

WATER ISSUES

Positions In Brief

The League of Women Voters of Colorado believes in support of measures that promote the wise and balanced use of water in Colorado.

Many Jefferson County League members were surprised by the news of the possible expansion of water storage in Chatfield reservoir and the accompanying flooding of Chatfield State Park. When planning programs for 2012, members requested an update on the plans. The LWVUS Natural Resources position is to “promote an environment beneficial to life through the protection and wise management of natural resources in the public interest and to promote the management of natural resources as interrelated parts of life-supporting ecosystems”. Also, “to support measures to reduce pollution in order to protect surface water, groundwater and drinking water”. The sustainability committee took on the task of investigating the issue and, in the process, found that Chatfield is representative of the issues involved with water rights and water law in Colorado, water allocation in the western U.S. and water issues around the world. Reading this EMM and attending the unit meetings may cause members to examine ideas about the commoditization of water and whether access to water is a human right.

When asked where water comes from, most people in the US just know all they have to do is turn on a faucet, and there it is. Depending on where you are in the world, your water may come from groundwater, such as the Denver Basin, surface water, such as the South Platte River, or desalinated seawater. In the west, we should have more of an awareness of water because of its limited availability. There is evidence that we are getting drier and drier. But many of us pay little attention to the issues of how water is obtained by the water providers until there is a crisis like a drought to get our attention. Colorado gets its water from groundwater and surface water. The surface water is stored for future use in reservoirs around the state. Reservoirs are built for many reasons:

1. Provide drinking water
2. Recreational purposes
3. Urban irrigation
4. Flood control
5. Agricultural and industrial purposes
6. Hydroelectric power
7. Fisheries and wildlife habitat

The Purpose of Chatfield Reservoir

Chatfield dam is located in Jefferson and Douglas Counties on the South Platte River at the confluence of the South Platte River and Plum Creek, approximately 13 miles southwest of Denver. Built in 1975 by the Army Corps of Engineers to control flooding, the reservoir drains an area of 3018 Square miles. A 1965 flood that killed 13 people and caused millions of dollars of damage was the impetus for the dam. The reservoir also provides storage space for conservation of water ultimately used for municipal, industrial, agricultural and recreational purposes and it maintains fisheries and wildlife habitat. It covers 3895 land acres and 1423 water acres and has the ability to store more than 350,000 acre feet of water. (An acre-foot is described as the amount of water required to cover one acre - about the size of a football field - to a depth of one foot.)

The property around Chatfield Reservoir is leased from the Corps and managed by Colorado State Parks. In fiscal year 2011, there were 1,493,675 visits to the surrounding Chatfield State Park for recreational purposes.

The South Platte River’s history has traditionally been linked with farming. The gold miners and settlers described the river as “peculiar” because of its shallowness. The South Platte basin covers approximately 27,660 square miles and its headwaters originate at an elevation of 11,500 feet in Park County.

Source: Army Corps of Engineers

Changes In and Around Chatfield in the Past 40 years

Although the reservoir was built for flood control, Chatfield State Park provides recreational activities such as camping, hiking, fishing, biking, picnicking, swimming, model airplane flying, horseback riding, boating, hot air ballooning, bird watching, wildlife viewing, and environmental education. Most of this was not available when the dam was first built, but has slowly evolved over the life of the reservoir.

Currently, Chatfield Reservoir storage is distributed into four levels or pools (inactive/sediment, multipurpose-conservation, flood control, and surcharge water or the water which is released when the depth of the top level is over 5232 feet). Each pool or level builds upon the previous one at specific elevations (feet above mean sea level). Denver Water is the only provider with rights to store water in Chatfield's multipurpose-conservation pool and uses the water it stores for drinking water after treatment to meet national drinking water standards. Releases from Chatfield Reservoir are coordinated by the State Engineer's Office, based on Colorado water law and the demand for water supply but water level fluctuations during the recreation season (Memorial Day to Labor Day) are kept to a minimum. Once the pool rises above 5,432 feet elevation water is released.

Source: www.chatfieldstudy.org/home/currentreservoiruse.html

The Proposed Change for Chatfield

The Chatfield Reservoir Reallocation Storage Study is a federal/state study by the U.S. Army Corps of Engineers for the Colorado Water Conservation Board (CWCB), which has identified the reservoir as a possible partial solution to the water shortage in the south Metro area. A reallocation would re-designate water storage space in Chatfield Reservoir that currently is reserved for flood control purposes exclusively to storage space for joint flood control, conservation and other water use. Reallocation would convert pool space from one type of storage use to another by designating a higher level for the top of the existing multipurpose-conservation pool. This additional pool would be the "joint flood control-conservation" pool.

Source: www.denverpost.com/search/ci_17001366

Projections are that water by 2030, demand along the Front Range will exceed supply by 22%. Nearly 70% of Colorado's population is concentrated on the eastern side of the state in the South Platte River Basin along the Front Range. The population of the 11 Front Range counties of the South Platte Basin is projected to grow by 2.5 million people between 2008 and 2050, for a total of close to 5.8 million residents by 2050. With increased population, there will be a need for more water.

Expected are "passive" reduction in per capita use as old and inefficient appliances and fixtures are replaced, but demands for the 5.8 million residents and industry along the Front Range will be approximately 1.06 million acre-feet in 2050 — an increase of 365,000 acre-feet annually compared to current water use.

Source: www.huffingtonpost.com/drew-peternell/colorado-front-range-water-gap_b_832880.html

Planning meetings for the project were first held in 1994. A required Reconnaissance study was initiated in 1996. The Colorado Water Conservation Board signed a Feasibility Cost Share Agreement (FCSA) with the Corps in 1999, and the study began shortly thereafter.

Corps regulations require the preparation of a Feasibility Report (FR) to support the request for reallocation of storage space in one of their reservoirs. In addition, the National Environmental Policy Act (NEPA) requires that federal agencies prepare a detailed study, known as an Environmental Impact Statement (EIS), prior to undertaking any major project occurring on federal lands which require federal permits, or any major project receiving federal funds that could potentially impact the environment.

The Corps is currently working to produce a draft of the FR/EIS, which was first anticipated to be released in 2010. After the required public comment period, the study will be revised and then released as a Final FR/EIS. Then the Corps will issue a Record of Decision (ROD) on whether a reallocation is feasible. The Final FR/EIS and ROD originally planned for 2010 are anticipated in 2012. The study is being funded by federal and state budget appropriations and by local water providers. Currently, the total study cost is expected to be on the order of \$5.75 million, and is funded by a 50:50 split between the Corps and the Colorado Water Conservation Board.

Impacts of Reallocation

Fifteen regional providers who have secured rights to surface water in the South Platte River and Plum Creek in order to decrease their dependence on non-renewable underground aquifers are hoping for a storage solution to capture the water when runoff flows in Plum Creek and the South Platte are high. The stored water would then be available for domestic, municipal, agricultural and industrial use. Potentially, a reallocation also could have benefits for recreation and fishery habitat protection and enhancement.

Source: www.huffingtonpost.com/drew-peternell/colorado-front-range-water-gap_b_832880.html

The study will define the mitigation options and modification strategies needed to offset impacts to the environment, recreation and infrastructure in and around Chatfield State Park.

The reallocation of storage space could raise the water level up to twelve feet higher when water is being stored, flooding the swim beach, marina and other park facilities, including structures, roads and trails. Habitat might be eliminated and water fluctuations would affect the recreation areas and wetlands. The fluctuations would increase in both magnitude and frequency. Typically, the reservoir level fluctuates five feet at most, but the new levels would fluctuate up to seventeen feet. Where the water is shallow, it would create mud flats in many areas at low water times. It would also lead to other complications with marinas and beaches and vegetation. The expanded reservoir would inundate 45 acres of cottonwood, willow and russian olive groves that host nuthatches and flickers. Turtles and sixty bird species, including merganser ducks, will have to find new homes. Recreational activities and facilities at Chatfield State Park may be impacted temporarily by the mitigation that will be necessary to repair the damage to the current facilities.

The reallocation of storage space in Chatfield Reservoir would, according to the advocates, take place with no negative impacts on flood protection, although there will be less storage capacity dedicated for flood control. This reportedly will not affect downstream properties or require any physical improvements or modifications to the dam, spillway, outlet works, or other related structures. A reallocation will not affect the originally authorized flood control purpose of the dam and reservoir.

Already a move is underway to restore the South Platte downstream because the original dam created many changes in the original river. Environmental factors, such as water quality, fish and wildlife habitat and wetlands, may be affected, requiring mitigation (both on-site and off-site as necessary).

The non-federal interests would pay for the implementation of all aspects of the reallocation effort. The areas that will potentially need mitigation include

1. Recreational facilities and activities
2. Wildlife and fisheries
3. Vegetation
4. Aquatic, wetland and land habitat
5. Rare, threatened and endangered species
6. Water supply resources
7. Water and air quality
8. Flood control

The CWCB has \$2 million approved by the Board and the General Assembly in Senate Bill 07-122. If the reallocation is approved, the 15 water providers will enter into a contractual agreement (or agreements) with the CWCB regarding payment of the project implementation costs. Environmental mitigation activities may be required outside of the current park boundaries, as needed on a case-by-case basis, to meet the specifications of Record of Decision (ROD). Since the mitigation would cost much more than \$2 million, it seems likely that consumers will pay the bulk of the costs in increased water bills.

The Alternatives to Consider at Chatfield

These include:

1. No action, leaving the water districts to find New Storage Construction elsewhere
2. Use groundwater and gravel pit storage
3. Reallocate for 20,699 acre feet of storage. This would raise top elevation of the existing conservation pool by 12 feet to 5,444 feet above mean sea level to the maximum storage level without negatively affecting the flood control function
4. Reallocate for 7700 acre feet of storage. This would raise top elevation by 5 feet.

Source: Army Corps of Engineers

With regard to water need vs. availability, the aquifer on which we have heavily relied in the past is rapidly being depleted. The withdrawal of water from the ground all over the mid-west and in the Denver Basin has greatly surpassed the rate of natural recharge.

Sources: cjonline.com/ (August 6, 2006)
www.dwr.state.co.us/SurfaceWater/data/division.aspx?div=1
water.state.co.us/groundwater/groundwater.asp

The Western Slope is extremely averse to supplying any more water to the water hungry Eastern Slope. More than 400,000 Acre-feet of water, most from the Colorado River, flows to the Front Range each year.
Source: *Headwaters, Colorado Foundation for Water Education, Winter 2009*

The discussion of options for meeting the gap between water needs and water available to the Front Range continues to focus on trans-mountain pipelines which are costly and damage rivers, streams and wildlife. The practice of bringing water from the Western Slope has left the upper Colorado River and its tributaries with low stream flows, high water temperatures and fewer fish.

Conservation is the cheapest and fastest way to decrease water use. Denver and other cities have promoted conservation, but much more can be done. Half of Denver's water is still used for outdoor landscaping. Incentives for homeowners to reduce turf and water use could significantly reduce water use. Reusing municipal water is another way to make existing supplies go further.

Other projects currently in the works include the Windy Gap Firming Project where water will be moved over the Continental Divide through pipelines in Northern Colorado's Big Thompson project, Beebe Draw Aquifer Recharge, East Cherry Creek Valley's Northern Project, a 30 mile pipeline, as well as expansion or enlargement of the Halligan Reservoir and Seaman Reservoir and Gross Reservoir.

Sources: www.huffingtonpost.com/drew-peternell/colorado-front-range-water-gap_b_832880.html
nowatertowaste.com/film.html

Governor Hickenlooper was quoted in the *Denver Post* on April 29th, 2011, "*Certainly expansion of existing reservoirs has a couple things going in its favor: Less expensive. Less controversial.*"

Also, construction of new reservoirs and the use of gravel pits may be considered. Because the water supply needs of most of the water providers would not be fully satisfied by the Chatfield reallocation project, the search for additional water supplies and water storage will continue with or without the reallocation project. The additional water would provide for about 41,000 households.

Sources: www.chatfieldstudy.org/faq.html
www.chatfieldstudy.org/home/reallocatedreservoiruse.html
www.huffingtonpost.com/drew-peternell/colorado-front-range-watergap_b_832880.html

Water as a Social Justice Issue

Is water a human right? Worldwide, one out of eight people lacks access to clean water. Over three-million people die from contaminated water sources each year. There is a shortage of fresh water. We live on a planet covered with water, but more than 97% of it is salty and almost 2% is in the form of snow and ice. Each American uses 100 gallons of water per person at home each day while millions of the world's poorest subsist on fewer than 5 gallons. Forty six percent of people on earth do not have water piped into their homes. In some African countries women spend the entire day walking to water sources, obtaining water, and carrying it to their homes.

Except for a few pilot programs allowing some homeowners without access to a municipal tap to harvest rainwater, it is illegal to store rainwater in Colorado. Should it be a crime to collect and use rain water at your home?

Source: *National Geographic April 2010*

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