

WRIA 46 Chapter Summary

Ch. 1 – Executive Summary

- Describes the history of watershed planning in the Entiat and the overall purpose of the plan

Ch. 2 – Planning and Regulations

- Describes major governing laws that have been considered during plan development and explores how planning in Entiat interfaces with federal, state, regional and local planning processes

Ch. 3 – WRIA Characterization

- Reviews the natural and human influenced history of the Entiat

Ch. 4 – Water Quantity

- Describes estimates of surface and ground water present in Entiat; summaries of water rights, claims, and applications; provides info on stream gauge network; estimates of future water supply requirements

Ch. 5 – Instream flows

- Contains explanation of the Instream Flow Incremental Methodology (IFIM) and the phases of that methodology

Ch. 6 – Water Budget

- Describes what a water budget is and the formats used to make assertions; water budget is used to determine at what times of year water resources are scarce and/or require management

Ch. 7 – Habitat

- Describes physical, chemical, and biological characteristics of aquatic habitat in river systems; also provides lists of endangers or listed species and the habitats they occupy

Ch. 8 – Water Quantity

- Explains the classification of the Entiat River based on various regulatory criteria

Ch. 9 – Recommendations

- Provides overview of recommendations and actions needed to fulfill goals of the plan

Ch. 10 – Monitoring and Evaluation

- Reviews the monitoring plans and ways to evaluate success

Chapter 9 Recommendation Synopsis

Water Quantity, Water Quality, & Instream Flows

- At the time, 2004, there was no formal program established to direct the management of water resources in the Entiat
 - A need for a management system was recognized
 - System should balance instream and out-of-stream needs and other objectives
- EWPU developed some management recommendations as part of the WRIA 46 process
 - Initiate rulemaking to create a water resource management program that includes estimates of water reserves for future use
 - Rules should include flow regimes and establish a priority use mechanism
 - EWPU should adopt strategies that comply with the Clean Water Act and Salmon Recovery Act
- There was a great deal of disparity between actual water use and the amount represented by rights and claims
 - There is a lack of documentation needed to accurately reflect water use
 - Plans to work with DOE to address this concerns were made with a goal of developing something within one year of the adoption of the plan
- Some water rights holders may not be exercising rights but want to avoid relinquishment while others need water
 - Planned a workshop to discuss this with community and DOE within one year of plan adoption
- Water conservation in the Entiat will help meet management goals and provide additional water for instream and out-of-stream use
 - Suggested continuation of water conveyance improvements/efficiencies
 - Suggested working to find funding to pipe open ditches
 - Suggested working with NRCS and other partners to assist landowners with on-farm irrigation efficiencies to promote water conservation
 - Suggested working with City of Entiat and various partners to help improve overall water use in Entiat Valley
- Need identified for better collaboration between water users and natural resource entities
 - Suggested establishing a local water advisory group to track recommended changes and related activities
- Plan recognizes that if actions taken in recommendations are completed, water would be available for storage in the Entiat
 - Suitable storage facilities not identified nor has construction feasibility occurred
- Need identified to study and better understand subsurface water and interfaces with wetlands

- Plan identified need to collect more data and engage in more studies to better understand these relationships
- Plan notes the contribution of the WDOE ambient water quality station
 - It has contributed the most long-term data to the overall water quality record for the substation
 - Plan suggests continued monitoring
- Water temperature monitoring and indicated increasing summer temperatures
 - Partners should continue temperature monitoring
 - Partners should track and monitor cold water refugia
 - Partners should seek future funds to complete projects that increase riparian and canopy cover throughout the watershed
- Nutrient loading caused by fertilization has not been identified as a problem in the Entiat
 - Need to continue monitoring as increases in nutrients can cause pH problems
- Recent monitoring indicates pH occasionally exceed state standards in the lower river
 - It may be photosynthetic due to periphyton communities
 - Monitoring should continue
 - Updates should be provided to the EWPU on any findings of increases
 - Partners should look into adopting or developing a nutrient management protocol
- The Entiat National Fish Hatchery (ENFH) has a national point-source discharge elimination system permit
 - USFWS should continue to monitor discharge for compliance with regulations
 - Results should be shared with the EWPU
- Updates to pesticide regulations have had an impact on growers
 - Practices have improved over the years
 - Producers should continue to spray in compliance with standards
 - EWPU should host a workshop regarding pesticide use to educate on potential effects and best management practices
- Issues related to poor sewage/septic have not been identified as a problem
 - Compliance with regulations and upgrade requirements have been good in the valley
 - EWPU could host workshop on public sanitation
 - Water quality monitoring should continue
 - Partners should continue to seek funds to assist landowners with conversions and upgrades to their systems

Habitat

- Plan recognizes human and fire impacts to upper watershed (RM 16.2-33.8) are minimal but that the channel has been modified heavily in the lower reach (RM 16.2 to mouth)

- Past activities include bank armoring, wood removal, riparian vegetation removal
- Suggested continuation of habitat improvements by local agencies – includes conservation easements, leases, and other conservation options as well
- Working through EWPU, partners should work with local landowners to identify and develop projects as well as comprehensive monitoring plans
- Riparian conditions have been altered by humans and fire throughout the watershed
 - Partners should target riparian restoration and enhancement projects
 - Plans should reference 1995 NRCS study to inform planning
 - Outreach should be conducted to educate and inform public on importance of the riparian area
 - EWPU and partners should look into cost share options (CREP)
 - All of this planning and work was to be implemented within one year of the adoption of the plan
- Wetlands in the upper reach are functioning while in the lower reach they have been modified or developed
 - Regulation bodies (Chelan County, Corps of Engineers, State of Washington, et al) should assure land use actions comply with existing regulations designed to protect wetlands and be willing to provide updates to the EWPU upon request
 - Partners should work with voluntary landowners to assist in maintenance and enhancement of existing wetlands
- Need identified to update surface diversions and culverts to make them fish friendly
 - Partners need to continue to seek funding to perform improvements
- Fish habitat is negatively affected by fine sediment transport
 - Fine sediment can suffocate redds
 - USFS and partners should continue fine sediment monitoring and provide updates to EWPU as requested
- Over wintering habitat is a known limiting factor in the Entiat
 - Concerns over anchor ice and how to limit its impacts
 - Focus on habitat improvements that can limit effects of ice
- Since there are three ESA listed species of salmon in the Entiat, protection and restoration was a focus of the plan
 - Continuation of habitat improvement projects
 - Continuation of surveys and monitoring studies
 - Suggested development of Habitat Conservation Plan (HCP)
- Need to better understand sediment budget and bedload transport dynamics
 - Partners should initiate sediment budget studies to improve understanding
 - EWPU should continue to support these studies
- Roads have had negative impact on riparian particularly roads created for timber access

- Partners should collaborate to develop road management plans to help reduce erosion and sediment from roads
- Noxious weeds are common, particularly in disturbed areas throughout the Entiat
 - Weeds reduce the integrity and diversity of the watershed and can affect people, fish, and wildlife
 - Partners should develop a comprehensive weed control program with landowners and the Weed Board
 - Partners should encourage private landowners to engage in weed control measure on their property
 - Implementation planned for one year after adoption of plan
- Protected wildlife species habitat on public and private lands
 - EWPU to set up workshop to provide guidance and education to landowners on the means used to promote land uses that are beneficial for wildlife
 - Protect and restore riparian and wetland habitat
 - Partners should continue to pursue grants to implement riparian and wetland projects
 - Also includes endangered or listed plant species
- Macroinvertebrates can be an indicator of watershed health and habitat/water quality
 - Plan suggests looking into a study that tracks macroinvertebrates and abundance consistent with other plan protocols

Additional Management Issues

- Development is a concern as it could lead to loss of riparian areas and increase erosion potential with the removal of riparian trees
 - Safety problems could arise with increased erosion and flood potential
 - The 2000 County zoning plan outlines regulations and setbacks and should be used when developing property
 - All construction should be in compliance with County codes
 - Partners, in association with FEMA and the County should inform public of the hazards of construction in flood-prone areas
- A 1996 assessment determined that livestock had unrestricted river access in some areas
 - This has impacts to riparian and water quality
 - Partners should work on plans to encourage fencing and best management practices
 - Partners should continue to pursue funds that can help private landowners with exclusion fencing and stock watering options
- Timber harvest on state and private lands is at low level and there is little potential for it to expand
 - Plan suggests sticking to current regulations regarding harvest
- Fire is identified as an increasing threat to public safety, private lands, and watershed resources
 - Have happened in the past and will continue to happen periodically, with varying intensities

- Plan suggests utilizing communication networks and working closely with emergency management teams
- Law enforcement and other appropriate groups will handle evacuation protocols
- Forest road maintenance and potential closures could impact fire response
 - Some roads, public and private, are not adequate for access by emergency responders
 - Better access is needed in case of emergency for quick escape and evacuation
 - Partners should work with Fire District 8 and other agencies to assure adequate and reasonable road access for wildfire protection
 - Chelan County should continue to assure that county roads meet fire access standards