



# FY2017 (7/1/16 – 6/30/17) Annual Work Plan Palouse Conservation District

**For More Information Contact:**

**Jennifer Boie, (509) 332-4101 x 107, [jenniferpcd@palousecd.org](mailto:jenniferpcd@palousecd.org)**



## **Mission of the Palouse Conservation District**

To actively assist current and future generations of land managers (both urban and rural) in implementing conservation practices by providing educational, technical and financial assistance.

## **Natural Resource Priorities**

### **▪ Soil Health & Erosion Control**

- Description: sheet, rill and wind erosion is caused by the detachment and transportation of soil particles caused by rainfall runoff or splash, irrigation runoff, or by wind. Vast areas of cropland in Palouse Conservation District have soil and slopes vulnerable to sheet, rill and/or wind erosion. Soils not protected by adequate crop cover, crop residues or other conservation practices, will have soil detachment and movement by water or wind.

*Sheet and Rill Erosion.* Sheet and rill erosion is caused primarily from rainfall from late fall through spring, and especially from rain on snow events when the soils are frozen. Estimates of tens of tons of soil loss per acre per year from sheet and rill erosion, in addition to more visible channel and gully erosion, has been well documented. The soils where the erosion occurs are degraded and become less productive. The detached soil, or sediment, is carried across fields with the runoff until it is either deposited on land, on roads, in culverts, or carried into streams and rivers. When the sediment deposition occurs on growing crops, economic damage occurs to the local producer. When it is deposited on roads or into culverts then transportation departments must pay for removal of the safety hazard and clogged waterways. When it is carried into a stream or river it degrades fish and wildlife habitat and affects water quality.

*Wind Erosion.* Wind erosion occurs when the soils are not protected by adequate crop cover, crop residues or other conservation practices, and the wind picks up enough velocity to detach the finer soil particles on the land. The soils where the wind erosion occurs are degraded and become less productive. The eroded soil particles become airborne affecting air quality, visibility and health. In some cases visibility is so poor that highways have been closed to avoid vehicular accidents and loss of life.

- Priority level(s): local, regional, and state natural resource priority
- Source of data: Washington NRCS State Resource Assessment 2012: Priority Resource Concerns
- Engaged entities: Palouse Regional Conservation Partnership Program (RCPP) partners, NRCS, FSA, WSU Extension, Pacific NW Direct Seed Association, WA Dept. Fish and Wildlife, Department of Ecology, City of Pullman Stormwater Services, local agricultural consultants, local agricultural associations, local non-profit organizations, UI REACCH Extension.

- **Water Quality (all sources)**

Description: Waterways within the Palouse Conservation District have been degraded due to a combination of sources including urban stormwater and agricultural run-off.

*Urban stormwater.* A majority of the storm drains throughout Palouse Conservation District are classified as a municipal separate storm sewer system. The storm drain system is separate from and therefore does not convey stormwater to local wastewater treatment plants. Stormwater runoff has been identified by Department of Ecology as the “number one water pollution problem in the urban areas of our state.” Pollutants commonly found in stormwater include fertilizers, pesticides, vehicle fluids, trash, sediment and pet waste. Stormwater can also contribute to problems associated with flooding. The polluted runoff drains into nearby gutters and storm drains and into local waterways. In most areas, stormwater runoff enters these waters without being cleaned of pollutants.

*Agricultural runoff.* The off-site transport of sediment from sheet, rill, gully, and wind erosion into surface water threatens to degrade surface water quality and limit use for intended purposes. The vast amount of cropland with erosive soil and exposed streambanks in Palouse Conservation District are seeing erosion that has effects far beyond where the land is eroded. Unprotected areas have soil detachment and movement by water, primarily from rain. This is especially true from rain on snow events when soils are frozen, with studies documenting tens of tons of soil loss per acre. When sediment enters the water column it increases turbidity and carries pollutants such as nutrients and pesticides. When sediment is deposited on roads or into culverts, the sediment becomes a safety hazard and causes clogged waterways and aquatic passage barriers requiring costly removal. In canals and shipping facilities, the sediment requires expensive mechanical removal and transport.

Nutrients (organics and inorganics) are a resource concern when transported to receiving waters through surface runoff, leaching into shallow ground waters, or both in quantities that degrade water quality and limit use for intended purposes.

On cropland, nitrogen and phosphorus can be over applied and degrade plant health and vigor. Over application of nitrogen and phosphorus may lead to excess nutrients in surface and ground water. The excess nutrients cause algae and other aquatic plants to grow in lakes, which deprive aquatic life of vital oxygen. Pesticides may be over applied or applied near water bodies leading to surface water contamination. In addition, this resource concern is a priority as it relates to the livestock industry and the lack of adequate animal waste management. Animal waste is a point source of nutrients and pathogens into our waterways that degrade and threaten water quality and aquatic habitat.

- Priority level(s): local, regional, and state natural resource priority
- Source of data: Washington NRCS State Resource Assessment 2012: Priority Resource Concerns; City of Pullman Stormwater Services
- Engaged entities: Palouse RCPP partners, NRCS, FSA, WSU Extension, Pacific NW Direct Seed Association, WA Dept. Fish and Wildlife, US Fish and Wildlife Service; Department of Ecology, City of Pullman Stormwater Services, City of Palouse, local agricultural consultants, local agricultural associations, local non-profit organizations, Adams CD.

▪ **Education / Outreach**

- Description: Education and outreach to the public including landowners and residents within the Palouse Conservation District is essential to increase the community's awareness of local natural resource conservation needs and to help encourage a conservation ethic within the community. Benefits of education and outreach include enhanced community involvement, increased public input into the District's planning processes, increased awareness of the District's programs (including availability of technical and financial assistance) and increased conservation practice implementation.
- Priority level(s): local and regional priority
- Source of data: WRIA 34-Palouse Watershed Detailed Implementation Plan
- Engaged entities: Palouse RCPP partners, NRCS, FSA, WSU Extension, Pacific NW Direct Seed Association, WA Dept. Fish and Wildlife, US Fish and Wildlife Service; Department of Ecology, City of Pullman Stormwater Services, City of Palouse, local agricultural consultants, local agricultural associations, local non-profit organizations, Palouse Prairie Foundation, UIREACCH Extension, Franklin CD-Wheat Week and Water on Wheels.

▪ **Replenishing the Landscape (habitat, vegetation, prairie, pollinators, aesthetics)**

Description:

*Habitat.* Habitat is degraded when the quantity, quality, or connectivity of food, cover, space, shelter, and/or water is inadequate to meet requirements of identified fish, wildlife, and invertebrate species. Plant communities may have insufficient composition and structure to achieve ecological functions and management objectives. This concern also addresses loss or degradation of wetland habitat and unique plant communities.

*Vegetation/Prairie.* Since 1870, 94% of the grasslands and 97% of the wetlands in the Palouse bioregion have been converted to crops, hay, or pasture. Most of the remaining small patches of grassland and riparian vegetation disappeared between 1940 and 1989. Today, some once common fauna and endemic flora survive only in small areas of grassland, shrub, and forest, and these remnants are threatened by weed invasion, herbicide drift, and introduced species.

Of the once-continuous native prairie dominated by midlength perennial grasses, only little more than 1% remains. It is one of the most endangered ecosystems in the United States, and all remaining parcels of native prairie are subject to weed invasions and occasional drifts of aerially applied agricultural chemicals. Two of the native plant communities, bluebunch wheatgrass-snowberry and bluebunch wheatgrass-rose, are globally rare, and several local plant species are threatened globally. Many once-intermittent streams are now farmed; many perennial streams with large wet meadows adjacent to them are now intermittent or deeply incised, and the adjacent meadows are seeded to annual crops. Few areas of camas bloom in the spring. Clean farming practices (field

burning, herbicide use, and roadbed-to-roadbed farming) leave few fences and fewer fencerows, negatively impacting even those edge species which can flourish in agricultural areas.

With the virtual elimination of native prairies, species dependent on grassland ecosystems have declined or disappeared as well.

At the same time, new land uses offer habitats for a different suite of species. Humans have intentionally introduced non-native and sometimes invasive plant and animal species. Grazing, agriculture, and accidents have introduced a variety of exotic plants, many of which are vigorous enough to earn the title "noxious weed".

Changes in biodiversity in the canyonlands follow a parallel track, though from slightly different causes. Due to steep slopes and infertile soils, the canyonlands have been used for grazing instead of farming. Intense grazing and other disturbances have resulted in undesirable changes, with the native grasses being largely replaced by nonnative annual brome grasses and noxious weeds, particularly star thistles.

*Pollinators.* Despite their small size and isolation, Palouse prairie remnants support a diverse native flora of over 350 plant species (Lichthardt and Moseley 1997; Hanson et al. 2008), some of which are listed as globally imperiled or federally threatened (Lichthardt and Moseley 1997; Weddell and Lichthardt 1998). Though limited, studies indicate that rich invertebrate communities also persist in this resilient ecosystem (Hatten et al. 2006; Looney et al. 2009; Pocewicz et al. 2009; Sánchez de-León and Johnson-Maynard 2009; Looney and Eigenbrode 2011). Although the Palouse faunae remain poorly known, conserving invertebrates and their ecological functions and services is essential for sustaining the health of remnant habitats (Samways 2005). Insects have numerous functions in ecosystem processes, as part of natural predator/prey relationships, as decomposers or detritivores, and critically as pollinators.

Bees are the most ubiquitous and diverse insect pollinators, and bumble bees, *Bombus Latreille* (Hymenoptera: Apoidea), are the most species rich and abundant group of social bees native to temperate North America (Kearns and Thomson 2001). Bumble bees have structural and behavioral adaptations for pollen collection and transport, and forage on pollen to feed developing larvae (Michener 2007). Unlike many solitary bees, bumble bees forage throughout the season, pollinating a diverse flora. Native bees provide lucrative pollination services for production agriculture, potentially totaling over \$3 billion per year in the USA alone (Losey and Vaughn 2006), and their pollination of non-cultivated plants is of inestimable value. Bees play a critical role in plant conservation, thus local or regional extinctions of bees can impact plant communities (Biesmeijer et al. 2006; Vamosi et al. 2006).

Despite the importance of bumble bees to native plant communities and agriculture, several North American species are in decline (Cane and Tepedino 2001; Colla and Packer 2008; Gixti et al. 2009; Cameron et al. 2011). Habitat loss and fragmentation contribute significantly to such declines, as do pesticide use and exposure to novel pathogens (Goulson et al. 2008; Cameron et al. 2011). Significant changes in bumble bee community composition and loss of genetic diversity have occurred in Illinois, as tall grass prairie was lost to agriculture (Gixti et al. 2009; Lozier and Cameron 2009). Bumble bee communities associated with small, isolated habitat remnants such as those found across the Palouse Prairie may be at similar risk, yet little is known about the bumble bee community in this habitat. Bee communities of remnant habitats are influenced by numerous factors, including the composition and quality of the surrounding landscape (i.e., the matrix) (Steffan-Dewenter and Tschardt 1999; Steffan-Dewenter et al. 2002; Hines and Hendrix 2005; Hendrix et al. 2010). Bumble bees can travel up to 1.2 km (Knight et al. 2005) and routinely fly 450 m to 750 m between nest sites and floral patches (Walther-Hellwig and Frankl 2000). Hence, while floral diversity within habitats can be a strong predictor of

bumble bee diversity, so too can density and diversity of floral resources in adjoining matrix habitats (Steffan-Dewenter et al. 2002; Hines and Hendrix 2005).

*Aesthetics.* Resource conservation in agricultural settings has focused on enhancing ecosystem services that directly support production, while consideration of cultural services (aesthetic, spiritual, educational, and recreational amenities) has been missing, or secondary at best (MEA 2005; Scherr and McNeely 2008). This neglect is partly due to difficulty measuring the often subjective and intangible character of these amenities (MEA 2005). Additionally, cultural services are usually perceived, experienced, and appreciated at larger spatial scales and traditionally associated with more pristine or minimally disturbed natural environments. However, at spatial scales larger than a single farm, landscape restructuring strategies will likely have a greater potential to more fully regard the cultural dimensions of sustainability and ecosystem services (see Lovell and Johnston 2009; Musacchio 2009). Concurrently, researchers from landscape disciplines with common interests in sustainability have emphasized the complementarity and co-dependency of ecological sustainability and cultural sustainability (Thayer 1989; Naveh 2000; Décamps 2001; Tress et al. 2005; Wu 2006; Barrett et al. 2009). That is, landscapes must sustain not only vital natural resources, but also basic needs and quality of life for humans (Naveh 2000; Blaschke 2006; Barrett et al. 2009). Practically, creating and maintaining these landscapes will require human effort and care (Dubos 1976; Nassauer 1997; Décamps 2001; Merchant 2003; Meyer 2008). Several researchers contend that motivating land-use behavior toward sustainability and conservation goals may ultimately depend on understanding the underlying mechanisms affecting human aesthetic response and attachment to landscapes (e.g., Mozingo 1997; Nassauer 1997; Linehan and Gross 1998; Parsons and Daniel 2002; Décamps 2001; Gobster et al. 2007; Meyer 2008).

In environmental psychology, perception-based assessments generally interpret human preference for a particular landscape as a measure of its aesthetic quality, which in turn, is interpreted as having high visual aesthetic quality (Kaplan 1987; Nassauer 1995; Daniel 2001). Human evolutionary history, biologically-based perception theory, and neurobiological evidence tell us that our visual aesthetic preferences are not frivolous, capricious, or superficial. Rather, aesthetic preferences result from inseparable perceptual, cognitive, and deep-rooted emotional processes that inform decisions having personal or social consequence (Parsons and Daniel 2002; Meyer 2008).

Within the Palouse Region, recent research has demonstrated that a relatively small amount of structural change communicates and supports improved ecological function. Simultaneously, this improved ecological structure is compatible and indicative of enhanced aesthetic appeal. Research results support the view that agricultural landscapes can be designed to accommodate both cultural and ecological benefits. These results may translate into inspiring human behavior toward landscape conservation and sustainability.

- Priority level(s): local, regional, and state natural resource priority
- Source of data: Washington NRCS State Resource Assessment 2012: Priority Resource Concerns; USGS The Land Use History of North America (LUHNA) Biodiversity and Land-use History of the Palouse Bioregion: Pre-European to Present; Hatten TD, Looney C, Strange JP, Bosque-Pérez NA. 2013. Bumble bee fauna of Palouse Prairie: Survey of native bee pollinators in a fragmented ecosystem. *Journal of Insect Science* 13:26. Available online: <http://www.insectscience.org/13.26>; Linda Ruth Klein. 2013. Quantifying relationships between ecology and aesthetics in agricultural landscapes. Linking ecology and aesthetics in agricultural landscapes: A case study from the palouse region of Washington State, U.S.A. May 2013 dissertation, Washington State University.

- Engaged entities: Palouse RCPP partners, NRCS, FSA, WSU Extension, Pacific NW Direct Seed Association, WA Dept. Fish and Wildlife, US Fish and Wildlife Service; Department of Ecology, local agricultural consultants, local agricultural associations, local non-profit organizations, Palouse Prairie Foundation, IWJV, Whitman County, Palouse Wind, Snake River Salmon Recovery, Palouse Land Trust.

#### ▪ **Air Quality**

Description: Air quality affects public health, the environment, and quality of life. Air pollution causes lung disease, makes existing heart and lung disease worse, and is associated with cancer. Breathing elevated levels of air pollutants can adversely affect human health, especially among sensitive populations such as children, the elderly, and those with heart or lung diseases. Potential health problems include lung damage, birth defects, nerve damage, reduced immunity, and an increased risk of developing cancer. An air pollutant is any substance in the air that can cause harm to humans or the environment. Pollutants may be natural or human made and may take the form of solid particles, liquid droplets, or gases. Natural sources of air pollution include smoke from wildfires, dust, and even volcanic ash. Human made sources of air pollution include emissions from vehicles and factories; dust from unpaved roads, agriculture, or construction sites; and smoke from human-caused fires.

- Priority level(s): local and regional priority
- Source of data: Washington Department of Ecology Air Quality Program
- Engaged entities: Palouse RCPP partners, NRCS, FSA, Department of Ecology, local non-profit organizations.

#### ▪ **Energy**

- Description: Inefficient use of energy in the farm operation increases dependence on non-renewable energy sources that can be addressed through improved energy efficiency and the use of on-farm renewable energy sources.
- Priority level(s): local, regional, and state natural resource priority
- Source of data: Washington NRCS State Resource Assessment 2012: Priority Resource Concerns
- Engaged entities: Palouse RCPP partners, NRCS, FSA, local agricultural consultants, local agricultural associations, local non-profit organizations.

▪ **Invasive Species Control**

- Description: The rapid spread of invasive plants threatens natural resources across the Palouse Conservation District. Invasive species displace natural plant communities and have the following impacts:
  - Degraded and destroyed wildlife habitat
  - Reduced plant and animal diversity
  - Impaired land productivity
  - Obstructed waterways and reduced water levels
  - Erosion
  - Fire hazards
  - Restricted recreational activities
  - Reduced land values
  - Need for costly restoration
- Priority level(s): local, regional, and state natural resource priority
- Source of data: Invasive Weeds of Eastern Washington- WSU Extension Manual EM005; Washington NRCS State Resource Assessment 2012: Priority Resource Concerns
- Engaged entities: Palouse RCPP partners, NRCS, FSA, WSU Extension, Whitman County Weed Board, WA Dept. Fish and Wildlife, US Fish and Wildlife Service; Department of Ecology, local agricultural consultants, local agricultural associations, local non-profit organizations, Palouse Prairie Foundation, Adams CD.

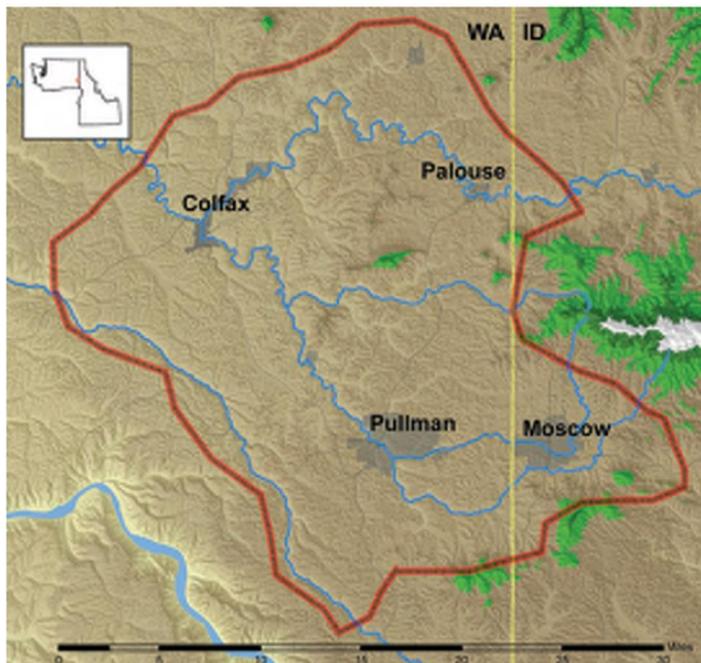
▪ **Small Acreage Issues**

- Description: Conversion of agricultural lands to suburban homesites provides a new set of natural resource issues of concern within the Palouse Conservation District. Changes in wildlife habitat availability and populations can result. Suburbanization of agricultural lands does not necessarily favor native wildlife or plant species. Additionally, the keeping of livestock on small acreage provides challenges for soil erosion, water quality, and weed control. Dust resulting from added traffic on unpaved roads (due to an increase in population and pressure from additional housing development) can effect air quality.
- Priority level(s): local and regional
- Source of data: Washington NRCS State Resource Assessment 2012: Priority Resource Concerns; USGS The Land Use History of North America (LUHNA) Biodiversity and Land-use History of the Palouse Bioregion: Pre-European to Present
- Engaged entities: Palouse RCPP partners, NRCS, FSA, WSU Extension, WA Dept. Fish and Wildlife, US Fish and Wildlife Service; Department of Ecology, City of Pullman Stormwater Services, local non-profit organizations, Palouse Prairie Foundation.

- **Water Quantity**

- Description: The Palouse groundwater basin is the sole source of water for over 60,000 residents of Pullman, Washington and Moscow, Idaho and outlying areas in both Whitman County (Washington) and Latah County (Idaho). Also included among our groundwater users are Washington State University and the University of Idaho. Ground water is pumped in the basin by five major water suppliers (Pullman, Moscow, Colfax, Washington State University and the University of Idaho), several smaller cities and towns, and many businesses and rural residents residing in the unincorporated areas of Whitman County, Washington and Latah County, Idaho. Ground water levels in the deep aquifer system have been declining since measurement began in the late 19th century. Growth in the area following World War II led to increased pumping from the aquifer system, and by the late 1950's a serious decline in water levels was recognized by the cities, state institutions and regulatory agencies. Concerns regarding long term water supplies in the area led to the 1967 formation of an informal committee, known then as the Pullman-Moscow Water Resource Committee (PMWRC), to study the problem and make recommendations to the administrative and elected representatives of the major pumping entities. In time membership in the committee was expanded to include Whitman and Latah counties and then Colfax, Washington. And although not a formal PBAC member, since 2006 the City of Palouse has at times contributed funding toward the administration of the Committee. In 1998, to reflect its expanded membership and the regional nature of the resource, the committee name was changed to the Palouse Basin Aquifer Committee (PBAC). In 1992, the PMWRC, with the support of Washington and Idaho state regulatory agencies, enacted a Ground Water Management Plan (GWMP) for the basin. The Ground Water Management Plan and an associated Intergovernmental Agreement include requirements to report accomplishments, pumpage and water level information. The 2013 total combined ground water pumpage by the primary pumping entities within the basin was 2.61 billion gallons. In aggregate (Pullman, Moscow, WSU, UI, Colfax, Palouse), pumping for 2013 was approximately 1% less than in 2012, and 15.5% less than in 1992, the first year the Ground Water Management Plan took effect.

The precise boundaries of the basin have not been delineated (see working boundary below). Ground water in the basin is pumped primarily from two aquifer systems: the upper Wanapum and the lower Grande Ronde. The Wanapum and Grande Ronde Formations are part of the Columbia River Basalt Group, which consists of thousands of feet of lava flows that covered much of eastern Washington, northern Oregon, and portions of western Idaho during eruptions that occurred between 17 and 6 million years ago. The nature of the emplacement of the basalts over time resulted in significant differences in geology from west to east across the basin. The eastern end of the basin is characterized by thick sedimentary interbeds that thin west of Moscow. The Grande Ronde basalts are thicker beneath Pullman.



Working Boundary for the Palouse Ground Water Basin

The primary municipal drinking water source in the basin is the lower Grande Ronde aquifer system. In Pullman, all of the municipal residents obtain their drinking water from the Grande Ronde. Rural basin residents in Whitman County pump from both the upper and lower aquifers. In Moscow, 31% of the 2013 supply came from the upper Wanapum, and many of the rural residents in Latah County also tap the upper aquifer. In general, the Grande Ronde wells are more productive and contain higher quality water than those in the Wanapum. Water levels in the Grande Ronde have historically declined at a rate of between 0.6 and 1.5 feet per year for 70 or more years. Water levels in the upper aquifer dropped drastically in the late 1950s and early '60s, but recovered in the 1970s and '80s when much of the pumping switched to the lower aquifer. Although absolute values are still uncertain, it is thought that there is limited recharge to both the Wanapum and the Grande Ronde aquifer systems.

- Priority level(s): local and regional
- Source of data: 2013 Palouse Ground Water Basin Water Use Report, Palouse Basin Aquifer Committee, 2014.
- Engaged entities: Palouse RCPP partners, Palouse Basin Aquifer Committee (PBAC), WSU, UI, City of Pullman, City of Moscow, City of Colfax, City of Palouse, Whitman County, Latah County, Department of Ecology, Idaho Department of Water Resources, local non-profit organizations, Palouse Water Summit.

## ■ Climate Change

- Description: The response of arid lands to climate change will be strongly influenced by interactions with nonclimatic factors such as land use at local scales. Livestock grazing, conversion to agriculture, urbanization, energy and natural resource development, habitat treatment, and even restoration activities have had both direct and indirect consequences. Land use change over the past 200 years has had a much greater effect on these ecosystems than has climate change, and the vast majority of land use changes have little to do with climate or climate change. Today's arid lands reflect a legacy of historic land uses, and future land use practices will arguably have the greatest impact on arid land ecosystems in the next two to five decades. In the near-term, climate fluctuation and change will be important primarily as it influences the impact of changes in land use on ecosystems, and how ecosystems respond to land use. In addition to traditional land uses such as agriculture and grazing, arid land response to future climate will be mediated by growing environmental pressures such as air pollution and nitrogen deposition, energy development, motorized off-road vehicles, feral pets, and invasion of non-native plants. Some of these factors may reinforce and accentuate climate effects (e.g., livestock grazing); others may constrain, offset or override climate effects (e.g., atmospheric CO<sub>2</sub> enrichment, fire, non-native species).

Slight changes in temperature and precipitation can substantially alter the composition, distribution, and abundance of species in arid lands, and the products and services they provide. For example, observed and projected decreases in the frequency of freezing temperatures, lengthening of the frost-free season, and increased minimum temperatures can alter plant species ranges and shift the geographic and elevational boundaries of many arid lands. The extent of these changes will also depend on changes in precipitation and fire. Increased drought frequency could also cause major changes in vegetation cover. Losses of vegetative cover coupled with increases in precipitation intensity and climate-induced reductions in soil aggregate stability will dramatically increase potential erosion rates. Transport of eroded sediment to streams coupled with changes in the timing and magnitude of minimum and maximum flows can affect water quality, riparian vegetation, and aquatic fauna. Major climate change effects on Washington's shrub-steppe and grassland ecosystems include:

- Changes in species composition, distribution, and community dynamics
- Changes in ecosystem productivity
- Changes in disturbance regimes

Although climate change can potentially impact arid land river and riparian ecosystems through a variety of mechanisms and pathways, three are particularly important. The first is the impact of climate change on water budgets. The second is competition between native and non-native species in a changing climate; and the third is the role of extreme climate events (e.g., flood and droughts) in a changing climate. Extreme events have always shaped ecosystems, but the interactions of a warmer climate with a strengthened and more variable hydrologic cycle are likely to be significant structuring agents for riverine corridors in arid lands.

- Priority level(s): local, regional, and global
- Source of data: Summary of Climate Change Effects on Major Habitat Types in Washington State: Shrub-Steppe and Grassland Habitats. Washington Department of Fish and Wildlife and the National Wildlife Federation. July, 2011. [http://wdfw.wa.gov/conservation/climate\\_change/](http://wdfw.wa.gov/conservation/climate_change/)

- Engaged entities: Palouse RCPP partners, NRCS, WA Dept. Fish and Wildlife, US Fish and Wildlife Service; Department of Ecology, local non-profit organizations, Palouse Prairie Foundation, Regional Approaches To Climate Change For Pacific Northwest Agriculture (REACCH).

▪ **Anadromous Fish Recovery and Aquatic Passage**

- Description: Salmon recovery plans have been implemented in order to sustain and reverse the decline of endangered salmon species, preserving them for future generations. These species include Chinook salmon and steelhead trout. Salmon populations have been declining for a long period of time. Discerning the factors that contributed to this decline has been and is a lengthy process. Local, state, tribal and federal governments have been studying the processes that have contributed to dwindling salmon populations for over a decade and are currently implementing strategies for protecting and recovering salmon.
- Priority level(s): local and regional
- Source of data: Snake River Salmon Recovery Plan (SRSRP)
- Engaged entities: Palouse RCPP partners, NRCS, FSA, WA Dept. Fish and Wildlife, US Fish and Wildlife Service; local non-profit organizations, local consulting firms, Whitman County, Snake River Salmon Recovery.

▪ **Urban Development**

- Description: There have been permanent losses of Palouse habitats to urban and rural residential growth. Resource managers are concerned by the growing number of ranchettes, subdivisions, subdivided cropland, and floodplain encroachment. Rural development often occurs near wooded areas, lakes, or streams. The increasing number of dwellings poses a threat to water quantity, water quality due to the increased amount and dispersion of potential nutrient sources immediately adjacent to waterways, and displaces habitat and wildlife. According to Knick et al. (2003), urbanization, roads, and powerlines continue to fragment ecological systems. This loss represents a major challenge for restoration because essential components of the system may be disrupted or lacking entirely. Knick et al. (2003) claims this loss of continuous habitat reaches, as a result of urbanization and agricultural conversion, may be irreversible. The lower reaches of the North Fork and South Fork Palouse Rivers are confined to a concrete lined channel for nearly 0.5 miles as the stream enters the town of Colfax. This results in a loss of riparian habitat and channelizes the stream which contributes to hydrograph modifications. Ferguson et al. (2001) discuss effects of urbanization on wildlife and habitats, and state that predation rates on wildlife are higher in urban areas in comparison to similar exurban areas; with an increase in edge comes an increase in nest predation and brood parasitism. Their research suggests that increased predation in urban areas may be attributed to human pets—cats and dogs. Building and barren ground reduce and simplify vegetation within patches, and provide hunting areas for domestic cats and dogs that may effectively reduce the local abundance of vertebrate prey. Additional concerns related to urban development include:
  - septic systems- rural residents are on individual septic systems for domestic waste treatment. Improperly installed or failing septic systems are a source of water quality impairments.

- road development- the transportation system within the Palouse River subbasin is a potential limiting factor to wildlife populations. Road densities and placement can have a negative impact on wildlife use of important habitat. More than 65 species of terrestrial vertebrates in the interior Columbia River basin have been shown to be negatively affected by roads (Ashley and Stovall 2004). Roads can negatively affect terrestrial vertebrate habitats and populations as well as water quality and fish populations. Habitat fragmentation, due to road construction and improper culvert placement, has also prevented migration of fish and amphibian species within and/or between some subbasin tributaries. Increasing road densities can reduce big game habitat effectiveness and increase vulnerability to harvest. Motorized access facilitates firewood cutting and commercial harvest, which can reduce the suitability of habitats surrounding roads to species that depend on large trees, snags, or logs. Roads also aid the spread of noxious weeds. Road construction and maintenance has contributed to channelization and relocation of natural streams, causing a loss of fisheries habitat, and has negatively impacted the subbasin's hydrograph.
  - roadway erosion- Approximately 200 miles of unsurfaced roadways exist within the watershed. Unsurfaced (graveled and unmaintained) roadways contribute an estimated 12 tons/acre/year of sediment at a 60% sediment delivery ratio (Rasmussen et al. 1995).
- Priority level(s): local and regional
  - Source of data: Gilmore, S., Resource Planning Unlimited, Inc. Palouse Subbasin Management Plan. May 2004.
  - Engaged entities: Palouse RCPP partners, NRCS, Department of Ecology, City of Pullman Stormwater Services, Whitman County Public Works, local non-profit organizations, Palouse Land Trust.

▪ **Local and Watershed Planning**

- Description: Local and watershed planning efforts are essential processes for natural resource conservation prioritization. Voluntary Stewardship Program (VSP) is an optional, incentive-based program created as an alternative approach for counties to protect critical areas on agricultural lands. Counties “opting-in” to VSP will develop a Work Plan as an alternate method of meeting the Washington State Growth Management Act’s (GMA) critical areas protection requirements while enhancing the viability agriculture. VSP is supported by the Washington State Conservation Commission (WSCC), Washington State Farm Bureau and many others.
  - Twenty eight counties have “opted in” to the VSP, including Whitman County and Garfield County. Watershed Groups have been formed, which include a broad representation of key watershed stakeholders who are responsible for developing the Work Plan for the County.
  - The Work Group will be meeting regularly throughout 2016-2017 to develop the Work Plan, supported by the Whitman County conservation districts, Pomeroy Conservation Districe, Whitman County, Garfield County, and Anchor QEA (consultant). The Work Plan must:
    1. Identify Critical Areas and Ag Activities
    2. Identify Outreach Plan to Contact Landowners
    3. Identify Entity to Provide Landowner Assistance
    4. Identify Measurable Goals and Benchmarks

- Five Critical Areas identified under Growth Management Act include:
    1. Wetlands
    2. Frequently Flooded Areas
    3. Critical Aquifer Recharge Areas
    4. Geologically Hazardous Areas
    5. Fish and Wildlife Habitat Areas
  
  - Priority level(s): local and state
  
  - Source of data: Anchor QEA
  
  - Engaged entities: Whitman County Conservation Districts, Pomeroy Conservation District, Washington State Conservation Commission, Whitman County, Garfield County, Anchor QEA, local non-profits, local agricultural organizations, local agricultural operators, local residents.
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## **Washington Conservation Districts assisting land managers with their conservation choices**



# FY2017 (7/1/16 – 6/30/17) Annual Work Plan Palouse Conservation District



## Natural Resource Priority Program Area: Soil Health & Erosion Control

**Goal(s):** Demonstrated improvement in soil health including reduction in erosion as a result of people assisted, conservation plans developed and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Reduced erosion rates (soil loss tolerance), reduced sedimentation in water, improved soil health indicators, conservation practices related to water quality improvement implemented

**Programmatic Objective:** zero complaints, 60 individuals assisted, 15 conservation plans developed

**Funding Source(s):** Washington State Conservation Commission; Washington Department of Ecology Rock Lake and Palouse BMP Direct Seed Partnership; Washington Department of Ecology Riparian Restoration for NPS and Temp. Control, South Fork Palouse River grant; EQIP; NRCS RCPP; CREP; and Direct Seed Loan Program (administered through Spokane CD);VSP

Activities for FY2017	Target Dates	Person Responsible	Time(Days) Required	Estimated Funding	Notes
<ul style="list-style-type: none"> <li>Participate in VSP- meet with Counties and Watershed Group, to discuss planning and process</li> </ul>	7/1/2016-6/30/2017	-Brad Johnson -Larry Cochran -Joan Folwell	15	\$13,396	
<ul style="list-style-type: none"> <li>Technical assistance for roadside banks (landowners, county, city)- no spray signs</li> <li>Contact road departments for sediment information and potential projects</li> </ul>	ongoing	-Drew Schuldt	2	\$2,000	
<ul style="list-style-type: none"> <li>Continuation of direct seed cost-share program</li> <li>Work with Spokane CD regarding ideas for improving equipment access</li> <li>Promote soil health information and work sessions</li> </ul>	ongoing	-Patrick Rahilly -PCD Board	75	\$68,000	
<ul style="list-style-type: none"> <li>Continue Precision Ag Series</li> <li>Pursue additional technical and financial resources for Precision Ag</li> </ul>	ongoing	-Patrick Rahilly -Tami Stubbs -Hannah Liss	20	\$18,000	

<ul style="list-style-type: none"> <li>• Look into funding to develop a soil pH cost-share program</li> <li>• Look into funding to develop a cover crop cost-share program</li> <li>• Look into funding to develop CRP Take-out with conversion to Direct Seed program</li> <li>• Write Western SARE grant for sustainable ag research</li> </ul>	7/1/2016-6/30/2017	-Tami Stubbs -Patrick Rahilly	6	\$5,000	
<ul style="list-style-type: none"> <li>• Implement soil health monitoring program for Palouse Watershed</li> </ul>	7/1/2016-6/30/2017	-Ryan Boylan	55	\$50,000	
<ul style="list-style-type: none"> <li>• Utilize district engineer to perform evaluations of stream erosion and develop potential projects</li> <li>• Develop Beaver Dam Analog (BDA) and Post Assisted Log Structures (PALS) projects</li> </ul>	ongoing	-Drew Schuldt -Patrick Rahilly -Brad Johnson -Gary Ausman	22	\$20,000	
<ul style="list-style-type: none"> <li>• Continue work with the Local Working Group</li> <li>• Partner with NRCS to perform TSP Task orders as available</li> </ul>	ongoing	-Jennifer Boie -Drew Schuldt	13	\$12,000	
<ul style="list-style-type: none"> <li>• Continue partnership for Palouse RCPP and Palouse River Watershed projects</li> </ul>	ongoing	-Jennifer Boie -Laura Heinse	55	\$50,000	
<ul style="list-style-type: none"> <li>• Conservation planning and implementation planning for Palouse RCPP projects and deliverables</li> </ul>	ongoing	-Tami Stubbs -Jake Clements -Stephen Woodley	160	\$14,5000	
<ul style="list-style-type: none"> <li>• Pursue information and funding to address climate change and alternative crops</li> </ul>	7/1/2016-6/30/2017	-Tami Stubbs -Patrick Rahilly	6	\$5,000	
<ul style="list-style-type: none"> <li>• Partner to develop funding opportunities through USGS, Conservation Innovation Grants, RCO WWRP, Western SARE, NAWCA, ALEA, Floodplain by Design, IWJV, and other funding opportunities.</li> </ul>	ongoing	All staff	11	\$10,000	
		<b>Total</b>	<b>440</b>	<b>\$398,396</b>	

## Natural Resource Priority Program Area: Water Quality (all sources)

**Goal(s):** Demonstrated improvement in water quality measures for water bodies in the Palouse CD including reduction in sediment, fecal coliform, temperature as a result of people assisted, conservation plans developed and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Improved water quality measures (ph, sediment, temperature, bacteria, other), conservation practices related to water quality improvement implemented

**Programmatic Objective:** 60 individuals assisted, 15 conservation plans developed

**Funding Source(s):** Washington State Conservation Commission; Washington Department of Ecology Rock Lake and Palouse BMP Direct Seed Partnership; Washington Department of Ecology Riparian Restoration for NPS and Temp. Control, South Fork Palouse River grant; EQIP; NRCS RCPP; CREP; Direct Seed Loan Program (administered through Spokane CD); Port Wetland funds; WADOT mitigation funds; Ecology Alpowa; and mitigation contracts; VSP

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
<ul style="list-style-type: none"> <li>Participate in VSP- meet with Counties and Watershed Group, to discuss planning and process</li> </ul>	7/1/2016-6/30/2017	-Brad Johnson -Larry Cochran -Joan Folwell	15	\$13,396	
<ul style="list-style-type: none"> <li>Continue to work with partners to develop and implement mitigation program</li> </ul>	ongoing	-Jennifer Boie -Drew Schuldt	6	\$5,000	
<ul style="list-style-type: none"> <li>WSCC non-shellfish projects planned and implemented</li> </ul>	7/1/2016-6/30/2017	-Drew Schuldt -Patrick Rahilly -Randy Stevens -Jennifer Boie -Gary Ausman	221	\$200,000	
<ul style="list-style-type: none"> <li>Continued maintenance at WADOT sites</li> </ul>	ongoing	-Drew Schuldt	28	\$25,000	
<ul style="list-style-type: none"> <li>SF Palouse River Grant projects planned and implemented</li> </ul>	7/1/2016-6/30/2017	-Drew Schuldt -Patrick Rahilly	270	\$245,000	
<ul style="list-style-type: none"> <li>Port Wetland implementation and maintenance</li> </ul>	7/1/2016-6/30/2017	-Drew Schuldt -Hannah Liss	5	\$4,741	
<ul style="list-style-type: none"> <li>Apply for additional implementation funding for PALS and BDA projects</li> </ul>	ongoing	-Drew Schuldt -Randy Stevens -Brad Johnson	6	\$5,000	
<ul style="list-style-type: none"> <li>Continue water quality monitoring on North Fork Palouse River</li> <li>Maintain data base for North Fork Palouse River watershed baseline</li> <li>Continue water quality monitoring technical assistance and</li> </ul>	ongoing	-Hannah Liss -PCD Interns -PCD Board	22	\$20,000	

equipment check-out program					
• Implement water quality monitoring program for Palouse Watershed	ongoing	Ryan Boylan	44	\$40,000	
• Identify and secure additional funding to focus on urban waterways	ongoing	-Drew Schuldt	3	\$3,000	
• Planning and technical assistance including livestock operation improvements	ongoing	-Patrick Rahilly -Brad Johnson -Randy Stevens	11	\$10,000	
• Continue partnership for Palouse RCPP and Palouse River Watershed projects	ongoing	-Jennifer Boie -Laura Heinse	55	\$50,000	
• Conservation planning and implementation planning for Palouse RCPP projects and deliverables	ongoing	-Tami Stubbs -Jake Clements -Stephen Woodley	160	\$145,000	
• Continue work on CREP pilot to expand program opportunities and landowner interest	ongoing	-Randy Stevens	16	\$14,462	
• Partner to develop funding opportunities through USGS, Conservation Innovation Grants, RCO WWRP, Western SARE, NAWCA, ALEA, Floodplain by Design, IWJV, and other funding opportunities.	ongoing	-All staff	11	\$10,000	
• Partner to develop research opportunities through Conservation Innovation Grants, Western SARE, USGS, and other funding opportunities.	ongoing	-Tami Stubbs -Patrick Rahilly -Drew Schuldt -Randy Stevens	6	\$5,000	
		<b>Total</b>	<b>878</b>	<b>\$795,599</b>	

**Natural Resource Priority Program Area:** Replenishing the Landscape (habitat, vegetation, prairie, pollinators, aesthetics)

**Goal(s):** Demonstrated improvement in replenishing the landscape including habitat, vegetative cover, Palouse Prairie, pollinators, and aesthetics as a result of people assisted, conservation plans developed and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Increase availability of conservation plants, increase public awareness of Palouse landscape, adequate wildlife habitat and populations, increase pollinator habitat, and increase native plant community diversity and abundance

**Programmatic Objective:** 25 individuals contacted, 5 conservation plans developed

**Funding Source(s):** US Fish and Wildlife Service Partners for Fish and Wildlife Palouse Prairie Phase II Grant; USFWS Recovery Grant-Spalding's Catchfly; Washington State Conservation Commission; Annual Surplus Tree Sale; Palouse Wind Grant; ALEA grant; WDOT mitigation maintenance contract; CREP; NRCS RCPP; VSP

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
• Develop partnership for uplands and threatened species	7/1/2016-6/30/2017	-Jennifer Boie -Laura Heinse -James Riser	13	\$12,000	
• Plan, promote and conduct surplus plant sale	ongoing	-Pam Furchtenicht -Drew Schuldt -Hannah Liss	7	\$6,000	
• Secure additional wildlife and native plant protection/restoration projects	ongoing	-Drew Schuldt -Hannah Liss -Interns	11	\$10,000	
• Administer ALEA grant	7/1/2016-6/30/2017	-Drew Schuldt -Hannah Liss	11	\$10,000	
• Provide technical assistance for backyard wildlife and pollinator habitat	ongoing	-Drew Schuldt -Hannah Liss	6	\$5,000	
• Continue Palouse Prairie phase II activities	7/1/2016-9/30/2016	-Drew Schuldt -Hannah Liss -James Riser -PCD interns	2	\$2,000	
• Implement Palouse Prairie Phase III inventory	7/1/2016-6/30/2017	-James Riser	13	\$12,000	
• Implement USFWS Recovery grant-Spalding's Catchfly	7/1/2016-6/30/2019	-James Riser	44	\$40,000	
• Continue partnership for Palouse RCPP and Palouse River Watershed projects	ongoing	-Jennifer Boie -Laura Heinse	55	\$50,000	
• Conservation planning and implementation planning for Palouse RCPP projects and deliverables	ongoing	-Tami Stubbs -Jake Clements -Stephen	160	\$145,000	

		Woodley			
• Implement habitat monitoring program for Palouse Watershed	ongoing	-Ryan Boylan	55	\$50,000	
• Continue work on CREP pilot to expand program opportunities and landowner interest	ongoing	-Randy Stevens	16	\$14,462	
• Participate in VSP- meet with Counties and Watershed Group, to discuss planning and process	7/1/2016-6/30/2017	-Brad Johnson -Larry Cochran -Joan Folwell	15	\$13,396	
		<b>Total</b>	<b>408</b>	<b>\$369,858</b>	

## Natural Resource Priority Program Area: Air Quality

**Goal(s):** Demonstrated improvement in air quality and reduction in complaints as a result of people assisted, agricultural burn permit plans developed and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Improved air quality

**Programmatic Objective:** Successful agriculture burn program, 20 people assisted, zero complaints

**Funding Source(s):** Department of Ecology Burn Program; Washington Department of Ecology Rock Lake and Palouse BMP Direct Seed Partnership; NRCS RCPP; VSP

Activities for FY2017	Target Dates	Person Responsible	Time(Days) Required	Estimated Funding	Notes
• Ag burn permit program implementation including technical guidance	ongoing	-Pam Furchtenicht	6	\$5,000	
• State Ag Burn Taskforce	ongoing	-Larry Cochran	4	\$4,000	
• Partner in research that investigates methods for improving air quality.	ongoing	-Tami Stubbs -Patrick Rahilly	1	\$1,000	
• Direct seed programs/projects	ongoing	-Tami Stubbs -Patrick Rahilly	11	\$10,000	
• Participate in VSP- meet with Counties and Watershed Group, to discuss planning and process	7/1/2016-6/30/2017	-Brad Johnson -Larry Cochran -Joan Folwell	15	\$13,396	
		<b>Total</b>	<b>37</b>	<b>\$33,396</b>	

## Natural Resource Priority Program Area: Energy

**Goal(s):** Demonstrated improvement in agriculture energy conservation as a result of people assisted with energy assessments, conservation plans developed, and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Increased energy conservation and improved operation efficiency

**Programmatic Objective:** 60 Individual assisted with direct seed cost-share, 15 conservation plans developed

**Funding Source(s):** Washington State Conservation Commission; Washington Department of Ecology Rock Lake and Palouse BMP Direct Seed Partnership; NRCS RCPP

Activities for FY2017	Target Dates	Person Responsible	Time(Days) Required	Estimated Funding	Notes
<ul style="list-style-type: none"> <li>Continue to partner with Paouse-Rock Lake CD to offer opportunities for PCD operators to participate in direct seed cost share</li> </ul>	7/1/2016-6/30/2017	-Jennifer Boie -Patrick Rahilly -Whitman Co. CDs	11	\$10,000	
<ul style="list-style-type: none"> <li>Look into opportunities (including TSP) to conduct energy audits</li> </ul>	ongoing	-Jennifer Boie	1	\$1,000	
<ul style="list-style-type: none"> <li>Expand training and cost share opportunities for precision agriculture</li> </ul>	ongoing	-Tami Stubbs -Patrick Rahilly -Keith Kopf	11	\$10,000	
		<b>Total</b>	<b>23</b>	<b>\$21,000</b>	

## Natural Resource Priority Program Area: Invasive Species Control

**Goal(s):** Demonstrated improvement in weed control and technical assistance for district projects as a result of people assisted, weed control practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Reduction in invasive weed presence at project sites and increased weed control technical assistance

**Programmatic Objective:** 10 individuals provided with technical assistance on weed control, increased weed control on 10 district project sites

**Funding Source(s):** Washington State Conservation Commission; CREP; NRCS RCPP; ALEA

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
• Implement ALEA grant	7/1/2016-6/30/2017	-Drew Schuldt -Hannah Liss	11	\$10,000	
• Department of Transportation weed control projects	ongoing	-Drew Schuldt	11	\$10,000	
• Chipman Trail weed control project	ongoing	-Drew Schuldt	2	\$2,000	
• Mitigation project weed control	ongoing	-Drew Schuldt	1	\$1,000	
• Weed control in wetland areas	ongoing	-Drew Schuldt	1	\$1,000	
• Coordination with County Weed Board and look at opportunities to work together	7/1/2016-6/30/2017	-Drew Schuldt -Randy Stevens Greg Jones	1	\$1,000	
• Weed control at Palouse Prairie sites	ongoing	-Drew Schuldt -PCD Intern -Hannah Liss	3	\$3,000	
• Explore bio-control opportunities	ongoing	-Drew Schuldt -Randy Stevens	1	\$1,000	
		<b>Total</b>	<b>32</b>	<b>\$29,000</b>	

## **Natural Resource Priority Program Area: Small Acreage Issues**

**Goal(s):** Demonstrated improvement in small acreage conservation issues as a result of people assisted, conservation plans developed and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Erosion reduction, increased water quality, and decline in weed populations on small acreage

**Programmatic Objective:** 4 individuals assisted and 4 conservation plans developed

**Funding Source(s):** Washington State Conservation Commission; CREP; Washington Department of Ecology Riparian Restoration for NPS and Temp. Control, South Fork Palouse River grant

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
• Pullman city limits heavy use livestock area project technical assistance	7/1/2016-6/30/2017	-Drew Schuldt	1	\$1,000	
• Project planning and implementation for SF Palouse River grant	7/1/2016-6/30/2017	-Drew Schuldt -Patrick Rahilly	22	\$20,000	
• Continue work on CREP pilot to expand program opportunities and landowner interest	ongoing	-Randy Stevens	16	\$14,462	
• Palouse Prairie inventory and technical assistance for protection, restoration, and species recovery	ongoing	-James Riser	6	\$5,000	
• Continue partnership for Palouse RCPP and Palouse River Watershed projects	ongoing	-Jennifer Boie -Laura Heinse	55	\$50,000	
• Conduct outreach to small acreage land owners regarding available assistance and information • Identify outreach and handbook materials available from other CDs • Develop Better Ground pilot materials for Eastern WA	7/1/2016-6/30/2017	-Drew Schuldt -Patrick Rahilly -Hannah Liss	10	9000	
• Identify funding for small acreage land owners	ongoing	-Drew Schuldt -Patrick Rahilly	3	\$3,000	
• Identify small acreage planning tools (King; Pierce, Snohomish, etc)	7/1/2016-6/30/2017	-Drew Schuldt -Hannah Liss	1	\$1,000	
		<b>Total</b>	<b>114</b>	<b>\$103,462</b>	

## **District Program Area:** Education / Outreach

**Goal(s):** Demonstrated improvement in conservation awareness and interest as a result of educational and outreach events, increased partner agencies and organizations involved and media coverage. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Programmatic Objective:** Education and outreach program will coordinate or participate in 50 events, 20 partner agencies and organizations will be reached, 15 media articles and other media coverage, and 4,000 individuals contacted

**Funding Source(s):** Washington State Conservation Commission; Department of Ecology Burn Program; US Fish and Wildlife Service Partners for Fish and Wildlife Grant; Washington Department of Ecology Rock Lake and Palouse BMP Direct Seed Partnership; Washington Department of Ecology Riparian Restoration for NPS and Temp. Control, South Fork Palouse River grant; EQIP; NRCS RCPP; CREP; Project WET; Project Learning Tree; Water on Wheels; Wheat Week; VSP

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
<ul style="list-style-type: none"> <li>Annual listening session</li> </ul>	ongoing	-Jennifer Boie -Hannah Liss -Pam Furchtenicht	6	\$5,000	
<ul style="list-style-type: none"> <li>Conservation Tour</li> </ul>	ongoing	-Jennifer Boie -Laura Heinse -Hannah Liss -Pam Furchtenicht	6	\$5,000	
<ul style="list-style-type: none"> <li>Conservation Awards of the year</li> </ul>	ongoing	-PCD Board -all staff	1	\$1,000	
<ul style="list-style-type: none"> <li>Create additional opportunities for landowner networking around local conservation topics of interest</li> </ul>	ongoing	-Hannah Liss	11	\$10,000	
<ul style="list-style-type: none"> <li>Supervisor op-ed articles for newsletter</li> </ul>	ongoing	-Hannah Liss -PCD Board	1	\$1,000	
<ul style="list-style-type: none"> <li>WSU Career Fair participation</li> <li>WSU Wellness Fair</li> <li>Internship opportunities for local college students</li> <li>WSU Center for Civic Engagement activities</li> </ul>	ongoing	-Drew Schuldt -Hannah Liss -AmeriCorps	13	\$12,000	
<ul style="list-style-type: none"> <li>Secure AmeriCorps member placement</li> </ul>	ongoing	-Drew Schuldt	11	\$10,000	
<ul style="list-style-type: none"> <li>Outreach regarding conservation practices and available assistance</li> </ul>	ongoing	-all staff -PCD board	13	\$12,000	
<ul style="list-style-type: none"> <li>Develop and update outreach materials including videos, brochures and newsletters</li> <li>Maintain and update website and social medial</li> </ul>	ongoing	-Hannah Liss -Drew Schuldt -Pam Furchtenicht	6	\$5,000	
<ul style="list-style-type: none"> <li>Participate in VSP- meet with Counties and Watershed Group, to discuss planning and process</li> </ul>	7/1/2016-6/30/2017	-Brad Johnson -Larry Cochran	3	\$3,000	

		-Joan Folwell			
• WSCC CPO group	ongoing	-Jennifer Boie -Hannah Liss	15	\$13,396	
• Lentil Festival • Palouse Empire Fair	ongoing	-Hannah Liss -Pam Furchtenicht -Whitman Co. CDs	7	\$6,000	
• Continue to develop partnerships with local organizations to pursue education funding	ongoing	-Jennifer Boie -Hannah Liss	3	\$3,000	
• Continue delivery of Wheat Week program • Continue delivery of Water on Wheels program	7/1/2016-6/30/2017	-Hannah Liss	12	\$10,000	
• Develop Better Ground pilot materials for Eastern WA	7/1/2016-6/30/2017	-Hannah Liss	1	\$1,000	
• Explore opportunities to develop a speaker series	7/1/2016-6/30/2017	-Joan Folwell -Hannah Liss	4	\$4,000	
• Science Wednesday programs with Palouse Discovery Science Center-Port Wetland	ongoing	-Hannah Liss -AmeriCorps	6	\$5,000	
• Continue Project Learning Tree and Project WET k-12 workshop facilitation	ongoing	-Jennifer Boie -Hannah Liss	2	\$2,000	
• Plan and conduct local Envirothon competition	ongoing	-Hannah Liss	6	\$5,000	
• Host community volunteer events	ongoing	-Hannah Liss -AmeriCorps -Interns	11	\$10,000	
		<b>Total</b>	<b>139</b>	<b>\$126,396</b>	

## Natural Resource Priority Program Area: Water Quantity

**Goal(s):** Demonstrated improvement in water quantity conservation issues as a result of people assisted, conservation plans developed and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Water conservation, increased water quantity, and decline in water wasted

**Programmatic Objective:** Greater public awareness of water quantity issues through participation in Palouse Basin Water Summit and PBAC activities

**Funding Source(s):** Washington State Conservation Commission; NRCS RCPP; Ecology Implementation Flow Enhancement

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
<ul style="list-style-type: none"> <li>Participate on planning committee for the Palouse Water Summit</li> </ul>	ongoing	-Hannah Liss -Jennifer Boie	3	\$3,000	
<ul style="list-style-type: none"> <li>Look for opportunities to partner with Palouse Basin Aquifer Committee (PBAC)</li> </ul>	ongoing	-Jennifer Boie	2	\$2,000	
<ul style="list-style-type: none"> <li>Identify local outreach plans and programs (Moscow, Pullman, etc.) and look for opportunities to collaborate on program development and delivery</li> <li>Coordinate with City of Pullman/WSCC to identify research and monitoring opportunities</li> <li>Identify funding opportunities for water conservation and aquifer protection and recharge</li> </ul>	ongoing	-Hannah Liss -Drew Schuldt	7	\$6,000	
<ul style="list-style-type: none"> <li>Develop voluntary beaver or BDA projects</li> </ul>	ongoing	-Drew Schuldt -Patrick Rahilly -Brad Johnson	6	\$5,000	
<ul style="list-style-type: none"> <li>Implement DOE Implementation Flow Enhancement grant</li> </ul>	7/1/2016-6/30/2017	-Brad Johnson	32	\$29,250	
<ul style="list-style-type: none"> <li>Conduct outreach to land owners regarding available assistance and information</li> <li>Identify outreach and handbook materials available from other CDs and partners</li> <li>Look into project/program opportunities for permeable surfaces/parking lots, rain barrels, xeriscape, water retention.</li> </ul>	ongoing	-Hannah Liss -Drew Schuldt	24	\$22,000	
		<b>Total</b>	<b>74</b>	<b>\$67,250</b>	

## **Natural Resource Priority Program Area: Climate Change**

**Goal(s):** Demonstrated improvement in implementation of conservation practices that address climate change issues as a result of people assisted, conservation plans developed and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Pro-actively reduce impact of climate change

**Programmatic Objective:** 60 individuals assisted and 15 conservation plans developed

**Funding Source(s):** Washington State Conservation Commission; Washington Department of Ecology Riparian Restoration for NPS and Temp. Control, South Fork Palouse River grant; Washington Department of Ecology Rock Lake and Palouse BMP Direct Seed Partnership

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
• Develop cover crops program and funding	ongoing	-Tami Stubbs -Patrick Rahilly	2	\$2,000	
• Continuation of direct seed cost-share program • Work with Spokane CD regarding ideas for improving equipment access	ongoing	-Tami Stubbs -Patrick Rahilly	4	\$4,000	
• Secure dedicated funding for climate change activities	ongoing	-Jennifer Boie	3	\$3,000	
• Continue partnership with REACCH	ongoing	-Tami Stubbs -Patrick Rahilly	4	\$4,000	
• Palouse Prairie projects	ongoing	-James Riser	6	\$5,000	
• Riparian buffer projects	ongoing	-Drew Schuldt -Randy Stevens	6	\$5,000	
• Explore opportunities to develop a speaker series	7/1/2016-6/30/2017	-Joan Folwel -Hannah Liss	2	\$2,000	
• Information and education on local effects based on local data available (growing season/crop impacts)	ongoing	-Tami Stubbs -Patrick Rahilly	2	\$2,000	
		<b>Total</b>	<b>30</b>	<b>\$27,000</b>	

## **Natural Resource Priority Program Area:** Anadromous Fish Recovery and Aquatic Passage

**Goal(s):** Recovery of anadromous fish populations. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Improved aquatic passage and habitat for anadromous fish

**Programmatic Objective:** 5 individuals assisted and 5 conservation plans developed

**Funding Source(s):** Washington State Conservation Commission; NRCS RCPP; CREP; Snake River Salmon Recovery Funding; RCO; Ecology Alpowa

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
• Steptoe culvert replacement implementation	7/1/2016-6/30/2017	-Patrick Rahilly -Gary Ausman	209	\$189,738	
• Conduct outreach land owners regarding available assistance and information	ongoing	-Randy Stevens -Brad Johnson	1	\$1,250	
• Identify outreach and handbook materials available from other CDs	7/1/2016-6/30/2017	-Hannah Liss	1	\$1,000	
• Participate in Snake River Salmon Recovery process and serve as Whitman County Lead Entity	ongoing	-Jennifer Boie -Brad Johnson -Randy Stevens	3	\$3,000	
• Continue to pursue funding for Whitman County anadromous projects	ongoing	-Jennifer Boie -Brad Johnson -Randy Stevens	11	\$10,000	
• Continue WRIA 35 partnerships	ongoing	-Brad Johnson	13	\$12,000	
• Annual meeting with Walla Walla Community College, WDFW and DOT to review passage barriers	7/1/2016-6/30/2017	-Brad Johnson	1	\$1,000	
• Develop BDA and PALS projects for instream habitat	ongoing	-Brad Johnson -Drew Schuldt -Randy Stevens	3	\$3,000	
• Continue to expand CREP program opportunities and landowner interest	ongoing	-Randy Stevens	16	\$14,462	
• Continue partnership for Palouse RCPP and Palouse River Watershed projects	ongoing	-Jennifer Boie -Laura Heinse	55	\$50,000	
• Participate in VSP- meet with Counties and Watershed Group, to discuss planning and process	ongoing	-Brad Johnson -Larry Cochran -Joan Folwell	15	\$13,396	
		<b>Total</b>	<b>330</b>	<b>\$298,846</b>	

## Natural Resource Priority Program Area: Urban Development

**Goal(s):** Demonstrated improvement in urban development conservation issues as a result of people assisted, conservation plans developed and conservation practices implemented. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Erosion reduction, increased water quality, and decline in weed populations

**Programmatic Objective:** 4 individuals assisted and 2 conservation plans developed

**Funding Source(s):** Washington State Conservation Commission; NRCS RCPP; VSP

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
• Partner with cities to support stormwater awareness and implement conservation practices to improve water quality	ongoing	-Drew Schuldt	4	\$4,000	
• Partner with Palouse Land Trust to implement Palouse RCPP ACEP conservation easement	ongoing	-Jennifer Boie -Laura Heinse -PLT staff	6	\$5,000	
• Partner with WCSS and Palouse Land Trust to support succession planning awareness	ongoing	-Jennifer Boie	2	\$2,000	
• Provide services for mitigation projects	ongoing	-Jennifer Boie -Drew Schuldt	2	\$2,000	
• Partner with Palouse Land Trust to support Agricultural Conservation Easements	ongoing	-Jennifer Boie -Tami Stubbs	3	\$3,000	
• Identify outreach and handbook materials available from other CDs	7/1/2016-6/30/2017	-Hannah Liss	1	\$1,000	
• Participate in VSP- meet with Counties and Watershed Group, to discuss planning and process	7/1/2016-6/30/2017	-Brad Johnson -Larry Cochran -Joan Folwell	15	\$13,396	
		<b>Total</b>	<b>34</b>	<b>\$30,396</b>	

## Natural Resource Priority Program Area: Local and Watershed Planning

**Goal(s):** Natural resource conservation prioritization at local and watershed scales. Protection of critical areas while enhancing the viability agriculture. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Natural Resource Objective:** Protection of critical areas; enhanced viability of agriculture; improved water quality, water quantity, soil health, air quality, energy conservation, species recovery, habitat, and aesthetics.

**Programmatic Objective:** Support the developemt of work plans for Whitman and Garfield Counties

**Funding Source(s):** Whitman County VSP; Garfield County VSP; Snake River Salmon Recovery Funding; NRCS RCPP

Activities for FY2017	Target Dates	Person Responsible	Time(Days) Required	Estimated Funding	Notes
<ul style="list-style-type: none"> <li>Participate in VSP- meet with Counties and Watershed Group, to discuss planning and process</li> </ul>	7/1/2016-6/30/2017	-Brad Johnson -Larry Cochran -Joan Folwell	15	\$13,396	
<ul style="list-style-type: none"> <li>Serve as the lead entity for WRIA 34</li> </ul>	ongoing	-Jennifer Boie -Laura Henise	28	\$25,000	
<ul style="list-style-type: none"> <li>Serve as the lead entity for WRIA 35</li> </ul>	ongoing	-Brad Johnson	28	\$25,000	
<ul style="list-style-type: none"> <li>Partner with cities, counties, and local partners to support processes for natural resource conservation prioritization</li> </ul>	ongoing	-Jennifer Boie -Brad Johnson -Laura Heinse	11	\$10,000	
		<b>Total</b>	<b>81</b>	<b>\$73,396</b>	

## District Program Area: District Operations

**Goal(s):** Demonstrated improvement in district operations as a result of increased staff efficiency, updated training, and appropriate workload. Encourage development and growth of community conservation ethic by providing educational, technical, and financial assistance.

**Programmatic Objective:** Effective operations; adequate funding; strong partnerships; happy, well trained, well evaluated, and well compensated employees; employee retention

**Funding Source(s):** Washington State Conservation Commission Grants; Department of Ecology Burn Program; US Fish and Wildlife Service Partners for Fish and Wildlife Grants; USFWS Recovery Funding; Port Wetland funds; WADOT mitigation contract; Wheat Week/Water on Wheels; Snake River Salmon Recovery Funds; Palouse Wind Grant; RCO; Ecology Implementaion Flow Enhancement; VSP; Ecology Alpowa; ALEA grant; Washington Department of Ecology Rock Lake and Palouse BMP Direct Seed Partnership; Washington Department of Ecology Riparian Restoration for NPS and Temp. Control, South Fork Palouse River grant; EQIP; NRCS RCPP; CREP; and Direct Seed Loan Program (administered through Spokane CD); local partner contracts

<b>Activities for FY2017</b>	<b>Target Dates</b>	<b>Person Responsible</b>	<b>Time(Days) Required</b>	<b>Estimated Funding</b>	<b>Notes</b>
<ul style="list-style-type: none"> <li>Perform routine administrative procedures such as: Personnel management, facilities management, program administration, policy manual maintenance, Annual Plan of Work and Long Range Plan development, budget, and workload</li> </ul>	ongoing	-Jennifer Boie -Pam Furchtenicht	113	\$102,042	
<ul style="list-style-type: none"> <li>Maintain a comprehensive financial management system including creation and maintenance of financial records, responsible for internal and State audits, submittals of financial reports, budgets, status reports to Board, accounts payable and receivable, practice sound accounting procedures, etc.</li> </ul>	ongoing	-Pam Furchtenicht	66	\$60,000	
<ul style="list-style-type: none"> <li>Identify, secure and administer funding sources to achieve District objectives and operations.</li> </ul>	ongoing	-Jennifer Boie -PCD Board	13	\$12,000	
<ul style="list-style-type: none"> <li>Legislative activities and outreach</li> </ul>	ongoing	-Jennifer Boie -PCD Board	4	\$4,000	
<ul style="list-style-type: none"> <li>Develop and maintain an effective Supervisor and Staff development program including identification of training opportunities, attendance at regional and state conferences, and maintain or expand staff resources to meet demand.</li> </ul>	ongoing	-Jennifer Boie -PCD Board	26	\$24,000	
<ul style="list-style-type: none"> <li>Attend WADE and other trainings</li> </ul>	ongoing	-all staff	44	\$40,000	
<ul style="list-style-type: none"> <li>Training plans for all employees</li> </ul>	ongoing	-Jennifer Boie -PCD Board	8	\$7,000	
<ul style="list-style-type: none"> <li>Annual employee evaluations to include consideration of accurate and appropriate position description, work load, compensation, and benefits</li> </ul>	ongoing	-Jennifer Boie -Laura Heinse -Brad Johnson -PCD Board	44	\$40,000	
<ul style="list-style-type: none"> <li>Update technology and equipment to enable District to optimize services.</li> </ul>	ongoing	-Jennifer Boie -Pam Furchtenicht	55	\$50,000	

<ul style="list-style-type: none"> <li>• Successful annual elections</li> </ul>	ongoing	-Pam Furchtenicht	4	\$4,000	
<ul style="list-style-type: none"> <li>• Identify partnerships</li> <li>• Assign a relationship manager to keep partnerships strong</li> <li>• Identify opportunities to collaborate for funding and project implementation</li> </ul>	ongoing	-all staff -PCD board	13	\$12,000	
		<b>Total</b>	<b>418</b>	<b>\$397,042</b>	



## FY2017 Annual Budget Palouse Conservation District

<b>Revenues:</b>			<b>Expenses:</b>	
WSCC Basic FY17	\$12,500		Payroll	\$758,713
WSCC IM FY15	\$56,627		Health Benefits	\$119,110
WSCC Non-shellfish Uh.	\$4,500		Retirement	\$37,936
WSCC Non-shellfish We.	\$58,400		Office Supplies	\$24,000
WSCC Non-shellfish Br.	\$62,400		IT Purchase & Repair	\$50,000
WSCC C3 P2.	\$62,500		Training & Meetings	\$50,000
Port Wetland	\$4,741		Communication	\$24,000
Ecology Direct Seed	\$63,000		Employee Travel	\$30,000
Ecology SF Palouse River	\$264,085		Advertising	\$8,000
WSDOT Mitigation	\$35,000		Rental & Leases	\$60,000
PP Phase II- USFWS	\$2,000		Insurance/Bond (Enduris)	\$10,000
Burn Program	\$5,000		Misc.	\$8,000
Contract planting	TBD		Dues	\$10,000
CREP	\$57,846		Maintenance	\$16,000
Wheat Week/Water on Wheels	\$10,000		Education & Marketing	\$20,000
SRSRF Lead entity	\$5,000		All Grants- Field Supplies-Expendable	\$50,000
Wind funds- Palouse Prairie	\$12,000		Fuel	\$30,000
Palouse RCPP	\$1,634,280		Contracted Services	\$50,000
RCO Culvert implementation	\$189,738		Purchase for Resale	\$5,000
Ecology Implementation Flow Enhancement	\$29,250		Burn Permits (DOE)	\$6,580
SRSRF WRIA 35	\$25,000		Cost-Share/Financial Assistance	\$1,296,253
Garfield Co. VSP	\$100,000		Partner Technical Assistance	\$89,445
Whitman Co. VSP	\$7,170			
Ecology Alpowa	\$12,000			
USFWS Recovery- Palouse Prairie	\$40,000			
<b>TOTAL</b>	<b>\$2,753,037</b>		<b>TOTAL</b>	<b>\$2,753,037</b>