

2021 ANNUAL REPORT



Northern Water
Northern Colorado Water Conservancy District

MANAGER'S MESSAGE

Welcome to this review of Northern Water's key 2021 activities. Like other water agencies that manage natural resource systems in Colorado and the Western United States, 2021 included both ups and downs for Northern Water as well.

Early in my career, an end-of-season snowpack "curve" often was used to score each new year's water supply conditions and anticipated runoff. Years with above historical average snowpack nearly always defined a good water supply year, while subpar snow water equivalent field values suggested a less-than-stellar water supply year.

Recently, catastrophic wildfires and sustained drought have dominated both the Colorado River Basin and our thinking. While we should continue comparing real-time snowpack and water measurements to long-term historical averages, this practice may provide less insight moving forward. Simply put, the linkages between snow, runoff and water supplies are likely to be more complex and nonlinear in future years.

To combat increased variabilities as related to operational strategies, Northern Water is incorporating additional management considerations such as risk, uncertainty and resiliency to better manage water resources over the long term. I'm confident that this added attention to variability will benefit Northern Water and its water users as we continue maintaining and improving aging water projects and developing future water supply projects that are so critical for Colorado.

On behalf of Northern Water's Board of Directors and each of its staff members that strive to provide critical services to this region, thank you for taking time to review our 2021 Annual Report. And if you believe there are variability factors Northern Water may not have considered, please let us know.

Regards,

Bradley D. Wind, General Manager

Board of Directors



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Larimer County



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Larimer County



Jennifer Gimbel
Larimer County



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Northern Integrated Supply Project

An endeavor as complex as the Northern Integrated Supply Project (NISP) requires a large number of federal, state and local permits, and NISP managers and legal counsel made significant permitting progress in 2021.

In September, the Larimer County Planning Commission approved an application to move U.S. Highway 287 from its current location to a new route around the proposed Glade Reservoir site. Earlier in the year, Northern Water staff and legal counsel, on behalf of NISP participants, completed the Fort Collins Site Plan Advisory Review process to construct water conveyance pipelines and a Poudre River diversion

structure within city limits.

In addition to permit successes, Northern Water and NISP participants hired Kiewit as the Glade Reservoir Project's construction manager and general contractor. Other progress included critical property acquisitions, project coordination and progress on project design.

For 2022, Northern Water and NISP participants look forward to ongoing discussions with regional water users and conservation interests to assure successful project implementation.

To learn more, visit www.NISPwater.org.

East Troublesome Fire Recovery

One of Northern Water's greatest challenges recently resulted from the tragic fall 2020 East Troublesome Fire. Following internal discussion among staff and Directors, the Board agreed that Northern Water should provide requested leadership for portions of the post-fire watershed restoration effort.

The East Troublesome Fire, first reported on Oct. 14, 2020, burned 193,812 acres before full containment occurred about six weeks later. A significant portion of the burn area is located above the Colorado-Big Thompson (C-BT) Project's West Slope Collection System in the Upper Colorado River Basin.

Northern Water collaborated with Grand County, the Three Lakes Watershed Association, the Middle Park Conservation District, nearly 350 landowners, contractors and others to implement the Natural Resources Conservation Service Emergency Watershed Protection Program for areas impacted by the East Troublesome Fire.

Following completion of multiple burn area assessments conducted during the winter months, post-fire watershed mitigation and restoration efforts began in the spring of 2021 and included:

- Aerial treatment of 5,000 acres to help prevent hillslope erosion and restore vegetation in key portions of the burned watersheds. Treatments included:
 - » Seeding and mulching of about 2,500 acres of private land
 - » Mulching of about 2,500 acres of U.S. Forest Service land
- Installation of three debris booms in C-BT reservoirs to prevent debris from impacting or damaging key features of C-BT Project infrastructure
- Clearing of 25 acres of land of existing woody debris and removing nearly 5,000 cubic yards of new debris from the streambed after two precipitation events in the Willow Creek watershed.
- Hillslope gully and erosion projects at seven sites

By early 2021 approximately \$35 million in post-fire watershed restoration projects had been identified, and over \$20 million of those projects were complete by the end of the year, mostly on private property. Additional projects and recovery efforts are being considered to mitigate post-fire impacts on roughly 23,000 acres of high risk watersheds owned and managed by the U.S. Forest Service.

Extensive collaboration with local partners and targeted use of federal and state programs allowed an efficient use of funding and resources for recovery efforts. It also minimized out-of-pocket costs for Northern Water and its water users, all the while successfully implementing extensive watershed restoration activities.

Learn more about recovery efforts at www.GCWatershedRecovery.com.

2021 WATER YEAR IN REVIEW

When the 2021 water year began in November 2020, water storage in Colorado-Big Thompson (C-BT) Project reservoirs was 116 percent of average. This followed a 2020 water year with above average snowfall but well below average spring precipitation and soil moisture levels.

Statewide 2020-21 winter precipitation was poor, but by March it had increased for much of the South Platte River Basin. On April 1, 2021, statewide snowpack was 93 percent of average, Upper Colorado River Basin snowpack was 88 percent of average, and snowpack in the South Platte River's northern tributaries was 104 percent of average.

Despite the near-average snowpack readings in the Upper Colorado and the South Platte River's major northern tributaries, streamflow forecasts for these basins were forecasted to be lackluster (66 to 96 percent of average) due to dry soil conditions and other factors.

At the April 2021 Northern Water Board meeting, Directors issued a 70 percent C-BT Project quota allocation, nearly equivalent to the long-term average quota and consistent with Northeastern Colorado's near-average hydrologic conditions. Above average precipitation in Northeastern Colorado continued through the spring, though other parts of the state were not as fortunate.

Ultimately, streamflows east of the Continental Divide tallied above forecasted amounts due to the spring precipitation, while West Slope streamflows were near or below forecasts. April through July streamflows on the West Slope ranged from 59 to 75 percent of long-term averages, however, East Slope streamflows ended the runoff season at 80 to 125 percent of average. During summer months the precipitation pattern shifted, leaving Eastern Colorado and the northern mountains dry while providing the state's central and southern mountain ranges with significant monsoon moisture. Fall precipitation was generally below average statewide.

Water year 2021 total precipitation was below normal for most of Colorado except at high altitudes along the Continental Divide. According to the U.S. Drought Monitor, by October 2021 (end of the 2021 water year) 96 percent of Colorado was in abnormally dry conditions, 77 percent was experiencing moderate drought (D1) or worse, 30 percent was in severe drought (D2) or worse, and 7 percent was in extreme drought (D3).

Despite below-average inflows to C-BT Project reservoirs in water year 2021, the project's storage levels were 108 percent of average at the conclusion of the water year.

Northern Water donated 1,600 tons of rock and collaborated with Trout Unlimited, the Town of Granby, Grand County and others to improve the Fraser River near Granby's water supply diversion structure.

Northern Water continued to lead the Kawuneeche Valley Ecosystem Restoration Collaborative's multi-agency (Rocky Mountain National Park, U.S. Forest Service, Grand County, Colorado River Water Conservation District and The Nature Conservancy), multi-year initiative to implement ecosystem restoration projects in the Colorado River headwaters. A team of Colorado State University scientists is providing technical support and consulting services to the Collaborative.

The C-BT Project made its required deliveries of 5,412.5 acre-feet from Lake Granby as part of the Colorado River Recovery Program for endangered fish near Grand Junction. This water release also helped alleviate high stream temperatures in the Colorado River in Grand County.

For a second year in a row, Northern Water was recognized by the U.S. Environmental Protection Agency as a WaterSense Partner of the Year.

Construction Begins on the Chimney Hollow Reservoir Project

Chimney Hollow Reservoir Project construction began on Aug. 16, 2021, when Northern Water's Municipal Subdistrict issued Barnard Construction, Inc. a Notice to Proceed. In April 2021, the Municipal Subdistrict Board of Directors agreed to settle the appeal of a federal lawsuit that was delaying project construction. The settlement includes \$15 million from project participants to the Grand Foundation to enhance the Colorado River and its Grand County tributaries.

A project groundbreaking event took place on Aug. 6 for project partners and participants. Heather Banks, Windy Gap Participants Committee Chair, said, "This day is the realization of over 20 years of hard work, planning and partnerships along the Front Range, as well as on the West Slope."

With a capacity of 90,000 acre-feet, Chimney Hollow Reservoir will provide a reliable water supply to the project's 12 participants, including Broomfield, Platte River Power Authority, Longmont, Loveland, Greeley, Erie, Little Thompson Water District, Superior, Louisville, Fort Lupton, Lafayette and Central Weld

County Water District. In addition, the reservoir will provide water-based recreation in southern Larimer County.

The Colorado River above and below Windy Gap Reservoir also will benefit from the Chimney Hollow Reservoir Project with pending construction of the Colorado River Connectivity Channel. Completion of Windy Gap Reservoir in the 1980s interrupted Colorado River flows above and below the reservoir. The new channel will reconnect the river around the reservoir, allowing geomorphic and ecological river processes to resume while maintaining dam safety. Construction is scheduled between the end of spring runoff and the start of the winter season in both 2022 and 2023. Even more improvements to the Colorado River are expected as \$15 million in settlement funds are invested in Grand County.

To learn more, visit www.ChimneyHollow.org.



The Windy Gap Project Participants agreed to reduce diversions in the Colorado River to help address high temperature concerns. In total, the Windy Gap Project bypassed 6,200 acre-feet of water to improve fishery conditions in downstream river reaches.

The Colorado Water Conservation Board named Northern Water as a grant recipient for the Colorado Airborne Snow Observatory (ASO) Expansion Plan to investigate ASO flight benefits for all Colorado water stakeholders involved.

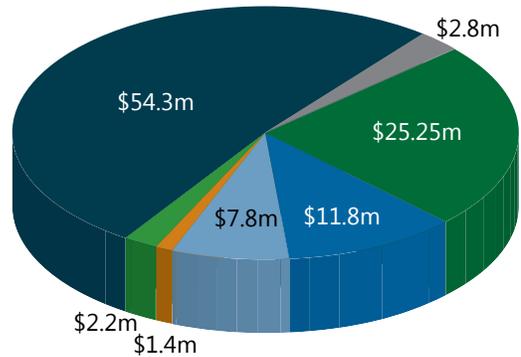
Northern Water and the Colorado State Forest Service signed a \$500,000 multi-year agreement to fund proactive forest health initiatives and continue their ongoing partnership. These proactive measures will specifically target areas surrounding the collection and distribution systems of the Colorado-Big Thompson (C-BT) Project.

Fiscal Year 2021: By the Numbers

Revenues

Northern Water receives revenue from a variety of sources. The largest component is bond proceeds followed by a 1-mill ad valorem tax levied on property within Northern Water's boundaries. Each year, allottees of the Colorado-Big Thompson Project pay assessments for water management and water deliveries, and these charges comprise more than one-fourth of Northern Water's revenue. Revenues in excess of expenses assist Northern Water in building additional reserves for future operating and capital requirements.

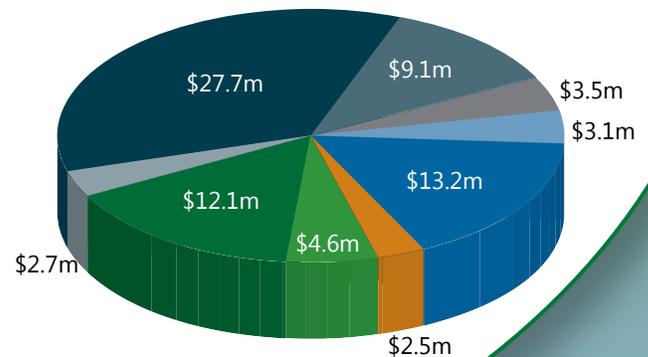
FY 2021 Budget	
Property and Specific Ownership Tax	\$25,249,000
Water Assessments	11,839,319
Charges for Services	7,776,371
Energy Sales from Hydropower	1,368,000
Earnings on Investments	2,180,100
Capital Contributions / Bond Proceeds	54,265,600
Other Revenue Sources	2,831,662
Total Sources	\$105,510,052



Expenses

Northern Water spends money each year across various categories.

FY 2021 Budget	
Operations	\$13,155,082
Engineering	2,468,183
Environmental Services	4,635,969
Administrative Services	12,136,193
Capital Assets	2,707,500
Capital Projects - Headquarters	27,682,800
Capital Projects - Other	9,117,845
Depreciation	3,516,835
Nonoperating Expenses	3,117,781
Total Uses	\$78,538,188



Campus Development Project

Northern Water kicked off several components of its campus development project in 2021 with the groundbreaking for both a new West Slope campus and phase I expansion on the Berthoud campus. With aging West Slope facilities and growth to both our operations and the region's population, the additional facilities will meet our collection and delivery efforts, as well as added needs for projects currently under construction or in final permitting.

At the Berthoud headquarters, phase I construction kicked off on May 13, 2021, and includes new buildings to house operations staff, fleet storage, a parking lot expansion and other site improvements. On the West Slope, construction began in May on the new Willow Creek campus, which is located just south of the Willow Creek Pump Plant. The building will include approximately 41,000 square feet of office and fleet maintenance space, a control room and a new meeting space that will be available to regional partners. The new Willow Creek campus will house Northern Water's West Slope employees and will replace existing office, control center and shop facilities at the Farr and Windy Gap pump plants.

Learn more about our campus development at www.northernwater.org/campusdevelopment.