

# Colorado's Water Plan

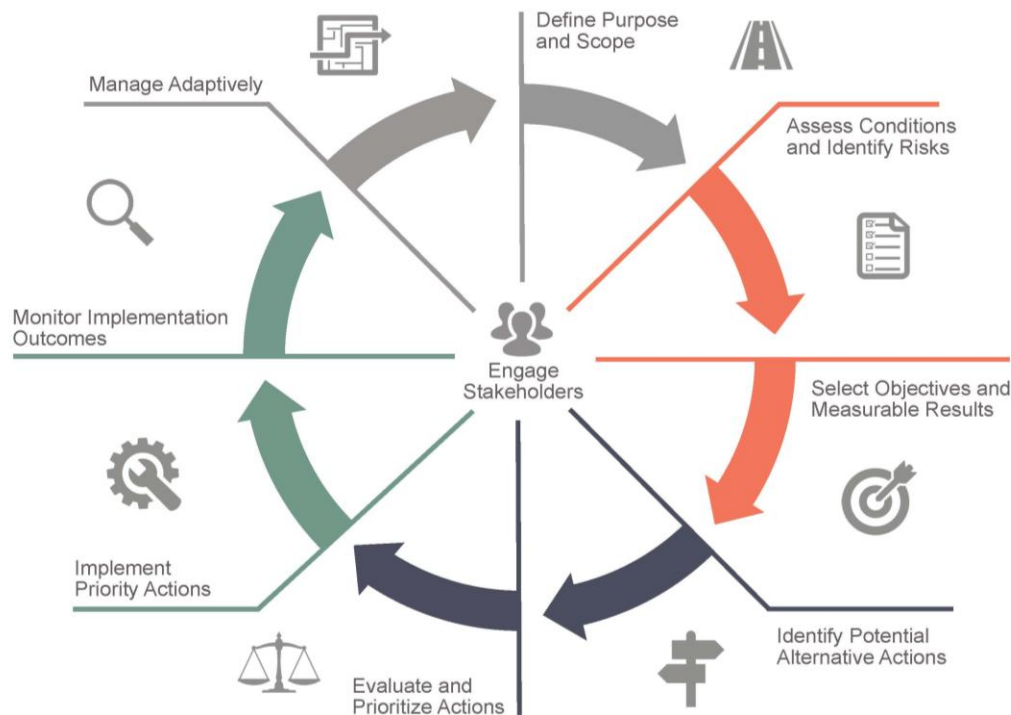
## Watershed Health, Environment & Recreation

Cover 80 percent of the locally prioritized rivers with stream management plans, and 80 percent of critical watersheds with watershed protection plans by 2030.

Sets measurable objectives in 9 categories



# What is a stream management plan?



*Lotic Hydrological for Colorado Mesa University Water Center*

## CWCB 2018 Guidance: A stream management plan should:

- (1) Involve **stakeholders** to identify **environmental & recreational values/objectives** that are locally important;
- (2) Assess existing **biological, hydrological, and geomorphological** conditions at a reach scale;
- (3) Identify **flows, other physical conditions or projects** needed to support environmental and recreational values;
- (4) Prioritize **alternative management actions or projects** to achieve measureable progress toward maintaining or improving flow regimes and other physical conditions.

# Goals and Methods

## Improve/Protect Ecology and Flows

- R2Cross surveys for flow recommendations to support fish habitat
- Aerial photography rapid assessments to characterize land use and important habitat areas
- Hydrology modeling to predict future flow changes due to population growth and/or climate change
- Water rights assessment to understand who uses how much for what purpose
- Return flow analysis to understand how surface and ground water are connected

## Improve Recreation

- CREEL fishing surveys to document recreational experience
- Boater surveys to identify optimal range of flows
- Recreation user economic impact study

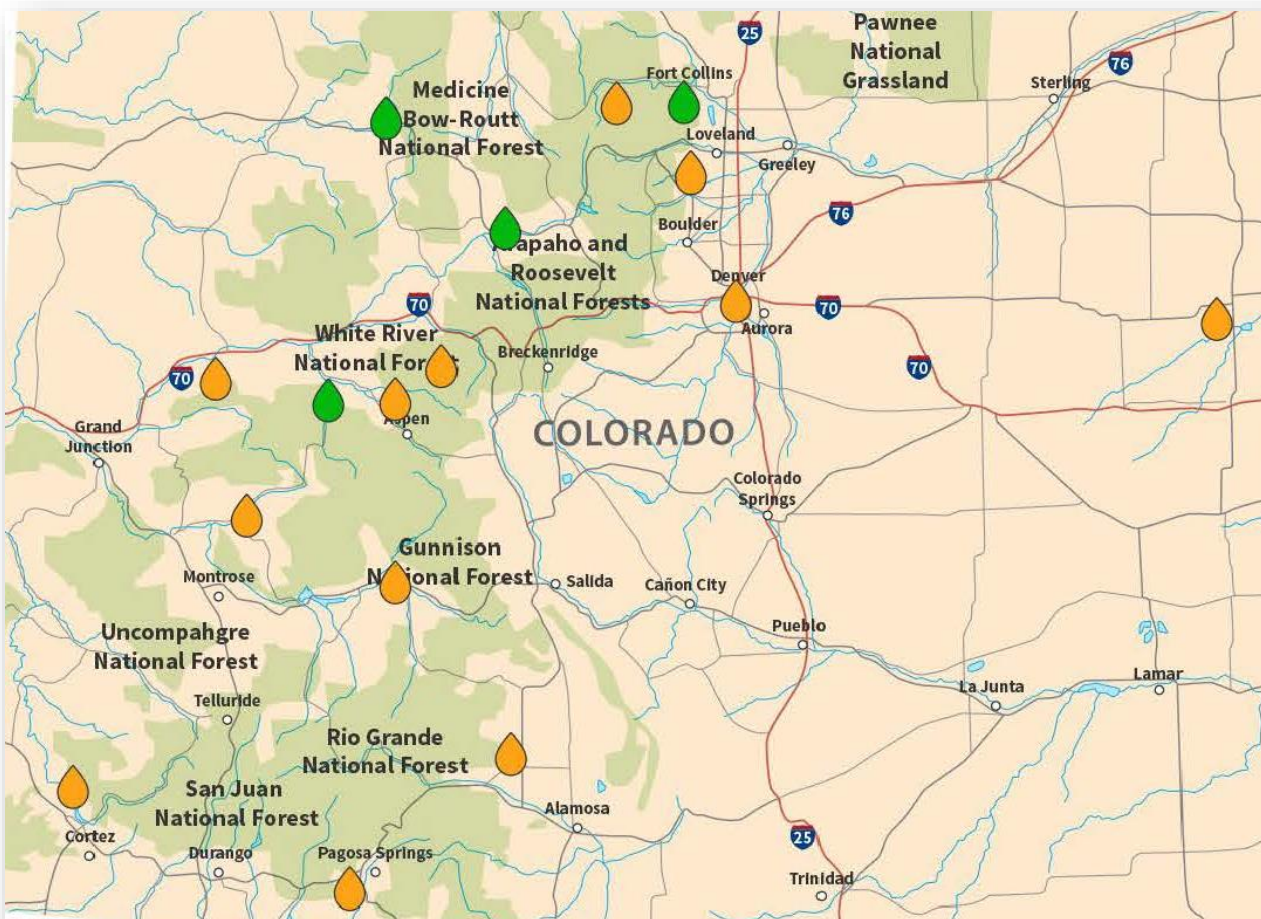
## Regulatory Compliance

- Model water temperature and flow relationships to meet standards
- Set release schedules for environmental pools in reservoirs to support fish habitat
- Set target ecosystem flows in anticipation of future reduced flows due to new diversion project
- Protect habitat for potentially threatened or endangered species

## Infrastructure Upgrades

- Build/modify infrastructure to operate efficiently and minimize waste at a range of flows
- Identify in-river infrastructure that could be improved/modified to enhance ecosystem function or create safer/better recreational experiences

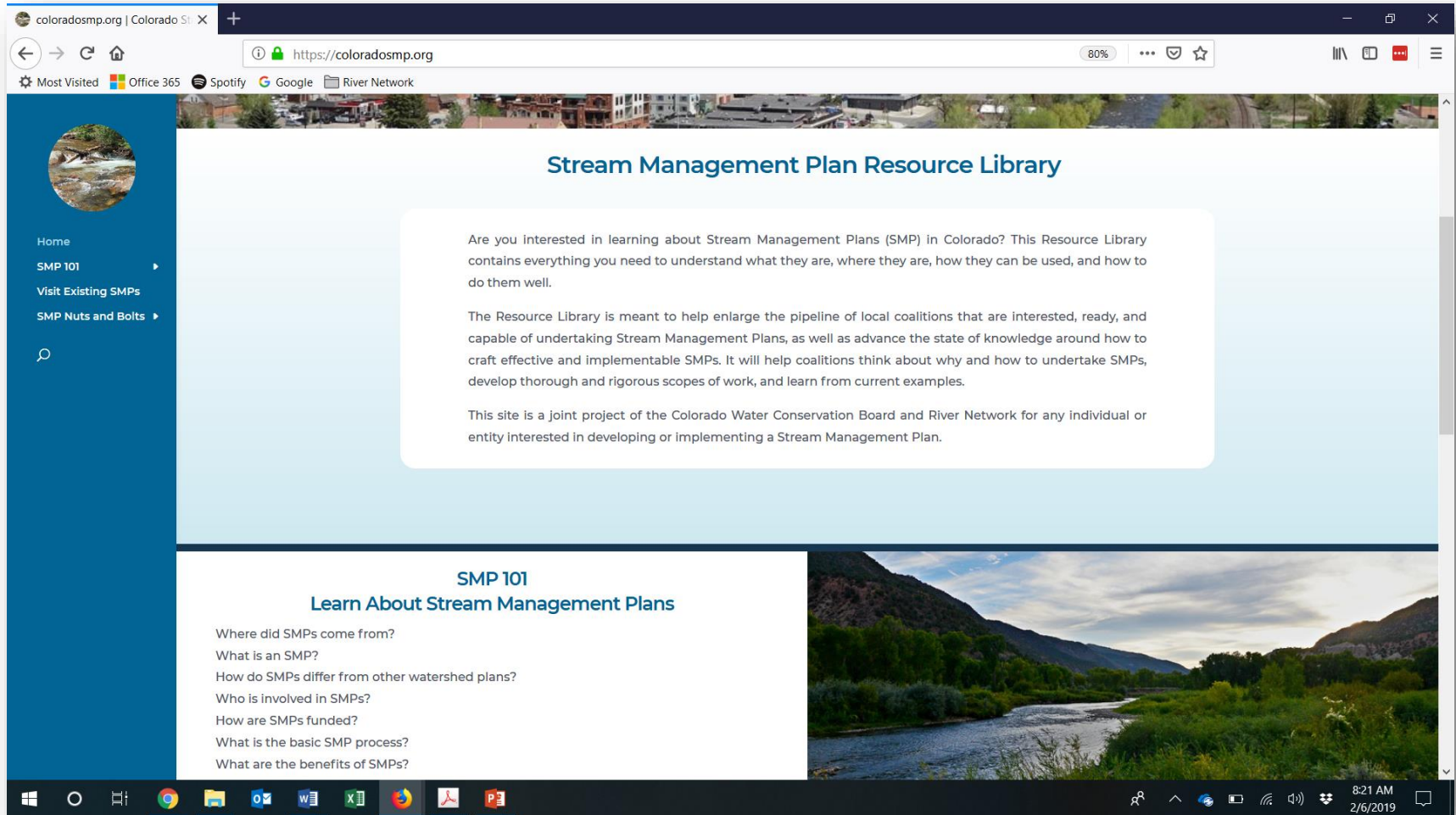
# Where are stream management plans?



- Cache la Poudre (Fort Collins)
- Crystal River
- Eagle River
- Middle Colorado River (Glenwood to DeBeque)
- North Fork of the Gunnison River
- Rio Grande, Conejos River, and Saguache Creek
- Roaring Fork River (Aspen)
- Saint Vrain and Left Hand Creeks
- San Miguel River
- South Fork Republican River
- South Platte River (Chatfield)
- Upper Cache la Poudre River
- Upper Colorado River (Grand County)
- Upper Gunnison River Tributaries
- Upper San Juan River
- Yampa River (Steamboat Springs)



# Documenting Best Practices



Coloradosmp.org Coming Soon!

# Challenge: Involving Stakeholders, Especially Irrigators

## Maslow's Hierarchy of Needs



*“Stream Management Plans can best be described as **part social science, part hard science**. The social science is a big piece of it—getting stakeholders together and asking what is it that you need? What is it that you see? What is it that you envision for this river?”*

Sean Cronin, St. Vrain and Left Hand Water Conservancy District

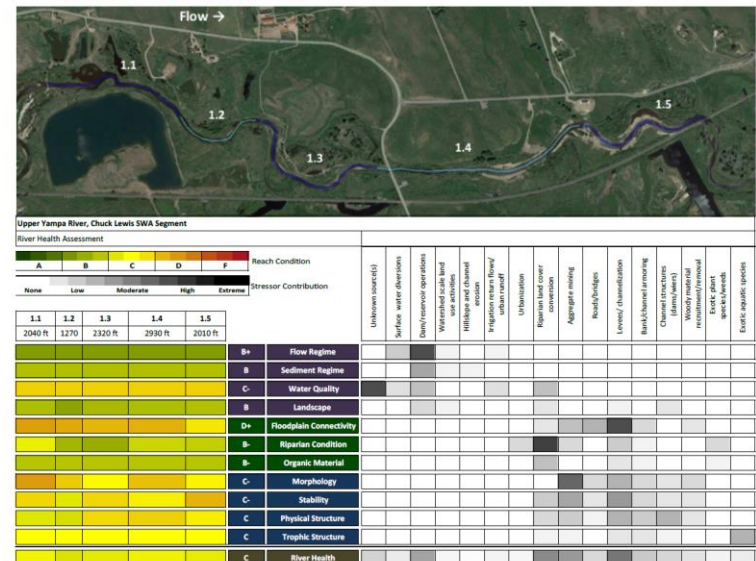
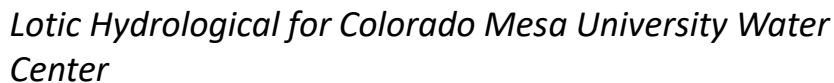
# Challenge: Involving Stakeholders, Especially Irrigators



*"Having agriculture at the table actively participating in an integrated water management planning process is a success in itself"* Frank Kugel, Upper Gunnison

- Select the lead carefully
- Know and meet the needs of water managers and users
- Include demonstration projects to overcome planning fatigue
- Hire an independent facilitator
- Ask water users what projects and actions are off the table to dispel paranoia
- Get the support and active involvement of local agricultural groups, like chapters of Cattlemen's or Conservation Districts
- Plan for one-on-one meetings with landowners







# Success Slowly But Surely

## WATER DESK

### Rancher on Crystal River agrees to change diversions to benefit river

By Sarah Tory, Aspen Journalism January 24, 2018



PHOTO COURTESY OF THE WATER TRUST  
section of the lower Crystal River in late summer 2012. Irrigators and other water users in the valley are working toward ways to leave water in the river during moderate droughts.

CARBONDALE – There is a new way to put water in the river.

After more than a year of back and forth with the Water Trust announced Tuesday a pilot agreement to manage streamflows in the Crystal River during dry years.

The three-year agreement will compensate the Cold Mountain Ranch just west of Carbondale for water in the Crystal River when it needs a break from diversions.

Although the Water Trust has spearheaded water conservation in Colorado, the Cold Mountain Ranch deals with the effects of diversions.

## STEAMBOAT PILOT & TODAY

NEWS OPINION EXPLORE STEAMBOAT SPORTS & OUTDOORS MAGAZINES

### New endowed fund seeks to improve Yampa River health across Northwest Colorado

February 3, 2019



The snow-covered Yampa River winds through western Routt County at The Nature Conservancy's Yampa River Preserve east of Hayden on Sunday afternoon. (Photo by Eleanor C. Hasenbeck)

STEAMBOAT SPRINGS — The Yampa River will soon have its own endowed fund.

A coalition of water managers, ranchers, river rats and conservationists are working to assemble the Yampa River Fund, an endowed fund that would help pay for projects to improve the health of the Yampa River.

## Aspen Journalism

Contact About

its more info from city of Aspen in Castle, Maroon dam cases

## WATER DESK

### Groups call for new stream gauges to measure rivers

By Brent Gardner-Smith February 13, 2012

f RECOMMEND t TWEET e EMAIL p PRINT o MORE



BRENT GARDNER-SMITH

Part of the streamflow management infrastructure at the city's existing hydropower plant on Maroon Creek. Groups in the community are calling for stream gauges to be installed below the city's infrastructure on both Maroon and Castle creeks.

Two groups critical of the city of Aspen's proposed hydropower plant along the banks of Castle Creek are now raising funds to install stream gauges on that stream, as well as Maroon Creek.