

Minimize the Effects of Drought on Your Operation

Washington Snow Survey data collected by the USDA Natural Resources Conservation Service (NRCS) so far this year indicates record low amounts of snowpack throughout the state. This equates to a high potential for drought conditions and low flows in many streams this year. Low flows can impact the way you operate your farm or ranch. This information provides general considerations and recommendations to help you keep your operation sustainable during drought. For specific questions about how NRCS can help your farm or ranch, contact your local USDA Service Center.



Save the Soil

Farmers without access to adequate water to produce a crop may find themselves thrust from a water crisis to a dust crisis. Options for protecting fields vulnerable to erosion include cover crops, surface roughening, residue management, converting to crops that use less water, mulching, or other practices.

Conserving Rangeland

Ranching with limited water supply is difficult. For some ranchers, managing the livestock to take advantage of available grass while protecting areas from overuse may be easier with tools such as livestock watering systems, piping, troughs, and fencing. NRCS works with ranchers to develop grazing management plans to make the best use of what forage remains on the ranch.

Stretching Every Drop

Farmers who have access to water and want to make every drop count should develop irrigation water management plans with their NRCS conservationists or other consultants. Assistance is available to improve irrigation systems to help farmers working to produce a crop with a smaller allocation of water.

What impacts can drought have on your operation?

- Soil Erosion
- Loss of Plant Cover
- Degraded soil quality
- Water Quantity - Limited irrigation supply and reduction in water use
- Wind Erosion
- Degraded Air Quality - increased dust due to wind and soil erosion
- Increased Fire Risk
- Increased plant stress
- Reduction in animal food/cover/shelter
- Increased animal stress
- Reduced stream levels for aquatic habitat

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Natural Resources Conservation Service

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Minimize the effects of drought on your fallowed land.

The most commonly prescribed practices for protecting vulnerable farmland fallowed by drought are:

- Tillage & Residue Management - Leaving residues from the previous crop undisturbed on the soil surface can help reduce wind and water erosion.
- Cover Crops - Planting or maintaining vegetation, living or dead, will provide cover on the soil surface and reduce erosion. Low-water using plants like barley are typically used as cover crops during droughts.
- Surface Roughening & Cross Wind Ridges - By disking heavier soils into a rough, cloddy surface, the soil can be protected from wind erosion.
- Mulching - Covering bare soil with wood chips, straw or other plants material can help to hold the soil in place.
- Conservation Crop Rotation - Switching to crops that require less water can allow a field to remain productive and provide erosion protection.

Minimize the effects of drought on your irrigated cropland.

The most commonly prescribed practices for protecting irrigated cropland from drought are:

- Irrigation System Improvement
- Evaluating irrigation systems, improving management of existing systems, replacing poorly performing components or converting to pressurized irrigation systems will improve the uniformity of water application. It takes less water to irrigate when the irrigation is uniform.
- Irrigation Scheduling - Irrigating at the optimum time and applying the amount the soil can hold minimizes undesirable water loss below the root zone of the crop. Good scheduling or "Irrigation Water Management" will help stretch limited water supplies.
- Vegetative Practices & Mulching
- Growing certain crops, either interplanted in or in sequence with production crops can increase infiltration and retention of valuable rainfall and reduce evaporation loss from the soil surface. Mulching by covering the soil surface with wood chips, straw or other plant materials can also reduce water loss to evaporation.
- Residue & Tillage Management - Modifying tillage to retain residues from a previous crop left on the soil surface can help reduce water loss to evaporation.

Minimize the effects of drought on your forestland.

Protecting your forest from the moisture stress caused by drought is the same as protecting your forest from wildfire, insects and diseases. Drought means higher risk of wildfire as well as insect and disease outbreaks. The following forest practices are used to protect forests.

- Pre-commercial thinning is used to manage the stocking density of a forest. A properly stocked stand reduces moisture stress and improves the resiliency of your forest to natural events. This is the most important practice to help your forest survive a drought. Plus, this practice is used to remove understory vegetation for the reduction of ladder fuels and competition for moisture.
- Pruning will not reduce moisture stress on trees but it will separate ground and understory fuels from tree crowns. Wildfire risk significantly increases during droughts. Keeping wildfires on the ground and not in the tree crowns increases the potential of your forest surviving a wildfire.
- Treating forest slash will not reduce moisture stress but will reduce fuel loading and reduce the risk of wildfire impacts. Wildfire risk significantly increases during droughts. Reducing the ground fuel loads is helpful in reducing potential damage to your soil and trees from over-heating during a wildfire.
- Controlling competing vegetation in new tree plantings will reduce moisture stress in the newly planted seedlings and can make a huge difference in survival and growth.
- Supplemental watering of new tree plantings can be expensive and labor intensive but so is re-planting a failed plantation.

Minimize the effects of drought on your rangeland or pastureland.

Protecting rangeland/pastureland during a drought means balancing the needs of livestock with the capacity of natural resources that have been made more fragile by lack of water. Following are some of the conservation practices recommended by NRCS:

- Irrigation System Improvement - Evaluating irrigation systems, improving management of existing systems, replacing poorly performing components or converting to pressurized irrigation systems will improve the uniformity of water application. It takes less water to irrigate when the irrigation is uniform.
- Irrigation Scheduling - Irrigating at the optimum time and applying the amount the soil can hold minimizes undesirable water loss below the root zone of the crop. Good scheduling or "Irrigation Water Management" will help stretch limited water supplies.
- Grazing Management Plans - Developing a drought management plan helps protect the long-term condition of the ranch by balancing the needs of the livestock with the capacity of the soil and plants.
- Cross Fencing - Controlling where and how long livestock are permitted to graze, allows ranchers to protect their soil and plants and make use of their remaining forage.
- Livestock Water Systems - Providing water across the ranch with sources such as livestock wells and springs makes it possible to distribute livestock according to the capacity of the soils and plants. Producers should evaluate and improve livestock water systems to increase efficiencies of system delivery.



Service Centers

County	Office Location	Phone
ADAMS	RITZVILLE	509-659-1761
ASOTIN	CLARKSTON	509-758-8012
BENTON	PROSSER	509-786-1923
CHELAN	WENATCHEE	509-663-4019
CLALLUM	PORT ANGELES	360-452-8994
CLARK	BRUSH PRAIRIE	360-883-1987
COLUMBIA	DAYTON	509-382-2421
COWLITZ	LONGVIEW	360-425-1880
DOUGLAS	WATERVILLE	509-745-8561
FERRY	REPUBLIC	509-775-3473
FRANKLIN	PASCO	509-545-8543
GARFIELD	POMEROY	509-843-1997
GRANT	EPHRATA	509-754-2463
GRAYS HARBOR	MONTESANO	360-249-5900
ISLAND	MT. VERNON	360-428-7684
JEFFERSON	PORT ANGELES	360-452-8994
KING	RENTON	425-277-5580
KITSAP	PORT ORCHARD	360-876-2115
KITITIAS	ELLENSBURG	509-925-8585
KLICKITAT	GOLDENDALE	509-773-5822
LEWIS	CHEHALIS	360-748-0083
LINCOLN	DAVENPORT	509-725-4501
MASON	PORT ORCAHRD	360-876-2115
OKANOGAN	OKANOGAN	509-422-2750
PACIFIC	CHEHALIS	360-748-0083
PEND OREILLE	NEWPORT	509-447-4217
PIERCE	PUYALLUP	253-854-9272
SAN JUAN	MT. VERNON	360-428-7684
SKAGIT	MT. VERNON	360-428-7684
SKAMANIA	BRUSH PRAIRIE	360-883-19879
SNOHOMISH	LAKE STEVENS	425-334-2828
SPOKANE	SPOKANE	509-924-7350
STEVENS	COLVILLE	509-685-0858
THURSTON	OLYMPIA	360-704-7740
WALLA WALLA	WALLA WALLA	509-522-6347
WHATCOM	LYNDEN	360-354-5658
WHITMAN	COLFAX	509-397-4301
YAKIMA	ZILLAHA	509-829-3003
WAHKIAKUM	LONGVIEW	360-425-1880

Monitor current drought conditions and streamflow forecasts online.

The following websites provide up-to-date water supply information and drought maps where farmers and ranchers can find specific forecasts for their part of the state.

Washington Basin Outlook Report

Produced by the USDA Natural Resources Conservation Service, Washington Snow Survey Team

www.wa.nrcs.usda.gov/snow

West-wide Water Supply Forecast

Produced by the NRCS National Water and Climate Center

www.wcc.nrcs.usda.gov/wsf

NRCS National drought Resources

Produced by the NRCS National Public Affairs

www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/releases/?cid=stelprdb1245689

U.S. Seasonal Drought Outlook

Produced by the National Weather Service Climate Prediction Center

www.cpc.ncep.noaa.gov

U.S. Drought Monitor

Produced by USDA, the University of Nebraska-Lincoln, and the National Oceanic and Atmospheric Administration

www.droughtmonitor.unl.edu

