



North Fork Payette River Watershed Coalition:
Climate Change, Conservation and Drought Planning
Work Group

Work Group Lead: Judy Anderson | shaver.anderson@gmail.com

www.valleyswcd.org | NFPayette@outlook.com | durena.farr@id.nacdnet.net



Integrating land use and water management planning is a crucial step that communities can take to address the interrelated challenges of climate change, ongoing Population growth and decreasing water supplies.

Ideal Outcome 1- Integration of Land Use and Water Management Planning

In both Valley County and the cities, the comprehensive plans need to integrate water related goals into one blended land use/water management plan. Water systems, human systems and ecological processes would then be considered together when making decisions. Comprehensive Plans must reflect a common understanding of how climate change, population growth and land use patterns are impacting water availability and quality.

Top Priority 1

Form partnerships within (land use planners, councils, staff, commissioners and water managers) and across jurisdictions (county, city, water districts) that foster coordination, exchange of information and implementation.

- a. Education and training for staff and elected officials to increase knowledge and support for incorporating water saving measures into land use policies.
- b. Incorporate water management agencies into all stages of the development approval process, so that agencies can assure adequate water supply and provide information on how the project can be more water-efficient, stormwater competent, and low impact while it protects water quality.
- c. Emphasize water quality protection in land use policies and ordinances and consider climate change in all decisions.
- d. Involve water managers at pre-application and preliminary plat meetings
- e. Adopt requirements for coordinated planning between land use planners and water managers
- f. Impose local consistency requirements for comprehensive plans and water management plans.
- g. Institutionalize processes in the code that incorporate water management agencies into land use planning processes to survive staff, council members or commissioner's turnover.

Actions 1

Each community and watershed needs to do a Water Availability Assessment where they map and understand the source, including applicable water rights, capacity, and present conditions of their communities' water supply, distribution system and infrastructure.

- a. The assessment should also include the vulnerability, health of the water supply and the projected effects of climate change.



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- b. Map the projections for future population using aligned data sets and consistent methods across jurisdictions.
- c. Identify the drivers of growth including where development, where new wells and septic tanks are occurring; what the total demand for water will be, using future growth projections and existing uses.
- d. Analysis of how projected demand will be served by water supplies; plans to obtain additional water; and projected effects of drought and climate change on water availability.
- e. Evaluation of conservation of water as a crucial planning factor.
- f. Cities should be encouraged to develop a water budget—an estimation of water flows in and out of the system so a community can craft a vision within the constraints of an anticipated water supply.
- g. Cities and the county should formally request IDWR to monitor more wells in Valley County not only for water table depth but for nitrates and pathogens so there can be a more comprehensive and accessible picture of the groundwater situation.

Ideal Outcome 2-Water Resource Management Plan

Every jurisdiction has integrated into their land use planning document a Water Resource Management Plan including policies to stop potential harmful pollutants from entering surface or groundwater.

Watershed protection goals are included in a wide variety of community plans but converting these plans into concrete policy and ordinances is essential to prevent watershed degradation.

The Water Resource Management Plan can be implemented to protect ecosystems, enhance watershed resilience and mitigate the factors that can degrade ground and surface water quality and quantity. This includes.

- a. Pollution from urban and agricultural runoff and natural disasters.
- b. Sedimentation due to soil disturbance, vegetation loss and erosion from road construction and new development
- c. Destruction of riparian areas due to development and the effects of climate change.
- d. Increases in storm water due to increases in impervious surface areas and more rapid runoff.
- e. Variability in water supplies caused by drought.
- f. Pollution of ground, surface water and wells from poorly maintained septic systems or septic system density that overwhelms the soil's ability to filter.
- g. Pollution of surface water from inadequate setbacks from stream banks and lake shores for septic systems and landscaping.

Top Priority 2



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Comprehensive Stormwater Management Plans consistent across the jurisdictions based on the latest engineering data and informed by climate change, ensuring that stormwater infrastructure is properly sized to accommodate emerging climate driven events.

- a. Development agreements, or PUDs, should include water efficiency standards and watershed protection efforts
- b. Map all sensitive areas including wetlands, riparian corridors, water supply watersheds, groundwater basins, and natural disaster-prone areas and have maps easily available to the public.
- c. Train site inspectors to recognize and enforce compliance on water efficient design elements and water protection standards.

Actions 2

Develop design standards for best management practices for reducing storm event runoff and increasing water infiltration.

- a. Use green infrastructure measures that use permeable surfaces, plants and soil to keep storm water on site, thereby reducing flows into community sewer systems or to nearby surface waters.
- b. Integrate Low Impact Development, (LID), design recommendations into site plan review. LID is the retention or restoration of natural hydrological patterns using landscape and site design to keep as much rainwater as possible from leaving the site.
- c. Design all aspects of landscaping to reduce water demand, retain runoff, decrease flooding and recharge groundwater.

Ideal Outcome 3- Groundwater Protection

P&Z Commissioners as well as Valley County Commissioners must seriously consider the harmful effects that may occur to groundwater resources before approving subdivision development, specifically residential developments using individual wells and septic systems. Septic systems were created to control bacteria by letting solids settle out but everything that dissolves in water like phosphate, nitrates and many other pollutants just flows out into the surrounding land and can contaminate neighbouring wells, the groundwater and eventually surface waters. Septic densities like 1 per acre can be detrimental to the health of humans and groundwater.

Top Priority 3

Commissioners should request a nutrient-pathogen evaluation from IDEQ of parcels where there is a question of contamination from high septic density. The assessment can determine the number of septic tanks that could be accommodated without overwhelming the ground water's ability to dilute wastes.



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Alternatives to individual septic tanks need to be presented to developers in preliminary meetings such as extended treatment package systems (ETPS), commonly known as aerobic treatment units, which provide secondary treatment to septic tank effluent before it discharges to a drainfield. Enhanced treatment using ETPS may be required for certain parcels based on specific site features:

- Shallow soil depths
- Predominance of coarse- or very coarse-grained soils
- Shallow groundwater depth
- Outcome of a nutrient-pathogen evaluation

Cluster or Community Septic Systems are also an option, where each home has a septic tank but all homes in the subdivision share the same treatment and drainfield. This eliminates drainfields for each lot and leaves more open space that can be used. Each house is charged by the HOA for example for the upkeep of the cooperative system. With these systems there can be more monitoring of septic tanks to avoid failures and dangerous discharges.

Action 3

IDEQ will be releasing a septic guidance study hopefully in a year which will specifically address recommended septic density in specific areas in Valley County. Until then, precaution would be advised concerning the proliferation of septic systems in the Valley.

Increased strategies for monitoring existing septic systems need to be developed including even more vigorous education programs about pumping out systems every 3 to 5 years.

HOAs can be enlisted in education about septic maintenance for its members. Also in proposed developments, permits can be conditioned on the HOA monitoring septic pump outs by including the cost of regular septic maintenance in their homeowner's fees.

Ideal Outcome 4 - Waterways Management Plan

The Valley County Waterways Management Plan is implemented with coordination and funding between cooperating jurisdictions.

Top Priority 4



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Cities of McCall, Donnelly and Cascade work together with the County to fund the necessary data collection, surveys, monitoring of indicators and implementation of necessary actions recommended in the Waterways Management Plan. Each jurisdiction builds funding into their annual budget to adequately address the needed staff, equipment and oversight to get the job done.

Action 4

Citizen advocacy will be important to pressure city councils and county commissioners to abide by and implement the Waterways Management Plan .

Integration of a comprehensive aquatic weed management plan is also essential. The plan must deal with the causes of proliferation of milfoil in Payette Lake, including:

- a. Monitoring phosphorus levels in the near shore environment. Phosphorus has become elevated as noted in a recent study by the University of Idaho. A threshold of phosphorus is set at 6 mg/L by the Waterways Management Plan and that level has been exceeded in the near shore during busy summer months. That exceedance is an indication that the lake could be moving toward eutrophication and continued monitoring of near shore phosphorus levels is essential. Milfoil feeds on phosphorus and grows exclusively in the near shore up to depths of 24 feet. Phosphorus also fuels the growth of algal blooms, some of which are toxic.
- b. Boat waves accelerate the growth of milfoil and algal blooms by stirring up the substrate and making phosphorus more available to plants in the nearshore environment.
- c. Boat props add to the issue by cutting the milfoil into fragments, spreading the pieces and making propagation of other species easier.
- d. Landowners around the lake using fertilizers and over-irrigating lawns close to the water line contribute to harmful runoff which feeds milfoil and algal blooms. The removal of native vegetation along the shoreline means the loss of a crucial buffer that filters runoff and pollution.
- e. The growth of harmful weeds and algal blooms is exacerbated by the higher temperatures, longer growing seasons, and lower water flows that accompany climate change. Climate change must be taken into account with any projections or attempts at mitigation.

Pollution of waterways and groundwater decreases water availability for drinking and irrigation. Higher temperatures, lower snow pack and drought driven by climate change will also impact water availability. All these factors interacting will reduce our critical water supply and make planning for a water crisis essential.

Ideal Outcome 5 -Water Conservation



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“When it comes to saving water where and how we grow and build truly matters” Valley County and cities adopt Water Smart land use and development policies including but not limited to

- a. Using overlay zones to protect and enhance water quality goals. For example, Valley County’s Wellhead Protection Zones.
- b. Promoting high efficiency, water efficient, plumbing and building standards.
- c. Promote higher density and cluster development especially where infrastructure already exists.
- d. Promote water saving, water quality protection and climate appropriate landscaping standards and maintenance practices.

Top Priority 5

Establishing water conservation, efficiency and re-use of water as a priority in all development plans .
Incentivize and assist current customers to reduce water demand and retro-fit existing development.

- a. Send a price signal in billing for water use to encourage water conservation - reducing daily peak usage, seasonal peak usage, and total system demand.
- b. Adopt a conservation rate structuring strategy for water bills including drought-demand pricing and higher rates for users when drought is declared and cut-offs for overuse.
- c. Report household per capita water use to the public annually.
- d. Create a program to support households with low incomes to meet water efficiency standards.
- e. At pre-development review, make rezoning, annexations and PUD applications conditional upon meeting water conservation and water quality protection standards.
- f. Incentivize and change ordinances when needed to encourage cluster development, as higher density development results in reduced water consumption. Largest consumption of water in residential areas is by large lot single family homes, where most of the water is used outdoors in spring and summer.

Action 5

Distribute with any construction permits: landscape guidelines with specific recommendations on water efficiency, plants, soil enhancement, mulching and irrigation.

- a. Require HOAs to adopt rules that support water efficient landscaping including allowances for reducing irrigation to lawns during drought.
- b. Limit use of turf grasses to functional applications.
- c. Use drip irrigation and “Smart” irrigation controllers.



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- d. Use mulching techniques.
- e. Use Green Infrastructure to control runoff.
- f. Incentivize rainwater harvesting
- g. Create a city rebate program for water efficiency plumbing fixtures, irrigation updates and water tolerant plants.
- h. Promote voluntary incentive-based programs for new plat designs which encourage open space, rainwater harvesting systems, Green Infrastructure, water tolerant landscaping and water efficient plumbing.
- i. Offer education programs in schools and county, city outreach that explain our watershed, and how the ways we use water affect others, our environment and our water supply.

RESOURCES

1. WATER.UTAH.GOV/INTEGRATED-WATER-LAND-PLANNING
2. Climate Change and Recreation on Public Lands in Idaho, Oregon and Washington Breadcrumb, USDA Northwest Climate Hub
3. Boise Climate Action Plan
4. Moscow Climate Action Plan 2022
5. Bozeman Drought Management, City of Bozeman Water Conservation
6. City of Bozeman Drought Tolerant Plant Rebate Shopping List
7. Valley County Waterways Management Plan 2022
8. Integrating Land Use and Water Management, Planning and Practice; Erin
9. Rugland; Lincoln Institute of Land Policy
10. Lake*A*Syst, Homeowner's Guide to Protecting Big Payette Lake; Big Payette Lake Water Quality Council and Idaho Rural Water Association
11. New Study says climate change behind drop in Northern Hemisphere snowpack ,by Blair Miller; Idaho Capital Sun Feb. 2 , 2024
12. Valley County GroundWater Quality Improvement and Drinking Water Source Protection Plan; IDEQ 2022
13. Community Wastewater Cluster Systems; D. Jones; Purdue Extension
14. EPA, WaterSense website