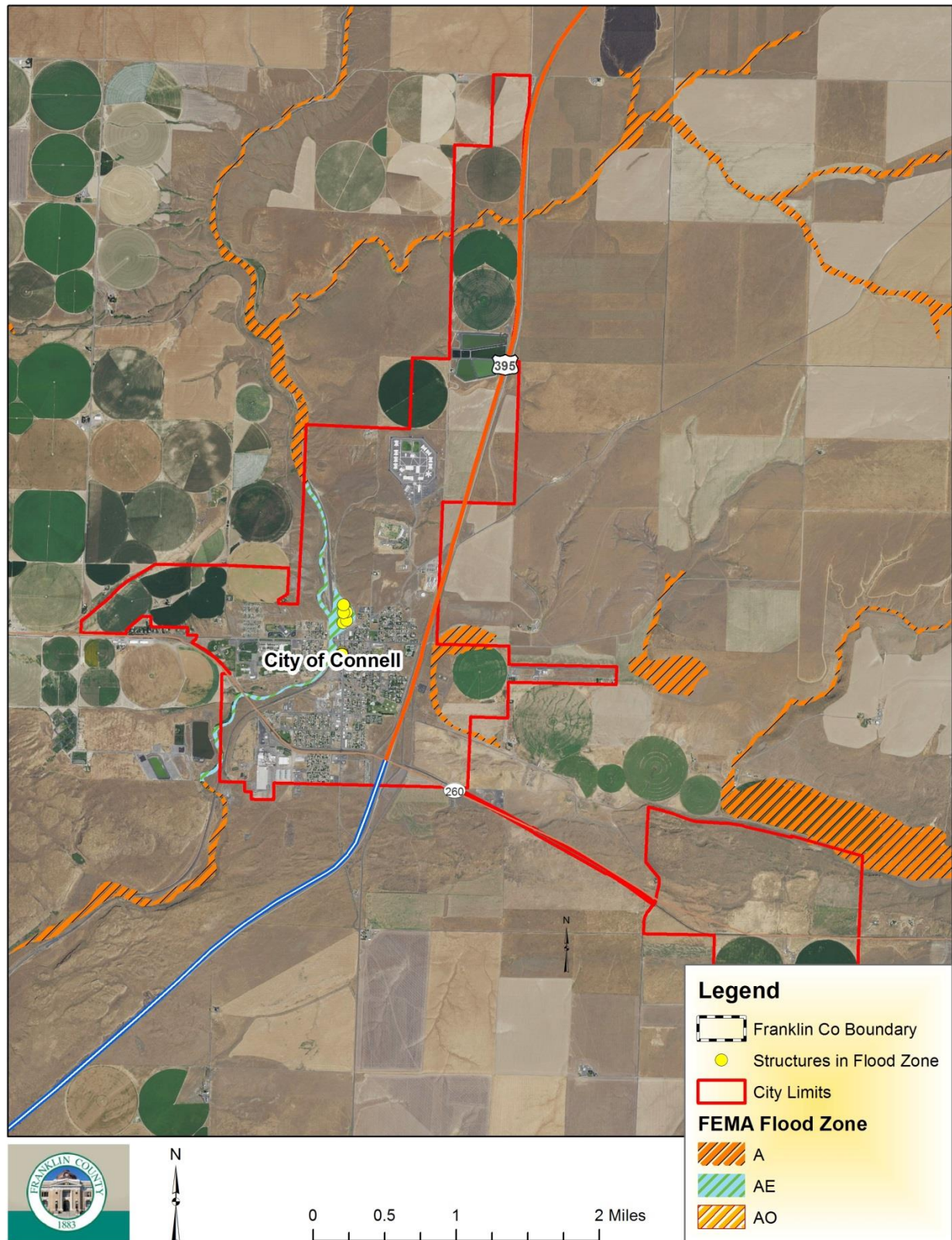


Figure 31: Map of National Flood Insurance Program flood zones and structures at risk in Connell, WA.

Table 18: Classification, number, and value of all structures located within National Flood Insurance Program flood zones in Connell, WA.

Structure Classification	Number	Total Value
Commercial - Misc Commercial	1	\$ 153,700.00
Resource - Agriculture	1	\$ 125,200.00
Services - Business	1	\$ 67,100.00
Services - Governmental	1	\$ -
Services - Personal	1	\$ 35,600.00
Trade - Food	1	\$ 59,100.00
Trade - Retail	1	\$ 24,600.00
Trade - Wholesale	2	\$ 106,400.00
Total	9	\$ 571,700.00

Land Movement Profile

Local Event History

Refer to the *Franklin County Annex* for regional land movement history. No known land movement events are recorded for the city of Connell.

Probability of Future Occurrence

Because areas around Connell are heavily irrigated, and because of steep-slope areas near the city, there is **MODERATE PROBABILITY** for land movement events in Connell. highlights erosive soils in and around Connell. A landslide event in Connell could potentially damage infrastructure and personal property and therefore poses a **MODERATE RISK**.

Impacts of Land Movement Events

Potential impacts that the city of Connell would experience in the case of a land movement event are comparable to those highlighted in the *Franklin County Annex*. The biggest concerns for Connell are threats to human safety, disruptions to the local economy and infrastructure, and damages to personal and municipal property.

Development Trends

Both population and demand for development are expected to increase for the City of Connell. It is unlikely that future development will increase the vulnerability of Connell to landslide events as most of the city is at low risk for landslides with the exception of higher risk areas along the railroad (Figure 32). Land-use planning and development of and adherence to building codes can limit vulnerability to land movement events.

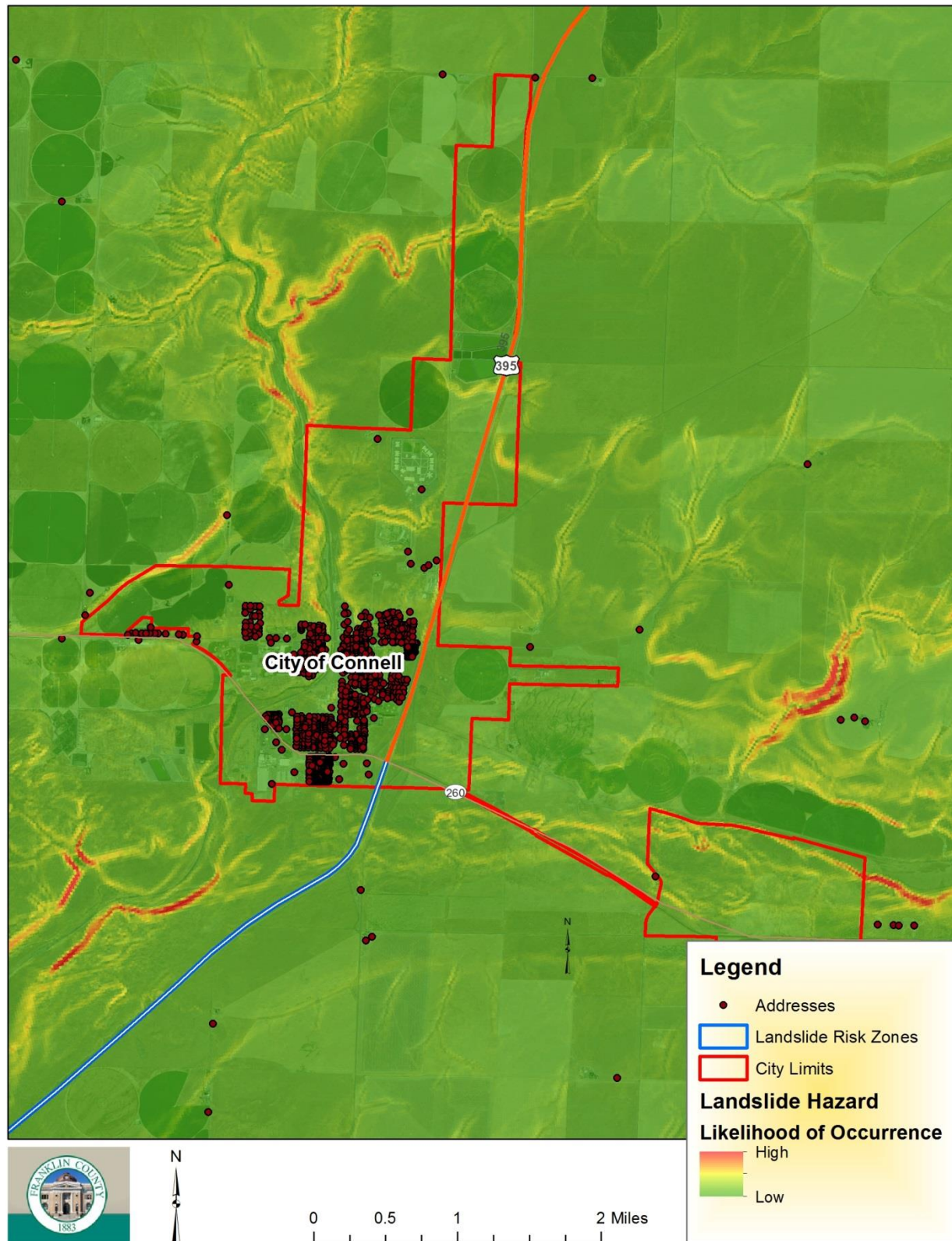


Figure 32: Land movement probability map of Connell, WA.

Values of Resources at Risk

If a land movement event were to occur in Connell, personal property values, agricultural values, and road and infrastructure values would be most at-risk.

Severe Storms Profile

Local Event History

Refer to the *Franklin County Annex* for regional severe weather and storm history. Windstorms are the most common form of weather disaster that has affected Connell. Severe storms often precede other hazard events (flooding, landslides, etc.) that cause damage and turn into disasters.

Probability of Future Occurrence

Regionally, severe storms are expected to occur regularly resulting in a **HIGH PROBABILITY**. Connell can anticipate at least one severe storm each year and very likely multiple storms. Disaster events caused by severe storms are not expected to happen as regularly, though, predicting when and what events will occur is not possible. Severe storms pose a **MODERATE RISK** to Connell.

Impacts of Severe Storm Events

As mentioned above, impacts from severe storms often manifest in the form of another hazard type, such as flooding or landslides. Windstorms can greatly affect Connell, possibly impacting power sources or causing debris hazards. Unexpected or unusually heavy snowstorms can also have a major impact on Connell because they can disrupt both personal and commercial travel.

Development Trends

Both population and demand for development have increased and are expected to continue to increase for the City of Connell. Future development could slightly increase the vulnerability of Connell to severe storms as there are areas of the city that are in defined flood zones but these areas are small and are located in industrial / commercial areas near the railroad tracks. Land-use planning and development of and adherence to building codes can limit future exposure to severe storm events.

Values of Resources at Risk

Personal property, infrastructure, and agricultural resources have the greatest values that are at risk in a severe storm event. Personal property could potentially be damaged by wind or wind-blown debris during a storm. Infrastructure could be damaged, either directly by a severe storm, or from secondary effects of the storm. Severe storms carry the potential to damage valuable agricultural lands and facilities, both directly or indirectly.

Volcano Profile

Local Event History

Refer to the *Franklin County Annex* for volcano history.

Probability of Future Occurrence

A volcanic event has a **LOW PROBABILITY** for Connell as it does for the rest of Franklin County, but it carries a **MODERATE RISK** to persons, property, and the environment in Connell, should an eruption occur.

Impacts of Volcano Events

Refer to the *Franklin County Annex* for descriptions of the potential impacts that a volcanic eruption could have on all jurisdictions within the region. Like the rest of the county, volcanic ash would pose the greatest threat to the City of Connell along with any secondary events that may be induced by possible earthquakes associated with an eruption such as landslides / land movement in heavily irrigated areas or along the railroad.

Development Trends

Despite a steady increase in population and demand for development, the vulnerability of Connell to volcanic activity has not changed. While difficult to prepare for the consequences of ash fall, mitigation strategies, such as keeping roadways clear for emergency crews and first responders, can help protect and save lives during a volcanic eruption.

Values of Resources at Risk

Refer to the *Franklin County Annex* for an examination of values at risk to a volcano event. As ash would likely be the hazard of greatest concern, all resources within the City of Connell would be at various levels of risk depending on the degree and duration of exposure to ashfall.

City of Mesa Annex

Much of the information already stated in the *Franklin County Annex* is applicable to the city of Mesa. Any unique factors are mentioned or restated below.

Drought Profile

Local Event History

Using the countywide 100-year drought data previously mentioned in this plan, Mesa experienced drought roughly 20-30% of that time span.

Probability of Future Occurrence

Mesa is not different than the rest of the county regarding future drought probability. It is reasonable to anticipate drought in 20 to 30 out of the next 100 years, resulting in **MODERATE PROBABILITY** rating. Because the population relies heavily on agriculture, and support industries tied to agriculture, there is a **MODERATE RISK** associated with drought.

Impacts of Drought Events

The largest impacts drought would have on the city of Mesa include impacts to the agriculture industry and increases in potential wildfire threats in the wildland-urban interface.

Increased wildfire threats are possible if less water is available for both natural moisture levels and irrigation use. Decreases in either, but especially in irrigation, could potentially impact wildfire risk by expanding areas in proximity to the city of Mesa that are dry and susceptible to wildfire.

Development Trends

As both population and demand for development are expected to either remain stagnant or show very limited growth, the City of Mesa should expect only a slight increase in water usage which may make it more sensitive to drought conditions. Even though the increase in water usage in Mesa will be minimal, it will likely have to implement water conservation practices earlier during a period of drought because of larger neighboring communities. Increased wildfire risk associated with drought conditions will also make new development more vulnerable to wildfire, especially for rural communities like Mesa.

Values of Resources at Risk

The agriculture industry represents the most at-risk values to the city of Mesa in the case of a severe drought. Those values are discussed in detail in the *Drought Profile* within the *Franklin County Annex*. The city of Mesa would be especially affected by impacts to these values because of the large percent of people relying on the local economy, directly or indirectly, for their own income.

Earthquake Profile

Local Event History

Refer to the *Franklin County Annex* for earthquake history of the region. Mesa likely was not settled when the Lake Chelan earthquake occurred in 1872 but could have been affected by the State Line earthquake. Figure 14 shows the locations of historical earthquakes, many with epicenters close to Mesa, and known fault lines in proximity to Mesa.

Probability of Future Occurrence

Because of the infrequency of such devastating events, there is a **MODERATE PROBABILITY** for a potentially damaging earthquake to occur that would result in many people being injured or killed and damaging private property, government infrastructure and the local economy. However, there is a **HIGH RISK** to the citizens, infrastructure, and economy of Mesa should such an earthquake occur.

Impacts of Earthquake Events

An in-depth examination of the impacts that an earthquake event might have on the area can be found in the *Franklin County Annex*. Even though it is a smaller city, the impacts discussed are comparable to those that could be expected in the City of Mesa. The City of Mesa does not have any historic buildings registered with the National Register of Historic Places.

Development Trends

Relative to other communities in Franklin County, population and demand for development have remained stagnant for the City of Mesa. As such, Mesa's vulnerability to earthquakes has not changed. However, land use planning, adherence to and development of building codes, seismically sound engineering, and community preparedness will help to minimize the impact of an earthquake on any future development in the City of Mesa.

Values of Resources at Risk

It is estimated that Mesa has around 109 housing units and roughly 65% of those are owner-occupied. The median value of owner-occupied housing units is estimated at more than \$96,000. Any structure or housing unit could potentially be at risk in a large earthquake event as moderate to strong ground shaking can be expected in the vicinity of Mesa (Figure 33).

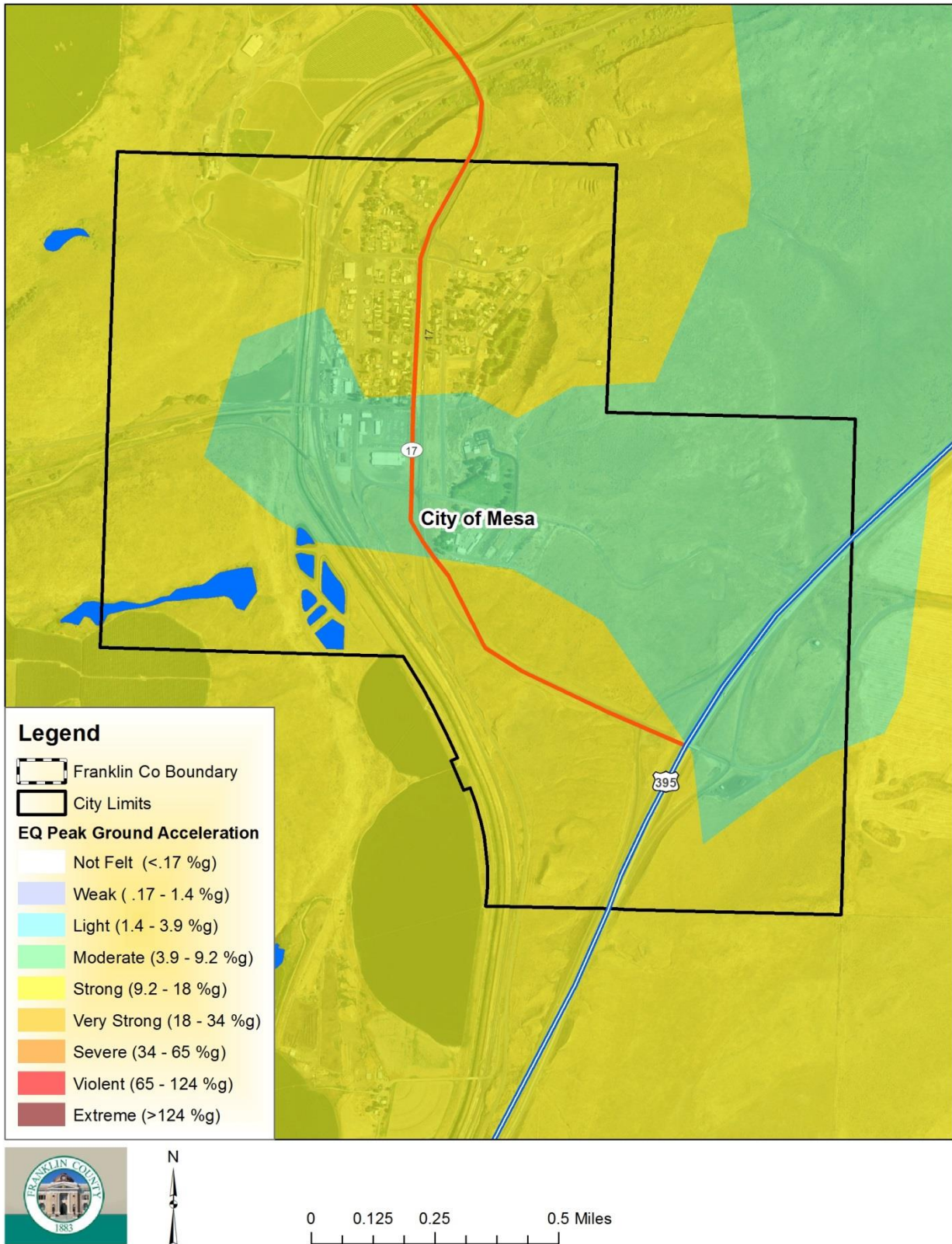


Figure 33: Peak ground acceleration map for Mesa, WA.

Wildfire Profile

Local Event History

Refer to the *Franklin County Annex* for wildfire history. The city of Mesa has not had any large-scale wildfire events in recent history (Figure 3).

Probability of Future Occurrence

There is a **HIGH PROBABILITY** of fire ignitions in the city; however, these ignitions are unlikely to result in large areas burned due to the availability of rapid response. Property that suffers damage due to wildfire could potentially harm the local agriculture industry or support industries. There is, therefore, a **MODERATE RISK** associated with wildfire in Mesa.

Impacts of Wildfire Events

The impacts from wildfire events on the area, as discussed in the *Franklin County Annex*, are comparable to the potential impacts to Mesa. Considering the expansive grass-shrubland and dry agriculture to the east of Mesa, the entire town could potentially be affected by wildfire.

Development Trends

As both population and demand for development are expected to remain stagnant, the vulnerability of the City of Mesa should remain the same. Most of Mesa is at low to moderate risk for wildfire but most areas immediately outside of the city are at moderate to high risk (Figure 20). Any new development will likely occur in areas of higher risk. However, land use planning, adherence to Firewise or other community wildfire standards in WUI areas, and fuels management should help reduce the vulnerability of Mesa during a wildfire event.

Values of Resources at Risk

Personal property, infrastructure, and agricultural resources have the greatest values that are at risk to a wildfire event. Personal property could potentially be damaged by wildfire directly. Infrastructure could be compromised, either directly by a wildfire or because of closures. Wildfires carry the potential to damage valuable agricultural lands and facilities.

Flood Profile

Local Event History

Refer to the *Franklin County Annex* for flood history. Mesa experienced flash flooding in 1979 that led to a Major Disaster Declaration.

Probability of Future Occurrence

The **PROBABILITY** of a flood event associated with the Esquatzel Coulee is **MODERATE**. Due to the location of resources at risk, flooding poses a **MODERATE RISK** to the city of Mesa.

Impacts of Flood Events

Potential impacts caused by flooding in Mesa include increased landslide risk, damage to infrastructure or roads, and damage to personal property. Flooding can also cut off critical access routes resulting in delayed response times for emergency personnel.

Development Trends

As both population and demand for development are projected to remain stagnant, it should be expected that Mesa's vulnerability to flooding will not change. Land use planning and adherence to building codes in flood sensitive areas should help reduce the amount of infrastructure at risk during a flood event. At this time, there are no plans for development in flood prone areas in the City of Mesa.

Values of Resources at Risk

If a flooding event were to occur in Mesa, personal property values, agricultural values, and road and infrastructure values would be most at-risk. Figure 34 shows the locations of National Flood Insurance Program (NFIP) flood zones and structures at risk within the City of Mesa (Refer to Table 14 in the *Franklin County Annex* for descriptions of NFIP flood zones). In total there are 40 structures located within flood zones, most of which are single family homes, with a total value of just under \$1.5 million (Table 19).

Table 19: Classification, number, and value of all structures located within National Flood Insurance Program flood zones in Mesa, WA.

Structure Classification	Number	Total Value
Residential - Multiunits	3	\$ 151,600.00
Residential - Single Family	25	\$ 511,400.00
Resource - Agriculture	3	\$ 471,600.00
Services - Repair	4	\$ 100,800.00
Trade - Food	3	\$ 179,400.00
Trade - Other	1	\$ 1,600.00
Trade - Retail	1	\$ 40,400.00
Total	40	\$ 1,456,800.00

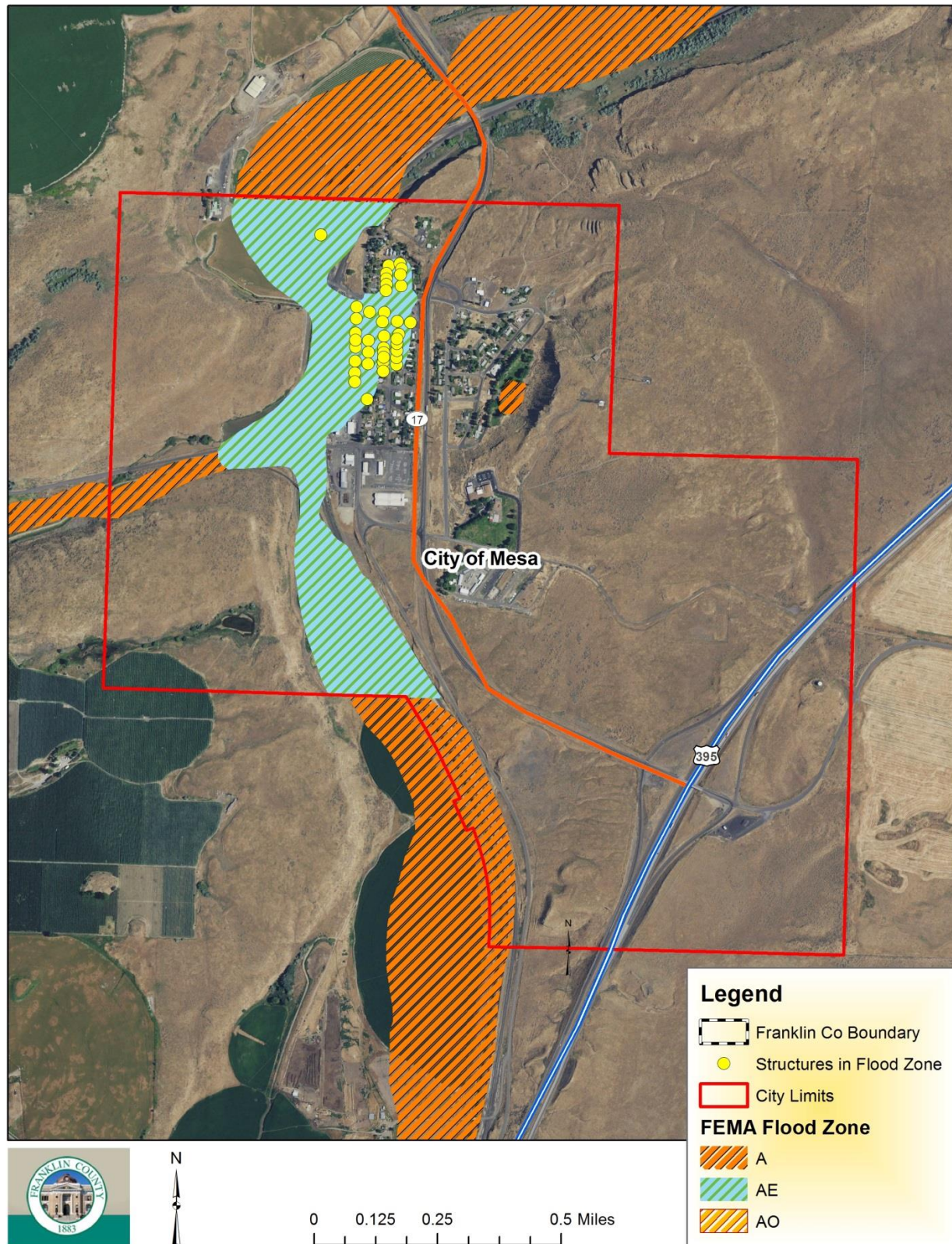


Figure 34: Map of National Flood Insurance Program flood zones and structures at risk in Mesa, WA.

The City of Mesa is a participant in the National Flood Insurance Program. The identifying, analyzing, and prioritizing of mitigation measures is based (and will continue to be based) upon continued participation and compliance with the National Flood Insurance Program. No repetitive loss properties have been identified with the City of Mesa.

Land Movement Profile

Local Event History

Refer to the *Franklin County Annex* for regional land movement history. No known land movement events are recorded for the city of Mesa.

Probability of Future Occurrence

Because areas around Mesa are heavily irrigated, and because of steep-slope areas near the city, there is **MODERATE PROBABILITY** for land movement events in Mesa and a **MODERATE RISK**.

Impacts of Land Movement Events

Potential impacts that the city of Mesa would experience in the case of a land movement event are comparable to those highlighted in the *Franklin County Annex*. The biggest concerns for Mesa are threats to human safety, disruptions to the local economy and infrastructure, and damages to personal and municipal property.

Development Trends

As both population and demand for development are expected to remain stagnant, it is unlikely that that Mesa's vulnerability to landslide events will change. However, future development may increase Mesa's vulnerability as there are areas within city limits that are designated landslide risk zones (Figure 35). Community expansion to the east may expose structures to higher landslide risk. Land-use planning and development of and adherence to building codes can limit vulnerability to land movement events.

Values of Resources at Risk

If a land movement event were to occur in Mesa, personal property values, agricultural values, and road and infrastructure values would be most at-risk.

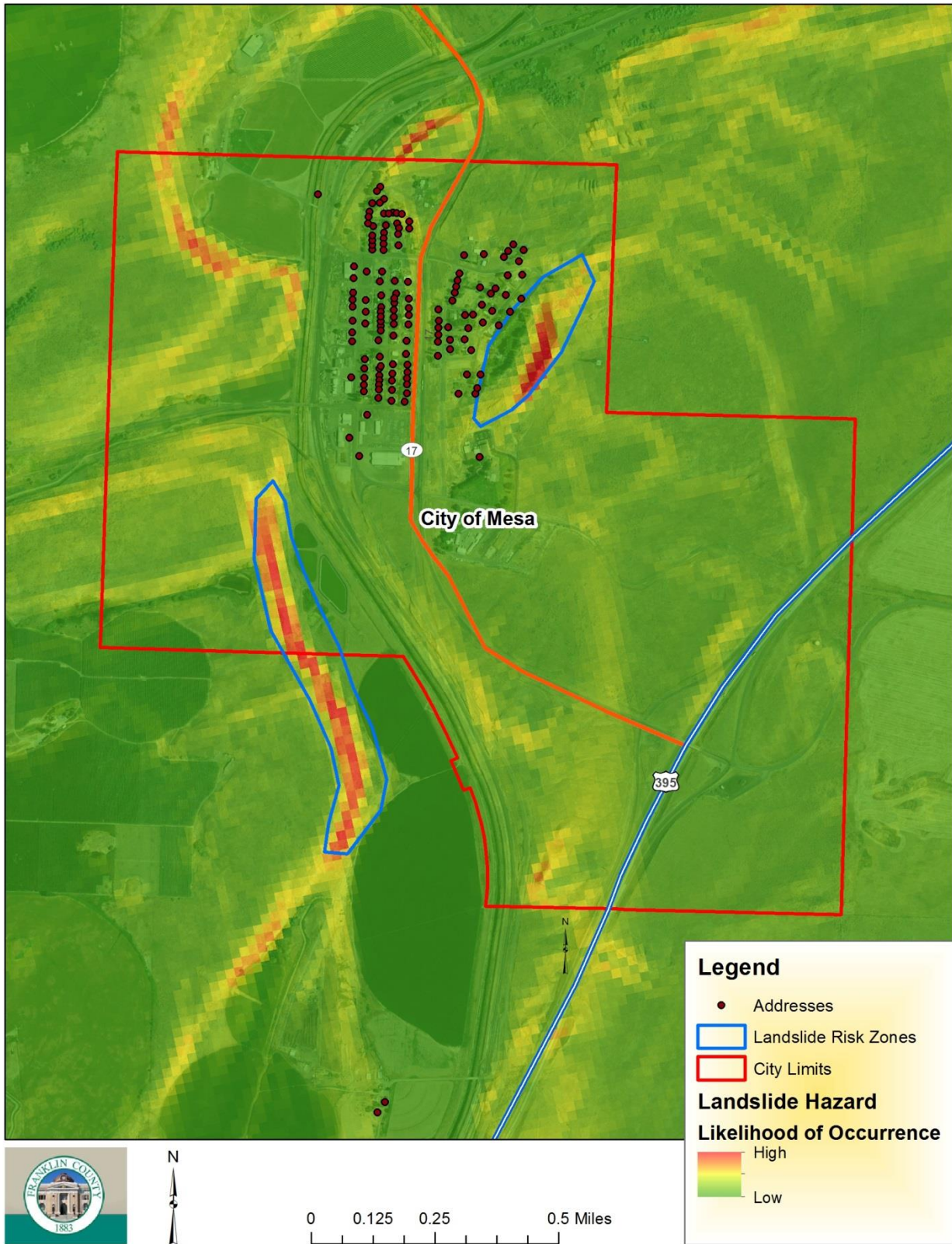


Figure 35: Land movement probability map of Mesa, WA.

Severe Storms Profile

Local Event History

Refer to the *Franklin County Annex* for regional severe weather and storm history. Windstorms are the most common form of weather disaster that has affected Mesa. Severe storms often precede other hazard events (flooding, landslides, etc.) that cause damage and turn into disasters.

Probability of Future Occurrence

Regionally, severe storms are expected to occur regularly resulting in a **HIGH PROBABILITY**. Mesa can anticipate at least one severe storm each year and very likely multiple storms. Disaster events caused by severe storms are not expected to happen as regularly, though, predicting when and what events will occur is not possible. Severe storms pose a **MODERATE RISK** to Mesa.

Impacts of Severe Storm Events

As mentioned above, impacts from severe storms often manifest in the form of another hazard type, such as flooding or landslides. Windstorms can greatly affect Mesa, possibly impacting power sources or causing debris hazards. Unexpected or unusually heavy snowstorms can also have a major impact on Mesa because they can disrupt both personal and commercial travel.

Development Trends

As both population and demand for development are expected to remain stagnant, it is unlikely that that Mesa's vulnerability to severe storm events will change. However, future development may increase Mesa's vulnerability slightly as there are areas within city limits that are designated flood zones and other areas that are landslide risk zones. However, land-use planning and development of and adherence to building codes can limit future exposure to severe storm events.

Values of Resources at Risk

Personal property, infrastructure, and agricultural resources have the greatest values that are at risk in a severe storm event. Personal property could potentially be damaged by wind or wind-blown debris during a storm. Infrastructure could be damaged, either directly by a severe storm, or from secondary effects of the storm. Severe storms carry the potential to damage valuable agricultural lands and facilities, both directly or indirectly.

Volcano Profile

Local Event History

Refer to the *Franklin County Annex* for volcano history.

Probability of Future Occurrence

A volcanic event has a **LOW PROBABILITY** for Mesa as it does for the rest of Franklin County, but it carries a **MODERATE RISK** to persons, property, and the environment in Mesa, should an eruption occur.

Impacts of Volcano Events

Refer to the *Franklin County Annex* for descriptions of the potential impacts that a volcanic eruption could have on all jurisdictions within the region. Like the rest of the county, volcanic ash would pose the greatest threat to the City of Mesa along with any secondary events that may be induced by possible earthquakes associated with an eruption.

Development Trends

As population and demand for development in Mesa has remained stagnant, the vulnerability of Mesa to volcanic activity has not changed. While difficult to prepare for the consequences of ash fall, mitigation strategies, such as keeping roadways clear for emergency crews and first responders, can help protect and save lives during a volcanic eruption.

Values of Resources at Risk

Refer to the *Franklin County Annex* for an examination of values at risk to a volcano event. As ash would likely be the hazard of greatest concern, all resources within the City of Mesa would be at various levels of risk depending on the degree and duration of exposure to ashfall.

City of Kahlotus Annex

Much of the information already stated in the *Franklin County Annex* is applicable to the city of Kahlotus. Any unique factors are mentioned or restated below.

Drought Profile

Local Event History

Using the countywide 100-year drought data previously mentioned in this plan, Kahlotus experienced drought roughly 20-30% of that time span.

Probability of Future Occurrence

Kahlotus is not different than the rest of the county regarding future drought probability. It is reasonable to anticipate drought in 20 to 30 out of the next 100 years, resulting in **MODERATE PROBABILITY** rating. Because the population relies heavily on agriculture, and support industries tied to agriculture, there is a **MODERATE RISK** associated with drought.

Impacts of Drought Events

Dryland farming is the main form of agriculture in the area around Kahlotus. Dryland farming utilizes drought-resistant crops and moisture conservation to farm dry areas. Any fluctuation in precipitation or moisture levels could greatly impact this industry. Another potential impact to Kahlotus is compromised groundwater sources such as wells.

Development Trends

As both population and demand for development are expected to either remain stagnant or show very limited growth, the City of Kahlotus should expect only a slight increase in water usage which may make it more sensitive to drought conditions. Even though the increase in water usage in Kahlotus will be minimal, it will likely have to implement water conservation practices earlier during a period of drought because of larger neighboring communities. Increased wildfire risk associated with drought conditions will also make new development more vulnerable to wildfire, especially for rural communities like Kahlotus.

Values of Resources at Risk

It is unknown how much value in Kahlotus is at risk within the agricultural industry due to drought. What is known is that agriculture makes up a very large part of the local economy.

Earthquake Profile

Local Event History

Refer to the *Franklin County Annex* for earthquake history of the region. Kahlotus was not settled when the Lake Chelan earthquake occurred in 1872 but could have been affected by the State Line earthquake. Figure 14 shows the locations of historical earthquakes and known fault lines in proximity to Kahlotus.

Probability of Future Occurrence

Because of the infrequency of such devastating events, there is a **MODERATE PROBABILITY** for a potentially damaging earthquake to occur that would result in many people being injured or killed and damaging private property, government infrastructure and the local economy. However, there is a **HIGH RISK** to the citizens, infrastructure, and economy of Kahlotus should such an earthquake occur.

Impacts of Earthquake Events

Most of the major impacts that the people of Kahlotus would face in an earthquake event are comparable to the rest of Franklin County. Kahlotus would not be directly impacted by dam failures, fuel storage or pipeline failures, or bridge failures in the same way that other jurisdictions would. However, any impacts on the regional economy would certainly have an indirect effect on Kahlotus. The City of Kahlotus does not have any historic buildings registered with the National Register of Historic Places.

Development Trends

Relative to other communities in Franklin County, population and demand for development have remained stagnant for the City of Kahlotus. As such, Kahlotus' vulnerability to earthquakes has not changed. As all of Kahlotus and the surrounding area are likely to experience moderate ground shaking during an earthquake, it is likely that any new development will be exposed to the same earthquake hazards as pre-existing development (Figure 36). However, land use planning, adherence to and development of building codes, seismically sound engineering, and community preparedness will help to minimize the impact of an earthquake on any future development in the City of Kahlotus.

Values of Resources at Risk

It is estimated that there are 109 housing units in Kahlotus at an average value of just under \$87,000. Any structure or housing unit could potentially be at risk in a large earthquake event.

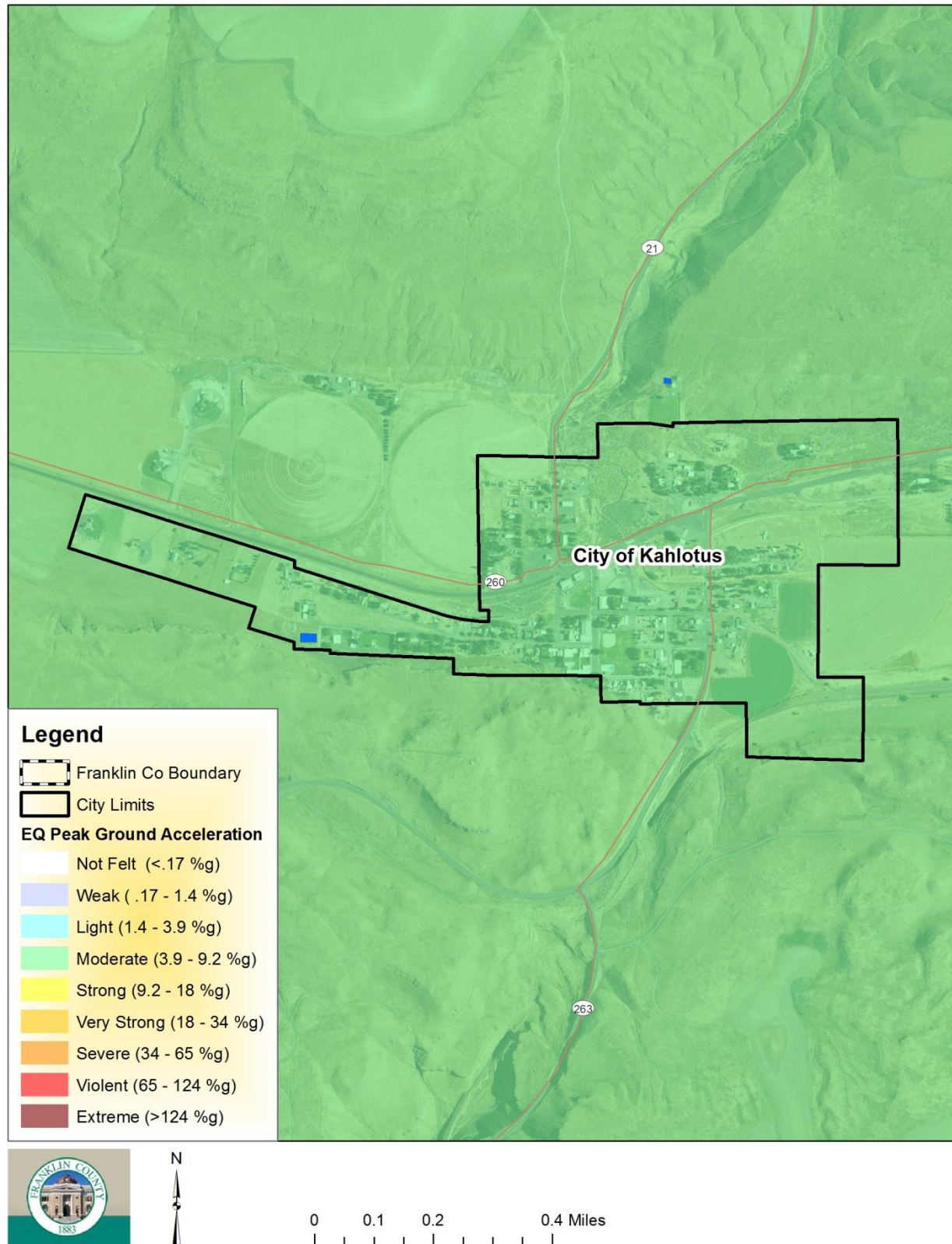


Figure 36: Peak ground acceleration map for Kahlotus, WA.

Wildfire Profile

Local Event History

The Kahlotus Fire burned 5,942 acres in late August of 2016. The fire started August 21 near Copp Road, east of Connell, and the wind drove it east up the canyon toward Kahlotus very quickly. This threatened Kahlotus and many homes, businesses and farms in the area. Responders included Franklin County Fire Districts 1,2,4, and 5, the City of Connell, and neighboring Grant and Adams counties. Local residents also responded to assist.

On August 22 state mobilization of fire resources was requested and immediately authorized, and state, federal, and regional resources were dispatched. Several power poles, four small structures and a hay barn were destroyed. The city of Kahlotus experienced power outages. Kahlotus is in the northeast part of Franklin County where little irrigated farming takes place. The fire incurred an estimated \$500,000 worth of costs. Total resources utilized to fight the Kahlotus Fire included 81 engines, one helicopter and two hand crews, with a total of 138 personnel.

Probability of Future Occurrence

Due to the dryland farming practices surrounding Kahlotus, the vegetation is significantly dryer and therefore the area is significantly more susceptible to wildfire than the irrigated areas, mostly around and west of Highway 395. This results in a **HIGH PROBABILITY**. Limited response resources could result in an ignition spreading beyond the city limits. Damage to personal property and farms could be significant in a wildfire event. Therefore, wildfire in Kahlotus carries a **HIGH RISK**.

Impacts of Wildfire Events

Kahlotus is much more remote and has fewer resources than other populated communities within Franklin County. The people of Kahlotus rely heavily on county resources, including planning and response, when it comes to hazards and hazard emergencies. On the other hand, Kahlotus does not have a large or growing population or an expanding economy. A large-scale wildfire event would not impact a large portion of the county's population, but it could potentially greatly impact the lives of the population who does live in and around Kahlotus.

Development Trends

As both population and demand for development are expected to remain stagnant, the vulnerability of the City of Kahlotus to wildfire should remain the same. Most of Kahlotus is at low to moderate risk for wildfire but most areas immediately outside of the city are at high risk due to extensive dry agriculture (Figure 20). Any new development will likely occur in areas of higher risk. However, land use planning, adherence to Firewise or other community wildfire standards in WUI areas, and fuels management should help reduce the vulnerability of Kahlotus during a wildfire event.

Values of Resources at Risk

Kahlotus has not seen any expansion or development in recent years. Much of the land in and around Kahlotus is used for dryland farming and residential. Personal property and farmland is the most at-risk value in and around Kahlotus. Any impacts to agriculture would then affect income values.

Flood Profile

Local Event History

Refer to the *Franklin County Annex* for flood history. Kahlotus is not in proximity to any major rivers but it may have been impacted by some of the flash flood or spring melt flood events.

Probability of Future Occurrence

Refer to the *Franklin County Annex* for flood probability. Kahlotus is not in a major watershed or flood-prone area; thus, **PROBABILITY** is **LOW** and the potential flooding that might occur in Kahlotus poses a **LOW RISK**.

Impacts of Flood Events

Potential impacts caused by flooding in Kahlotus include increased landslide risk, damage to infrastructure or roads, and damage to personal property.

Development Trends

As both population and demand for development are projected to remain stagnant, it should be expected that Kahlotus' vulnerability to flooding will not change. Land use planning and adherence to building codes in flood sensitive areas should help reduce the amount of infrastructure at risk during a flood event. At this time, there are no plans for development in flood prone areas in the City of Kahlotus.

Values of Resources at Risk

If a flooding event were to occur in Kahlotus, personal property values, agricultural values, and road and infrastructure values would be most at-risk. Figure 37 shows the locations of National Flood Insurance Program (NFIP) flood zones and structures at risk within the City of Kahlotus. In total there are 7 structures located within flood zones, all of which are classified as residential, with a total value of just over \$225,000 (Table 20).

The City of Kahlotus is a participant in the National Flood Insurance Program (NFIP). The identifying, analyzing, and prioritizing of mitigation measures is based (and will continue to be based) upon continued participation and compliance with the National Flood Insurance Program. No repetitive loss properties have been identified with the City of Kahlotus.

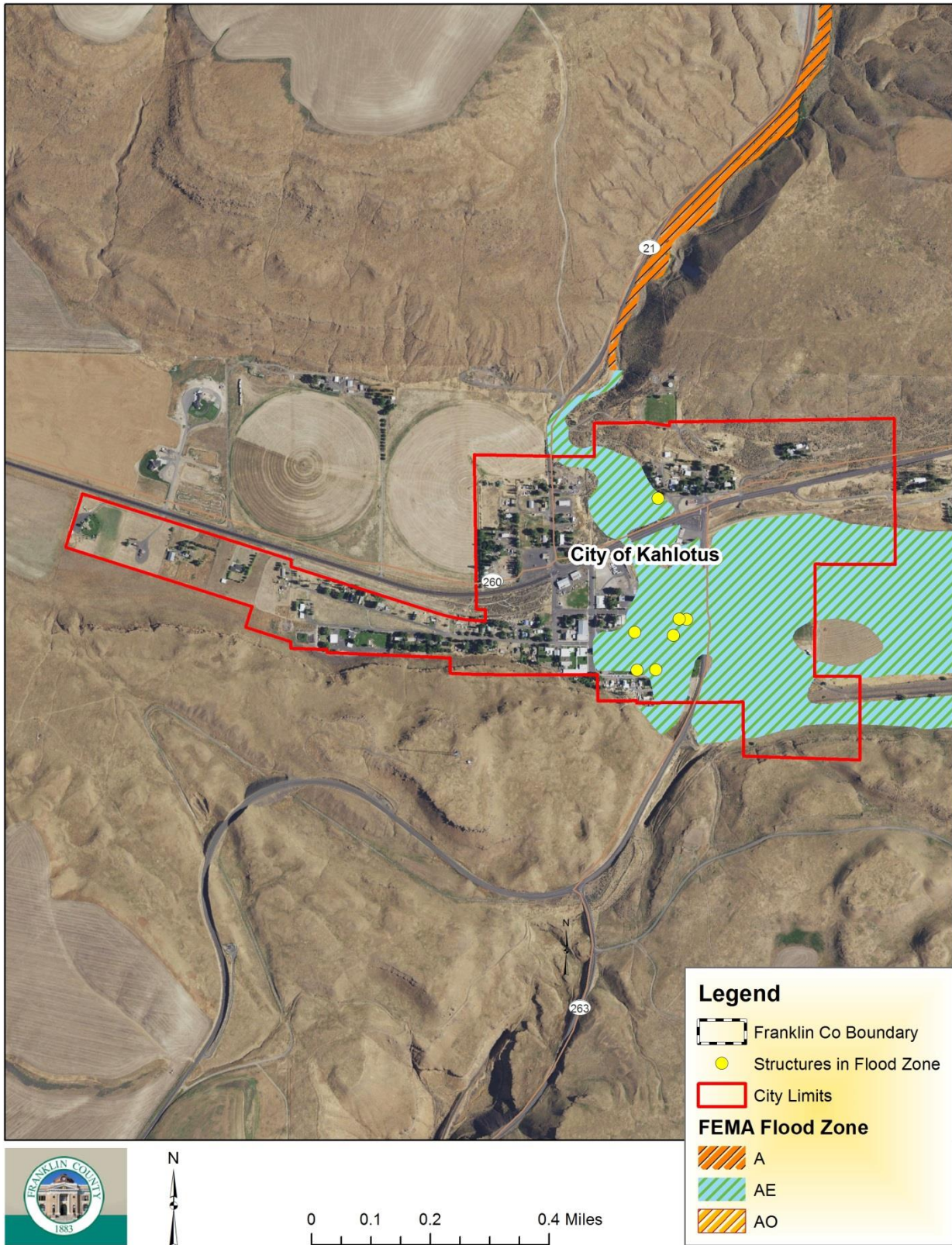


Figure 37: Map of National Flood Insurance Program flood zones and structures at risk in Kahlotus, WA

Table 20: Classification, number, and value of all structures located within National Flood Insurance Program flood zones in Kahlotus, WA.

Structure Classification	Number	Total Value
Residential - Other	1	\$ -
Residential - Single Family	6	\$ 226,700.00
Total	7	\$ 226,700.00

Land Movement Profile

Local Event History

Refer to the *Franklin County Annex* for regional land movement history. No known land movement events are recorded for the city of Kahlotus.

Probability of Future Occurrence

High risk land slide zones have been identified along the southern boundary of Kahlotus behind residential and commercial areas. Understanding the local topography of the area, and considering past events in the county, it is reasonable to expect the city of Kahlotus could experience a landslide event. The **PROBABILITY** of an event is **MODERATE** and, mostly because of vulnerable infrastructure, it carries a **MODERATE RISK**.

Impacts of Land Movement Events

Specifically, Kahlotus is especially susceptible to land movement because of the topography around the city. Also, landslides could damage nearby roads and therefore have an indirect effect on the people of Kahlotus through hindered transportation abilities. Any landslide that affects the agricultural industry would in turn affect the people of Kahlotus.

Development Trends

As both population and demand for development are expected to remain stagnant, it is unlikely that that Mesa’s vulnerability to landslide events will change. However, future development may increase Mesa’s vulnerability as there are areas along city limits that are designated landslide risk zones (Figure 38). Community expansion to the east may expose structures to higher landslide risk. Land-use planning and development of and adherence to building codes can limit vulnerability to land movement events.

Values of Resources at Risk

Agricultural values, home and personal property values, and road and infrastructure values are at risk to land movement in Kahlotus.

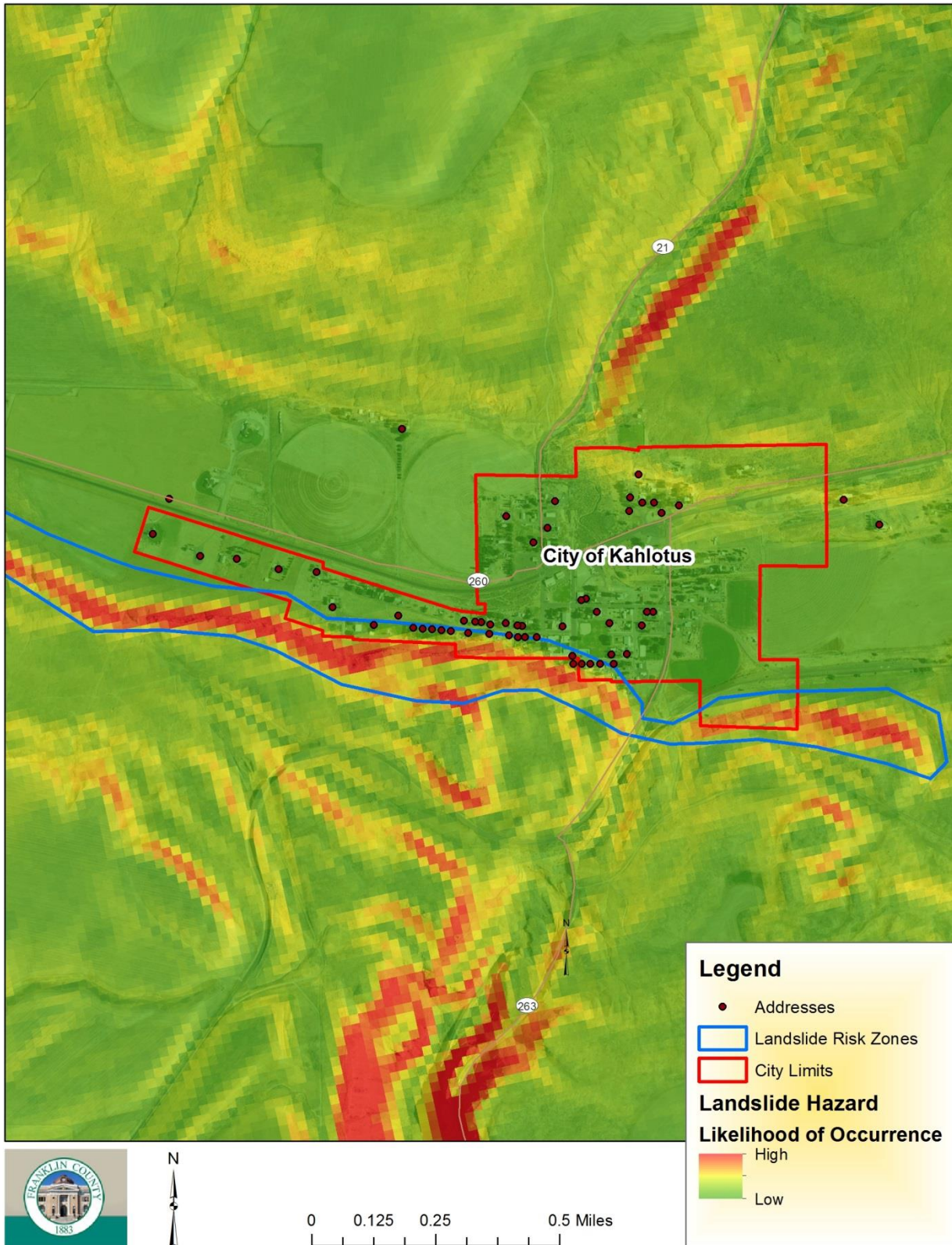


Figure 38: Land movement probability map of Mesa, WA.

Severe Storms Profile

Local Event History

Kahlotus shares a broad history of severe weather and storms with the rest of Franklin County. Windstorms are the most common form of weather disaster that has affected Kahlotus. Severe storms often precede other hazard events (flooding, landslides, etc.) that cause damage and turn into disasters.

Probability of Future Occurrence

Regionally, severe storms are expected to occur regularly resulting in a **HIGH PROBABILITY**. Kahlotus can anticipate at least one severe storm each year and very likely multiple storms. Disaster events caused by severe storms are not expected to happen as regularly, though, predicting when and what events will occur is not possible. Severe storms pose a **MODERATE RISK** to Kahlotus.

Impacts of Severe Storm Events

As mentioned above, impacts from severe storms often manifest in the form of another hazard type, such as flooding or landslides. Windstorms can greatly affect Kahlotus, possibly impacting power sources or causing debris hazards. Unexpected or unusually heavy snowstorms can also have a major impact on Kahlotus. Due to its remote nature, Kahlotus could be greatly impacted if travel or transportation is compromised. This includes, travel for work, commercial transportation, and emergency response travel.

Development Trends

As both population and demand for development are expected to remain stagnant, it is unlikely that that Kahlotus' vulnerability to severe storm events will change. However, future development may increase Kahlotus' vulnerability slightly as there are areas within city limits that are designated flood zones and other areas along city boundaries that are landslide risk zones. However, land-use planning and development of and adherence to building codes can limit future exposure to severe storm events.

Values of Resources at Risk

Values at risk to severe storms in Kahlotus vary significantly and are difficult to quantify. Some possible types of risks include: loss of power due to storms, damages to personal property due to falling or blowing debris, and loss of income due to impacts on transportation or commerce.

Volcano Profile

Local Event History

Refer to the *Franklin County Annex* for volcano history.

Probability of Future Occurrence

A volcanic event has a **LOW PROBABILITY** for Kahlotus as it does for the rest of Franklin County, but it carries a **MODERATE RISK** to persons, property, and the environment in Kahlotus, should an eruption occur.

Impacts of Volcano Events

Refer to the *Franklin County Annex* for descriptions of the potential impacts that a volcanic eruption could have on all jurisdictions within the region. Like the rest of the county, volcanic ash would pose the greatest threat to the City of Kahlotus along with any secondary events that may be induced by possible earthquakes associated with an eruption.

Development Trends

As population and demand for development in Kahlotus has remained stagnant, the vulnerability of Kahlotus to volcanic activity has not changed. While difficult to prepare for the consequences of ash fall, mitigation strategies, such as keeping roadways clear for emergency crews and first responders, can help protect and save lives during a volcanic eruption.

Values of Resources at Risk

Refer to the *Franklin County Annex* for an examination of values at risk to a volcano event. As ash would likely be the hazard of greatest concern, all resources within the City of Kahlotus would be at various levels of risk depending on the degree and duration of exposure to ashfall.

Chapter 5 – Mitigation Strategy

IN THIS SECTION:

- Mitigation goals and objectives
- Mitigation initiatives
- Franklin County
- City of Pasco
- City of Connell
- City of Mesa
- City of Kahlotus

Chapter 5
Goals,
Objectives,
and Initiatives

Mitigation Goals and Objectives

The goals and objectives, which guided the development of the plan, are intended to be implemented in the community by the year 2025. Each goal statement has objectives that provide a more specific framework for actions to be taken by the planning partners. They provide guidance for the development of the proposed mitigation initiatives in this section. Each mitigation initiative is specifically designed to implement a corresponding goal and objective.

The following is a list of the goals and objectives for this hazard mitigation plan:

1. All sectors of the community work together to create a disaster resistant community.
 - a) Participation in the planning process among local governmental entities.
 - b) Promote hazard mitigation planning between local governmental entities, the business community, and volunteer organizations.
 - c) Update the hazard mitigation plan on a regular basis, and as needed after a disaster event.
 - d) Alert the community to the next update cycle of the hazard mitigation plan, and how they might become involved in that planning process.
2. Local governmental entities have the capabilities to develop, implement, and maintain effective hazard mitigation programs in Franklin County.
 - a) Maintain existing data. Also gather new data and information needed to define hazards, risk areas, and vulnerabilities in Franklin County.
 - b) Undertake an evaluation to determine the effectiveness of mitigation initiatives implemented in Franklin County.
3. Collectively, the communities in Franklin County have the capacity to initiate and sustain emergency operations during and after a disaster.
 - a) Ensure that local emergency services have the capability to detect emergency situations and promptly initiate emergency response operations.
 - b) Ensure that local emergency services facilities can withstand the impacts of disasters. Retrofit or relocate these facilities as needed.
 - c) Ensure that utility and communications systems that support emergency services operations can withstand the impacts of disasters. Retrofit or relocate these facilities, as needed.
4. Local government operations are not significantly disrupted by disasters from natural hazards.
 - a) Protect important local government records from the impacts of disasters.
 - b) Retrofit or relocate buildings and facilities used for routine operations of government so they can withstand the impacts of disasters.
 - c) Have redundant equipment, facilities and supplies on hand to reestablish local government operations after a disaster.

- d) Adopt a plan and identify resources for how local government operations will be reestablished after a disaster.
5. Reduce the vulnerability to natural hazards to protect the health, safety and welfare of the community's residents and visitors.
- a) Provide the highest degree of natural hazard protection at the lowest-possible cost by working with natural systems and prioritizing prevention.
 - b) Ensure there are adequate systems in place to provide emergency instructions during a disaster.
 - c) Rely upon a combination of state or federal grants and locally generated funds (for the required match) to implement most mitigation initiatives.
6. Local governments will support hazard mitigation planning and implement the mitigation initiatives for their jurisdiction.
- a) Integrate the mitigation initiatives from the hazard mitigation plan into local government comprehensive plans, development regulations, and Capitol Improvement Plans (CIPs).
 - b) Adopt Critical Area Ordinance (CAO) regulations, which prohibit inappropriate land uses within areas of high risk; and require mitigation measures when structures or facilities are allowed in areas of less risk.
 - c) Adopt and enforce the most recent version of the Uniform Building Code (UBC) along with its chapters as a way to address wind, fire, landslide and earthquake hazards.
 - d) Adopt land use designations, comprehensive plan policies, and development regulations which minimize new development within high hazard areas.
 - e) Locate new facilities outside of areas vulnerable to the impacts of natural hazards.
 - f) Design facilities to withstand the impacts of a disaster when it is not feasible to relocate them.
 - g) Minimize the vulnerability of libraries, museums, and other institutions important to the daily lives of the community.
7. The local infrastructure of communities in Franklin County is not significantly affected by a disaster from a natural hazard.
- a) Design and retrofit essential transportation facilities and systems to minimize the potential for disruption during a disaster.
 - b) Design and retrofit essential water and sewer services to minimize the potential for disruption during a disaster.
 - c) Encourage private sector hazard mitigation planning for the design and retrofit of energy and telecommunications infrastructure to minimize the potential for disruption during a disaster.
 - d) Support key employers in the community to implement mitigation measures for their facilities and systems.

8. Residents understand the natural hazards of Franklin County and are aware of ways to reduce their personal vulnerability to those hazards.
 - a) Develop, implement, and maintain education programs which explain the vulnerabilities and risks of natural hazards in Franklin County, and ways to reduce their personal vulnerability to those hazards.
 - b) Develop and implement education programs which explain the mitigation initiatives to be undertaken by various communities in Franklin County.

Mitigation Initiatives

Mitigation initiatives make up the central piece of the Franklin County Hazard Mitigation Plan. It is through the implementation of these initiatives that the communities within Franklin County will truly become disaster resistant. For the purposes of this document, mitigation initiatives are defined as activities designed to reduce or eliminate losses resulting from natural hazards. These are the initiatives that the participating jurisdictions and organizations would implement when resources become available to do so.

Preparation of Initiatives

The mitigation initiatives were prepared by the members of the Hazard Mitigation Planning Committee. Each member of the committee represented their entity and was responsible for gathering and coordinating the information required for their jurisdictional initiatives. Committee members either had sufficient information to form an initiative or coordinated with staff in their jurisdictions that were most familiar with the facility, system, or geographic area being addressed. For each initiative, a local mitigation initiative template was prepared.

In addition to the basic statement explaining the mitigation initiative, the template required additional information regarding rationale, estimated cost, potential funding source(s), as well as prioritization relative to all the mitigation initiatives from that governmental entity. The template also identified who would implement the mitigation initiative when resources become available to do so.

Many of the initiatives underwent a benefit to cost review using the Mitigation 20/20™ software provided by the State. This analysis was only undertaken during this planning process if the data was available. In the future, as sufficient data becomes available, a benefit-to-cost review will be performed. The complete characterization form would generate a benefit-to-cost ratio. This value serves as one of the factors determining the relative desirability of a specific mitigation initiative in relation to the other initiatives incorporated into the plan by each participant.

Selection and Prioritization of Hazards and Initiatives

Each jurisdiction reviewed the hazard risk assessments and determined the priority of the hazard based on its probability of occurrence, potential impact area, and the severity of impacts to health and safety, property, environmental factors, and the local economy. Hazards were prioritized using a 1, 2, 3 . . . system. The previous version of the Hazard Mitigation Plan used a High, Medium, Low system. While this allowed each jurisdiction to evaluate hazards relatively to each other, it did not lead to full recognition of the hazards that most significantly impacted the community. Thus, the 1, 2, 3, system was adopted by the Committee for hazard prioritization.

All initiatives that ended up in the final version of this plan were selected by staff within the participating jurisdictions/special purpose districts based on the following criteria:

- Does the initiative save lives and/or reduce property damage?
- Does the initiative have a positive cost-to-benefit ratio?

Initiatives that did not meet the criteria were not included in this plan.

As part of the preparation process, all initiatives were prioritized by staff within the developing entity based on internal plans and policies. Many of the priorities were based on those established in the jurisdictional capital facilities and comprehensive plans. The priority of an initiative is determined by the entity that developed it. When an entity has more than one initiative they are listed in priority order such as 1 of 3, 2 of 3, etc.

Initiative Categories

The mitigation initiatives were grouped into seven general categories. These categories describe how each individual jurisdiction will incorporate each mitigation action item into local processes and/or planning mechanisms.

- **Public Information** – this covers all types of educational information that would be beneficial to either avoid natural hazards or deal with their effects.
- **Plan Coordination and Implementation** – any activity that supports the planning process or relates to the implementation of the plan within that entity.
- **Data Collection and Mapping** – the process of gathering and analyzing new data and then mapping that information so that it can be used for risk assessment.
- **Development Regulations** – this relates to the preparation of local regulations to assess these hazards.
- **Hazard Preparedness** – this refers to a rather broad list of activities which would take place *before* an event, to prepare for a disaster.
- **Hazard Damage Reduction** – any activity that would lessen the damage of a disaster event but is not applicable to a critical facility.
- **Critical Facilities Replacement/Retrofit** – those initiatives targeted at improving or replacing identified critical facilities.

Initiative Identification Numbers

A numbering system for the mitigation initiatives was devised for use in this plan. The numbering system has incorporated abbreviations for three factors – the name of the entity, the type of natural hazard, and a sequential number (1, 2, 3 – 100). For example, the third flood initiative by the City of Connell would be “C-FLH3. There is no ranking or priority associated with this number. The term “County Wide” was used for initiatives which applied to all jurisdictions and would be adopted with the plan. The term “Multi-Hazard” was used where the initiative would apply to more than one hazard type.

Planning Partners

CW = County Wide

FC = Franklin County

P = Pasco

C = Connell

M = Mesa

K = Kahlotus

Hazard Types

DH = Drought Hazard

EH = Earthquake Hazard

FIH = Fire Hazard

FLH = Flood Hazard

LH = Land Movement Hazard

SSH = Severe Storm Hazard

VH = Volcano Hazard

MH = Multi-Hazard

Sources of Funding

All of the action items listed in the following tables will require some kind of funding, whether it be the donation of a person's time or an expensive County improvement project. Different types of projects will apply for funding from a variety of sources that cater specifically to accomplishing the goals of the action item. For example, a culvert replacement on a county road may be eligible for funding from the Natural Resource Conservation Service and the Washington Department of Ecology.

The following is list of potential funding sources for mitigation projects in Franklin County; however, this is in no way an exhaustive list:

Federal Funding Sources:

- A. Hazard Mitigation Grants Program (FEMA)
- B. Flood Mitigation Assistance Program (FEMA)
- C. Pre-Disaster Mitigation Program (FEMA)
- D. Homeland Security Grant Program (FEMA)
- E. Federal Aviation Administration (U.S. Department of Transportation)
- F. Federal Highway Administration (U.S. Department of Transportation)
- G. Community Development Block Grant Program (U.S. Department of Housing and Urban Development)
- H. Natural Resource Conservation Service
- I. U. S. Forest Service

State Funding Sources:

- J. Flood Control Assistance Account Program (State of Washington Department of Ecology)
- K. Washington State Department of Transportation (various programs)
- L. Washington State Department of Natural Resources (DNR) Fire Prevention
- M. Aquatic Lands Enhancement Area Program (DNR)
- N. Washington State Department of Community, Trade and Economic Development's (DCTED) Grant
- O. Washington State Department of Community, Trade and Economic Development's (DCTED) Public Works Trust Fund
- P. Washington State Department of Community, Trade and Economic Development's (DCTED) Pre-Construction and Emergency Loans

Other Funding Sources:

- Q. Annual allocations of the Parks Capital Improvements Program (for acquisition of sites along the shoreline)
- R. Program for Growth Management Act compliance
- S. Community Economic Revitalization Board
- T. Insurance funds
- U. Local Jurisdiction

Mitigation Initiatives by Jurisdiction

Franklin County Initiatives

Franklin County government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. Franklin County government is also committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make Franklin County more resistant to the damages and hardships that could otherwise be the result of future disasters.

Prioritization of Hazards

1. Landslide/Erosion
2. Earthquake
3. Severe Storm
4. Fire
5. Drought

Mitigation Strategies

The pages that follow document the specific hazard mitigation initiatives that this entity has elected to implement. Table 21 outlines multijurisdictional hazard mitigation initiatives and Table 22 summarizes potential fuel mitigation projects, which are mapped out in Figure 39, for Franklin County. The status of action items carried forward from the previous plan is stated in the “Timeline” column including those that have been completed.

Table 21: Hazard mitigation initiatives that have been identified by representatives of both Franklin County and participating jurisdictions within Franklin County, WA.

Initiative Name	Initiative Category	Initiative Description	Priority	Estimated Cost	Funding Sources	Responsible Organization	Timeline
FC-MH1	Development Regulations	Review and Update/Improve Critical Area Regulations	High	\$2,000	U	Franklin County Planning Department	
FC-MH2	Development Regulations	Incorporate latest update to the Uniform Building Code into the County Building Code Ordinance	Low	\$2,000	U	Franklin County Planning Department	
FC-FLH1	Development Regulations	Review and Update/Improve Floodplain Regulations	Moderate	\$2,000	U	Franklin County Planning Department	
FC-FIH1	Public Education	Review and improve Wildfire Mitigation Program Regulations	Moderate	\$1,000	U	Franklin County Planning Department	Implemented Maintain
FC-FIH2	Public Education	Distribute Firewise-type educational brochures with occupancy permit.	High	\$2,000	C, H, I, L, U	Franklin County Emergency Management	2020

FC-FIH3	Emergency Response	Establish a delegation of authority plan to expedite the transition process between incident command teams.	High		U, C	Franklin County Commissioners	2021
FC-FIH4	Development Regulations	Adopt a County ordinance requiring all existing and new construction to create and maintain "defensible space" around homes.	Moderate		U	Franklin Conservation District and WSU Extension	Completed Maintain
FC-FIH5	Public Education	Implementation of youth and adult wildfire educational program	High	\$2,000	L, U	Franklin Conservation District and WSU Extension	2020
FC-FIH6	Public Education	Prepare for wildfire events in high-risk areas by conducting home site risk assessments and developing area-specific "Response Plans to include participation by all affected jurisdictions and landowners	High	\$5,000	C, L, U	Franklin Conservation District and WSU Extension	2020
FC-FIH7	Public Education	Work with area homeowner's associations to foster cooperative approach to fire protection and awareness and identify mitigation needs.	High		C, L, U	Franklin Conservation District	2020
FC-FIH8	Public Education	Work with WSU Extension, Master Gardeners, and other existing programs to offer Firewise landscaping clinics to assist property owners in maintaining fire-resistant defensible space around structures.	Moderate		C, H, L, U	Franklin Conservation District	2019
FC-FIH9	Public Education	Develop a range of public education programs to encourage healthy management of natural resources on private property.	High	\$2,000	C, H, L	CWPP Steering committee	2023
FC-FIH10	Development Regulations/ Public Education	Review building codes and promote the adoption of Firewise standards among builders and homeowners.	Low		U	Franklin Conservation District	Implemented Maintain
FC-FIH11	Public Education	Promote a County wide chip day where property owners can have their slash chipped.	Moderate		C, H, L, U	Franklin Conservation District	Partially implemented /Ongoing
FC-FIH12	Wildfire Mitigation	Identify fuel reduction projects throughout the County, but particularly around Pasco.	Moderate		C, L, O, Q, R	Franklin Conservation District	Implemented Maintain
FC-FIH13	Public Education	Develop a residential/agriculture burning procedures pamphlet that addresses each Fire District, Pasco, and Connell.	Moderate		U	Franklin County Fire Districts	Completed

FC-FIH14	Public Education	Fund the existing Fire Prevention/Public Education team to continue the public information campaign addressing wildland fire, fire safety, Firewise, etc.	Moderate	\$3,000	H, L, U	Franklin County Fire Districts	2019
FC-FIH15	Emergency Response	Map, develop a GIS database, and provide signage for onsite water sources such as hydrants, underground storage tanks, and drafting or dipping sites on all ownerships across the county.	High		G, O, R, U	Franklin County Fire Districts/ GIS	Started Continue (2020)
FC-FIH16	Emergency Response	Develop a program to encourage landowners to install reflective address signage on their drive to allow firefighters and emergency responders to better locate residences.	High	\$5,000 Yearly	K,O,U	Franklin County Fire Districts	Started Continue (2020)
FC-FIH17	Emergency Response	Develop a program to replace worn out road signage with new reflective road signs to allow firefighters to easily navigate to a wildfire.	High		K,O,U	Franklin County Public Works	2019
FC-FIH18	Emergency Response	Improve departmental capability by establishing a program to increase the retention and recruitment of volunteer firefighters.	High		U	Franklin County Fire Districts	2021
FC-FIH19	Emergency Response	Enhance radio availability in each district, link to existing dispatch, improve range within the region, and convert to a consistent standard of radio types.	High	\$20,000	D,U	Franklin County Information Services	2019 Maintain
FC-FIH20	Emergency Response	Training for Fire Districts including FFT1, Engine Boss, EWTZ (Eastern Washington Training Zone), etc.	High	\$3,000	L,U	Region 8 Training Group	Yearly
FC-FIH21	Facilities Improvement	Install two single-phase backup generators for station 36 in Fire District #3.	High	\$100,000	D,L,U	Franklin County Fire District #3	2019
FC-FIH22	Wildfire Mitigation	Implement the 5-year priority fuels reduction projects identified in the Franklin County CWPP (see <i>Table G</i> , and <i>Figure 11</i>).	High		C,H,I,L,U	Franklin County Fire Districts	2020

Table 22: Proposed Five-Year Fuels Reduction Project Areas for Franklin County, WA.

Map ID#	Project Name	# of Acres	# of Structures	Priority
1	North Pasco	2,879	2311	Moderate
2	Northwest Pasco	1,035	494	Low
3	Martindale Road	799	53	High
4	Ice Harbor Road	601	26	Moderate
5	Meeker Road	859	41	Moderate
6	Highway 395	4,350	2	Moderate
7	State Route 17	2,393	3	Moderate
8	Kahlotus	2,128	62	High
9	Lower Smith Canyon	2,014	0	Moderate
10	Juniper Dunes Parking Area	1,149	0	Moderate
11	Columbia River Road	1,154	4	Moderate
12	Ringold	3,195	0	Moderate
13	Mt. Vista/Filbert Road	2,119	0	Moderate
14	Basin City			Moderate

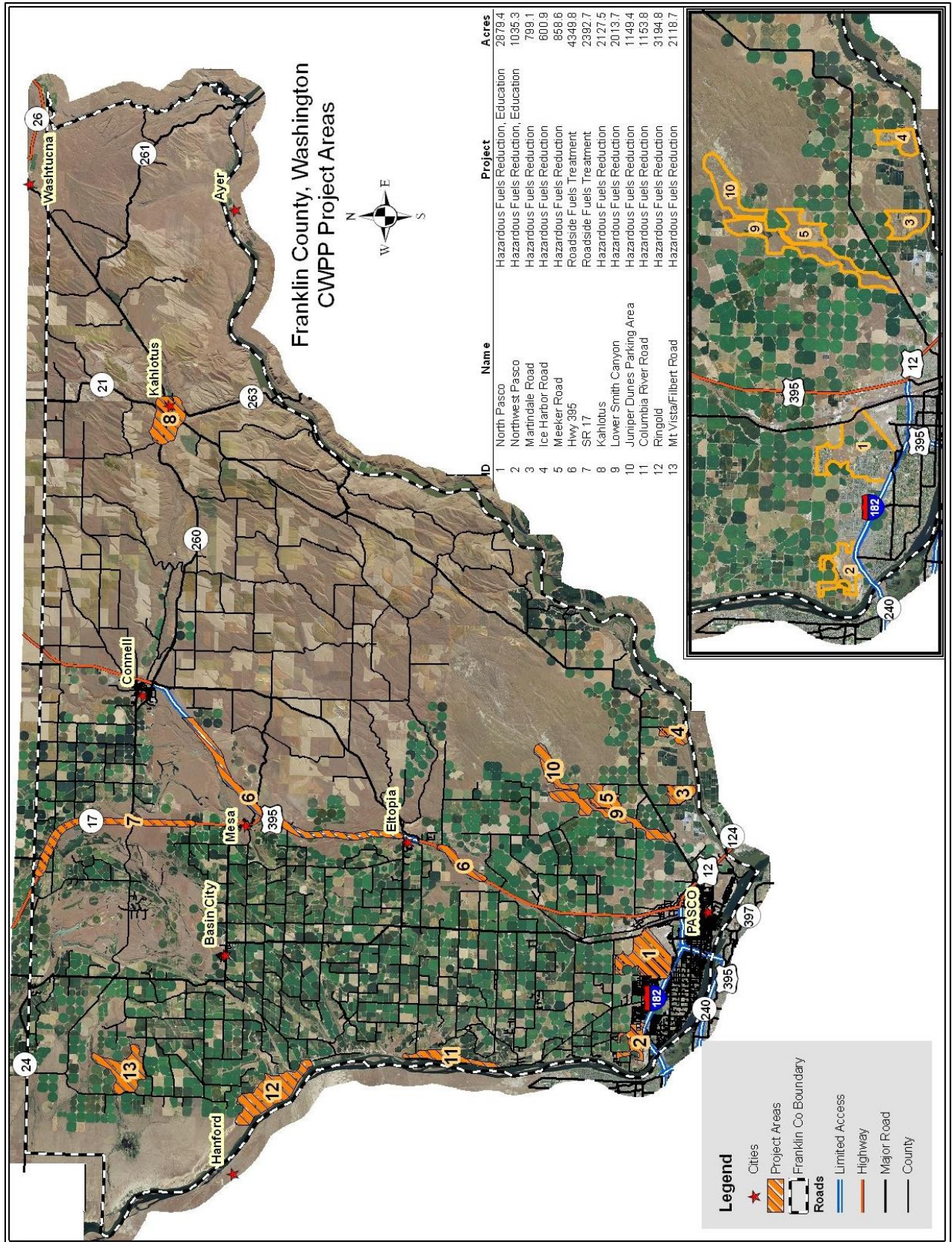


Figure 39: Map of proposed fuel mitigation projects for Franklin County, WA.

Pasco Initiatives

City of Pasco government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. City of Pasco government is also committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make the City of Pasco more resistant to the damages and hardships that could otherwise be the result of future disasters.

Prioritization of Hazards

1. Severe Storm
2. Flood
3. Fire

Mitigation Strategies

The pages that follow document the specific hazard mitigation initiatives that this entity has elected to implement (Table 23). The status of action items carried forward from the previous plan is stated in the “Timeline” column including those that have been completed.

Table 23: Hazard mitigation initiatives that have been identified for the City of Pasco, WA.

Initiative Name	Initiative Category	Initiative Description	Priority	Estimated Cost	Funding Sources	Responsible Organization	Timeline
P-SSH1	Hazard Damage Reduction	Inspect all trees within falling distance of critical facilities.	High	\$500	O, U	Pasco Facilities	2019 Maintain
P-MH1	Critical Facility Replacement/ Retrofit	Procure and install emergency generators for the water and wastewater treatment plants.	High	\$400,000	C, G, O, U	Pasco Public Works	2020
P-MH2	Development regulations	Incorporate mitigative policies into the planning process for all capital improvement projects.	High	\$5,000	G, P, U	Pasco Planning	2021
P-MH3	Development regulations	Update and maintain all hazard-specific ordinances.	Moderate	\$4,000	A, N, O, R, U	Pasco Planning	2019
P-MH4	Hazard Preparedness	Procure and install an adequate number of tone-alert radios for all city departments to ensure that each work area in all city buildings has an ability to receive rapid notification of emergency information during disasters or serious emergencies.	Moderate	\$3,400	A, D, U	Franklin County Emergency Management/ Pasco Fire Department	2019
P-FI1	Public Education	Implement a FIREWISE public education program to better inform citizens as to the wildland-urban interface fire hazard that exists locally and provide citizens with information to reduce their vulnerability to wildland fires.	Moderate	\$10,000	I, L, U	Pasco Fire Department	2019

Connell Initiatives

City of Connell government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. City of Connell government is also committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make the City of Connell more resistant to the damages and hardships that could otherwise be the result of future disasters.

Prioritization of Hazards

1. Flood
2. Severe Storms
3. Earthquake

Mitigation Initiatives

The pages that follow document the specific hazard mitigation initiatives that this entity has elected to implement (Table 24). The status of action items carried forward from the previous plan is stated in the “Timeline” column including those that have been completed.

Table 24: Hazard mitigation initiatives that have been identified for the City of Connell, WA.

Initiative Name	Initiative Category	Initiative Description	Priority	Estimated Cost	Funding Source	Responsible Organization	Timeline
C-FIH1	Wildfire Mitigation	Provide residents of Connell with a one-time offer to remove debris from selected properties at no charge to the property owner (Properties will be identified by the Chief).	Moderate		L, U	Connell Fire	Implemented Maintain
C-FIH2	Wildfire Mitigation	Purchase and installation of backup generator at the City of Connell Fire Department	High	\$30,000	A, O, U	Connell Fire Department	Contingent on funding
C-MH1	Critical Facilities Replacement Retrofit	Procure, install, and test propane powered emergency electric power generator of sufficient size and capability to operate the pump at Well #8 for at least 3 days.	High	\$250,000	A, J, O, U	City of Connell	Contingent on funding
C-MH2	Critical Facilities Replacement Retrofit	Relocate City Hall/ Police Department outside floodplain and ensure ability to conduct emergency operations for prolonged periods during a multitude of natural hazard emergencies.	High	\$2,500,000	A, G, N, O, P, U	City of Connell	Contingent on funding

C-EH1	Critical Facilities Replacement Retrofit	Install and replace/upgrade city water distribution lines to meet current seismic standards.	Moderate	\$2,500,000	A, C, J, N, O, P, U	City of Connell	Contingent on funding
C-FLH1	Plan Coordination & Implementation	Plan and implement improvements to the Esquatzel coulee floodway to reduce flood potential.	Moderate	\$10,000,000	A, B, G, H, J, N, O, P, U	City of Connell	Contingent on funding
C-EH2	Critical Facilities Replacement Retrofit	Install/replace wastewater collection lines to ensure system meets current seismic code and incorporates mitigative features that will reduce the affects to the system from an earthquake.	Moderate	\$2,500,000	A, J, O, U	City of Connell	Contingent on funding
C-MH3	Critical Facilities Replacement Retrofit	Install backup generator at the Community Center in Connell.	Moderate	\$100,000	A, U	City of Connell	Contingent on funding
C-MH4	Critical Facilities Replacement Retrofit	Install a backup generator at the Fire Station, including site preparation (Pad, Electrical, etc.).	Moderate	\$100,000	A, U	City of Connell	Contingent on funding

Mesa Initiatives

City of Mesa government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. City of Mesa government is also committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make the City of Mesa more resistant to the damages and hardships that could otherwise be the result of future disasters.

Prioritization of Hazards

1. Severe Storms

Mitigation Strategies

The pages that follow document the specific hazard mitigation initiatives that this entity has elected to implement (Table 25). The status of action items carried forward from the previous plan is stated in the “Timeline” column including those that have been completed.

Table 25: Hazard mitigation initiatives that have been identified for the City of Mesa, WA.

Initiative Name	Initiative Category	Initiative Description	Priority	Estimated Cost	Funding Source	Responsible Organization	Timeline
M-MH1	Critical Facility Replacement Retrofit	Install emergency electrical power generator at Water Well #1.	High	\$40,000	U	City of Mesa	Completed
M-SSH1	Hazard Damage Reduction	Inspect trees around public facilities and trim/remove to prevent damage due to broken branches or downed trees during a severe storm.	High	\$6,000	O, U	City of Mesa	2019 Maintain

Kahlotus Initiatives

City of Kahlotus government is committed to the implementation of the mitigation-related projects/programs described in this section of the plan when and if resources become available. City of Kahlotus government is also committed to continuing the mitigation planning process that has resulted in the development of this document, and to the ongoing cooperation with other agencies, organizations, and jurisdictions to make the City of Kahlotus more resistant to the damages and hardships that could otherwise be the result of future disasters.

Prioritization of Hazards

1. Severe Storms
2. Fire

Mitigation Initiatives

The pages that follow document the specific hazard mitigation initiatives that this entity has elected to implement (Table 26). The status of action items carried forward from the previous plan is stated in the “Timeline” column including those that have been completed.

Table 26: Hazard mitigation initiatives that have been identified for the City of Kahlotus.

Initiative Name	Initiative Category	Initiative Description	Priority	Estimated Cost	Funding Source	Responsible Organization	Timeline
K-MH1	Critical Facility Replacement Retrofit	Install emergency Generators for water wells.	High	\$60,000	U	City of Kahlotus	Completed
K-MH2	Plan Coordination and Implementation	Develop and implement a Continuity of Operations Plan	Moderate	\$10,000	A, U	City of Kahlotus	2019
K-MH3	Critical Facility Replacement Retrofit	Establish an emergency well as a backup source for city water.	High	\$50,000	A, G, H, O	City of Kahlotus	Contingent on funding
K-MH4	Critical Facility Replacement Retrofit	Install emergency generator for city hall and community evacuation center/shelter.	High	\$50,000	A, D, O, U	City of Kahlotus	Contingent on funding
K-FI1	Wildfire Mitigation	Purchase used dump truck for debris removal in the wildland urban interface.	Moderate	\$20,000	A, K, O, U	City of Kahlotus	Contingent on funding

Chapter 6 - Appendices

IN THIS SECTION:

- **Forms**
- **Meeting documentation**
- **Capabilities Assessments**
- **Meeting Sign-in Sheets**
- **Public Announcements**

Appendix
Chapter 6

Appendix A: Forms

The various forms in Appendix A are designed to assist the planning committee in maintaining the Hazard Mitigation Plan. These forms can be used to document mitigation projects as they are completed and assist in annual plan updates.

Mitigation Action Implementation Worksheet

Complete a mitigation action implementation worksheet for each identified mitigation action.

Jurisdiction:	
Mitigation Action/Project Title:	
Background/Issue:	
Ideas for Integration:	
Responsible Agency:	
Partners:	
Potential Funding:	
Cost Estimate:	
Benefits: (Losses Avoided)	
Timeline:	
Priority:	
Worksheet Completed by:	(Name/Department)

Mitigation Action Progress Report Form

Progress Report Period	From date:	To date:
Action/Project Title		
Responsible Agency		
Contact Name		
Contact Phone/Email		
Project Status	<input type="checkbox"/> Project completed	
	<input type="checkbox"/> Project canceled	
	<input type="checkbox"/> Project on schedule	
	Anticipated completion date: _____	
	<input type="checkbox"/> Project delayed	
	Explain _____	

Summary of Project Progress for this Report Period

1. What was accomplished for this project during this reporting period?

2. What obstacles, problems, or delays did the project encounter?

3. If uncompleted, is the project still relevant? Should the project be changed or revised?

4. Other comments

Plan Update Evaluation Worksheet

Plan Section	Considerations	Explanation
Planning Process	Should new jurisdictions and/or districts be invited to participate in future plan updates?	
	Have any internal or external agencies been invaluable to the mitigation strategy?	
	Can any procedures (e.g., meeting announcements, plan updates) be done differently or more efficiently?	
	Has the Planning Team undertaken any public outreach activities?	
	How can public participation be improved?	
	Have there been any changes in public support and/or decision-maker priorities related to hazard mitigation?	
Capability Assessment	Have jurisdictions adopted new policies, plans, regulations, or reports that could be incorporated into this plan?	
	Are there different or additional administrative, human, technical, and financial resources available for mitigation planning?	
	Are there different or new education and outreach programs and resources available for mitigation activities?	
	Has NFIP participation changed in the participating jurisdictions?	
Risk Assessment	Has a natural and/or technical or human-caused disaster occurred?	
	Should the list of hazards addressed in the plan be modified?	
	Are there new data sources and/or additional maps and studies available? If so, what are they and what have they revealed? Should the information be incorporated into future plan updates?	
	Do any new critical facilities or infrastructure need to be added to the asset lists?	
	Have any changes in development trends occurred that could create additional risks?	

Plan Section	Considerations	Explanation
	Are there repetitive losses and/or severe repetitive losses to document?	
Mitigation Strategy	Is the mitigation strategy being implemented as anticipated? Were the cost and timeline estimates accurate?	
	Should new mitigation actions be added to the Action Plan? Should existing mitigation actions be revised or eliminated from the plan?	
	Are there new obstacles that were not anticipated in the plan that will need to be considered in the next plan update?	
	Are there new funding sources to consider?	
	Have elements of the plan been incorporated into other planning mechanisms?	
Plan Maintenance Procedures	Was the plan monitored and evaluated as anticipated?	
	What are needed improvements to the procedures?	

Appendix B: Planning Documents Consulted

Franklin County Comprehensive Emergency Management Plan, 2015

Washington State Enhanced Hazard Mitigation Plan, 2013

Franklin County Comprehensive Plan, 2008

Pasco Comprehensive Plan, 2007-2027

Connell Comprehensive Plan, 2007

Appendix C: Capabilities Assessments

Hazard mitigation capabilities include existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities.

Franklin County

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes, 2008	Yes
Capital Improvements Plan	Yes, 2015- 2019 Tri-Cities Consolidated Plan	
Economic Development Plan	Yes, 2016	
Local Emergency Operations Plan	Yes, 2015	Yes
Continuity of Operations Plan	No	
Transportation Plan	Yes, 2008	Yes, part of the comprehensive plan
Stormwater Management Plan	No	Statewide plan
Community Wildfire Protection Plan	Yes, 2014	Yes Yes Yes
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	County Planning Code
Fire department ISO rating	Yes	Yes
Site plan review requirements	No	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance	Yes	
Subdivision ordinance	Yes	

Floodplain ordinance	Yes	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	No	
Flood insurance rate maps	No	
Acquisition of land for open space and public recreation uses	No	
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	Board of appointed, volunteer citizens that advise and make recommendations to elected officials.
Mitigation Planning Committee	Yes	Franklin County Emergency Management
Maintenance programs to reduce risk, e.g., tree trimming, clearing drainage systems	Yes	Franklin County Public Works
Mutual aid agreements	Yes	County wide Master Mutual Aid Agreement
Staff	Yes/No FT/PT ¹⁴	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes	Franklin County Planning Dept.
Floodplain Administrator	No	
Emergency Manager	Yes	Franklin County Emergency Management
Community Planner	Yes	Franklin County Planning Dept.
Civil Engineer	Yes	Franklin County Public Works
GIS Coordinator	Yes	Franklin County Information Services
Technical	Yes/No	Describe capability Has capability been used to assess/mitigate risk in the past?
Warning systems/services (Reverse 911, outdoor warning signals)	Yes	CodeRed and EAS Yes
Hazard data and information	Partial	Conducted through HMEP
Grant writing	No	
Hazus analysis	Yes	Conducted county wide years ago
How can these capabilities be expanded and improved to reduce risk?		

¹⁴ Full-time (FT) or part-time (PT) position

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	Yes	Special funding through county commissioners as projects arise Possibly, depending on approval by the commissioners
Authority to levy taxes for specific purposes	Yes	Funds go to regular operations
Fees for water, sewer, gas, or electric services	No	
Impact fees for new development	No	
Storm water utility fee	No	
Incur debt through general obligation bonds and/or special tax bonds	Yes	
Community Development Block Grant	Yes	
Other federal funding programs	Yes	
State funding programs	Yes	
How can these capabilities be expanded and improved to reduce risk?		

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	FCEM; central duty of the department Yes
Ongoing public education or information program, e.g., responsible water use, fire safety, household preparedness, environmental education.	Yes	FCEM; many programs are already in place Yes
Natural disaster or safety related school programs	Yes	FCEM; programs are already in place; yes
Storm Ready certification	Yes	Countywide through FCEM Yes
Firewise Communities certification	Yes	FCEM; program is in place Yes
Public-private partnership initiatives addressing disaster-related issues	No	
How can these capabilities be expanded and improved to reduce risk?		

Franklin County Fire District #3

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	No	
Capital Improvements Plan	Yes 2017	Yes Identifies the need for back-up generator at Station 36. Yes
Economic Development Plan	Yes 2017	Five year budget and business plan updated annually
Local Emergency Operations Plan	Yes	Yes All-Hazards Fire Mobilization Plan Yes
Continuity of Operations Plan	Yes 2013	Yes No Yes
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	Yes 2014	Yes Yes Yes
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	Yes, Franklin County Planning Department
Fire department ISO rating	Yes	Yes. Except rural water supply under NFPA 1142. Class 7 Suburban. Class 9 Rural.
Site plan review requirements	Yes	Yes, Franklin County Planning Department
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance	Yes	Unknown Franklin County Planning Department
Subdivision ordinance	Yes	Unknown Franklin County Planning Department
Floodplain ordinance	Yes	Unknown Franklin County Planning Department
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Yes	Unknown Franklin County Planning Department
Flood insurance rate maps	Yes	Unknown Franklin County Planning Department
Acquisition of land for open space and public recreation uses	Yes	Unknown Franklin County Planning Department
How can these capabilities be expanded and improved to reduce risk?		
I would have to refer that to the Franklin County Planning Department. I believe the building and planning department is both currently understaffed to address all these issues.		

Pasco

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes, 2017	Currently in update process
Capital Improvements Plan	Yes	
Economic Development Plan	Yes	
Local Emergency Operations Plan	Yes	Yes Yes Yes
Continuity of Operations Plan	No	
Transportation Plan	Yes, part of master plan	
Stormwater Management Plan	No	Statewide plan
Community Wildfire Protection Plan	Yes, 2014	Yes Yes Yes
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	2015 International Building Code
Fire department ISO rating	Yes	Class 5
Site plan review requirements	Yes	Yes
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance	Yes	Municipal Code Yes
Subdivision ordinance	Yes	Municipal Code Yes
Floodplain ordinance	Yes	Municipal Code Yes
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	No	
Flood insurance rate maps	No	
Acquisition of land for open space and public recreation uses	Yes	In Comprehensive Plan
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	Yes	Appointed residents who make recommendations to the city council and hold public hearings for planned-unit developments, re-zones, special permits, etc.
Mitigation Planning Committee	No	Franklin County Emergency Management
Maintenance programs to reduce risk, e.g., tree trimming, clearing drainage systems	Yes	Community Risk Reduction Plan, 2017 Yes
Mutual aid agreements	Yes	County wide Master Mutual Aid Agreement
Staff	Yes/No FT/PT ¹⁵	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes FT	Yes Yes Yes
Floodplain Administrator	No	
Emergency Manager	No	Franklin County Emergency Management
Community Planner	Yes FT	Yes Yes Yes
Civil Engineer	Yes FT	Yes Yes Yes
GIS Coordinator	Yes FT	N/A No Yes
Technical	Yes/No	Describe capability Has capability been used to assess/mitigate risk in the past?
Warning systems/services (Reverse 911, outdoor warning signals)	Yes	CodeRed and EAS Yes
Hazard data and information	Partial	Conducted through HMEP
Grant writing	No	
Hazus analysis	No	Conducted county wide years ago

¹⁵ Full-time (FT) or part-time (PT) position

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	Yes	Parks and Roads
Storm water utility fee	Yes	
Incur debt through general obligation bonds and/or special tax bonds	Yes	
Community Development Block Grant	Yes/No	
Other federal funding programs	Yes	
State funding programs	Yes	
How can these capabilities be expanded and improved to reduce risk?		

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	Through FCEM Yes
Ongoing public education or information program, e.g., responsible water use, fire safety, household preparedness, environmental education.	Yes	Through FCEM Yes
Natural disaster or safety related school programs	Yes	Through FCEM Yes
Storm Ready certification	Yes	Countywide through FCEM Yes
Firewise Communities certification	No	
Public-private partnership initiatives addressing disaster-related issues	No	
How can these capabilities be expanded and improved to reduce risk?		

Connell

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes, 2007	
Capital Improvements Plan		
Economic Development Plan		
Local Emergency Operations Plan	Yes, 2015	Yes
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	Statewide plan
Community Wildfire Protection Plan	Yes, 2014	Yes Yes Yes
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Yes	Through Municipal Code
Fire department ISO rating	Yes	6
Site plan review requirements	No	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance	Yes	Through Municipal Code
Subdivision ordinance	Yes	Through Municipal Code
Floodplain ordinance	No	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	No	
Flood insurance rate maps	No	
Acquisition of land for open space and public recreation uses	No	
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	No	Franklin County
Mitigation Planning Committee	No	Franklin County Emergency Management
Maintenance programs to reduce risk, e.g., tree trimming, clearing drainage systems	No	Minimal
Mutual aid agreements	Yes	County wide Master Mutual Aid Agreement
Staff	Yes/No FT/PT ¹⁶	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes	Connell Planning Dept.
Floodplain Administrator	No	
Emergency Manager	No	Franklin County Emergency Management
Community Planner	No	Franklin County Planning Dept.
Civil Engineer	No	Franklin County Planning Dept.
GIS Coordinator	No	Franklin County Planning Dept.
Technical	Yes/No	Describe capability Has capability been used to assess/mitigate risk in the past?
Warning systems/services (Reverse 911, outdoor warning signals)	Yes	CodeRed and EAS
Hazard data and information	Partial	Conducted through HMEP
Grant writing	No	
Hazus analysis	No	Conducted county wide years ago
How can these capabilities be expanded and improved to reduce risk?		

¹⁶ Full-time (FT) or part-time (PT) position

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Storm water utility fee	No	
Incur debt through general obligation bonds and/or special tax bonds	Yes	
Community Development Block Grant	Yes/No	
Other federal funding programs	Yes	
State funding programs	Yes	
How can these capabilities be expanded and improved to reduce risk?		

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	Through FCEM
Ongoing public education or information program, e.g., responsible water use, fire safety, household preparedness, environmental education.	Yes	Through FCEM
Natural disaster or safety related school programs	Yes	Through FCEM
Storm Ready certification	Yes	Countywide through FCEM
Firewise Communities certification	No	
Public-private partnership initiatives addressing disaster-related issues	No	
How can these capabilities be expanded and improved to reduce risk?		

Mesa

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	No	
Capital Improvements Plan	Partial	
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	Yes
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	Yes	Yes
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Partial	Utilizes County Planning Code
Fire department ISO rating	No	
Site plan review requirements	No	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance	No	
Subdivision ordinance	No	
Floodplain ordinance	No	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	No	
Flood insurance rate maps	No	
Acquisition of land for open space and public recreation uses	No	
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	No	Franklin County
Mitigation Planning Committee	No	Franklin County Emergency Management
Maintenance programs to reduce risk, e.g., tree trimming, clearing drainage systems	No	Minimal
Mutual aid agreements	Yes	County wide Master Mutual Aid Agreement
Staff	Yes/No FT/PT ¹⁷	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	No	Franklin County Planning Dept.
Floodplain Administrator	No	
Emergency Manager	No	Franklin County Emergency Management
Community Planner	No	Franklin County Planning Dept.
Civil Engineer	No	Franklin County Planning Dept.
GIS Coordinator	No	Franklin County Planning Dept.
Technical	Yes/No	Describe capability Has capability been used to assess/mitigate risk in the past?
Warning systems/services (Reverse 911, outdoor warning signals)	Yes	CodeRed and EAS
Hazard data and information	Partial	Conducted through HMEP
Grant writing	No	
Hazus analysis	No	Conducted county wide years ago
How can these capabilities be expanded and improved to reduce risk?		

¹⁷ Full-time (FT) or part-time (PT) position

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Storm water utility fee	No	
Incur debt through general obligation bonds and/or special tax bonds	Yes	
Community Development Block Grant	Yes/No	
Other federal funding programs	Yes	
State funding programs	Yes	
How can these capabilities be expanded and improved to reduce risk?		

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	Through FCEM
Ongoing public education or information program, e.g., responsible water use, fire safety, household preparedness, environmental education.	Yes	Through FCEM
Natural disaster or safety related school programs	Yes	Through FCEM
Storm Ready certification	Yes	Countywide through FCEM
Firewise Communities certification	No	
Public-private partnership initiatives addressing disaster-related issues	No	
How can these capabilities be expanded and improved to reduce risk?		

Kahlotus

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction has in place.

Plans	Yes/No Year	Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	No	
Capital Improvements Plan	Partial	
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	Yes
Continuity of Operations Plan	No	
Transportation Plan	No	
Stormwater Management Plan	No	
Community Wildfire Protection Plan	Yes	Yes
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
Building Code	Partial	Utilizes County Planning Code
Fire department ISO rating	No	
Site plan review requirements	No	
Land Use Planning and Ordinances	Yes/No	Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?
Zoning ordinance	No	
Subdivision ordinance	No	
Floodplain ordinance	No	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	No	
Flood insurance rate maps	No	
Acquisition of land for open space and public recreation uses	No	
How can these capabilities be expanded and improved to reduce risk?		

Administrative and Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission	No	Franklin County
Mitigation Planning Committee	No	Franklin County Emergency Management
Maintenance programs to reduce risk, e.g., tree trimming, clearing drainage systems	No	Minimal
Mutual aid agreements	Yes	County wide Master Mutual Aid Agreement
Staff	Yes/No FT/PT ¹⁸	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	No	Franklin County Planning Dept.
Floodplain Administrator	No	
Emergency Manager	No	Franklin County Emergency Management
Community Planner	No	Franklin County Planning Dept.
Civil Engineer	No	Franklin County Planning Dept.
GIS Coordinator	No	Franklin County Planning Dept.
Technical	Yes/No	Describe capability Has capability been used to assess/mitigate risk in the past?
Warning systems/services (Reverse 911, outdoor warning signals)	Yes	CodeRed and EAS
Hazard data and information	Partial	Conducted through HMEP
Grant writing	No	
Hazus analysis	No	Conducted county wide years ago
How can these capabilities be expanded and improved to reduce risk?		

¹⁸ Full-time (FT) or part-time (PT) position

Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access/ Eligibility (Yes/No)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Storm water utility fee	No	
Incur debt through general obligation bonds and/or special tax bonds	Yes	
Community Development Block Grant	Yes/No	
Other federal funding programs	Yes	
State funding programs	Yes	
How can these capabilities be expanded and improved to reduce risk?		

Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	Through FCEM
Ongoing public education or information program, e.g., responsible water use, fire safety, household preparedness, environmental education.	Yes	Through FCEM
Natural disaster or safety related school programs	Yes	Through FCEM
Storm Ready certification	Yes	Countywide through FCEM
Firewise Communities certification	No	
Public-private partnership initiatives addressing disaster-related issues	No	
How can these capabilities be expanded and improved to reduce risk?		

Appendix D: Planning Meeting Documentation

Planning Committee Meeting Agendas

FRANKLIN COUNTY EMERGENCY MANAGEMENT BOARD

MEETING AGENDA

April 19, 2017 at 3:30 p.m.

Connell Fire Department
104 E Adams St., Connell WA 99326

- I. Briefing on Hazard Mitigation Plan
 - Process
 - Input
 - Timeframe for Completion
- II. Discussion on major events since last revision
 - Major Fires
 - Major Floods
 - Power Outages
 - Landslides
- III. Strategize Main topics for incorporation/change
 - CWPP
 - Items from II.
- IV. Review Mitigation Projects
 - Delete
 - Change
 - Add/New

FRANKLIN COUNTY EMERGENCY MANAGEMENT BOARD

HMP Kickoff

April 20, 2017 at 3:30 p.m.

FCEM-Pasco Fire Administration Bldg.
1011E Ainsworth St., Pasco WA 99301

- I. Briefing on Hazard Mitigation Plan
 - Process
 - Input
 - Timeframe for Completion
- II. Discussion on major events since last revision
 - Major Fires
 - Major Floods
 - Power Outages
 - Landslides
- III. Strategize Main topics for incorporation/change
 - CWPP
 - Items from II.
- IV. Review Mitigation Projects
 - Delete
 - Change
 - Add/New

FRANKLIN COUNTY EMERGENCY MANAGEMENT BOARD

HMP Connell Projects Meeting

November 06, 2017

FCEM-City of Connell
104 E. Adams St., Connell, WA 99326

- I. Briefing on Hazard Mitigation Plan
 - Process
 - Input
 - Timeframe for Completion
- II. Discussion on major events since last revision
 - Major Fires
 - Major Floods
 - Power Outages
 - Landslides
- III. Strategize Main topics for incorporation/change
 - CWPP
 - Items from II.
- IV. Review Mitigation Projects
 - Delete
 - Change
 - Add/New

FRANKLIN COUNTY EMERGENCY MANAGEMENT

MEETING AGENDA

Novemenber 16, 2017 at 1:30 p.m.

Franklin County Public Works

- I. Briefing on Hazard Mitigation Plan
 - Process
 - Input
 - Timeframe for Completion
- II. Discussion on major events since last revision
 - Major Fires
 - Major Floods
 - Power Outages
 - Landslides
- III. Strategize Main topics for incorporation/change
 - CWPP
 - Items from II.
- IV. Review Mitigation Projects
 - Delete
 - Change
 - Add/New

Planning Committee Meeting Sign-In sheets



FRANKLIN COUNTY
EMERGENCY MANAGEMENT
 1011 E. Alnsworth St
 Pasco, WA 99301
 (509) 545-3546



HMP-CWPP Mitigation Projects FC Chiefs Meeting 10/18/2017 Franklin County Fire District #3, Station 36

Name (please print)	Organization	Cellphone	Email	Initials
Sean Davis	Franklin County EM	(509) 492-1373	sdavis@co.franklin.wa.us	SD
Chris Lee	Franklin County EM	(509) 554-9302	clee@co.franklin.wa.us	CL
DAVEY	PFD	509-521-7767	Harold@Pasco-WA.gov	Harold
CHRIS SCHULTE	CONNELL FIRE DEPT	509 318-0649	cschulte@connellwa.org	CS
Dustin Widmer	USEWS	509-412-4735	dustin.widmer@fws.gov	DW
Mike Harris	Franklin 3	509 547 9506	muharris@fcfd3.org	A



Hazard Mitigation Plan Meeting with WA-EMD 10/26/17

Sign-In Sheet

Name (Please print)	Company/Agency	E-Mail	Phone #
Matt Blackman	BCEM	m.blackman@brcs.wa.gov	
Derrick Hiebert	WA EMD	derrick.hiebert@mil.wa.gov	253-370-5432
Bill Mathews	North West Management	Mathews@nmiz.com	208-883-4488
Patrick Parcell	WwEMD	p.parcell@co.walla-walla.wa.us	509 524 2562
Liz Jessel	WwEMD	ljessel@co.walla-walla.wa.us	509 524 2902
Sean Davis	FCEM	sdavis@co.franklin.wa.us	509.545-3546
Deanna Davis	BCEM	ddavis@brcs.wa.gov	509 678-8097



**FRANKLIN COUNTY
EMERGENCY MANAGEMENT**
1011 E. Ainsworth Street
Pasco, WA 99301
(509) 545-3546



Hazard Mitigation Steering Committee Meeting. 02/13/2018

Name (please print)	Organization	Cell phone #	Email	Initials
Sean T. Davis	Franklin County EM	(509) 492-1373	sdavis@co.franklin.wa.us	SD
T. Chris Lee	Franklin County EM	(509) 554-9302	clee@co.franklin.wa.us	CL
Cheryl Evosevich	Franklin County EM	(509) 539-2882	cevosevich@co.franklin.wa.us	CE
Jacque Cook	Franklin County EM	(509) 438-9159	jcook@co.franklin.wa.us	JC
Tena R. King	NW Mgmt. Inc.	208-818-3411	king@nmi2.com	TRK
Adam Herrenbruck	NW Management, Inc.	(509) 330-0240	herrenbruck@nmi2.com	AH
Bill Mathews	NW Management, Inc.	208-941-6409	Mathews@nmi2.com	Bm
Bob Koch	FRANKLIN CO	509-7088	RKoch@co.franklin.wa.us	BK
Charlie Cronk	DOI: BLM	(509) 699-3337	cpcronk@blm.gov	CC
Mike Sheehan	BNSF Railway	509 430-6090	Michael.Sheehan@bnsf.com	MS
Jack Murray	BNSF Railway	406-390-4793	jack.murray@bnsf.com	JM
MATT MILLBAUER	Simplot	509-412-4946	Matthew.millbauer@simplot.com	MM
Justin Retcher	Lands	509 7377146	justin.retech@blm.gov	JR



**FRANKLIN COUNTY
EMERGENCY MANAGEMENT**
1011 E. Ainsworth Street
Pasco, WA 99301
(509) 545-3546



Name (please print)	Organization	Cell phone #	Email	Initials
DAVEY	PFD	Y	Y	DEH
Maria Serra	city of Pasco	509 545 3444	serram@pasco.wa.gov	MLS
Melissa Lantz	BFD-R8	509-366-9389	melissab@bfhd.wa.gov	ML
Mike Harris	FCFD#3			



FRANKLIN COUNTY EMERGENCY MANAGEMENT

1011 E. Ainsworth St
Pasco, WA 99301
(509) 545-3546



HMP Steering Committee Meeting - Pasco
03/13/2018 (1011 E. Ainsworth St., Pasco, WA)

Table with 3 columns: Name (please print), Email, and Initials. Rows include Sean Davis, J. Chris Lee, Jacqueline Cook, Tera R. King, Adam Herrenbruck, and Cheryl Evosevich.

Sean Davis

Subject: Final Draft Review of the Franklin County Hazard Mitigation Plan
Location: 1011 E. Ainsworth St., Pasco, WA 99301
Start: Tue 4/24/2018 11:00 AM
End: Tue 4/24/2018 12:30 PM
Recurrence: (none)
Meeting Status: Meeting organizer
Organizer: Sean Davis
Required Attendees: Sean Davis; FCEM Calendar; Chris Lee - FCEM; Jacqueline K. Cook
Optional Attendees: king@consulting-foresters.com
Categories: Meeting
Importance: High

FCEM STAFF, NW MANAGEMENT (TERA + Adam) + Deputy Chief Hare were only ones in attendance.

Appendix E: Public Involvement Documentation

HMP Public Meeting Sign-In sheets



FRANKLIN COUNTY
EMERGENCY MANAGEMENT
 1011 E. Ainsworth St
 Pasco, WA 99301
 (509) 545-3546



HMP Public Meeting - Pasco

03/13/2018 (1011 E. Ainsworth St., Pasco, WA)

Name (please print)	Email	Initials
Sean Davis	sdavis@co.franklin.wa.us	SD
J. Chris Lee	CLee@co.franklin.wa.us	JCL
Jacquie Cook	jcook@co.franklin.wa.us	JC
Tera R. King	King@uwi2.com	TRK
Adam Herrenbruck	herrenbruck@uwi2.com	AH
Cheryl Evosevic	cevosevic@co.franklin.wa.us	CE



FRANKLIN COUNTY
EMERGENCY MANAGEMENT
 1011 E. Ainsworth St
 Pasco, WA 99301
 (509) 545-3546



HMP Public Meeting - Connell

03/14/2018 (104 E. Adams St., Connell, WA)

Name (please print)	Email	Initials
Sean Davis	sdavis@co.franklin.wa.us	SD
Chris Lee	CLee@co.franklin.wa.us	JCL
Cheryl Evosevic	cevosevic@co.franklin.wa.us	CE
Bob Koch	BKoch@co.franklin.wa.us	BK
Jacquie Cook	jcook@co.franklin.wa.us	JC
Chris Turner	cturner@connellwa.org	CT
CHRIS SCHULTE	csculte@connellwa.org	CS
Lee Barrow	lbarrow@connellwa.org	LB
Adam Herrenbruck	herrenbruck@gmail.com	AH
Ed Brown	ebrown@connellwa.org	EB

Newspaper Advertisements for Public Review Meetings

Receipt for Newspaper Publications



Order Confirmation

<u>Customer</u> FRANKLIN COUNTY EMERGENCY MANAGEMENT	<u>Payor Customer</u> FRANKLIN COUNTY EMERGENCY MANAGEMENT
<u>Customer Account</u> 586037	<u>Payor Account</u> 586037
<u>Customer Address</u> 1011 E. AINSWORTH ST PASCO WA 99301 USA	<u>Payor Address</u> 1011 E. AINSWORTH ST PASCO WA 99301 USA
<u>Customer Phone</u> 509-545-3546	<u>Payor Phone</u> 509-545-3546
<u>Customer Fax</u>	<u>Customer EMail</u>
<u>Sales Rep</u> blabelle@tricityherald.com	<u>Order Taker</u> blabelle@tricityherald.com

<u>PO Number</u>	<u>Payment Method</u> Credit Card	<u>Blind Box</u>	<u>Tear Sheets</u> 0	<u>Proofs</u> 0	<u>Affidavits</u> 0
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<u>Net Amount</u> \$29.43	<u>Tax Amount</u> \$0.00	<u>Total Amount</u> \$29.43	<u>Payment Amount</u> \$29.43	<u>Amount Due</u> \$0.00
-------------------------------------	------------------------------------	---------------------------------------	---	------------------------------------

<u>Ad Order Number</u> 0003530402	<u>Order Source</u>	<u>Ordered By</u>	<u>Special Pricing</u>
<u>Invoice Text</u>			<u>Promo Type</u>
<u>Package Buy</u>			<u>Materials</u>

Ad Order Information

Ad Number Ad Type Production Method Production Notes
0003530402-01 TRI-Class Liner AdBooker

External Ad Number Ad Attributes Ad Released Pick Up
No

Ad Size Color
1 X 14 II

Product Placement Times Run Schedule Cost
TRI- Tri-City Herald 0200 - Announcements 1 \$15.21

Run Schedule Invoice Text Position
Public meeting for comments on county wi 0275 - Misc. Announcements

Run Dates
03/05/2018

Product Placement Times Run Schedule Cost
TRI-upsell.tricityherald.com 0200 - Announcements 1 \$6.22

Run Schedule Invoice Text Position
Public meeting for comments on county wi 0275 - Misc. Announcements

Run Dates
03/05/2018

Product Placement Times Run Schedule Cost
TRI- Tri-City Herald Just In - Just In 1 \$8.00

Run Schedule Invoice Text Position
Public meeting for comments on county wi Just In - Just In

Run Dates
03/05/2018

Public meeting for comments on county wide Hazard Mitigation Plan.
March 13, 2018 @ 6:30 pm - Franklin County Emergency Management, 1011 E. Ainsworth Street, Pasco, WA 99301
March 14, 2018 @ 6:30 pm - Cornell City Hall Council Chambers, 104 E. Adams Street, Cornell, WA 99326
See: www.franklinem.org

Mid-Columbia Meals on Wheels

SENIOR MEALS FOR PERSONS AGE 60+ at the Connell Community Center. Meals on Wheels is supported by participant donations. For those age 60 and over, the suggested donation is \$2.75 per meal. Meals may be purchased by those under age 60 for \$7.30.

Friday, June 30

BBQ pork sandwich, baked beans, confetti coleslaw, fresh melon cubes, apricot crisp.

Monday, July 3

Hamburger, potato salad, lettuce, tomato, onion, ice cream.

Wednesday, July 5

BBQ chicken breast, baked beans, broccoli with peppers, wheat roll, coconut cake.

Friday, July 7

Harvest apple pork chop, rice, green beans, cabbage slaw, cranberry oat bar.

Monday, July 10

Meatloaf and gravy, mashed potatoes with gravy, brussel sprouts, wheat roll, cherry oat bar.

Wednesday, July 12

Chef salad, mandarin oranges, wheat roll, peach crisp.

Friday, July 14

Pork roast with gravy, roasted sweet potatoes, English pea salad, bread, peanut butter cookies.

What's Happening

Saturday

CONNELL GUN CLUB OPEN SHOOT from 9:00 a.m. to 1:00 p.m.

CONNELL HERITAGE MUSEUM open 1:00 to 4:00 p.m. After hours call Carol 206-234-2807 or Shelley 234-0482

Thursday & Fridays

AA MEETING at Methodist Church from 6:00 to 7:00 p.m.

It's A Girl



*Kayla, Jessie, Emily, Ashley and Jacob would like to announce the birth of their little sister, **Rosslyn Dawn Honeycutt**. Born June 5th. Weighing in at a healthy 9lbs 2oz and 21 inches long! Our little P-Nut has joined the circus. Parents are Jason and Slobhan Honeycutt



Museum Musings
The Connell
Heritage Museum
205 West Adams, Connell

**Open every Saturday
1:00 to 4:00 p.m.**

Happy Birthday

Thursday, June 29

Mattie Jean Mauseith
Jevad Robbins
Victor Gomez Jr.

Friday, June 30

Julie Pruett
Saturday, July 1

Christian Danicison
Rylee Pickel
Kathleen Minor

Kourtney Brown
Eta Thompson
David Stephenson

Sunday, July 2

Leann Bleuert
Roberta Harper
John DeVierming

Marti Noble
Laura Parkeppys
Anthony Gregory Vela

Vern Weisacr
Monday, July 3

Patty Edler
Marie Guerrero
Tuesday, July 4

Eva Nunez
Kelai Miller
Bobby Floyd

Ben Cochrane
Brian Lloyd
John Thompson

Brandon Rill
Kaylee Smith
Wednesday, July 5

Bill Erickson
Rosie Schubert
Wednesday, July 6

Warren Alexander
Cole Brandner
Angel Cerna

Happy Anniversary

Friday, June 30

Thayne &
Tammy Andrus
Sunday, July 2

Chad & Stephanie
Egbert
Art & Cindy Johnson

Tuesday, July 4

James & Susann
Donley
Sondra & Ben

Whinery
Wednesday, July 5

Lee & Erin Colclasure
Mr. & Mrs. Lyle Holt

**Deadlines
for
all copy
are on
Mondays at
4:30 p.m.**

Public Comment

The Franklin County Hazard Mitigation Plan (HMP) is now open for public comment. It is time again to update/review/revise the Franklin County HMP to meet our state and federal grant requirements. The document can be downloaded at <http://www.franklinem.org>.

One of the biggest changes will be the incorporation of the Community Wildfire Protection Plan (CWPP) that was created for the county in 2014/15. This document can be downloaded from the Download section of our website. We would appreciate any input from the public on this document.

We will hold two public meetings once we get a working draft completed for final public comment. The meeting dates will be in the fall of this year and will be held in Connell and Pasco. We are anticipating completion of this project in late 2017 or early 2018.

Public Meeting for Comment: Ad Published Thursday March 1, 2018

Page 6 Thursday, March 1, 2018 Franklin County Graphic

Public Notice

TS No WA08000250-17-1 APN 109890177 TO No 170353769-WA-MSI NOTICE OF TRUSTEE'S SALE PURSUANT TO THE REVISED CODE OF WASHINGTON CHAPTER 61.24 ET. SEQ. I. NOTICE IS HEREBY GIVEN that on March 9, 2018, 10:00 AM, at main entrance Franklin County Courthouse, 1016 N 4th, Pasco, WA, MTC Financial Inc. dba Trustee Corps, the undersigned Trustee, will sell at public auction to the highest and best bidder, payable in the form of cash, or cashier's check or certified checks from federally or State chartered banks, at the time of sale the following described real property, situated in the County of Franklin, State of Washington, to-wit: LOT 4, BLOCK 1, COUNTY ESTATES, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME "D" OF PLATS, PAGE 166, RECORDS OF FRANKLIN COUNTY, WASHINGTON APN: 109890177 More commonly known as 830 W. ...

Public meeting for comments on county wide Hazard Mitigation Plan.

March 13, 2018 @ 6:30 pm - Franklin County Emergency Management, 1011 E. Ainsworth Street, Pasco, WA 99301

March 14, 2018 @ 6:30 pm - Connell City Hall Council Chambers, 104 E. Adams Street, Connell, WA 99326

See: www.franklinem.org

The South Col is providing pu ing aquatic he drains, and w Washington I No. WAG9910 The purpose c to control aqua delivery and d of the Civil Rig U.S.C. 2000d t Federal Regula tion, Subtitle 21, Nondiscrim Programs of th issued pursua all bidders th that in any co this advertise enterprises as be afforded f in response to discriminated

Public Meeting for Comment: Ad Published Thursday March 5, 2018

MONDAY MARCH 5 2018 | TRI-CITY HERALD | 13A

Unhateable river frontage. 449,000 2.48 acres property lot located on the Yalaha river in Prosser Wine Country offers an unhateable river view. Owner financing option at 25% down. 509-303-8219 182soren@yahoo.com

Undeveloped acreage in Connell w/ irrigation water running through it! TBD Henrievs Road \$65,000, 5.43 acres. Plenty of room to build home, shop, fencing for animals! Access to electricity. BHHS Tri Cities Real Estate Linda Toggia/ Vicki Wright 509-366-0338/509-551-2351

Undeveloped acreage in Connell w/ irrigation water running through it! TBD Henrievs Road \$65,000, 5.43 acres. Plenty of room to build home, shop, fencing for animals! Access to electricity. BHHS Tri Cities Real Estate Linda Toggia/ Vicki Wright 509-366-0338/509-551-2351

Homes for Sale

Pasco

Progressive Sales, Inc.

JUST LISTED Lovely 4 bdrm 3 bath home with large kitchen, vaulted ceilings and 3 car garage + tandem bay to backyard \$355,000 Michelle Bruce (227389) 946-8500

Progressive Sales, Inc.

LIVE AGENT 9 to 9

NEW LISTING Immaculate 3 bdrm 2 1/2 bn one level home with heated pool in sought after neighborhood. Won't last long! 345,000 Steve Wilson (227014) 946-8500

Progressive Sales, Inc.

LIVE AGENT 9 to 9

NEW LISTING Wonderfully maintained 5 bdrm 3 bath with 3 car garage plus separate 24x30 dream workshop in super nice neighborhood \$359,900 Terry Broussard (227302) 946-8500

Homes for Rent

Kennewick

\$1,200, 3 BR, 1239 sq ft, cent h/a, 1.75 BA, 2 car gar, Realtor owned, avail now. 539-1537

Real Estate Wanted

URGENT INTEREST-CALL 848-3744

Employment

Accounting

Confederated Tribes of Umatilla Indian Reservation Accountant Grant and Budgets Full time with benefits package \$42,557.40-\$63,000 annual DOE/DOJ, Non Exempt This position for the CIUIR is to perform general accounting functions, maintain accounting records and other related duties of the Tribal Office of Finance. This person will be responsible for maintaining financial records for CIUIR Grants and Contracts. For Application for Employment or Vacancy Announcement please call (541)429-7190 or visit the Tribes website at <http://ctuir.org/about-us/employment-opportunities> position closes: March 23, 2018 at 4 p.m. or postmarked.

Admin/Clerical

AgriNorthwest
Good Land... Good People... Good Food

Administrative Assistant
AgriNorthwest, a local agricultural operation, has an opening for an Administrative Assistant in Kennewick, WA. Desired candidate provides administrative support to the General Manager, Controller, Senior Director of Operations, and Production Manager by conducting

SEASONAL FARMWORKERS NEEDED
Evergreen Agricultural Services is accepting applications for 165 SEASONAL FARMWORKER for Grapes and Apple Harvest at Burbank, WA location. Duties are tree fruit pruning, training, thinning, harvesting apples, hand weeding, suckering, leaf stripping, cluster removal and canopy adjustments in the vineyards.

JOB REQUIREMENTS
Three (3) months experience working on a fruit and/or vegetable crop farm handling manual tasks associated with harvest activities. Ability to lift up to 50 lbs. and willing to tolerate exposure to extreme temperature, extensive pushing, pulling, walking, frequent stooping and repetitive movement. Willing to work entire contract: 4/1/2018 through 11/30/2018. Drug screen.

WAGES
No worker will be paid less than the AEW of \$14.12/hour.
Grape Training - by the plant \$0.22/\$0.15 per vine
Apple Harvest, all cultivations Full \$28.00 per bin (47"x47"x24 1/2") Gala \$23.00 per bin (47"x47"x24 1/2") Honey Crisp \$15.00/hr. Pink Lady \$25.00 per bin (47"x47"x24 1/2") Smitten \$25.00 per bin (47"x47"x24 1/2")
Depending on size of tree, training \$ 0.22-\$0.20/tree, thinning .05-\$.50/tree, summer pruning \$0.22-\$1.00/tree
Payroll period is weekly. Workers will be paid by check. Will provide, without charge, all tools, supplies and protective equipment required in the performance of the specified work.
Housing/kitchen facilities are available for employees who are unable to reasonably return to their place of residence the same day. Transportation costs to the job site will be reimbursed after 50% of the contract period. Transportation costs from the job site to the workers home will be provided to domestic

Center

The Tri-Cities Cancer Center is seeking a full-time RN Nurse Navigator/Case Manager. Duties involve working with patients and their families to coordinate their cancer care and provide resources and education. This individual will collaborate with referring physicians, community resource providers, and patient care staff.

A current Washington State Nursing License is required. Two years of case management, palliative care, and/or oncology nursing preferred.

The Tri-Cities Cancer Center has been awarded Best Places to Work in Healthcare in 2015 and again in 2017. The Tri-Cities Cancer Center will reward you talents with a competitive salary based on experience. Interested candidates should submit a cover letter and resume to: hr@trccancer.org or mail to Tri-Cities Cancer, Attn: Human Resources, 7350 W. Deschutes Ave., Kennewick, WA 99336. Open until filled. *EOE M/F/D/V.

Management

Public Works Director
The City of Prosser seeks a new Public Works Director to work in conjunction with other departments and agencies to guide the development of critical infrastructure and to that services continued to be delivered to customers in a professional but neighborhood friendly manner. The Public Works Director manages the Public Works Department including the city's water supply and distribution, wastewater treatment, streets, irrigation, garbage and parks. The Public Works Director also prepares various capital plans and works with other departments and agencies to prepare of the

Announcements

Misc. Announcements

Public meeting for comments on county wide Hazard Mitigation Plan.

March 13, 2018 @ 6:30 pm - Franklin County Emergency Management, 1011 E. Ainsworth Street, Pasco, WA 99301
March 14, 2018 @ 6:30 pm - Connell City Hall Council Chambers, 104 E. Adams Street, Connell, WA 99326

See: www.franklinem.org

Auctions

EQUIPMENT AUCTION
10 SATURDAY MAR 10 AM

Largest Area Auction North of Pasco - HWY 255.
Free Admission / Parking. Food Vendors onsite all day. Farm Equip, Construction, Trucks, Trailers, Vehicles, Shop, Horse, Garden, Collectibles, Livestock Equipment, Irrigation, Tools, More... Preview Online or All 3 Days Prior. BID FROM ANYWHERE. Same fees, one registration. Register Online Now. Booker Auction Co. phone/website 5092979292.com

SUNDAY MAY 27 2018

tri-city herald

classi

JUST IN!

 Find a sa of the Tri-

2011 Cadillac AWD 7,600 miles
one owner, Art work, amazing furn.
7000sq ft Home
201 Hillview off Leslie in S. Richland.
509-839-3355 Fri., Sat, Sun.
9a-2p pics at craigstatesales.com

359 positions -
Temporary/seasonal work rouging
corn and sunflowers, and
de-tasseling corn on a farm, from
6/11/2018 to 8/15/2018 at
Agrilabor, Inc. Hermiston, OR, and
multiple worksites within
Grant(OR), Morrow(OR),
Multnomah (OR), Umatilla(OR),
Benton(WA), Franklin(WA) and
Walla Walla(WA) counties. This job
requires a minimum of two months
of agricultural field work
employment experience. Saturday
work required. Must be able to
lift/carry 60 lbs. Post-hire
employer-paid drug testing and
background check required
\$14.12/hr or current applicable
AEWR. Raise/bonus at employer
discretion. Workers are guaranteed
3/4 of work hours of total period.
Work tools, supplies, equipment,
supplied by employer without
charge to worker. Housing with
kitchen facilities provided at no
cost to only those workers who are
not reasonably able to return same
day to their place of residence at
time of recruitment. Transportation
and subsistence expenses to work
site will be paid to nonresident
workers not later than upon
completion of 50% of the job
contract. Interviews required.
Apply for this job at nearest State
Workforce Agency in state in which
this ad appears, or WorkSource
Walla Walla, 1530 Stevens St,
Walla Walla, WA 99362.
Provide copy of this ad.
WA Job Order #195059351.



Affordable Sprinkler Installation & Repair . 948-0134 # AFORS*921D

Already leveled 2.8 acres with Highway 12 frontage near A street.
509-308-1577

Apartments Available:
Public Housing
1-6 bdrm units
Highland Park Apts.
2-4 bdrm units
Affordable Apts.
1-2 bdrm units
Apply at:
the Housing Authority of the
City of Pasco and Franklin County
2505 W. Lewis Street,
Pasco, WA
(509) 547-3581
Washington Relay Service
1-800-833-6394



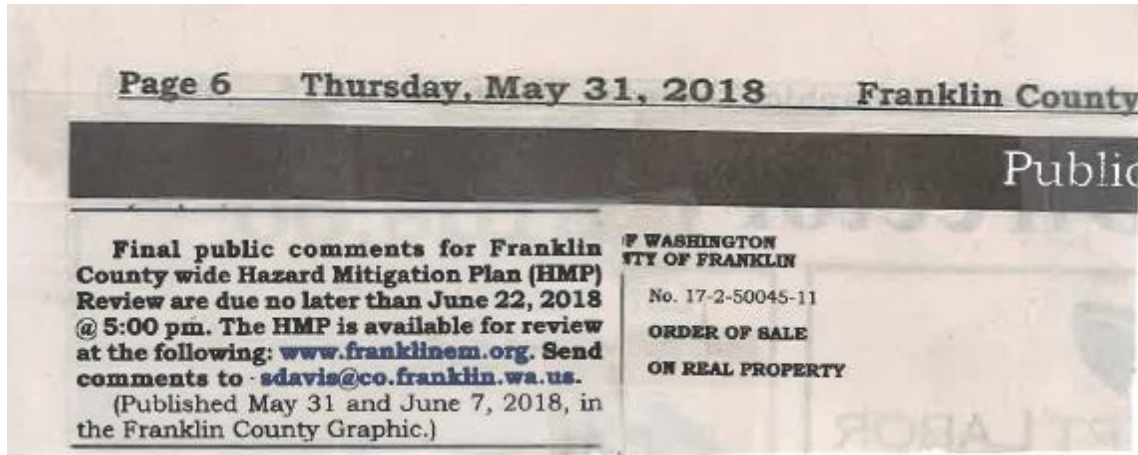

EQUAL HOUSING OPPORTUNITY

Progressive Sales, Inc.
LIVE AGENT 9 to 9
JUST LISTED: Affordable 3 bdrm rambler with updated kitchen & bath, vinyl windows, vinyl siding and newer roof. \$149,900 Josh Weitzel (229780) 946-8500

Commercial & Residential Cleaning
Great Prices, Ins. & Bonded, 528-6535

Final public comments for Franklin County wide Hazard Mitigation Plan (HMP) Review are due no later than June 22, 2018 @ 5:00 pm. The HMP is available for review at the following: www.franklinem.org . Send comments to stavis@co.franklin.wa.us

Public Meeting for Comment: Ad Published Thursday May 31, 2018



FCEM Website HMP Draft Notifications

HMP First Draft Notification

Franklin County Emergency Management

(FCEM)

10:31 AM

Wednesday, February 14, 2018

2011 Hazard Mitigation Plan Review (pdf download)

send comments to: sdavis@co.franklin.wa.us

2018 1st DRAFT - Hazard Mitigation Plan Review (pdf download)

send comments to: sdavis@co.franklin.wa.us



[Click on the Logo to sign up for emergency notification:](#)

HMP Final Draft Notification

Franklin County Emergency Management (FCEM)

12:32 PM

Thursday, May 31, 2018

[2011 Hazard Mitigation Plan Review](#) (.pdf download)

send comments to: sdavis@co.franklin.wa.us

[2018 *Final DRAFT* - Hazard Mitigation Plan Review](#) (.pdf download)

send comments to: sdavis@co.franklin.wa.us



CODE RED®

[Click on the Logo to sign up for emergency notifications](#)

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