COLORADO WATER PLAN

THRIVING WATERSHEDS

Watersheds face a number of pressures from competing water needs to climate-stressed hydrologies which have cascading impacts for - among other things - stream function, forest health, aquatic species, and wildlife. Coupled with growing threats from climate-related impacts and invasive species, increased recreational usage, continued risks from drought, fire and subsequent flooding further stress watersheds.

EMERGING CHALLENGES & OPPORTUNITIES

EXPANDED WATERSHED MANAGEMENT PLANS- Stream Management Plans (SMPs), Integrated Water Management Plans (IWMPs), and other similar efforts (e.g. River Health Assessments) work to provide deeper levels of understanding that help shape river basin priorities as they are developed. This includes sharing lessons, principles, and practices in ways that foster collaboration between basins and disciplines — encouraging effective project implementation and on the ground actions. By engaging local communities, expanding scientific analysis and bringing in additional considerations (e.g. burn area), basins can continue refining their needs and priorities. When completed, the resulting project lists will also need to be prioritized and funded to truly improve watershed function and health.

COMMON PLANNING ELEMENTS & SUCCESSES - Common tools and best practices for evaluating stream health are emerging as the number of SMPs, IWMPs, and watershed assessments increase. The flexibility to use different tools has also proven beneficial, especially when considering different spatial and temporal scales. Regardless of the method used, core functions like hydrology, hydraulics, geomorphology, water quality, biology (e.g. aquatic species) and other measures like habitat and recreation are transferable - providing a common link across plans. Building best practices, supporting scientific analysis, and data sharing can maximize the impact of any single watershed planning effort. Finding commonalities, identifying successes and sharing these resources can help make planning efforts easier, more effective, streamlined, and inclusive. Additionally, promoting the value of watersheds (including recreational benefits and economic value) is a key part of showing the importance of increased watershed planning.

INTEGRATED FOREST HEALTH SCIENCE- Integrated stream, watershed, and forest management planning can help identify high priority projects that protect water supplies, improve watershed resilience to climate change, and demonstrate how disturbances like fire impact hydrology/ hydraulics. Ongoing identification of where modeling and fluvial hazard zone mapping can be leveraged for both watershed and forest health planning will help in the continued evaluation of how climate change and forest management could impact forest structure and watershed hydrology. Reviewing findings from recent forest health research, workgroup products, and modeling can help fill gaps in knowledge and opportunities for implementation.

CLIMATE IMPACTS TO WATERSHEDS - Beyond the Flow Tool (developed during the Technical Update), which points to potential climate-related impacts to flow and environmental and recreational attributes in 2050, there are multiple challenges watersheds will face from climate change. Evaluating how forests, streams and watersheds will be impacted under future climate conditions can help identify mitigating actions. New studies and modeling may be needed to better understand how those impacts interplay with fires, floods and droughts to influence hydrology, aquatic life and other stream functions.

NEW TOOLS & INITIATIVES

Fluvial Hazard Zone Program

In order to recognize and assess the hazards associated with erosion, sediment deposition, and other dynamic river processes, the CWCB has developed a technical protocol to help communities identify, map, and plan for these natural hazards. Colorado's Fluvial Hazard Zone Program represents a significant and necessary step forward in adaptively managing stream corridors, preparing for and mitigating flood impacts, and making informed land use decisions based on an awareness of fluvial processes. Learn more at coloradofhz.com.

Forest Health "State of Science"

CWCB conducted an assessment of the state of the science around watershed and forest health related issues that impact water quality and quantity. This resulted in a Forest Health Study that evaluated relevant forest health research, identified groups actively focused on watershed and forest health, and assessed modeling and analysis tools for critical decision making around forest health.

Focus Area Maps

Roundtable-derived focus area maps and boundaries of SMPs/IWMPs are being updated with CWCB support to enhance watershed planning efforts.

Learn more about the Water Plan update and provide your thoughts at engagecwcb.org.

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Colorado Water Conservation Board
Department of Natural Resources