

CLIMATEWISE IN MISSOULA COUNTY

STRATEGIES FOR PROTECTING OUR LAND, WATER & COMMUNITY

*Developed by local stakeholders in a June 2011 ClimateWise workshop,
convened by the Clark Fork Coalition and its partners.*

RISK THREE - **DECLINING SNOWPACK AND DE-WATERING OF RIVERS**

HOW COULD DWINDLING SNOWPACK AFFECT WATER QUANTITY?

While variations exist from year to year in our snowpack and stream flows, the overall pattern is becoming clear. Climate change has already caused declines in average snowpack, especially at lower elevations, and these declines are expected to continue.

With precipitation coming more in the form of rain than snow, our runoff is expected to move more quickly, with less water filtering through our soils to groundwater. As the water table becomes lower, we'll see less recharge to our streams, and lower flows in major rivers like the Bitterroot, Blackfoot, and Clark

Fork. In the driest summer months, groundwater nourishes stream flows and the streamside ribbons of life alongside them.

In turn, abundant streamflow helps to recharge valley-bottom aquifers, which are the major source of pure drinking water for most people in Missoula County. The City of Missoula is fortunate to rest above a prolific aquifer that supplies drinking water to more than 65,000 households. Indeed, it's the sole source of the city's drinking water. Keeping the water abundant and free of contaminants is critical.

STRATEGIES & ACTIONS

PROTECT, RESTORE AND CREATE FLOODPLAINS, WETLANDS, RIPARIAN AREAS, AND FISH SPAWNING HABITAT.

- **CONSIDER REINTRODUCTION** of beavers into headwaters streams, working cooperatively with nearby landowners. Beaver dams naturally help store water, provide flood abatement, offer nurseries for fish, and filter pollutants.
- **CREATE** small high-elevation dams or beaver-like structures that do not impede fish passage, and are placed for maximum groundwater recharge, flood protection, and maintaining late season flows.
- **ENGAGE** with community members to improve understanding of how wetlands and riparian areas naturally store water, lessen flooding, filter pollutants, and provide wildlife habitat.
- **PROTECT** floodplains, wetlands and riparian areas so they can naturally store our precious water.

SUPPORT AGRICULTURE TO MEET NEEDS AND CONSERVE AND PROTECT WATER.

- **OFFER EDUCATION AND INCENTIVES** to improve irrigation methods, and to reduce sediment, fertilizer, pesticide, and herbicide runoff into waterways. Similarly, work with agricultural users to buffer riparian areas, conserve native species and habitats, and improve grazing and farming methods to better protect streams and rivers.

REVIEW AND IMPROVE WATER MANAGEMENT TO FOSTER SUSTAINABLE USE.

- **IDENTIFY** the preferred water uses in specific places to assure sustainable instream flows for fish, agriculture, residences, and other needs.
- **COMPLETE** the ongoing legal adjudication to address outdated water rights, so that current water right holders will clearly know how much water they have a right to use.
- **SET UP** a system of water trusts for conservation and water banks for users to voluntarily reallocate water where it's most needed.

EDUCATE RESIDENTS ON THE IMPORTANCE OF STEWARDSHIP AND WATER CONSERVATION IN AN ERA OF CLIMATE CHANGE AND POPULATION GROWTH.

- **REACH OUT** to County residents with messages in places and ways that are most likely to reach the various audiences – at informal gatherings, in mailings from local utilities, or engaging the County's youth and local leaders.
- **COMMUNICATE** with local landowners about ideas for water conservation. Encourage teaming up with partners to develop local stewardship materials and messages.

WORK COLLABORATIVELY AND LEVERAGE EFFORTS THAT LEAD TO A UNIFIED APPROACH FOR STEWARDSHIP OF OUR PRECIOUS WATER SUPPLY.

- **CONNECT** groups locally and regionally to encourage smart growth, water conservation, and sustainable land and water management.

SHOWCASE SUCCESS STORIES TO MOTIVATE GROUPS, LANDOWNERS AND ALL RESIDENTS.

- **HIGHLIGHT** sustainable water supply conservation projects as examples of positive change. Show the cost savings, ecological benefits, best management practices and positive stewardship.

For more information on the 2011 workshop and strategies, please visit: www.clarkfork.org

