COMPREHENSIVE MANAGEMENT PLAN

CHAPTER 2 – NATURAL SETTINGS

CHAPTER 3 – NATURAL HAZARDS

ENVIRONMENTAL


Best Available Science Update 2026
Critical Area Ordinance Title 16C
Flood Hazard Management Title 22
Shoreline Master Program Title 16D
Monitoring & Adaptive Management
High-Definition Change Detection
Climate Change
Resiliency and Sustainability
Yakima County's Comprehensive Plan Update – 2046
Chapter 2 – Natural Setting
Chapter 3 – Natural Hazards

HORIZON 2046

CHAPTER 2 – NATURAL SETTINGS

CHAPTER 3 – NATURAL HAZARDS

REVIEW AND DISCUSSION
WORK SESSION NO. 1

WHAT WE ARE DOING TODAY

-- CH 2 AND CH 3 POLICY AND GOALS
-- CH 2 AND CH 3 NARRATIVE

SUMMARIZED IN THIS PRES.

THIS IS ONE OF 2 WORK SESSIONS – TODAY, AND DEC. 10TH

~~WHAT WE'RE NOT DOING TODAY:~~

1. Grammar, we've efforted this— *extensively and will continue to do so*.

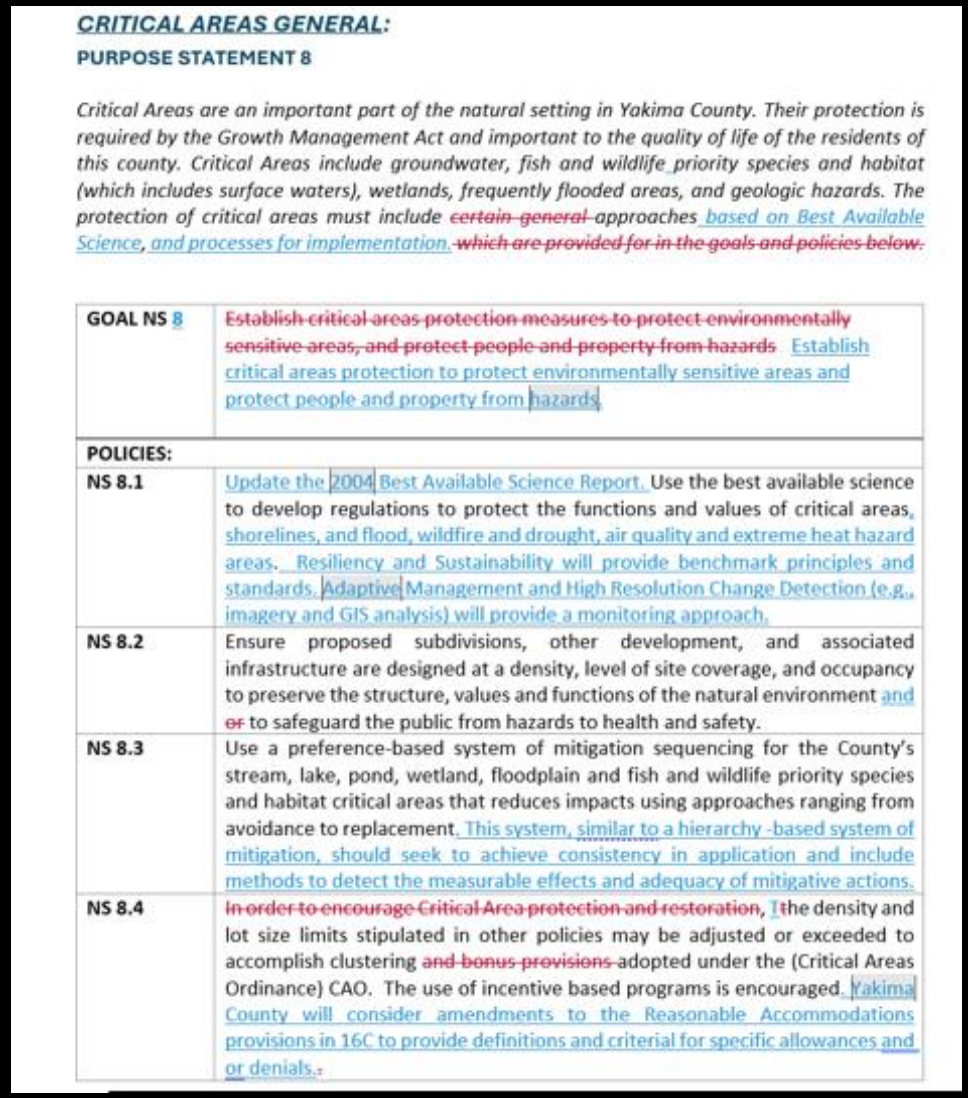
2. YCC Ordinance review (i.e., Titles 16C, 16D and 22)
January and February 2026 - WORK SESSIONS (2)

LEGEND WITHIN THE PROPOSED CHANGES, CORRECTIONS, AND ADDITIONS

--BLACK = NO CHANGE

--BLUE = NEW, UPDATED

--~~RED~~ = STRICKEN, REMOVED



CRITICAL AREAS GENERAL:

PURPOSE STATEMENT 8

Critical Areas are an important part of the natural setting in Yakima County. Their protection is required by the Growth Management Act and important to the quality of life of the residents of this county. Critical Areas include groundwater, fish and wildlife priority species and habitat (which includes surface waters), wetlands, frequently flooded areas, and geologic hazards. The protection of critical areas must include ~~certain general~~ approaches based on Best Available Science, and processes for implementation. ~~which are provided for in the goals and policies below.~~

GOAL NS 8	~~Establish critical areas protection measures to protect environmentally sensitive areas, and protect people and property from hazards~~ Establish critical areas protection to protect environmentally sensitive areas and protect people and property from hazards
POLICIES:	
NS 8.1	Update the 2004 Best Available Science Report. Use the best available science to develop regulations to protect the functions and values of critical areas, shorelines, and flood, wildfire and drought, air quality and extreme heat hazard areas. Resiliency and Sustainability will provide benchmark principles and standards. Adaptive Management and High Resolution Change Detection (e.g., imagery and GIS analysis) will provide a monitoring approach.
NS 8.2	Ensure proposed subdivisions, other development, and associated infrastructure are designed at a density, level of site coverage, and occupancy to preserve the structure, values and functions of the natural environment and ~~or~~ to safeguard the public from hazards to health and safety.
NS 8.3	Use a preference-based system of mitigation sequencing for the County's stream, lake, pond, wetland, floodplain and fish and wildlife priority species and habitat critical areas that reduces impacts using approaches ranging from avoidance to replacement. This system, similar to a hierarchy -based system of mitigation, should seek to achieve consistency in application and include methods to detect the measurable effects and adequacy of mitigative actions.
NS 8.4	~~In order to encourage Critical Area protection and restoration,~~ Tthe density and lot size limits stipulated in other policies may be adjusted or exceeded to accomplish clustering ~~and bonus provisions~~ adopted under the (Critical Areas Ordinance) CAO. The use of incentive based programs is encouraged. Yakima County will consider amendments to the Reasonable Accommodations provisions in 16C to provide definitions and criterial for specific allowances and or denials.

Change Categories – the "Why" for Changes

- ✓ Updated based in **New Information as of 2025**, and or
- ✓ Updated based on **Best Available Science** requirements, and or
- ✓ Updated based on **HB 1181 Resiliency and Sustainability** requirements, and or
- ✓ Updated based on reconciliation or **restructuring YCC TITLES: 16C, 16D and 22**

<u>TOTALS for the 2046 UPDATE:</u>

1. CH 2 Natural Settings = 183 Policies, 91 new
2. CH 3 Natural Hazards = 123, 90 new

CLARIFICATIONS

1. POLICIES AND
   NOT YET FULL
2. NOT *ALL* POLIC
   COUNTY POLIC
3. THE BEST AVA
   CHANGES TO T
4. DOC "GUIDANC
   RESULT IN CHA

"PLACEHOLDER" IF

CAN BE YAKIMA

- AND WILL RESULT IN

DING - AND WILL

Washington State Department of Commerce

GROWTH MANAGEMENT SERVICES
CLIMATE & ECOSYSTEM SECTION

Climate Policy Explorer Updates

Summary

The 2025 Climate Element Planning Guidance update will include the following changes to climate measures in the Climate Policy Explorer:

- Inclusion of 22 new goals and policies
- Rewording of 23 existing policies

Additionally, the following attributes will be added or updated on the Climate Policy Explorer [Note: These attributes will be published in December 2025]:

- Implementation resources that include information and analysis resources and examples of regulations and other mechanisms related to each policy.
- Progress Tracking Metrics will be updated to include indicators for measuring progress related to policy implementation process and outcomes.

New Goals and Policies

The table below includes new goals and policies that will be added to the Climate Policy Explorer

Policy ID	Goal / Policy	Measure Name
AH.02	Policy	Encourage the adoption of sustainable agriculture waste-management practices to reduce emissions and water contamination.
AI.04	Policy	Install energy-efficient traffic lights, streetlights, and other lighting along roads and other public areas.
AJ	Goal	Transition to less environmentally damaging refrigerants.
AJ.01	Policy	Implement policies to decrease refrigerant emissions by requiring the use of low-GWP refrigerants in new HVAC and refrigeration equipment in municipal buildings and facilities.
AJ.02	Policy	Establish voluntary retrofit incentive programs (e.g., grants, rebates, technical assistance) for food markets and retailers to install secondary loop or cascade systems, and prioritize these systems in new construction of municipally owned food or cold-storage facilities.
AK	Goal	Improve efficiency and sustainability of construction systems and materials.
AK.01	Policy	Promote the use of electric, hybrid, and other cleaner-fuel construction equipment to reduce greenhouse gas emissions associated with transportation and construction activity.
AK.02	Policy	Prohibit heavy-duty commercial diesel vehicle idling for more than five minutes at a time.
C.08	Policy	Promote higher-density commercial, mixed-use and residential development within commercial nodes along transportation corridors, consistent with Transit Oriented Development guidance.
E.09	Policy	Promote the use of energy-efficient appliances in buildings.
E.10	Policy	Promote the use of energy-efficient boilers in buildings.
E.11	Policy	Establish agreements to procure low-carbon-intensity power supply.
E.12	Policy	Encourage use of Combined Heat and Power (CHP) Systems in new and existing developments.
E.13	Policy	Require energy labeling for new residential buildings.
H.01	Policy	Convert public fleets to zero-emission vehicles.

2.0

CHAPTER 2 – NATURAL SETTINGS

NATURAL SETTINGS (NS)

GOALS AND POLICIES

NS 8–19.4

Critical Areas General:	**NS Policies 8.1-8.4**
Water Quality and Quantity	**NS Policies 9.1-14.2**
• Critical Aquifer Recharge Areas	9.1-9.10
• Surface Water	10.1-12.3
• Stormwater	13.1-14.2
Fish and Wildlife Habitat	**NS Policies 15.1-16.6**
• Stream Corridors	16.1-16.6
Frequently Flooded Areas	**NS Policies 17.1-19.6**
Wetlands	**NS Policies 18.1-18.6**
Geologic Hazards	**NS Policies 19.1-19.4**
Resiliency and Sustainability	**NH Policies 20.1-22.7**
• Resiliency and Sustainability	
• Fire Hazards and Wildfire	MOST OF THIS IN CH 3
• Drought	

POLICY AND GOALS SECTIONS – NS 8

***CRITICAL AREAS GENERAL*]:**

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

Policies and Goals Section for Chapter 2 – Natural Settings

***CRITICAL AREAS GENERAL*:**

PURPOSE STATEMENT 8

Critical Areas are an important part of the natural setting in Yakima County. Their protection is required by the Growth Management Act and important to the quality of life of the residents of this county. Critical Areas include groundwater, fish and wildlife priority species and habitat ~~(which includes surface waters)~~, wetlands, frequently flooded areas, and geologic hazards. The protection of critical areas must include ~~certain general~~ approaches based on Best Available Science, and processes for implementation. ~~which are provided for in the goals and policies below.~~

General

GOAL NS 8	~~Establish critical areas protection measures to protect environmentally sensitive areas, and protect people and property from hazards~~ Establish critical areas protection for environmentally sensitive areas.
POLICIES:	
NS 8.1	Update the 2004 Best Available Science Report. Use the best available science to develop regulations to protect the functions and values of critical areas, including shorelines. Develop resiliency measures for flood, wildfire and drought, air quality and extreme heat hazards. Sustainability will provide benchmark principles and standards. Adaptive Management and High Resolution Change Detection (e.g., imagery and GIS analysis) will provide a monitoring approach.
NS 8.2	Ensure proposed subdivisions, other development, and associated infrastructure are designed at a density, level of site coverage, and occupancy to preserve the structure, values and functions of the natural environment and ~~or~~ to safeguard the public from hazards to health and safety.
NS 8.3	Use a preference-based system of mitigation sequencing for the County's stream, lake, pond, wetland, floodplain and fish and wildlife priority species and habitat critical areas that reduces impacts using approaches ranging from avoidance to replacement. This system, similar to a hierarchy -based system of mitigation, should seek to achieve consistency in application and include methods to detect the measurable effects and adequacy of mitigative actions.
NS 8.4	~~In order to encourage Critical Area protection and restoration,~~ The density and lot size limits stipulated in other policies may be adjusted or exceeded to accomplish clustering ~~and bonus provisions~~ adopted under the (Critical Areas Ordinance) CAO. The use of incentive based programs is encouraged. Yakima County will consider amendments to the Reasonable Accommodations provisions in 16C to provide definitions and criterial for specific allowances and or denials.
	Low Impact Development Requirements. Require Low Impact Development

1 | Page

Commented [KW1]: 1.Update to current 2. added to reflect integration between and among 16C, 16D and Title 22. GMA and SMA required.

Commented [KW2]: Required for SMP via the SMA. For the VSP and Critical Ordinances, BAS establishes the basis for compliance under GMA for Critical Areas coupled with HRCD to meet Adaptive Management (in the absence or ambiguity of BAS), effectiveness and implementation monitoring and reporting requirements.

Commented [KW3]: Change necessary b/c "bonus provisions" do not exist in ord. Adjustments to increase density, in TBD circumstances, can have protective effects to critical areas (e.g., reduced IS). YCC needs to be amended to better define and clarify how adjustments will be allowed w/in the Reasonable Accomodations section.

POLICY AND GOALS SECTION – NS 9

WATER QUALITY AND QUANTITY:
Critical Areas: Groundwater And Critical Aquifer Recharge Areas (CARAS)
PURPOSE STATEMENT NS 9

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

WATER QUALITY AND QUANTITY:

Critical Areas: Groundwater And Critical Aquifer Recharge Areas (CARAS)

PURPOSE STATEMENT NS 9

Groundwater is the primary source of drinking water for many people. Once groundwater is contaminated it is difficult, costly, and may be impossible to clean up. Adequate water quantity is essential not merely for human needs, but is vital for agricultural production, flood storage capacity, and the biological and chemical processes that maintain critical area functions. The following goal and policies address these concerns by encouraging the identification of aquifers and taking steps to reduce potential contamination and incorporate drought resilience and economic sustainability actions into the Comprehensive Plan, Shorelines Management Program and Yakima County Code.

GOAL	Maintain and manage the quality of the groundwater resources in Yakima County ~~as near as possible to their natural conditions and~~ in compliance with state water quality standards and engage opportunities to implement Managed Aquifer Recharge to enhance the quantity of groundwater resources.
POLICIES:	
NS 9.1	Identify and map important aquifers, critical areas, aquifer recharge zones, and surface waters. Engage with ongoing regional programs to expand managed aquifer recharge.

POLICY AND GOALS – NS 9 (NEW)

Resiliency and Sustainability]: Purpose Statement

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

Resiliency and Sustainability – Climate Change

Building resilience and sustainability is fundamental to Yakima County's ability to thrive under changing climate conditions. Climate resilience planning is required by ESHB 1181 and essential to protecting critical areas, infrastructure, agriculture, and community wellbeing. Resilience encompasses preparedness for extreme weather events, adaptation to changing conditions, protection of vulnerable populations, and sustainable resource management. Resilience strategies must include approaches based on Best Available Science, equitable resource allocation, nature-based solutions, and adaptive management for implementation.

GOAL NS 9:	*Ensure the resilience and sustainability of critical areas, shorelines, property, life, health, and the economy through preparation, survival, and recovery from extreme weather events and cumulative natural hazards.*
POLICIES:	
NS-9.1	*Best Available Science Integration – Require the use of best available climate science, including projections from the University of Washington Climate Impacts Group, NOAA models, USGS data, and other credible sources, to inform all land use planning, development regulations, and critical area protections. Planning decisions shall account for changing precipitation patterns, reduced snowpack, increased wildfire frequency and severity, extended drought periods, and temperature increases affecting water resources and ecosystems.*
NS-9.2	*Climate-Informed Critical Areas Protection – Update critical areas regulations to incorporate climate change impacts across all critical area types, including climate-informed flood projections beyond current FEMA maps and Comprehensive Flood Management Plan from the Ahtanum, Cowiche, and eventually, from the Lower Yakima Valley (planned in 2026) scenarios for shoreline areas, and for post-wildfire debris flow risks in geologically hazardous areas, hydrologic changes and drought impacts to wetlands, and temperature-driven habitat shifts for fish and wildlife. Development in or adjacent to critical*

POLICY AND GOALS – NS 10, 11 & 12

Surface Water (likely will move or repeat in SMP 16D): Purpose Statement, Goals and Policies

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

Critical Areas: Surface Water

PURPOSE STATEMENT NS 10, 11 & 12

~~*Efforts have been made to improve stream corridors within the County, especially in the areas of water quality and habitat. The following goals and policies should guide decisions related to surface water.*~~

Surface waters and stream corridors are interconnected systems linking mountain snowpack, reservoir storage, river and stream flows, wetlands, riparian corridors, and groundwater aquifers that sustain life, economy, and ecosystems throughout Yakima County. Protection of surface water resources is required by the Growth Management Act under RCW 36.70A.060, the Shoreline Management Act under RCW 90.58, and ESHB 1181's climate planning mandates. Protection is necessary to maintain water quantity, quality, timing, and temperature for agricultural production, municipal and domestic water supply, fish and wildlife habitat, recreation, tribal treaty rights, and cultural resources. Surface waters also include springs, seeps, riparian management corridors, in-stream flows, channel migration zones, hyporheic zones, cold-water sources, and areas where surface water and groundwater are hydraulically connected. Protection and management of surface waters must include approaches based on Best Available Science under RCW 36.70A.172, assessment of altered flow regimes and temperature increases, and protection of base flow sources and cold-water refugia critical for salmonid survival. In-stream flows must be maintained to meet ecological and water right requirements, through coordination with U.S. Bureau of Reclamation Yakima Project operation, the Yakima Basin Integrated Plan implementation, and integration with tribal co-management and treaty-reserved water rights. Low Impact Development stormwater practices that protect water quality, and stream corridor habitat and water quantity should also be implemented.

GOAL NS 10a:	Enhance the quantity and quality of surface water.
POLICIES:	
NS 10.1	Improve water conservation through education and incentives.
NS 10.2	Encourage groundwater detention and storage where the practice benefits stream base flow characteristics and flood-risk reduction.
NS 10.3	Protect water quality from the adverse impacts associated with erosion and sedimentation
NS 10.4	Protect natural and managed flow regimes that are essential to maintaining ecological functions, recognizing that climate change is altering historical patterns. Regulations shall account for: • Declining spring snowmelt and earlier peak flows (shift from late May to February-March in most climate scenarios) • Reduced summer base flows and increased frequency of critically low flow conditions • Increased winter flows from rain-dominant/rain-on-snow rather than snowpack-dominant precipitation and melt • More extreme flow variability with intensified storm events and extended low-flow periods

POLICY AND GOALS – NS 13 & 14

CRITICAL AREAS – STORMWATER (in CH2 supporting Critical Areas – Expanded in CH3 Hazards]:

Purpose Statement, Goal and Policies

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

Critical Areas: Stormwater

PURPOSE STATEMENT NS 13 & 14

~~*When the amount of impervious area in a watershed increases, and provisions are not made for retaining stormwater on-site, development can contribute to the flooding hazards of their down-stream neighbors, and flooding becomes more frequent and more severe. If the natural drainage courses are obstructed with fill material, buildings, or roads that lack adequately sized culverts, storm water can cause localized flooding, with property damage and disruption of services. The following goals and policies should guide decisions related to stormwater.*~~ *These policies establish Yakima County's framework for protecting water quality and managing stormwater in compliance with the federal Clean Water Act and Washington State's Eastern Washington Phase II Municipal Stormwater Permit. They describes the County's Stormwater Management Program (SWMP), which implements eight required program elements designed to reduce pollutant discharge from stormwater runoff, protect citizens from drainage damage, and ensure that development activities do not create water quality or quantity problems. Through this comprehensive approach, the County aims to safeguard both surface and groundwater resources while meeting regulatory requirements and addressing current and emerging water quality concerns..*

GOAL NS 13:	Prevent increased flooding from stormwater runoff.

POLICIES:	
NS 13.1	Require on-site retention of stormwater.
NS 13.2	Preserve natural drainage courses.
NS 13.3	~~Minimize adverse storm water impacts generated by the removal of vegetation and alteration of land forms.~~ *Update processes to include new information on climate change and how to mitigate climate impacts through stormwater management techniques like nature-based solutions, upsizing facilities and conveyances pipes and reducing impervious surfaces, this will ensure that stormwater infrastructure is designed to meet future needs under a changing climate.*
NS 13.4	Stormwater and Surface Water Quality (see CH3) Climate-Adjusted Stormwater Design Require stormwater management systems designed for climate-adjusted precipitation scenarios including: • Increased storm intensity (minimum 20% increase in design storm magnitude by 2050, 40% by 2080) • More frequent exceedance of historical design storms • Greater soil saturation from fall/winter precipitation increases leading to higher runoff coefficients • Post-wildfire conditions where infiltration capacity is severely reduced Design standards shall use forward-looking precipitation data from University of Washington Climate Impacts Group regional projections rather than historical records alone.

CHAPTER 2 – NATURAL SETTING

NARRATIVE SECTIONS

NATURAL SETTING (NS)

NARRATIVE -TOC

TABLE OF CONTENTS

CHAPTER 2 - NATURAL SETTINGS

NARRATIVE SECTIONS

CHAPTER 2, PAGE 1, LINES 4-38

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

CHAPTER 2. NATURAL SETTINGS

2.1 INTRODUCTION/PURPOSE

Yakima County recognizes the integral link between the health of the natural setting and the health of its inhabitants. ~~Therefore, it has chosen to include a natural setting element within .~~ To maintain our present quality of life "as defined through our natural surroundings" while accommodating population growth, certain measures must be taken. If we are able to accommodate our natural setting by anticipating and preventing environmental impact~~problems,~~ we can avoid the long-term costs associated with correcting them. The prevailing objective is to work with the natural environment rather than against it. ~~By doing so, we can all live better, healthier lives.~~

Yakima County's economy is diverse, with significant contributions from agriculture, food processing, healthcare, education, manufacturing, and retail trade. The county is renowned for its agricultural industry, particularly its production of tree fruits, hops, dairy products, and wine grapes. Tourism and advanced manufacturing further bolster the local economy, with both industries capitalizing on the County's rich natural resources and geographic setting.

This Natural Settings element serves two purposes: The first is to clarify the relationship between the natural environment and our built environment. The second is to secure a balanced, resilient, and sustainable approach to future development. Environmental degradation or depletion of our natural resources undermines the very qualities that attract people to live and work here and draw businesses to locate and opertate successfully in our region. The element emphasizes the conservation and protection of our natural environment while preserving and protecting public health, property, key infrastructure, and the regional economy~~people's lifestyles and property~~.

Our natural setting involves and affects all other plan elements and is closely aligned with the Natural Hazards Element, Best Available Science (BAS), development and building codes, and multiple and associated sections of the Comprehensive Plan and is codified in Yakima County Code. While the County is protecting those natural features most sensitive to growth and development (e.g., geologically unstable areas, wetlands, critical aquirers, fish and wildlife habitat, frequently flooded areas, riparian areas, lakes and rivers) through Critical Areas Ordinances and the Shoreline Master Program, other aspects of our physical and cultural landscape deserve consideration as well.

CHAPTER 2 - NATURAL SETTINGS

NARRATIVE SECTIONS *CRITICAL AREAS*

CHAPTER 2, PAGE 19, LINES 11-41

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
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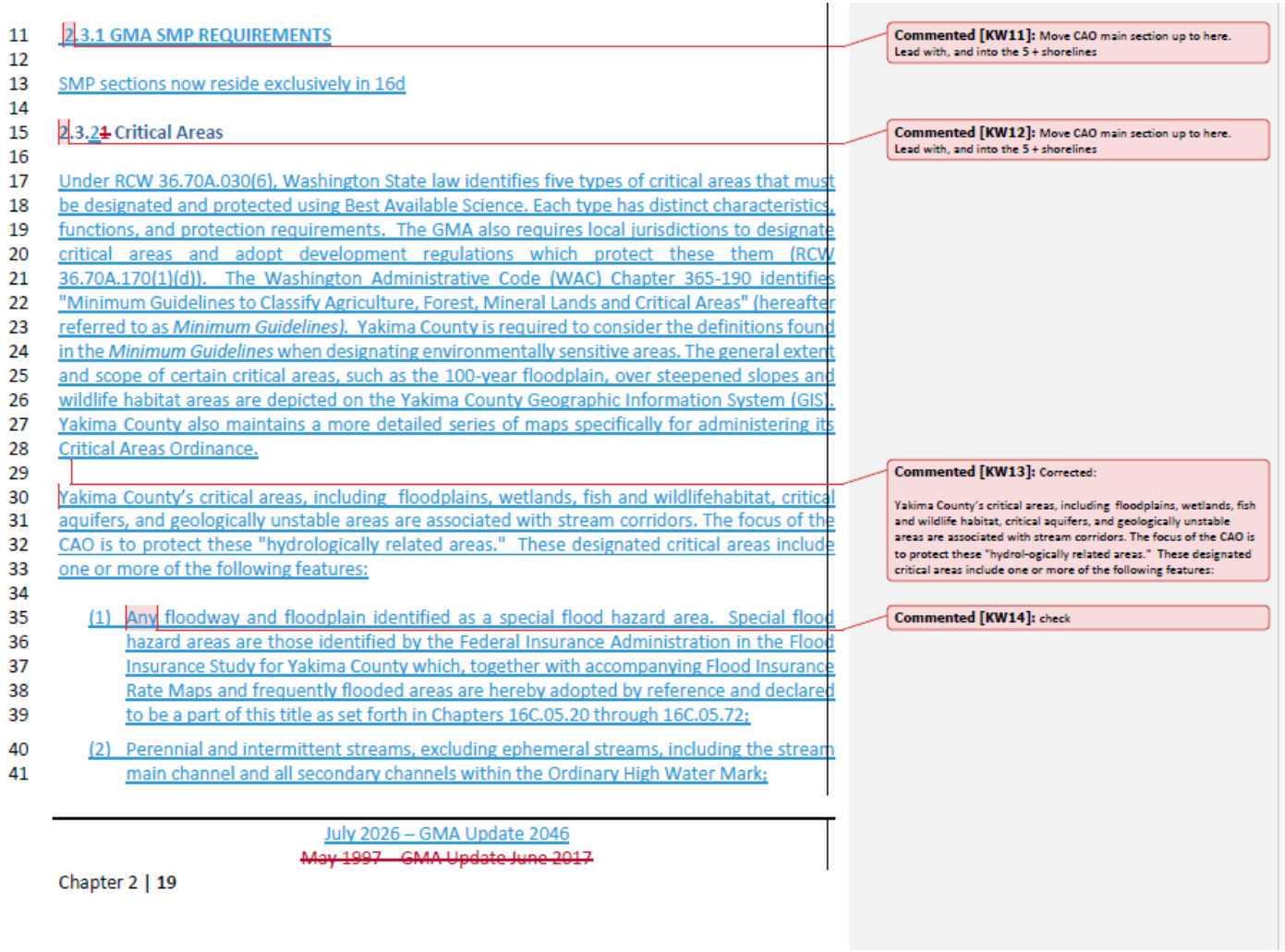

11 2.3.1 GMA SMP REQUIREMENTS

12

13 SMP sections now reside exclusively in 16d

14

15 2.3.2~~1~~ Critical Areas

16

17 Under RCW 36.70A.030(6), Washington State law identifies five types of critical areas that must
18 be designated and protected using Best Available Science. Each type has distinct characteristics,
19 functions, and protection requirements. The GMA also requires local jurisdictions to designate
20 critical areas and adopt development regulations which protect these them (RCW
21 36.70A.170(1)(d)). The Washington Administrative Code (WAC) Chapter 365-190 identifies
22 "Minimum Guidelines to Classify Agriculture, Forest, Mineral Lands and Critical Areas" (hereafter
23 referred to as *Minimum Guidelines).* Yakima County is required to consider the definitions found
24 in the *Minimum Guidelines* when designating environmentally sensitive areas. The general extent
25 and scope of certain critical areas, such as the 100-year floodplain, over steepened slopes and
26 wildlife habitat areas are depicted on the Yakima County Geographic Information System (GIS).
27 Yakima County also maintains a more detailed series of maps specifically for administering its
28 Critical Areas Ordinance.

29

30 Yakima County's critical areas, including floodplains, wetlands, fish and wildlifehabitat, critical
31 aquifers, and geologically unstable areas are associated with stream corridors. The focus of the
32 CAO is to protect these "hydrologically related areas." These designated critical areas include
33 one or more of the following features:

34

35 (1) Any floodway and floodplain identified as a special flood hazard area. Special flood
36 hazard areas are those identified by the Federal Insurance Administration in the Flood
37 Insurance Study for Yakima County which, together with accompanying Flood Insurance
38 Rate Maps and frequently flooded areas are hereby adopted by reference and declared
39 to be a part of this title as set forth in Chapters 16C.05.20 through 16C.05.72;

40 (2) Perennial and intermittent streams, excluding ephemeral streams, including the stream
41 main channel and all secondary channels within the Ordinary High Water Mark;

July 2026 – GMA Update 2046
~~May 1997 – GMA Update June 2017~~

Chapter 2 | 19

Commented [KW11]: Move CAO main section up to here. Lead with, and into the 5 + shorelines

Commented [KW12]: Move CAO main section up to here. Lead with, and into the 5 + shorelines

Commented [KW13]: Corrected:

Yakima County's critical areas, including floodplains, wetlands, fish and wildlife habitat, critical aquifers, and geologically unstable areas are associated with stream corridors. The focus of the CAO is to protect these "hydrol-ogically related areas." These designated critical areas include one or more of the following features:

Commented [KW14]: check

CHAPTER 2 - NATURAL SETTINGS

NARRATIVE SECTIONS – CRITICAL AREAS

CHAPTER 2, PAGE 21, LINES 1-38

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
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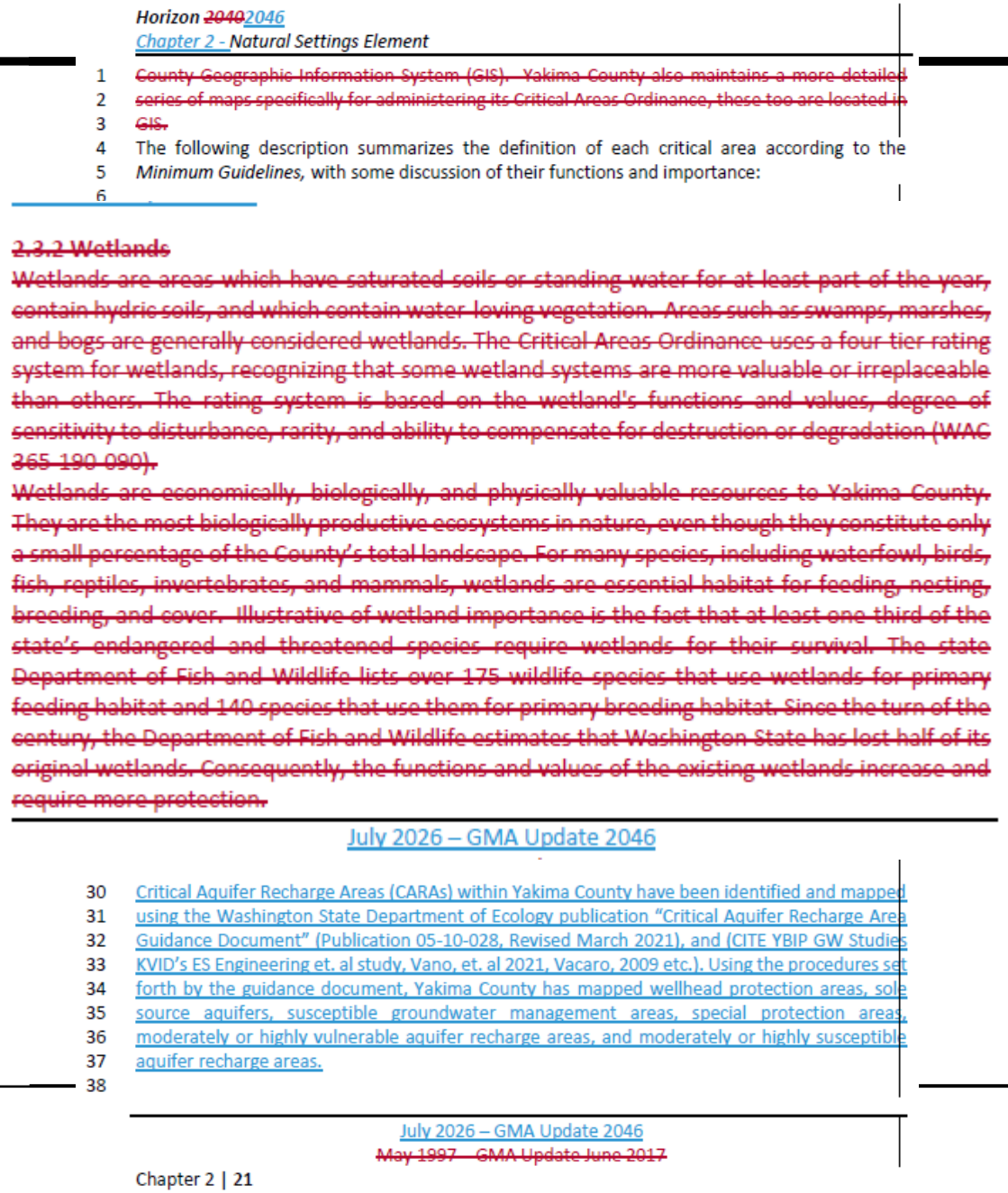

Horizon ~~2040~~2046
Chapter 2 - Natural Settings

~~County Geographic Information System (GIS). Yakima County also maintains a more detailed series of maps specifically for administering its Critical Areas Ordinance, these too are located in GIS.~~

The following description summarizes the definition of each critical area according to the *Minimum Guidelines,* with some discussion of their functions and importance:

~~2.3.2 Wetlands~~

~~Wetlands are areas which have saturated soils or standing water for at least part of the year, contain hydric soils, and which contain water loving vegetation. Areas such as swamps, marshes, and bogs are generally considered wetlands. The Critical Areas Ordinance uses a four tier rating system for wetlands, recognizing that some wetland systems are more valuable or irreplaceable than others. The rating system is based on the wetland's functions and values, degree of sensitivity to disturbance, rarity, and ability to compensate for destruction or degradation (WAC 365-190-090).~~

~~Wetlands are economically, biologically, and physically valuable resources to Yakima County. They are the most biologically productive ecosystems in nature, even though they constitute only a small percentage of the County's total landscape. For many species, including waterfowl, birds, fish, reptiles, invertebrates, and mammals, wetlands are essential habitat for feeding, nesting, breeding, and cover. Illustrative of wetland importance is the fact that at least one-third of the state's endangered and threatened species require wetlands for their survival. The state Department of Fish and Wildlife lists over 175 wildlife species that use wetlands for primary feeding habitat and 140 species that use them for primary breeding habitat. Since the turn of the century, the Department of Fish and Wildlife estimates that Washington State has lost half of its original wetlands. Consequently, the functions and values of the existing wetlands increase and require more protection.~~

July 2026 – GMA Update 2046

Critical Aquifer Recharge Areas (CARAs) within Yakima County have been identified and mapped using the Washington State Department of Ecology publication "Critical Aquifer Recharge Area Guidance Document" (Publication 05-10-028, Revised March 2021), and (CITE YBIP GW Studies KVID's ES Engineering et. al study, Vano, et. al 2021, Vacaro, 2009 etc.). Using the procedures set forth by the guidance document, Yakima County has mapped wellhead protection areas, sole source aquifers, susceptible groundwater management areas, special protection areas, moderately or highly vulnerable aquifer recharge areas, and moderately or highly susceptible aquifer recharge areas.

July 2026 – GMA Update 2046
~~May 1997 – GMA Update June 2017~~

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CHAPTER 2 - NATURAL SETTINGS

NARRATIVE SECTIONS

CHAPTER 2, PAGE 30, LINES 3-16

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

2.3.7 Cultural Resources

The location of many areas of cultural significance are unknown to most property owners and typically will remain confidential to protect their integrity. However, Yakima County utilizes the Washington State Department of Archaeology and Historic Preservation's (DAHP) archaeological and historic database and the Yakama Nation's Cultural Resource Program to determine if prospective land use permits may impact archaeological or cultural resources. As part of permit review, if a proposal requires public notice Yakima County notifies the Yakama Nation Cultural Resources office soliciting comments regarding cultural resources. In addition, if the property is within 500' of an identified archaeological or cultural resource site, as determined by DAHP's database applicants will be required to consult with ~~both~~ the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) and DAHP to determine if their project has ~~any~~ potential to impact~~s~~ ~~to those~~ resources. For ~~On~~ project ~~permits~~ beyond 500' of an identified archaeological or cultural resource site, Yakima County will rely on the Yakama Nation comments on projects that require notification, as well as DAHP's comments through the SEPA register.

CHAPTER 2 - NATURAL SETTINGS

NARRATIVE SECTIONS

CHAPTER 3, PAGES 32-33, LINES 33-43 & 1-28

Changes:

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
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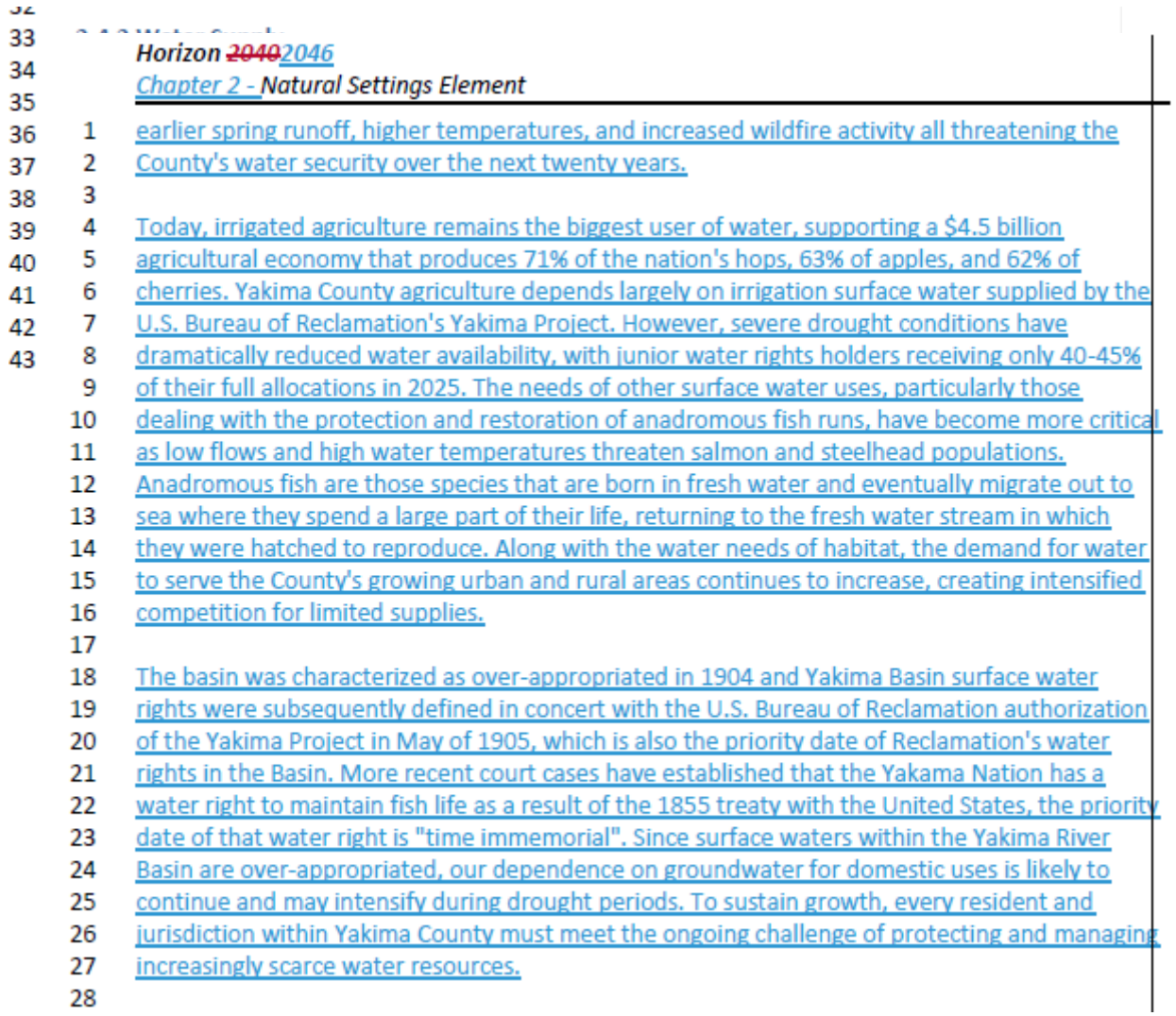

Horizon ~~2040~~2046

Chapter 2 - Natural Settings Element

earlier spring runoff, higher temperatures, and increased wildfire activity all threatening the County's water security over the next twenty years.

Today, irrigated agriculture remains the biggest user of water, supporting a $4.5 billion agricultural economy that produces 71% of the nation's hops, 63% of apples, and 62% of cherries. Yakima County agriculture depends largely on irrigation surface water supplied by the U.S. Bureau of Reclamation's Yakima Project. However, severe drought conditions have dramatically reduced water availability, with junior water rights holders receiving only 40-45% of their full allocations in 2025. The needs of other surface water uses, particularly those dealing with the protection and restoration of anadromous fish runs, have become more critical as low flows and high water temperatures threaten salmon and steelhead populations. Anadromous fish are those species that are born in fresh water and eventually migrate out to sea where they spend a large part of their life, returning to the fresh water stream in which they were hatched to reproduce. Along with the water needs of habitat, the demand for water to serve the County's growing urban and rural areas continues to increase, creating intensified competition for limited supplies.

The basin was characterized as over-appropriated in 1904 and Yakima Basin surface water rights were subsequently defined in concert with the U.S. Bureau of Reclamation authorization of the Yakima Project in May of 1905, which is also the priority date of Reclamation's water rights in the Basin. More recent court cases have established that the Yakama Nation has a water right to maintain fish life as a result of the 1855 treaty with the United States, the priority date of that water right is "time immemorial". Since surface waters within the Yakima River Basin are over-appropriated, our dependence on groundwater for domestic uses is likely to continue and may intensify during drought periods. To sustain growth, every resident and jurisdiction within Yakima County must meet the ongoing challenge of protecting and managing increasingly scarce water resources.

END CHAPTER 2

CHAPTER 3 – NATURAL HAZARDS

NATURAL HAZARDS (NH)

GOALS AND POLICIES

NH 1–9.4

Flooding and Stormwater	**NH Policies 1.1-3.2**
Geological Hazards	**NS Policies 4.2 – 4.6**
• Critical Aquifer Recharge Areas	9.1-9.10
• Surface Water	10.1-12.3
• Stormwater	13.1-14.2
Wildfire	**NH Policies 5.1 – 5.10**
• Stream Corridors	16.1-16.6
Drought	**NH Policies 6.4 – 6.4**
Multi-hazard	**NH Policies 7.1 – 7.4**
Disaster Recovery	**NH Policies 8.1 – 8.2**
Resiliency & Sustainability – Climate Change	**NH Policies 20.1-22.7**
• Resiliency and Sustainability	20.1-20.6
• Fire Hazards and Wildfire	21.1-21.6
• Drought	22.1-22.7

HAZARD MANAGEMENT AND MITIGATION

POLICY AND GOALS SECTIONS – NH 1 FLOODING

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

Flooding

GOAL NH 1:	Prevent the loss of life or property and minimize public and private costs associated with repairing or preventing flood damages from development in frequently flooded and or flood hazard areas.
POLICIES:	
NH 1.1	Support comprehensive flood control planning.
NH 1.2	Conduct additional analysis and mapping of frequently flooded areas ~~in cases where the~~ 100-year and 500-year floodplain maps using the best available science ~~prepared by the Federal Emergency Management Agency do not~~ to adequately reflect the levels of risk or the geographic extent of flooding.
NH 1.3	Direct new critical facility development away from areas subject to catastrophic, life-threatening flood hazards where the hazards cannot be mitigated.
NH 1.4	Where the effects of flood hazards can be mitigated, require appropriate standards for subdivisions, parcel reconfigurations, site developments and for the design and placement of structures to be reasonably safe from flooding.
NH 1.5	Plan for and facilitate returning rivers to more natural hydrological conditions, and recognize that seasonal flooding is an essential natural process.
NH 1.6	When evaluating alternate flood control or mitigation measures in flood hazard areas ~~on rivers~~:
	1) Consider the removal or relocation of structures in the FEMA 100-year and 500-year floodplain;
	2) Where feasible, give preference to nonstructural flood hazard reduction measures over structural measures;
	3) Structural flood hazard reductions measures should be consistent with the County's comprehensive flood hazard management plans.
NH 1.7	New development or new uses, including the subdivision of land, should not be established when it would be reasonably foreseeable that the development or use would require structural flood hazard reduction measures within the channel migration zone or floodway unless such flood hazard reduction measures benefit a larger area or community.

HAZARD MANAGEMENT AND MITIGATION

POLICY AND GOALS SECTIONS – NH 2 & 3 STORMWATER

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

	~~under HB 1181 requirements.~~
NH 2.4	Climate-Adjusted Stormwater Design Require stormwater management systems designed for climate-adjusted precipitation scenarios including: • Increased storm intensity (minimum 20% increase in design storm magnitude by 2050, 40% by 2080) • More frequent exceedance of historical design storms • Greater soil saturation from fall/winter precipitation increases leading to higher runoff coefficients • Post-wildfire conditions where infiltration capacity is severely reduced Design standards shall use forward-looking precipitation data from University of Washington Climate Impacts Group regional projections rather than historical records alone.
NH 2.5	Green Stormwater Infrastructure Prioritize green stormwater infrastructure including: • Bioretention facilities (rain gardens, bioswales, filter strips) • Permeable pavements and porous surfaces • Tree canopy and vegetated areas that intercept precipitation • Rainwater harvesting and reuse systems • Green roofs and rooftop detention • Preservation and restoration of natural depressions, swales, and drainage features Green infrastructure provides multiple benefits including flood reduction, aquifer recharge, water quality improvement, temperature moderation, and habitat enhancement that become increasingly valuable under climate change

GOAL NH 3:	Protect the hydrologic functions of natural systems to store and slowly release floodwaters, reduce flood velocities, and filter sediment.
POLICIES:	
NH 3.1	Flood control measures should not be authorized if they obstruct fish passage and or result in the unmitigated loss or damage of fish and wildlife resources.
NH 3.2	Encourage and support the retention of natural open spaces or land uses which maintain hydrologic functions and are at low risk to property damage from floodwaters within frequently flooded areas.
~~NH 3.3~~	~~Use best available science to monitor and mitigate for new and emerging toxics in Stormwater.~~

HAZARD MANAGEMENT AND MITIGATION

POLICY AND GOALS SECTIONS – NH 4 GEOLOGIC HAZARDS

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

Geologic Hazards (Drainage and Alluvial Fan Areas)

Geologic hazards present significant risks to development and public safety in Yakima County. Protection from geologic hazards is required by the Growth Management Act and critical to preventing loss of life and property. Geologic hazards include landslides, erosion, unstable slopes, seismic risks, drainage issues, and alluvial fan flooding. Geologic hazard management must include approaches based on Best Available Science, geotechnical assessment, and climate considerations affecting slope stability for implementation.

NH 4.3	Classify and designate areas on which development should be prohibited, conditioned, or otherwise controlled because of danger from geological hazards.
NH 4.4	Prevent the subdividing of known or suspected landslide hazard areas, side slopes of stream ravines, alluvial areas, or slopes 40 percent or greater for development purposes.
NH 4.5	Maintain the integrity and moisture regimes of ~~oversteepened~~over steepened slopes and other areas at risk for landslides
NH 4.6	Ensure that geologic hazard information is readily available to the public.

HAZARD MANAGEMENT AND MITIGATION

POLICY AND GOALS SECTIONS – NH 5 WILDFIRE

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
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Wildfire

NH 5~~S 21~~.28	Post-Fire Debris Flow Protection Establish debris flow hazard zones in burned watersheds with: • Prohibition of new habitable structures in areas with >10% probability of debris flow impact over 5-year post-fire period • Enhanced setbacks from drainage channels and debris flow pathways (minimum 200 feet horizontal distance) • Required protection measures for existing structures including: engineered debris deflection berms; reinforced barriers; catch basins; early warning systems with 24-hour monitoring during storm events • Drainage improvements including: culvert and bridge upgrades sized for debris-laden flows; debris racks and settling basins; armored channels through vulnerable areas • Coordinated emergency response planning with evacuation triggers based on weather forecasts (evacuation when >0.5 inches/hour precipitation forecast)
NH 5~~S 21~~.29	Post-Fire Stormwater and Erosion Control Require enhanced stormwater management and erosion control for any development in Post-Wildfire Hazard Areas: • Stormwater design flows increased by minimum 100% over pre-fire conditions • Sediment trapping facilities sized for 5-10 times normal sediment loads • Armored conveyance channels and energy dissipation structures • Slope stabilization including erosion control blankets, mulching, seeding with native species, and structural measures on steep slopes • Construction timing restrictions avoiding wet season (October-May) when erosion risk highest • Intensive monitoring and maintenance for minimum 3 years

HAZARD MANAGEMENT AND MITIGATION

POLICY AND GOALS SECTIONS

– NH 6-7

DROUGHT AND EXTREME HEAT

- ✓ Updated based in New Information as of 2025
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NH 6~~S 23~~.2	Critical Aquifer Recharge Area Protection for Drought Resilience Enhance CARA regulations to support drought preparedness: Development restrictions - prohibit or minimize development reducing infiltration through impervious surface limitations, clustered development preserving recharge areas, soil compaction prevention, and drainage maintaining natural flow paths and infiltration;
NH 6~~S 22~~.3	Low Impact Development requirements - mandate LID techniques including bioretention facilities, permeable pavement, preservation of natural depressions, dispersion of roof runoff, and retention of native vegetation

GOAL NH~~S~~ 7~~22~~:	Protect public health, safety, and welfare by identifying and mitigating extreme heat hazards, prioritizing vulnerable populations and outdoor workers, through climate-resilient planning, equitable resource distribution, and evidence-based heat adaptation strategies.
POLICIES:	
NH 7~~S 23~~.1	Apply Best Available Science, including climate-adjusted temperature projections, heat wave frequency modeling, and local heat vulnerability assessments, when planning for extreme heat hazards as required by RCW 36.70A.172.
NH 7~~S 23~~.2	Identify and map extreme heat hazard areas, including urban heat islands, areas with inadequate tree canopy, neighborhoods with limited cooling access, and locations with high concentrations of heat-vulnerable populations.

HAZARD MANAGEMENT AND MITIGATION

POLICY AND GOALS SECTIONS – NH 8-9

MULTI-HAZARD AND DISASTER RECOVERY

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

Multi-Hazard

Multiple natural hazards threaten Yakima County communities, often occurring simultaneously or in cascading sequences. Comprehensive hazard planning is required by the Growth Management Act and ESHB 1181 climate mandates and essential to public safety. Multi-hazard planning addresses flooding, wildfire, drought, extreme heat, geologic hazards, and their interactions and cumulative effects. Multi-hazard approaches must include coordination based on Best Available Science, integrated risk assessment, and comprehensive emergency management systems for implementation.

Disaster Recovery

Disaster recovery planning is essential to helping Yakima County communities rebuild safely and equitably after natural disasters. Recovery planning is required by emergency management law and critical to long-term community resilience. Disaster recovery includes post-event response coordination, damage assessment, rebuilding standards, economic recovery support, and long-term adaptation strategies. Recovery planning must include approaches based on Best Available Science, pre-disaster recovery frameworks, and Build Back Better principles for implementation.

GOAL NH 9&:	Be prepared to recover from a major natural disaster.
POLICIES:	
NH 9&.1	Implement Recovery Plan to guide the redevelopment, public participation process, and long-term recovery after a natural disaster.
NH 9&.2	Provide a process and procedure to streamline projects intended to provide relief and recovery from a natural disaster while still complying with local, state and federal regulations.

HAZARD MANAGEMENT AND MITIGATION

POLICY AND GOALS SECTIONS

– NH 10

RESILIENCY & SUSTAINABILITY (KEITH)

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

NATURAL HAZARDS RESILIENCY IMPLEMENTATION

Effective implementation of this Climate Resiliency Element requires coordinated action across multiple county departments, integration with all Comprehensive Plan elements, updates to development regulations, capital facility investments, interagency coordination, community engagement, and sustained commitment to climate-informed decision-making. The County shall develop an implementation strategy that identifies priority actions, responsible departments, timelines, funding sources, and performance metrics. Implementation will be coordinated with updates to Critical Areas Ordinances, Shoreline Master Program provisions where applicable, Capital Facilities Plan, and other development regulations to ensure consistency and mutual support of climate resilience objectives. The Climate Resiliency Element establishes one overarching goal and fifteen implementing policies that guide Yakima County's response to climate change impacts. These goals and policies are detailed here in the Policy and Goals section of this chapter and address the following topic areas:

NH~~S~~ 10.12~~7~~	Coordinate with irrigation districts, tribes, and adjacent jurisdictions on water resource planning and drought preparedness
NH~~S~~ 10.13~~7~~	Work with Yakima Health District and community organizations to develop extreme heat response and wildfire smoke protection programs
NH~~S~~ 10.14~~7~~	Create online resources and mapping tools to help property owners understand climate risks and adaptation options
NH~~S~~ 10.15~~7~~	The County will pursue multiple funding strategies to support implementation including: • State grants from Department of Ecology, Commerce, Conservation Commission, and other agencies • Federal funding through FEMA hazard mitigation programs, US Bureau of Reclamation, National Oceanic and Atmospheric Association, US Fish and Wildlife Service, US Geological Survey, USDA conservation programs, and infrastructure legislation • Climate Commitment Act revenues where available for eligible projects • Integration of climate resilience into existing capital improvement programs • Partnership leverage with irrigation districts, conservation districts, tribes, flood control zone districts, ~~and~~ non-profit organizations and other special purpose districts. • Private sector engagement for agricultural adaptation and working lands conservation

CHAPTER 3 – NATURAL HAZARDS

NARRATIVE CHANGES

NATURAL HAZARDS (NH)

NARRATIVE -TOC

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CHAPTER 3 - NATURAL HAZARDS

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MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

PAGES 1-3

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
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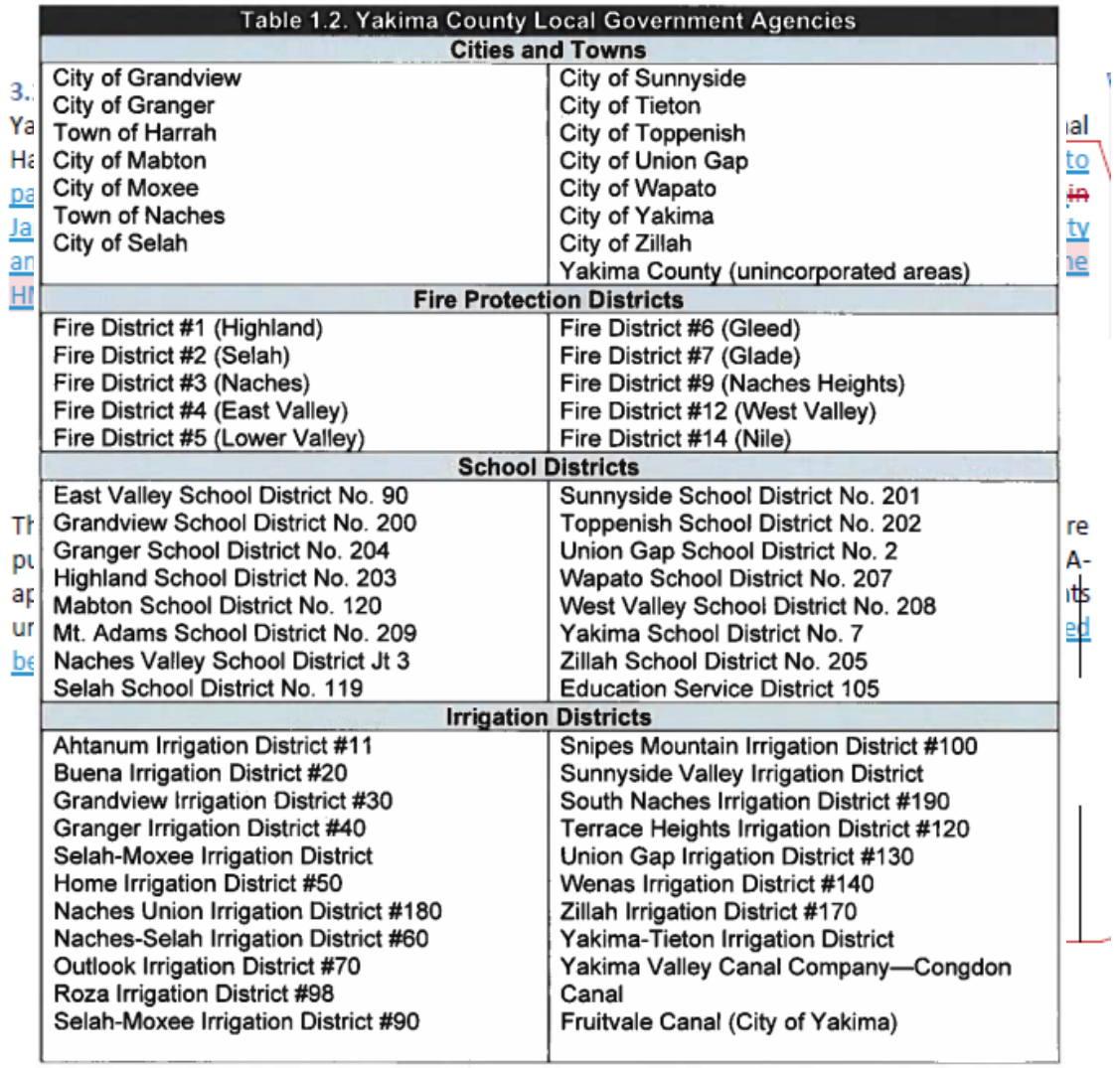

Table 1.2. Yakima County Local Government Agencies	
Cities and Towns	
City of Grandview	City of Sunnyside
City of Granger	City of Tieton
Town of Harrah	City of Toppenish
City of Mabton	City of Union Gap
City of Moxee	City of Wapato
Town of Naches	City of Yakima
City of Selah	City of Zillah
	Yakima County (unincorporated areas)
Fire Protection Districts	
Fire District #1 (Highland)	Fire District #6 (Gleed)
Fire District #2 (Selah)	Fire District #7 (Glade)
Fire District #3 (Naches)	Fire District #9 (Naches Heights)
Fire District #4 (East Valley)	Fire District #12 (West Valley)
Fire District #5 (Lower Valley)	Fire District #14 (Nile)
School Districts	
East Valley School District No. 90	Sunnyside School District No. 201
Grandview School District No. 200	Toppenish School District No. 202
Granger School District No. 204	Union Gap School District No. 2
Highland School District No. 203	Wapato School District No. 207
Mabton School District No. 120	West Valley School District No. 208
Mt. Adams School District No. 209	Yakima School District No. 7
Naches Valley School District Jt 3	Zillah School District No. 205
Selah School District No. 119	Education Service District 105
Irrigation Districts	
Ahtanum Irrigation District #11	Snipes Mountain Irrigation District #100
Buena Irrigation District #20	Sunnyside Valley Irrigation District
Grandview Irrigation District #30	South Naches Irrigation District #190
Granger Irrigation District #40	Terrace Heights Irrigation District #120
Selah-Moxee Irrigation District	Union Gap Irrigation District #130
Home Irrigation District #50	Wenas Irrigation District #140
Naches Union Irrigation District #180	Zillah Irrigation District #170
Naches-Selah Irrigation District #60	Yakima-Tieton Irrigation District
Outlook Irrigation District #70	Yakima Valley Canal Company—Congdon Canal
Roza Irrigation District #98	Fruitvale Canal (City of Yakima)
Selah-Moxee Irrigation District #90	

CHAPTER 3 - NATURAL HAZARDS

NARRATIVE SECTIONS

SPECIAL DISTRICTS AND PROGRAMS

PAGES 5-7

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
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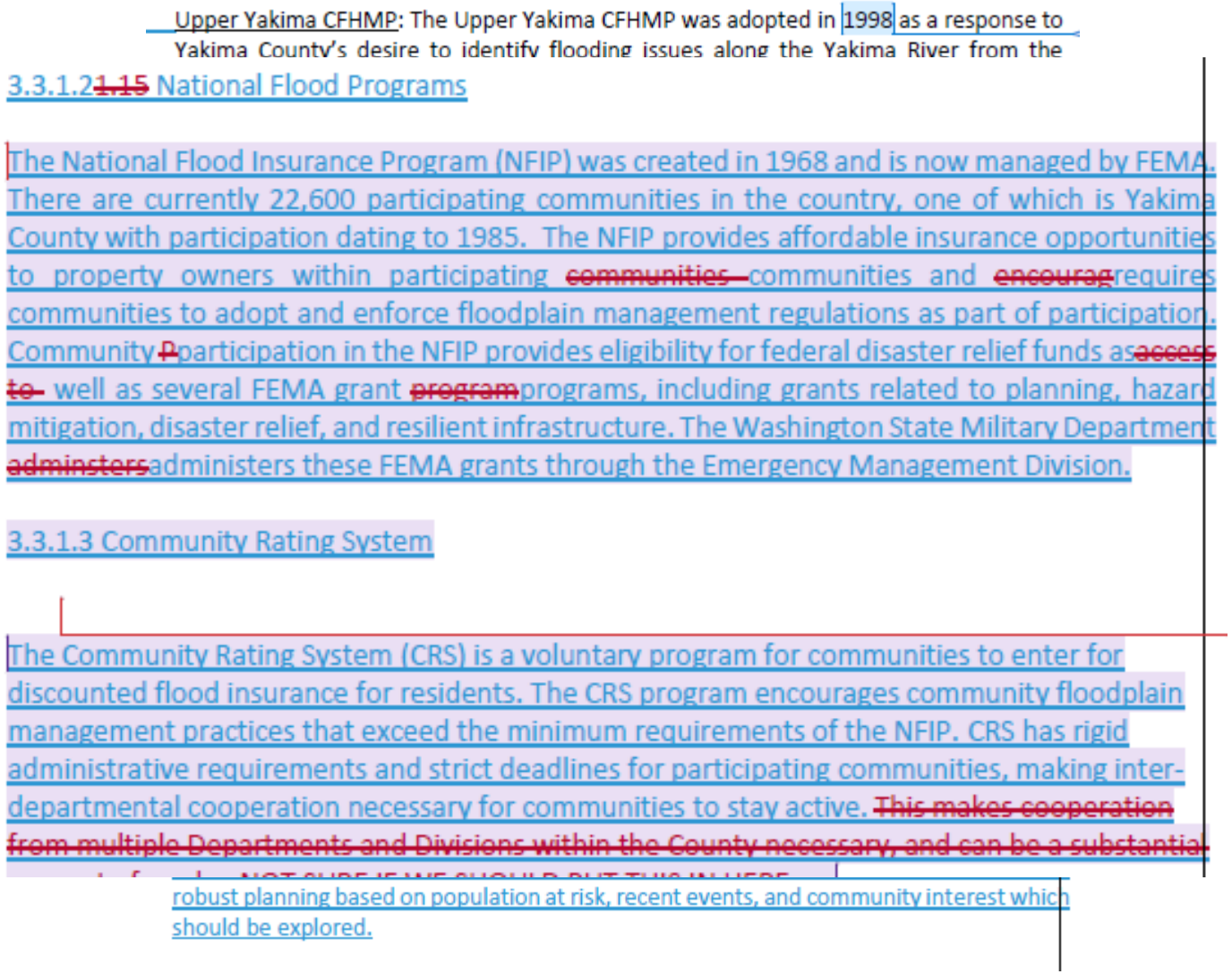

Upper Yakima CFHMP: The Upper Yakima CFHMP was adopted in 1998 as a response to Yakima County's desire to identify flooding issues along the Yakima River from the

3.3.1.2~~1.15~~ National Flood Programs

The National Flood Insurance Program (NFIP) was created in 1968 and is now managed by FEMA. There are currently 22,600 participating communities in the country, one of which is Yakima County with participation dating to 1985. The NFIP provides affordable insurance opportunities to property owners within participating ~~communities~~ communities and ~~encourag~~requires communities to adopt and enforce floodplain management regulations as part of participation. Community ~~p~~participation in the NFIP provides eligibility for federal disaster relief funds as ~~access to~~ well as several FEMA grant ~~program~~programs, including grants related to planning, hazard mitigation, disaster relief, and resilient infrastructure. The Washington State Military Department ~~adminsters~~administers these FEMA grants through the Emergency Management Division.

3.3.1.3 Community Rating System

The Community Rating System (CRS) is a voluntary program for communities to enter for discounted flood insurance for residents. The CRS program encourages community floodplain management practices that exceed the minimum requirements of the NFIP. CRS has rigid administrative requirements and strict deadlines for participating communities, making inter-departmental cooperation necessary for communities to stay active. ~~This makes cooperation from multiple Departments and Divisions within the County necessary, and can be a substantial~~

robust planning based on population at risk, recent events, and community interest which should be explored.

CHAPTER 3 - NATURAL HAZARDS

NARRATIVE SECTIONS

FEDERAL & STATE PROGRAMS, STORMWATER

PAGES 10-12

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
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The Clean Water Act, enacted in 1972, contains the legal requirement for protecting the quality of waters of the nation. The Act authorizes the USEPA Administrator to carry out its requirements. USEPA initially focused water quality improvement efforts on reducing discharges of pollutants from pipes (point sources), primarily wastewater from industrial processes and municipal sewer treatment facilities.

Diffuse sources of pollutants (non-point sources) also contribute to water pollution nationwide. Runoff from stormwater can collect pollutants as it flows across the landscape and discharges to surface and ground water. As a result, USEPA regulates urban stormwater discharges by requiring municipalities to obtain National Pollutant Discharge Elimination System (NPDES) permits for stormwater. The Department of Ecology regulates the NPDES Municipal Stormwater Permits for the State of Washington.

Phase I of the NPDES Stormwater Program began in 1990. Large and medium sized municipalities with populations greater than 100,000 were required to develop and implement SWMPs. Phase II of the regulations requires small municipalities (<100,000) and contiguous areas with smaller – but still urban – communities to develop and implement SWMPs. In February 2007, the Department of Ecology issued the Eastern Washington Phase II Municipal Stormwater Permit, requiring permittees to submit a Notice of Intent (NOI) seeking coverage and to comply with the terms of the permit. Ecology requires permittees and co-permittees to submit an NOI for coverage and to comply with the current Phase II Municipal Stormwater Permit every five years to remain compliant.

Yakima County established a Stormwater Authority to provide for the protection of the citizens of Yakima County from stormwater and drainage damage through planning and the regulation of site drainage and discharges to stormwater control facilities, Underground Injection Control (UIC) wells, and waters of the state. All new development and redevelopment shall provide for drainage such that it does not conflict with present drainage patterns, or create a drainage, water quality or water quantity problem within itself, for its neighbors, or to stormwater control facilities.

CHAPTER 3 - NATURAL HAZARDS

NARRATIVE SECTIONS

STRATEGY FOR RESILIENT AND SUSTAINABLE GROWTH

PAGES 12-23

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
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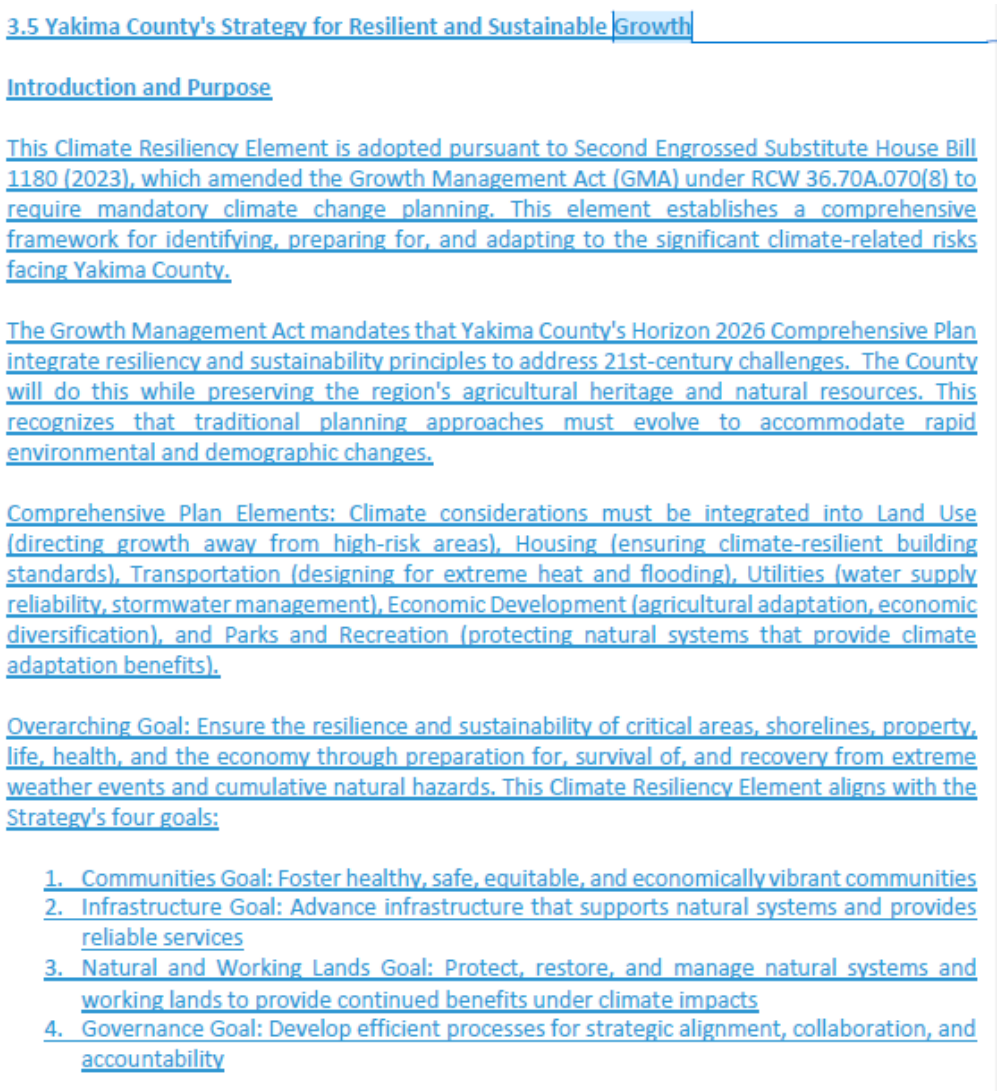


3.5 Yakima County's Strategy for Resilient and Sustainable Growth

Introduction and Purpose

This Climate Resiliency Element is adopted pursuant to Second Engrossed Substitute House Bill 1180 (2023), which amended the Growth Management Act (GMA) under RCW 36.70A.070(8) to require mandatory climate change planning. This element establishes a comprehensive framework for identifying, preparing for, and adapting to the significant climate-related risks facing Yakima County.

The Growth Management Act mandates that Yakima County's Horizon 2026 Comprehensive Plan integrate resiliency and sustainability principles to address 21st-century challenges. The County will do this while preserving the region's agricultural heritage and natural resources. This recognizes that traditional planning approaches must evolve to accommodate rapid environmental and demographic changes.

Comprehensive Plan Elements: Climate considerations must be integrated into Land Use (directing growth away from high-risk areas), Housing (ensuring climate-resilient building standards), Transportation (designing for extreme heat and flooding), Utilities (water supply reliability, stormwater management), Economic Development (agricultural adaptation, economic diversification), and Parks and Recreation (protecting natural systems that provide climate adaptation benefits).

Overarching Goal: Ensure the resilience and sustainability of critical areas, shorelines, property, life, health, and the economy through preparation for, survival of, and recovery from extreme weather events and cumulative natural hazards. This Climate Resiliency Element aligns with the Strategy's four goals:

1. Communities Goal: Foster healthy, safe, equitable, and economically vibrant communities
2. Infrastructure Goal: Advance infrastructure that supports natural systems and provides reliable services
3. Natural and Working Lands Goal: Protect, restore, and manage natural systems and working lands to provide continued benefits under climate impacts
4. Governance Goal: Develop efficient processes for strategic alignment, collaboration, and accountability

CHAPTER 3 - NATURAL HAZARDS

NARRATIVE SECTIONS

NATURAL HAZARD MITIGATION: FLOOD SECTION

PAGES 23-25

- ✓ Updated based in New Information as of 2025
- ✓ Updated based on Best Available Science requirements
- ✓ Updated based on HB 1181 Resiliency and Sustainability requirements
- ✓ Updated based on reconciliation or restructuring YCC 16C, 16D and or 22

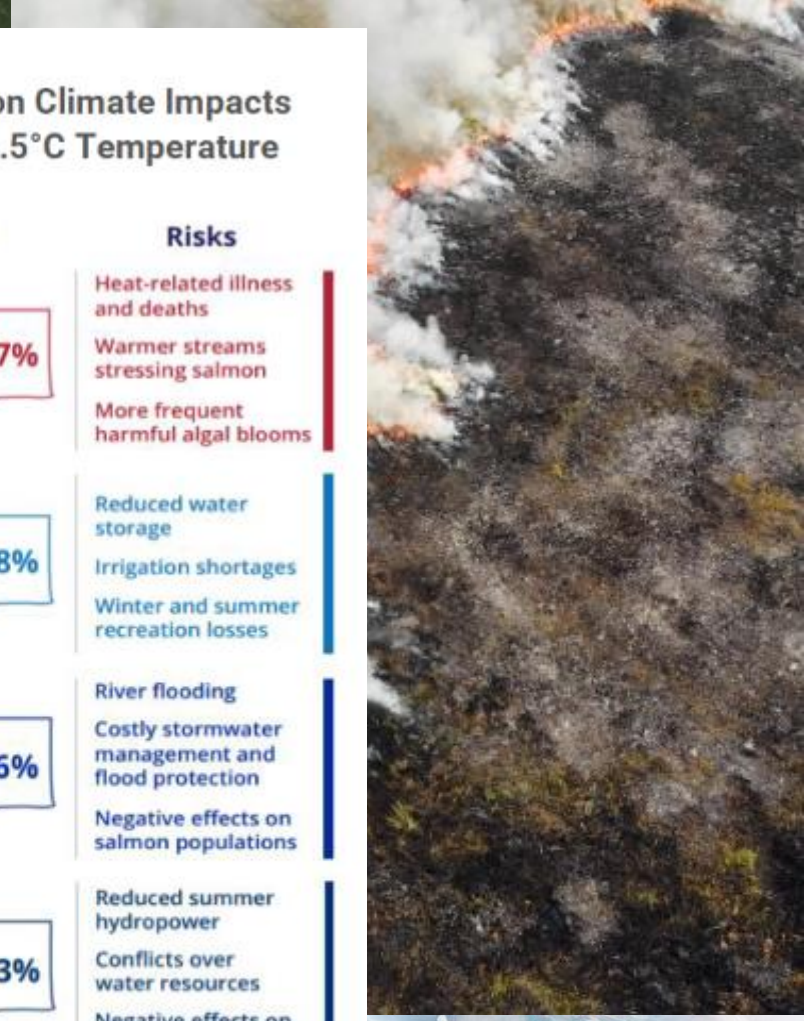
Yakima Countywide Flood Control Zone District, with funding from the Washington Department of Ecology, has taken steps to both improve floodwater conveyance, irrigation withdrawal and delivery, and fish habitat~~,~~ as part of ~~the Floodplain by Design program~~several programs. These programs include Washington State Ecology Floodplains by Design, Salmon Recovery Funding Board, FEMA BRIC, USBR WaterSmart, USFWS National Fish Passage, etc. The County has ~~begun to~~ purchased hundreds of acres of land along the Yakima and Naches Rivers, ~~and~~ removed and/or set ~~-~~back existing levees, contructed pilot channels and side channels, removed a run of river dam, modernized irrigation withdrawals, etc. Many of these levees that were removed or setback, some of them existing since the 1940s, act to constrict the natural flow of the rivers and cause additional erosion, levee flanking, and flooding in unprotected areas. Additionally, the levees cause water to flow faster and deeper through the smaller space. Moving the levees away from the river reduces the constriction, slowing the flow and reducing the amount of property damage up and downstream of the constrictions. In addition, levee set~~-~~backs improve fish and wildlife habitat and allow the river to flow and interact with the floodplain more naturally. The following levees have been modified over the past 30 years to improve resiliency:

Naches River: Ramblers (N1), McCormick (N2), Upper McCormick (N14), Town of Naches (N7), Craig Road (N9)

Yakima River: Yakima Authorized Right Bank, Yakima Authorized Left Bank

RESILIENCY AND SUSTAINABILITY

HB 1181 - 2024



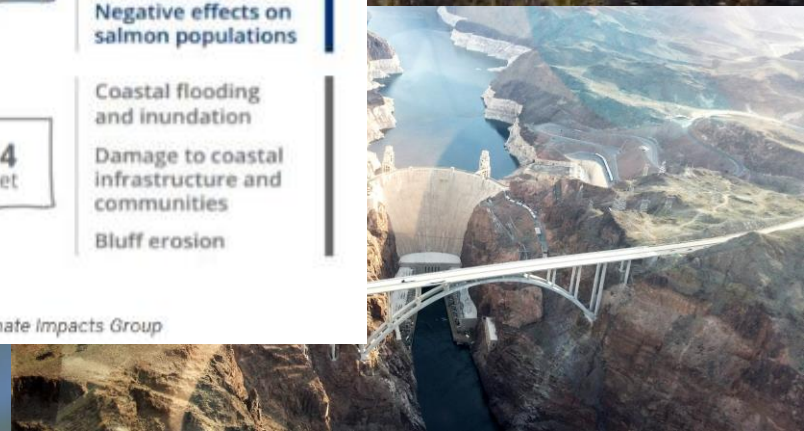


Figure 1: Washington Climate Impacts Associated with a 1.5°C Temperature Increase

Change with 1.5°C		Risks
More very hot days (above 90°F)	↑ 67%	Heat-related illness and deaths Warmer streams stressing salmon More frequent harmful algal blooms
Reduced snowpack (April 1st snow water equivalent)	↓ 38%	Reduced water storage Irrigation shortages Winter and summer recreation losses
Higher winter streamflow (October-March)	↑ 16%	River flooding Costly stormwater management and flood protection Negative effects on salmon populations
Lower summer streamflow (April-September)	↓ 23%	Reduced summer hydropower Conflicts over water resources Negative effects on salmon populations
Sea level rise (at 2100)	↑ 1.4 feet	Coastal flooding and inundation Damage to coastal infrastructure and communities Bluff erosion

CREDIT: *University of Washington Climate Impacts Group*

BEST AVAILABLE SCIENCE - RESILIENCY AND SUSTAINABILITY

UNIVERSITY OF WA – CLIMATE IMPACTS GROUP

IPPC – 160 COUNTRIES, SAME MODEL

Yakima County Projections

FLOOD, DROUGHT, EXTREME HEAT AND WILDFIRE – RECENT HISTORY

Largest Floods and Their Return Periods:

•**1933 Flood:** 65,000 cfs at Parker, estimated as approximately a 200-year flood event

•**1996 Flood:** 57,500 cfs at Parker, which exceeded the predicted 100-year event of 56,300 cfs, making it approximately a 100-year flood

•A flood warning was issued for the Naches River on February 28, 2022, with the river rising to 31.1 feet (flood stage is 31.0 feet). A previous crest of 31.4 feet occurred on 02/04/2020

•**1917 (December):** 52,900 cfs
•**1948 (May 29):** 37,700 cfs
•**1995 (November 30):** 36,000 cfs
•**1990 (November 26):** 35,620 cfs

Drought: Drought conditions have become more frequent and severe. In 2024, drought cut the water supply for irrigators in half in the Yakima Basin, while in July 2025, water right holders received only 45% of total water supply available May-June 2025 was the driest period on record in Yakima and Kittitas counties.

Extreme Heat: The June 2021 heat dome was unprecedented, with Yakima hitting 113°F on June 29, 2021, breaking the all-time record of 110°F from 1971 Heat was a contributing factor in at least seven deaths in Yakima County during the heat wave

Wildfire: The Pacific Northwest has experienced a dramatic escalation in wildfire activity over the past 20 years. Wildfires burned well over 2 million acres in Washington and Oregon in 2024, making it the worst wildfire season in decades. Washington's record year was 2015 with 1,137,664 acres burned while Oregon set a new all-time record in 2024 with around 1.9 million acres burned.

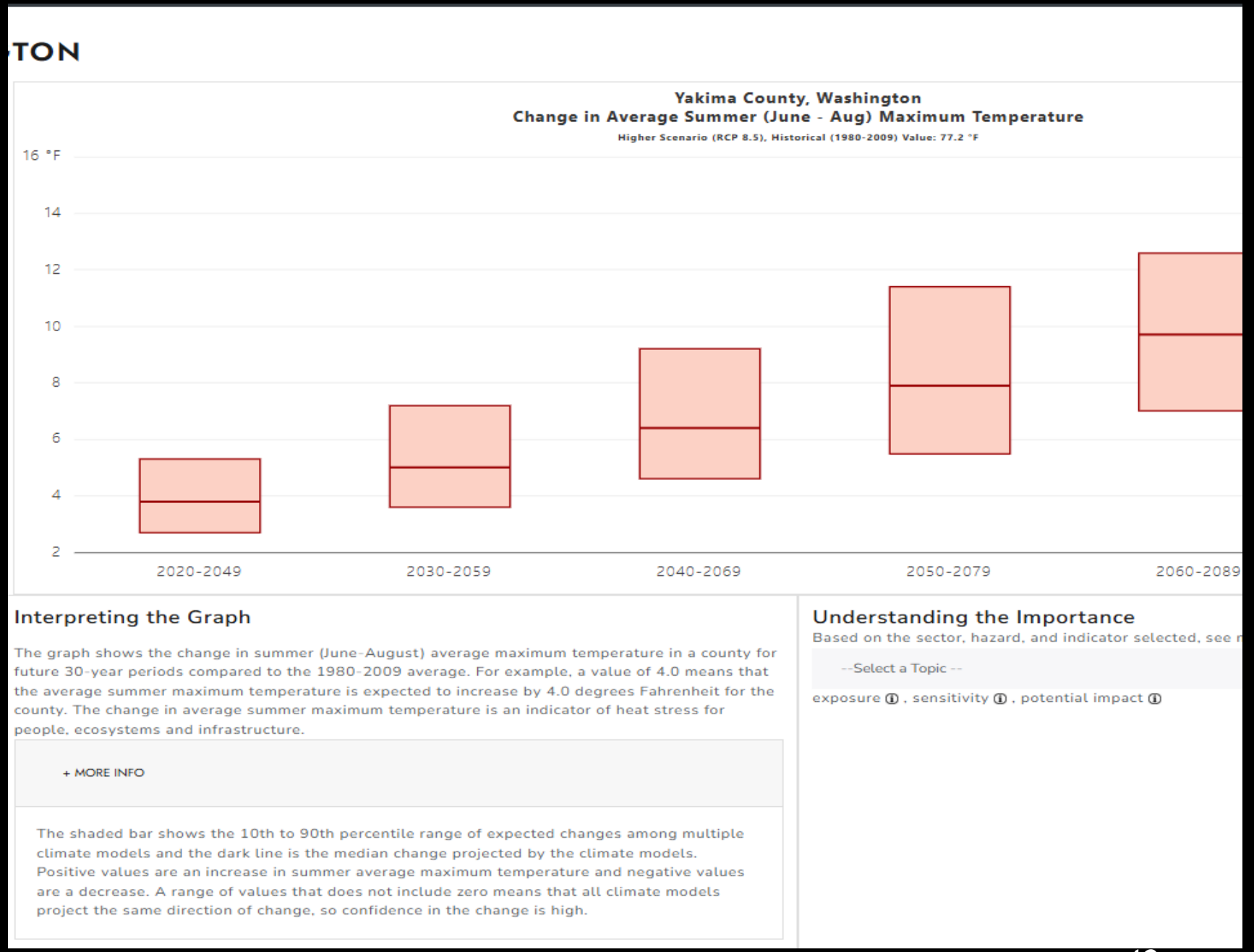
British Columbia/Canada: Canada has seen unprecedented wildfire activity, with more than 17.3 million hectares (42.7 million acres) burned in 2023 In 2024, British Columbia recorded more than 1,680 wildfires resulting in an estimated 1.08 million hectares burned.

Air Quality: Wildfire smoke poses significant public health risks, particularly for vulnerable populations including children, the elderly, pregnant individuals, and those with respiratory conditions, as the fine particulate matter can penetrate deep into lungs and enter the bloodstream, causing both immediate and long-term health effects. Exposure to wildfire smoke has been linked to increased emergency room visits for asthma and respiratory issues, cardiovascular problems, and premature death, with Americans suffering an estimated 11,500 deaths from wildfire smoke in recent years, a 49% increase from the 2003-2012 average

Wildfire Trends: The trend is clearly intensifying. According to National Interagency Fire Center data, of the 10 years with the largest acreage burned in the U.S., all have occurred since 2004, including peak years in 2015 and 2020. Since 1959, the number of large fires greater than 200 hectares has increased and the average fire season has become longer by about two weeks. More acres of rangeland than forest land have burned in the West since 2000, with mega-fires (fires that burn 100,000 acres or more) becoming more common USDA Climate Hub.

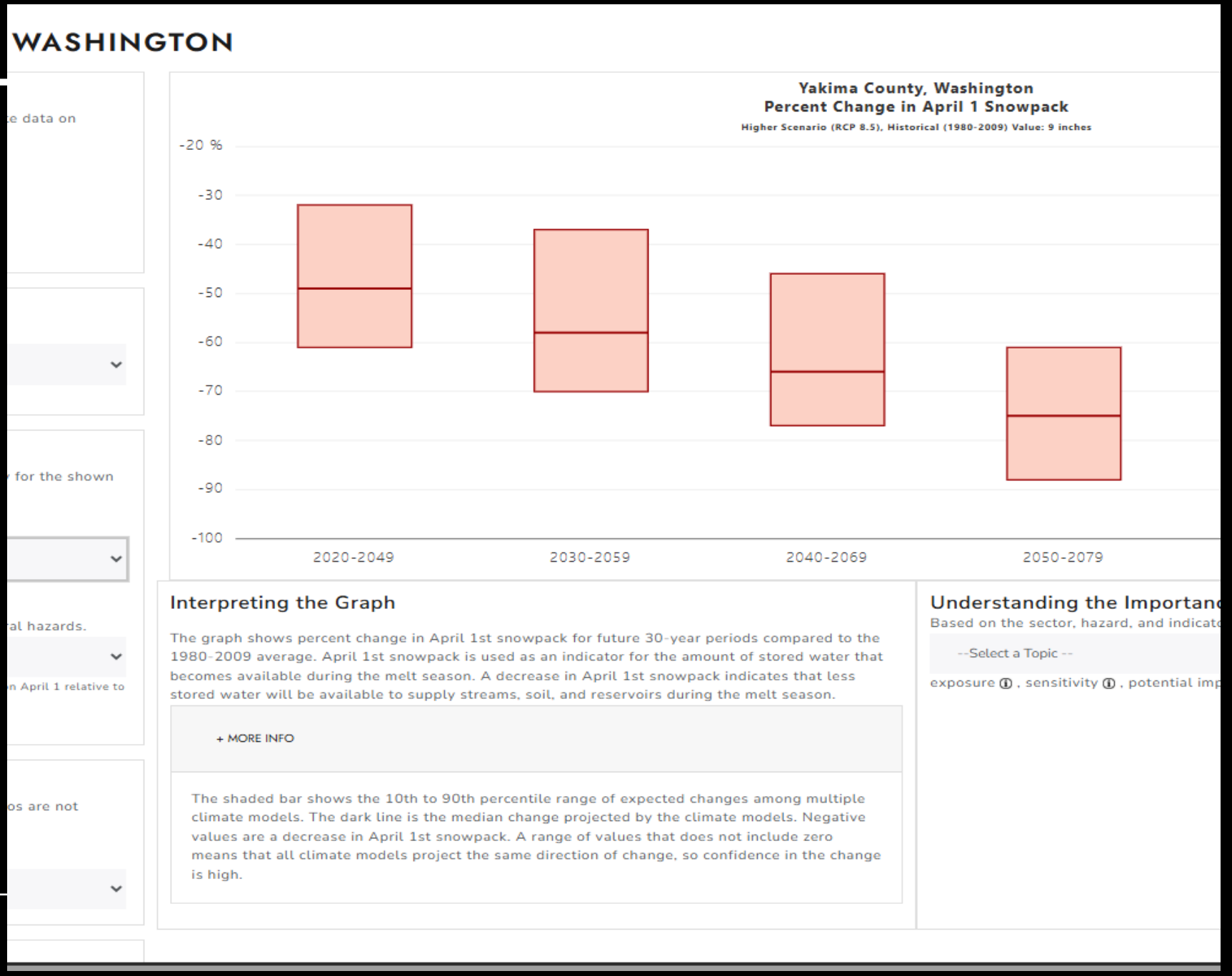
BEST AVAILABLE SCIENCE - RESILIENCY AND SUSTAINABILITY

EXTREME HEAT, DROUGHT



BEST AVAILABLE SCIENCE - RESILIENCY AND SUSTAINABILITY

SNOWPACK (FLOODING AND DROUGHT)



QUESTIONS?

Next Steps:

- **December 10, 2025** –Work Session NO. 2 , CH 2 CH3
- **January 7, 2026** – Introduction: YCC 16C, Critical Area Ordinances, YCC 16D Shoreline Management Plan, YCC 22 Flood Hazard Management – YCC Work Session NO. 1

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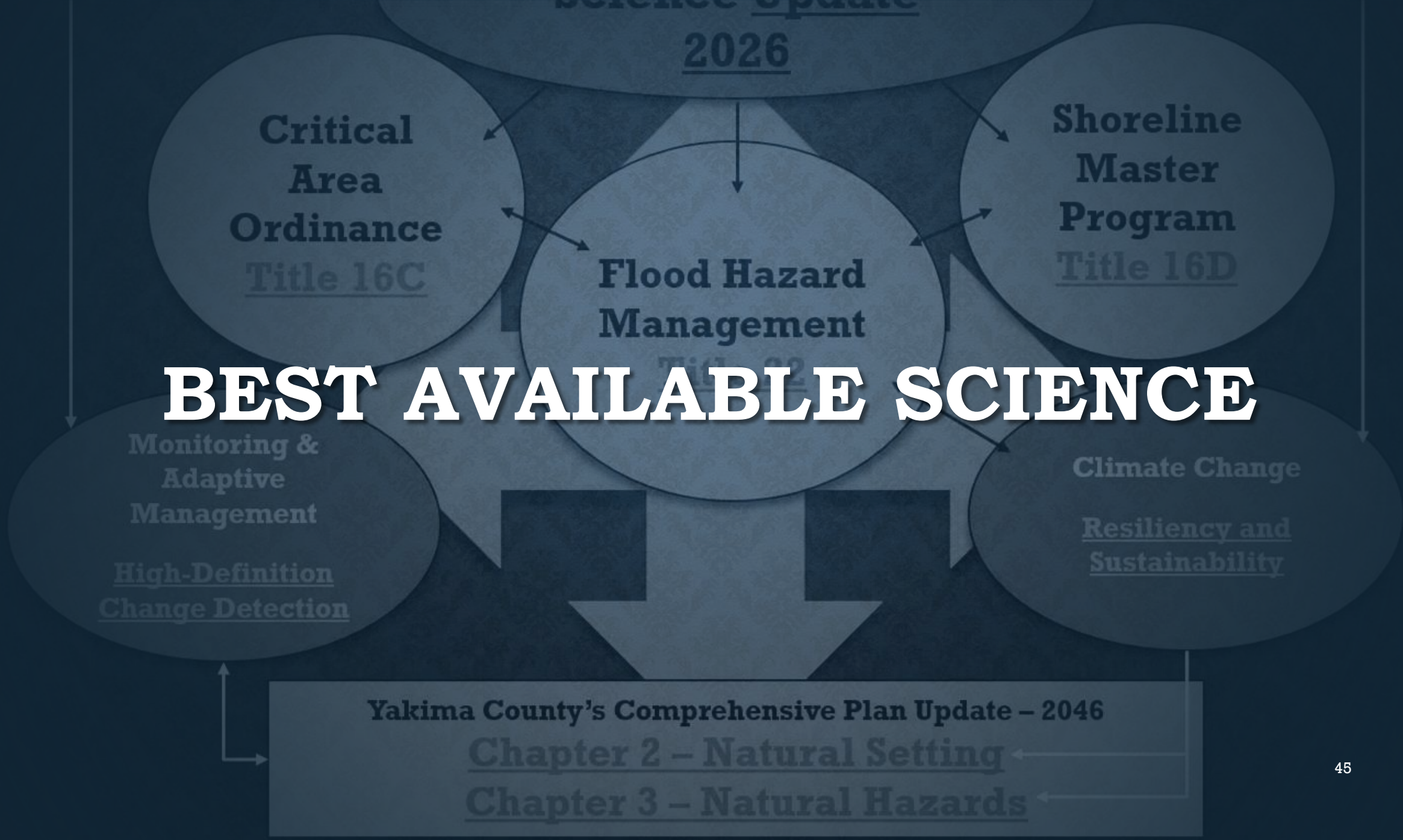


BEST AVAILABLE SCIENCE

Best Available Science
2026 Update

Critical Areas Ordinance, Shoreline Master Program and Flood Hazard Management
for
The Yakima County Comprehensive Plan
Periodic Update

– Horizon 2046 –

Prepared by
Yakima County Long Term Planning Division

In collaboration with the Science Advisory Group
and
Select Subcommittees

TABLE OF CONTENTS - EXAMPLE

SCIENCE ADVISORY GROUP (~12)

SUBJECT MATTER EXPERTS (~15)
INTERGOVERNMENTAL AND PUBLIC (25 +)

Executive Summary

Best Available Science (BAS) is a statutory requirement under Washington State's Growth Management Act (GMA) that mandates local governments to use current, scientifically valid information when designating and protecting critical areas. This requirement, codified in RCW 36.70A.172, ensures that environmental regulations are grounded in empirical evidence rather than speculation, protecting ecological functions while allowing for informed policy decisions that balance environmental protection with economic viability.

Yakima County is updating its Critical Areas Ordinance to meet current BAS standards, incorporating significant scientific advances since the 2004 baseline report. This comprehensive update addresses seven key areas: ephemeral and intermittent streams, riparian buffers, wetland ratings and protection, climate change adaptation and resilience, geologically hazardous areas, groundwater and aquifer recharge protection, and monitoring and adaptive management frameworks.

The update process involves a multi-disciplinary Science Advisory Group (SAG) with representatives from federal agencies (U.S. Bureau of Reclamation, U.S. Forest Service), state agencies (Washington Department of Ecology, Washington Department of Fish and Wildlife), tribal governments (Yakama Nation), and local expertise. The process runs from November 2025 through October 2026, culminating in a Final Draft BAS Report that will serve as the scientific foundation for updating the county's Critical Areas Ordinance in compliance with GMA requirements.

HOW TO MAKE "RESEARCHERS" OUT OF SCIENTISTS AND CONTRIBUTORS

Examples of Citations (Contributions)

Adam, T.N., and Sullivan, K. 1989. The physics of forest stream heating: A simple model. Timber, Fish and Wildlife. TFW-WQ3-90-007. [Online] http://nwifc.wa.gov/cmerdoc/TFW_WQ3_90_007.pdf

Anderson, J.J. 1997. Decadal climate cycles and declining Columbia River salmon. Sustainable Fisheries Conference Proceedings 1998.

Baxter C.V., and Hauer F.R. 2000. Geomorphology, hyporheic exchange, and selection of spawning habitat by bull trout (Salvelinus confluentus). Canadian Journal of F

Bencala, K.E. 2000. In
Hydrological Proces

Bolton, S. and Monohan, C. 2001. A review of the literature and assessment of research needs in agricultural streams in the Pacific Northwest as it pertains to freshwater habitat for salmonids. For Snohomish County, King County, Skagit County, and Whatcom County. Center for Streamside Studies, University of Washington. [Online] http://depts.washington.edu/cssuw/Research/finalcted.pdf

Bolton, S. and Shellberg, J. 2001. Ecological issues in floodplains and riparian corridors. University of Washington, Center for Streamside Studies, Seattle, WA. [Online] http://www.wa.gov/wdfw/hab/ahg/floodrip.htm

Booth D.B. 2000. Forest cover, impervious-surface area, and the mitigation of urbanization impacts in King County, Washington. Center for Urban Water Resources Management. University of Washington, Department of Civil and Environmental Engineering, Seattle, WA.

Booth, D.B. 1991. Urbanization and the natural drainage system: Impacts, solutions, and prognoses. The Northwest Environmental Journal, 7(1). [Online] http://depts.washington.edu/cuwrm/publictn/nwej1991.pdf

Yakima County BAS Update - Workflow Dashboard

Final List of open source and subscriptions for

Federal

1. Water Resources - Documents | U.S. Geological Survey – Free
2. Environmental data | U.S. Department of Commerce – Free
3. FEMA Flood Map Service Center | Search All Products – Free
4. Wetlands Protection and Restoration | US EPA – Free
5. National Wetlands Inventory | U.S. Fish & Wildlife Service – Free

State of WA

10. Research & Data - Washington State Department of Ecology - Free
11. Priority Habitats and Species (PHS) | Washington Department of Fish & Wildlife – Free
12. Reporting, Data and Research – Washington State Department of Commerce – Free
13. Scholarly Publishing & Open Access – UW Libraries – Free
14. Publications and Resources | Washington's Water | Washington State University – Free
15. Welcome to CWU Libraries homepage (Find Materials) – Free
16. Frontiers in Built Environment – through PS Partnership
17. Data.WA | State of Washington Open Data Platform | Data.WA | State of Washington Free
18. EIM Search – WA. Dept. of Ecology Water - Free

General Academic Search

19. Google Scholar – Free
20. Google Earth Engine - Free
21. PLOS – Free to Read
22. Frontiers in Environmental Science – Free to Read
23. Water | An Open Access Journal from MDPI – Free to Read and Search
24. Research articles | Scientific Data Nature Portfolio Journal List – Free to Search
25. Scopus preview - Scopus - Sources – Search Free, Register

Paywall

Free to

Elsevier –

30. Home | Climatic Change –
31. PRISM Group at Oregon State University – Free Basic, 500.00 – 2, 000 Premium
32. Journal finder and open access funding | SpringerLink – Linked to N0. 26
33. https://about.proquest.com/en/products-services/ProQuest-One-Academic/

Memberships:

34. Home - AWRA (WR likely are members)
35. Ecological Society of America – The Nation's Largest Community of Ecologists – $153.00 annual
36. AFS Sign In – $125 annual, multiple journals
37. Claude Anthropic for API-like BAS Database Management – $200.00 / mo.

SUMMARIZED PROJECT TIMELINE (NOVEMBER 2025 - OCTOBER 2026)

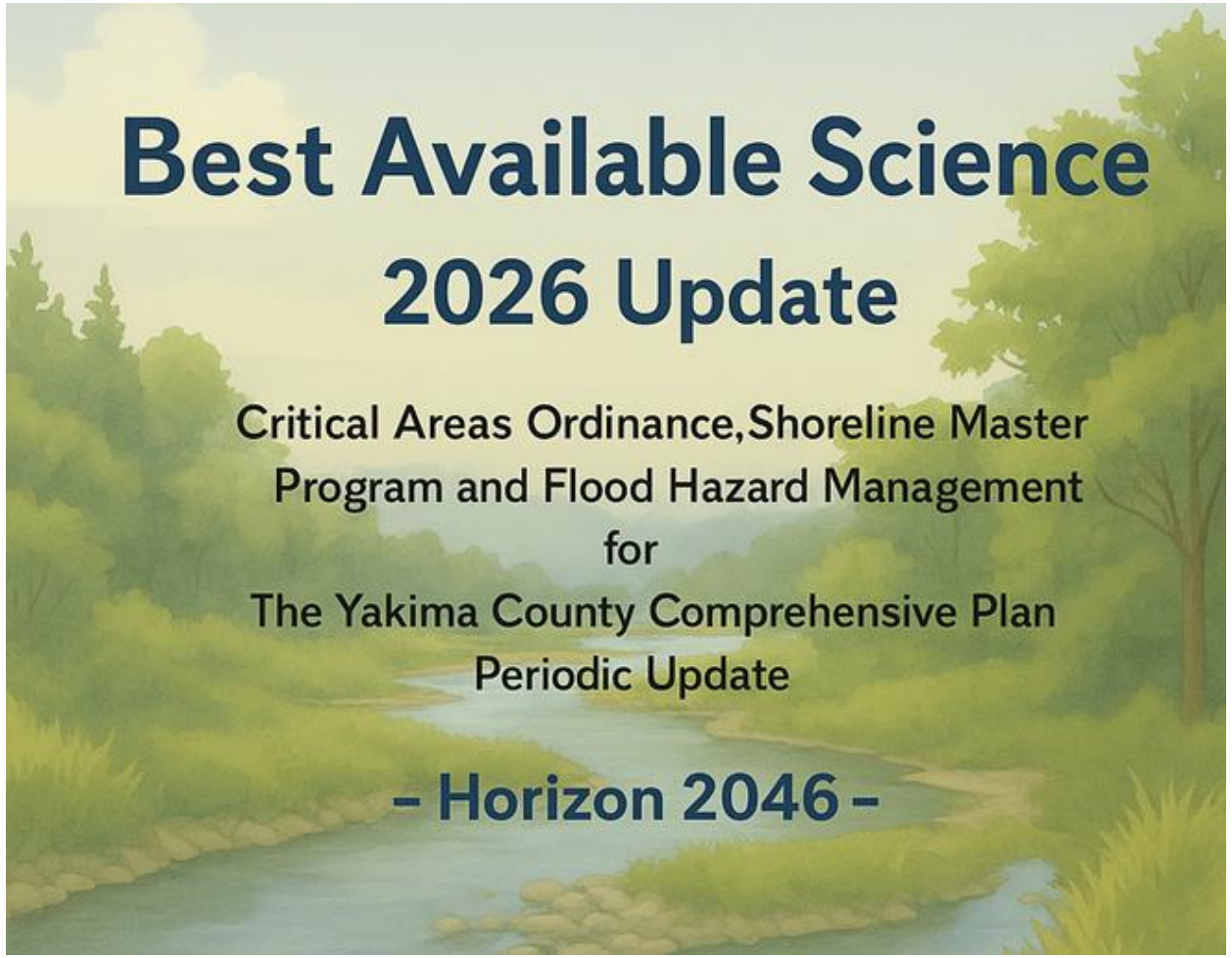
Phase 1: Formation and Planning (November 2025 - January 2026) - Mid-January 2026: Complete executive summary, table of contents, and scope draft for SAG review.

Phase 2: Research and Drafting (February - May 2026)
February - May 2026: Conduct comprehensive literature review across all critical areas. Draft individual

Phase 3: Draft Review (June - August 2026) Present Draft BAS Report to Yakima County Planning Commission and public. Solicit initial feedback on scope and findings.

Phase 4: Finalization (September - October 2026). September 2026: Receive and integrate comments. Complete final editing and quality control. Prepare final graphics and formatting.

October 2026: Present Final Draft BAS Report to County Commissioners and public. Report becomes foundation for Critical Areas Ordinance amendments.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