

Powell-Clarks Fork Conservation District

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Long Range Plan 2025 - 2029

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ACKNOWLEDGMENTS

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Natural Resources Conservation Service
Park County Commissioners
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Rural Economic and Community Development
Wyoming Game and Fish Commission
Park County Weed and Pest
Park County Master Gardeners
Trout Unlimited
Wyoming DEQ
Merlyn Ballinger
Cody Conservation District
Meeteetse Conservation District
The Nature Conservancy
Trout Unlimited
Shoshone River Partners
Shoshone Irrigation District
Willwood Irrigation District
Heart Mountain Irrigation District

The Powell-Clarks Fork Conservation District Board would like to thank the past supervisors who have served on the District Board. Members who have served on the Powell-Clarks Fork Conservation District Board since its organization in 1954:

R.D. Sult – 1954	Orin Otto – 1975-78
Dick Smith – 1954; 1959-78	Robert Bovee – 1975-78
Don O. Fraker – 1954-71	Floyd Derry – 1977-2021
Lyle Gillette – 1954	Ral Hall – 1979-82
Tesla Green – 1954-84	Max Baker – 1979-2002
Clarence O. Reed – 1954-59	Keith Jones – 1979-90
Leo Althoff – 1955-57	Ken Borchert – 1983-2014
Forrest Martin, Sr. – 1955-58	Mike Forman – 1985-1988
F.W. Nortway – 1958-60	Steve Christiansen – 1989-2000
Frank E. Moore – 1960-62	Lynn Borchert – 1991-97
Elgin Gillette – 1961-69	Denny Hall – 1998-2001, 2007-2011
George Butters – 1963-1965	Shannon Baker – 2001-03

Robert F. Rockhold – 1966-71	Duane Dearcorn – 2001-2007
R. Joseph Cyphers – 1970-72; 1974	Regan Smith – 2003-present
Kenneth Good – 1972-73; 1975-76	Shane Smith – 2003-2020
John B Tolman – 1972-74	Anthony Spiering – 2015-2024
Duwane Sand – 1973	Frank Palazzolo – 2012-2018
Abby Shuler – 2021 – present	Neil Christofferson – 2021-present
Sandra Frost – 2018-2020	Adam Stromberger - 2024-present
Colby Schaefer 2023-present	Jim Vanek – 2021-2022

FOREWARD

The Powell-Clarks Fork Conservation District was issued a Certificate of Organization on May 12, 1954 by the State of Wyoming.

A conservation district is a legal subdivision of the State of Wyoming, responsible for the conservation of soil, water, and the other natural resources within its boundaries. It is formed under the Wyoming Conservation District Law.

The Powell-Clarks Fork Conservation District is governed by five locally elected supervisors – three elected from the rural community, one elected as an urban resident, and one elected at-large. The Powell-Clarks Fork Conservation District Board of Supervisors went on the general election Ballot in 1974. These supervisors meet in open meetings 12-18 times a year to conduct the district’s business. Each one serves their community and district voluntarily and without pay.

These individuals are responsible for determining workload priorities as well as preparing annual plans of work, annual reports, budgets and long-range programs. The objectives and goals contained in these plans are the basis for work carried out by the Supervisors and District staff.

Initially, conservation districts dealt almost exclusively with rural land users. Today, however, the districts are called upon to provide information and assistance to a wide variety of natural resource users. Examples of this include mine reclamation plans, subdivision reviews, and soil survey information to various private, county and state agencies. The district participates in the Park County Land Use Plan, National Forest Management Plan and Bureau of Land Management Plan revisions and is very active in local water quality issues and watershed planning.

Technical assistance is provided to the District by the USDA Natural Resources Conservation Service and other agencies. Financial assistance is provided by the State of Wyoming through appropriations for the state’s conservation district’s water quality work and other grant funding sources identified and obtained by the district.

BACKGROUND INFORMATION

The Powell-Clarks Fork Conservation District covers 536,625 acres in the north-central portion of Park County, Wyoming. Approximately 273,000 acres are privately owned. Approximately 72,000 acres of this is irrigated farmland, with the remaining acreage being used for native rangeland. About 263,000 acres is State, BLM, or Bureau of Reclamation withdrawal land with the largest percentage of this acreage (215,000) being BLM land. The agricultural center within the district is Powell with a population of 6000.

Elevations vary between 4,000 and 5,000 feet. Most of the District is in the 5–9-inch precipitation zone. The growing season is 120+ days. Temperatures can range from over 100 degrees F in the summer to a (-) 40 degrees F in the winter.

Water for the irrigated lands comes from the Shoshone River and the Clarksfork River. Lands irrigated from the Shoshone River were mostly developed by the Bureau of Reclamation in 1910. The Clarks Fork River irrigation systems are all private developments. Some of these irrigation systems experience shortages in the early spring before snowpack starts to melt and in the late fall since there is no snow storage on the Clarksfork drainage.

GEOLOGY

The geologic features of the district today are the result of natural geologic processes occurring over an inconceivable length of time. The bedrock underlying the district today was formed from sediments deposited in an ancient saline sea that covered the district. These deposits were compressed into sandstone and shale. Later these relatively flat lying deposits were folded when the mountains and valley filling occurred. As the bedrock eroded, alluvial fans were built along the valleys and the present landscape began to appear.

The exposed bedrock of the district is divided into two major formations, both of which were formed on the tertiary age of geologic time. The Fort Union formation is the oldest, being about 65 million years old, and is exposed mainly in the northeast half of the district. This formation is composed of gray-brown shale and sandstone. The Willwood formation is about 55 million years old and is exposed mainly in the southwest portion of the district and is made up of reddish-gray shale and sandstone.

The remaining surface features of the district were created by the two major rivers within the district- the Clarks Fork of the Yellowstone River and the Shoshone River. These features consist of alluvial terraces and broad alluvial fans. The well-defined alluvial terraces occur at several different levels. They range from just a few feet above existing river levels to several hundred feet above, as in the case of Polecat Bench. Much of the irrigated cropland in the district occurs on the alluvial terraces and fans.

Natural resources of the district relate directly to past and present geologic processes and features of the area. Large quantities of oil and gas are found in the district with the principal production being from the Elk Basin oilfield in the north part of the district.

SOILS

The soils of the Powell-Clarks Fork Conservation District can be placed into two major groups: these are alluvial soils and residual soils.

The alluvial soils occur on nearly level to sloping alluvial fans and terraces. The principle uses for these soils are irrigated cropland and for housing and urban development. The alluvial soils are mainly very deep loams, sandy clay loams, sandy loams, and loams. The majority of these soils are well drained. However, a few soils have drainage and/or high-water table problems and associated high salinity and alkalinity problems. Water erosion is a problem on soils left without a vegetative cover, especially on the sandier soils. Representative series are the Youngston, Lostwells, Stutzman, Bessler, Garland and Youngston moderately wet soils.

The residual soils are on gently sloping to very steep bedrock-controlled uplands. Principle uses of these soils are rangeland and wildlife habitat. The residual soils are mainly shallow and moderately deep, well drained clay loams, sandy loams, and loams. The steep topography contributes to rapid runoff and severe erosion problems, especially if range condition deteriorates and vegetative cover becomes sparse.

Some areas of strongly alkaline soils occur, particularly in association with shale bedrock. Representative series are the Persayo, Greybull, Oceanet, and Worland soils. These soils often occur in association with inter-bedded shale and sandstone.

CROPLAND

There are approximately 72,000 acres of irrigated farmland in the district. Crops grown within the district are highly diversified. Row crops such as sugar beets, beans, and corn, in conjunction with furrow or sprinkler irrigated malting barley, are the most common cash crops produced. Alfalfa, both for hay and seed, is also an important crop along with wheat. Several producers in the district also grow many varieties of grass and legume seed.

Problems associated with irrigated farmland in the district are varied. There is acreage that is presently in row crop production that might be better in hay or permanent pasture. This is because the soil involved is not capable of producing sustained yields in this form of cropping system owing to problems such as steep slope, shallow depth to bedrock, excessive gravel, and wetness and salinity.

Irrigation water management is another conservation problem in the district. Part of this problem has been corrected in recent years the installation of engineering practices such as land leveling, concrete ditches, buried pipelines, gated pipe, and subsurface drains.

Soil salinity and alkalinity, another conservation problem facing farmers in the district, has also been somewhat alleviated with the installation of subsurface drains, in conjunction with using the proper length of irrigation runs and application of water. The district has, and will continue, to work closely with cooperators concerning these and other conservation problems they may have. This problem is also being addressed by the irrigation districts with their ongoing rehabilitation programs.

In the past few years, water quality has become a high priority item. The district believes that a voluntary approach, supported and implemented by local people, is imperative if any water quality program is going to be sustainable. The district is coordinating this effort by working with local cooperators and stakeholders on watershed monitoring and plans as needed.

RANGELAND

Rangeland is commonly thought of as land which is best suited for the production of native forage for the grazing of domestic livestock and big game animals.

Although much of the rangeland in this District is controlled by Federal agencies, rangeland practices are still important part of the overall program.

The present range condition is the result of past use and management. The future condition of each range is up to the operator. For this reason, the district is interested in working with cooperators to better their understanding of range management and methods of improving range condition.

RECREATION AND WILDLIFE

There has been an increased demand for all forms of recreation in the past years, and all indications point towards a continued increase. Hunting and fishing are a big part of this increasing demand. The diversity of crops, natural vegetation, and land formations in the district offer a suitable habitat for upland game birds, waterfowl, and small and big game animals. In the past few years, the pheasant population has been increasing. Chukkar and Hungarian partridge inhabit the rocky breaks along the Clarks Fork and Shoshone Rivers. Deer, antelope, and sage grouse are plentiful throughout the district. Good waterfowl hunting and fishing is also available throughout the district's two major drainages. Continued improvement of recreation facilities and wildlife habitat is an ongoing goal of the Powell-Clarks Fork Conservation District. Full consideration is always given to wildlife in all conservation planning and in the installation of conservation practices.

RURAL SUBDIVISIONS

There has been an increased demand for small acreage home site development. These home sites range from ½ acre to 40 acres. In many instances livestock grazing is occurring on the property. Limited knowledge, experience, and equipment are just some

of the challenges the small acreage property owner faces. The challenge to the district is to educate and provide assistance to the small acreage property owners. The issues range from irrigation practices, rights, responsibilities through weed control and forage management to landscape methods.

IMPAIRED WATER BODIES

The major river in the district is the Shoshone River. In 2004, this river was added to the Wyoming DEQ 303 (d) List, Table C: 303(d) – water bodies that are threatened but lack credible data sufficient to warrant classification as impaired.

One of the major tributaries to the Shoshone is Bitter Creek. Bitter Creek begins at springs located on the East face of Polecat Bench and runs easterly for a distance of 19 miles across the Powell Flats before entering the Shoshone River. There are no significant tributaries flowing into Bitter Creek. The major water supply for Bitter Creek is return irrigation flows from the Garland Canal through an extensive network of surface and subsurface drains. Bitter Creek was listed on Wyoming’s 2000 303(d) impaired water body list as impaired by fecal coliform bacteria.

WATERSHED PLANNING

A watershed plan for the Shoshone River stem beginning at the outlet of Buffalo Bill Reservoir through the east boundary of the Powell Clarks Fork Conservation District was developed in 2008 and was modified to include the Bitter Creek watershed plan in 2011. The initial watershed plan for Bitter Creek was completed in 2004 and updated and included in the Shoshone River Watershed Plan in 2011. A watershed plan is in place from the Big Horn County boundary to Yellowtail Reservoir. This plan development was led by Shoshone Conservation District.

Wyoming DEQ completed a TMDL study for E. coli on the Shoshone River watershed from the Buffalo Bill Reservoir to Yellowtail Reservoir. The TMDL study began in 2012 and was completed in 2013.

In 2016, there was a major sediment spill below Willwood dam following scheduled and approved maintenance. There was fish loss in the Shoshone due to the spill. The Wyoming DEQ initiated 3 work groups to address the spill. WG1 was tasked with the immediate clean up activities. WG2 was tasked with the dam operations and regulatory issues. WG3 focused on understanding sediment contributions and voluntary practices that would reduce sediment introduction into the Shoshone River. WG3 worked for three years meeting approximately monthly. The watershed reports completed by this team are in Esri Arcgis storymap format and can be found online as: Working together to Protect the Shoshone River (<https://arcg.is/0PmPvS>) and Sediment Watershed Plan for the Shoshone River from Buffalo Bill Reservoir to Willwood Dam (<https://arcg.is/1ymq19>). Powell Clarks Fork Conservation District applied and received a BOR WaterSMART grant to address some of the financial requirements of the watershed plan. This grant was closed in 2024.

OBJECTIVES

The Powell-Clarks Fork Conservation District has identified the following objectives.

- I. Continue efforts to implement practices outlined in the joint Shoshone River/Bitter Creek watershed plans as funds are available.
- II. Continue efforts to implement practices as outlined in the Shoshone River TMDL pending funding
- III. Continue efforts to support projects as outlined in the Clarks Fork/Upper Shoshone Watershed Level 1 Study
- IV. Continue education efforts to the local community
- V. Continue to foster the partnerships with local groups interested in the natural resource base in Park County to increase awareness of natural resource issues
- VI. Continue district staff and board training efforts
- VII. Continue to promote sustainable land management practices within the Powell Clarks Fork communities
- VIII. Seek funding opportunities to meet the needs of the Powell Clarks Fork Conservation District

Objective I: Continue efforts to complete the joint Shoshone River/Bitter Creek watershed plans

Planned Activities:

Water shed plan management

- Continue to work with the WG3 team, renamed Shoshone River Partners, holding annual meetings to conduct business and review plan performance.

Natural background Chemical, Physical, and Biological Water Quality

- Maintain an up-to-date Sampling and Analysis Plan (SAP) for Bitter Creek and the Shoshone River.
- Conduct or participate in a thorough evaluation of the water quality data, as well as other associated relevant data, that has been collected over time within the watershed.
- Maintain secure system of records for water quality data and practice activities in the Shoshone River watershed.
- Work with local irrigation districts to obtain baseline data of water quality near newly built subdivisions to understand any possible affects from agriculture to subdivided property

Incorporation of Water Quality Management in Planning and Zoning

- Continue to support NRCS efforts to finish the detailed soil survey of Park County
- Continue to participate and provide input for review of developments and subdivision that occur within the watershed

Soil Erosion

- Work with University of Wyoming Cooperative Extension Service, NRCS, and other interested parties to develop an education workshop detailing low tillage operations.
- Work with private land owners and partners to develop best management practices that address soil erosion on their lands or federal leases that they hold.

Ground Water Quality

- Develop a ground water monitoring program that centers on quick and simple sampling of local drinking water wells.

Point Sources of Pollution

- Encourage and support Wyoming DEQ in their efforts to maintain an adequate and accurate inventory of point sources of pollution within the watershed and conduct a thorough review of the 305(b) report.

Sedimentation

- In cooperation with NRCS and other partners, develop program that encourages conservation practices for sedimentation.
- As funds are available participate in federal land management processes.

Water Quantity Issues

- Continue to promote efficient use of irrigation.

Grazing Management

- Continue to encourage the application of grazing management practices on larger operations.
- Develop and promote a workshop on the use of grazing management monitoring.
- Request the participation of the state in giving a presentation on the states grazing management strategies.

Vegetation Management

- Request the participation of the state to promote fire prevention and reclamation efforts within the Powell Clarks Fork Conservation District
- Continue to participate in invasive species management within local community and educate landowners on management of these invasive species

Riparian Management

- Continue education to landowners through mailings and small acreage workshops to ensure the health of riparian areas
- Continue to work with private land owners, recreational water users, outfitters, and public land managers to foster partnerships.

Pesticide Management

- The steering committee supports the Park County Weed and Pest District in their efforts to educate on pesticides and their proper use, storage, and disposal. It is important to continue to use them as a resource in workshops and educational opportunities on an ongoing basis

Small Acreages and Rural Living

- Continue to work the small acreage task force to develop and present workshops related to small acreage issues with emphasis on livestock and irrigation issues.
- Continue to work with Park County Planning and Zoning to develop an area-wide septic suitability map
- Encourage proper design and development of new septic systems
- Review and educate landowners on the health of their current septic system, if it needs replaced educate on funding available to replace septic system

Animal Feeding operations and Confined Animal Feeding Operations (AFOs/CAFOs)

- Continue to work with local producers and livestock owners to address animal waste issues.

Invasive Species

- Continue to work with local producers to reduce impacts of invasive plant species.

Education Activities

- Continue efforts to increase awareness of financial resources available to address natural resource concerns.

Irrigation

- Continue to work with NRCS to implement irrigation improvement practices to reduce water consumption and to control erosion.

Objective II: Effort to implement practices as outlined in the Shoshone River TMDL

Planned Activities include:

Rural living – small acreage

- Continue small acreage workshops focusing on livestock and focusing on irrigation water management

Irrigation efficiency and reduced return flows

- Continue to work with NRCS to support programs that encourage use of modern irrigation technology where appropriate

Objective III: Continue efforts to support projects as outlined in the Clarks Fork/Upper Shoshone Watershed Level 1 Study

Planned Activities include:

- Work with NRCS in order to determine what projects may be able to be supported by NRCS grants
- Seek funding opportunities through the state of Wyoming towards projects outlined in plan
- Support Cody Conservation District with projects falling in their boundaries
- Work with landowners to ensure projects are being executed to ensure soil and watershed health
- Continue to work with Wyoming Water Commission in order to obtain funds for small water projects

Objective IV: Continue education efforts to the local community

Planned Activities include:

- Continue Small Acreage Workshop program, now known as the Rural Living Workshop; with efforts focused on encouraging partnerships between land owners and local natural resource programs
- Continue publications in local newspaper
- Continue keeping local groups informed of our efforts
- Continue local school programs
- Continue to advertise public meetings including local work group meetings
- Continue large acreage workshops and include tours of conservation projects.
- Work with BLM and Wyoming Game and Fish to develop workshops on responsible recreation use and co-existence with wildlife
- Work with U. W. Extension service to present rangeland monitoring training to local landowners
- Work with NRCS and U. W. Experiment Station to continue development of low till practices to local producers
- Continue annual project status presentations to Park County Commissioners
- Continue to work with Wyoming legislators to keep them informed of activities and issues.
- Continue to work with landowners and U.W. extension to educate on invasive species

Objective V: Continue to foster the partnerships with local groups interested in the natural resource base in Park County to increase awareness of natural resource issues.

Planned Activities include:

- Continue to provide leadership in locally led efforts
- Continue to work directly with Park County Weed and Pest
- Continue to work directly with Park County Planning and Zoning
- Work with legislators to understand current statute requirements and current funding available

- Work with legislators to help fund true cost of project needs in area

Objective VI: Continue district staff and board training.

Planned Activities include:

- Continue to attend interagency and other local government meetings to represent stakeholders, provide expertise, improve relations and learn new techniques.
- Continue to review memorandums from WACD, NACD and other natural resource agencies
- Review Long Range Program on an annual basis
- Continue review of Annual Plan of Work/Annual Report & budget.
- Continue monthly review of grant status
- Continue to attend WACD convention
- Continue to review NACD correspondence and publications with board
- Continue to attend Area III meetings and review discussion topics with board
- Continue Water Quality training
- Continue education on technologies used including IT and software

Objective VII: Continue to promote sustainable land management practices within the Powell Clarks Fork communities

Planned Activities include:

- Continue to work with the local workgroup to ensure that sound conservation practices remain as a high priority item.
- Continue to present sound conservation alternatives to cooperators in conservation planning activities.
- Encourage cooperators to participate in the various programs that are available.
- Assist the Natural Resources Conservation Service in the implementation and follow-up on FSA plans
- Continue local and regional workshops detailing the importance of soil erosion protection in construction areas.
- Restore tree seedling program to promote windbreaks and erosion control
- Encourage responsible usage of public lands and responsible management of private lands
- We understand there has been a significant increase in small acreage operations we

have seen a large increase in overuse of land; in order to combat this, we are planning to continue and grow our small acreage workshops and education

- Work to provide water well chemical testing day to local residents on a biannual basis

Objective VIII: Continue to seek funding opportunities to meet the above objectives

Planned Activities include:

- Continue efforts to obtain funding for Powell-Clarks Fork Conservation District programs through state and federal grant funds
- Continue seeking local partnership opportunities in order to conduct workshops and education provided to the community
- Continue seeking possibilities of mill levy funding in Park County

The 2025-2029 Long Range Plan for the Powell-Clarks Fork Conservation District has been approved and adopted by the Board of Supervisors at the monthly meeting held December 3, 2024.

_____ Regan Smith, Chairman
_____ Niel Christopherson, Vice-chairman
_____ Abby Shuler, Secretary-treasurer
_____ Adam Stromberger, Member
_____ Colby Schaefer, Member

The 2025-2029 Long Range Plan for Powell Clarks Fork Conservation District was made available for public comment on 12/04/2024 with public notice published in the Powell Tribune. Hard copies of the 2025-2029 Long Range Plan for Powell Clarks Fork Conservation District were made available to the general public on 12/04/2024 at the following locations and is also available online at <https://www.pcfcd.org/>.

USDA Service Center located at 1017 Highway 14 A, Powell
Library, temporary facility located at 655 East 5th Street Powell
Powell Valley Chamber of Commerce located at 111 S. Day Street, Powell

The plan was subject to public comment from 12/04/2024 through 01/20/2025. Comments were requested to be in writing and mailed or delivered to Powell Clarks Fork Conservation District at 1017 Highway 14A, Powell Wyoming by 4:00 PM on 1/20/2025. The final plan and approval reflect modifications made due to public comment. The final plan approval date is 01/20/2025.

_____ Regan Smith, Chairman
_____ Neil Christofferson, Vice-chairman
_____ Abby Shuler, Secretary-treasurer
_____ Adam Stromberger, Member
_____ Colby Schaefer, Member

