

**BENTON COUNTY VOLUNTARY STEWARDSHIP PROGRAM (VSP)
MAP DATA SOURCES**

SOURCE DATA ACRONYMS	
ACRONYM	ORGANIZATION
BCD	Benton Conservation District
BLM	Bureau of Land Management
DOH	Department of Health
DNR	Department of Natural Resources
ECY	Department of Ecology

SOURCE DATA ACRONYMS	
ACRONYM	ORGANIZATION
FEMA	Federal Emergency Management Agency
NHD	USGS National Hydrography Dataset
NWI	USFWS National Wetlands Inventory
PHS	Priority Habitat and Species
TWC	The Watershed Company

SOURCE DATA ACRONYMS	
ACRONYM	ORGANIZATION
USFWS	US Fish and Wildlife Service
USGS	United States Geological Survey
WDFW	Department of Fish and Wildlife
WSDA	Department of Agriculture

CURRENT PROPOSED MAPS AND DATA SOURCES					
#	DATA GROUP	INTENDED USE	FEATURECLASS	DESCRIPTION/NOTES	SOURCE DOWNLOAD AND METADATA LINKS
1	Agriculture and Rangelands	VSP Agricultural Lands	<ol style="list-style-type: none"> Agricultural_Lands_Benton_2016_07_11 (polygon) Agricultural_Lands_Benton_2016_07_11_Excluding_Cities 	Merge of WSDA_2015_Benton and BCD_Agriculture_Additional datasets. Reflects comprehensive mapping of agricultural lands within and adjacent to Benton County. Dataset produced on July 11, 2016 and may be updated per feedback and guidance from client (e.g. BCD_Rural_Other records may be identified as agricultural and added).	
		WSDA Agricultural Lands (2015)	<ol style="list-style-type: none"> WSDACrop_2015_Benton (polygon) 	WSDA dataset (Publication 2016); downloaded 4-7-2016; Clipped to One Mile buffer for Benton County; already in WA State Plane South	http://agr.wa.gov/PestFert/NatResources/docs/2015CropSectionsFeatureClassMetadata.pdf
		WSDA Agricultural Lands (2011)	<ol style="list-style-type: none"> WSDACrop_2011_Benton (polygon) 	WSDA dataset (Publication 2012); downloaded 7-11-2016; Clipped to One Mile buffer for Benton County; already in WA State Plane South	
		BCD Dryland	<ol style="list-style-type: none"> BCD_Dryland (polygon) 	Benton Conservation District dataset mapping of drylands (considered agricultural). Parcel based data. (Publication 2016)	http://www.bentoncd.org/
		BCD Irrigated	<ol style="list-style-type: none"> BCD_Irrigated (polygon) 	Benton Conservation District dataset mapping of irrigated lands (considered agricultural). Parcel based data. (Publication 2016)	http://www.bentoncd.org/
		BCD Rural Other	<ol style="list-style-type: none"> BCD_Rural_Other (polygon) 	Benton Conservation District dataset mapping of other rural lands. This dataset may include additional agricultural lands – as of July 11, 2016 no additional agricultural lands identified. Parcel based data. (Publication 2016)	http://www.bentoncd.org/
		BCD Additional Agricultural Lands	<ol style="list-style-type: none"> BCD_Agriculture_Additional (polygon) 	Represents additional agricultural lands identified by the Benton Conservation District that were not mapped as part of the WSDACrop_2015 dataset. BCD_Dryland and BCD_Irrigated datasets merged and then WSDACrop_2015_Benton erased from merged dataset. CalcAcres field added.	

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		VSP Rangelands	9. Rangelands_Benton_2016_07_11 (polygon) 10. Rangelands_Benton_2016_07_11_Excluding_Cities	Merge of Assessor_Rangelands_Parcels, BCD_Rangeland, BLM_Grazing_Allotments, and ECY_Rangelands datasets. Merged rangelands dataset then dissolved and overlapping areas with Agricultural_Lands_Benton_2016_07_11 were removed. Additionally, any rangelands mapped within Hanford Site were removed.	
		Benton County Rangeland Parcels	11. Assessor_Rangelands_Parcels (polygon)	Selection of Benton County parcels based upon pcdesc = "101 Rangeland." (Publication 2016; Data downloaded June, 14, 2016).	https://www.mediafire.com/folder/28z055ueommxk/Metadata_Files (see ParcelsandAccess.html)
		BCD Rangeland	12. BCD_Rangeland (polygon)	Benton Conservation District dataset mapping of rangelands. Parcel based data. (Publication 2016)	http://www.bentoncd.org/
		BLM Grazing Allotments	13. BLM_Grazing_Allotments (polygon)	BLM mapped livestock grazing allotments. (Publication May, 2016; Downloaded July 11, 2016).	http://www.blm.gov/or/gis/data-details.php?id=31
		ECY Rangelands	14. ECY_Rangelands (polygon)	Derived from ECY 2010 Land Use Dataset where LANDUSE_CD field has value of "94 – Open Space." Further refined per direction from Ecology to exclude DNR identified Major Public Lands that overlay the ECY 2010 open space selection.	http://www.ecy.wa.gov/services/gis/data/planningCadastre/landuse.htm https://fortress.wa.gov/dnr/adminsa/gisdata/metadata/ndmpl.htm
		2011 to 2015 Change in Ag	15. WSDACrop_2011_2015_Union_noslivers_nopastures_changes_SS_NoCities (polygon)	Changes in classification of dryland, irrigated, and other (NA) from 2011 to 2015 WSDA layer. Does not include changes to areas with Calc Area less than one acre or areas that show a shift to n/a with less than 15 acres Calc Area (these seemed to represent changes in WSDA mapping rather than on-the-ground differences). Based on input from the working group on 11/28/16, only changes to irrigated agriculture represent real changes, the other changes represent data noise.	Data 3 and 4 above
2	Overview	County Boundary	1. CountyBoundary (polygon)	Benton County dataset; downloaded 6-14-2016	http://www.co.benton.wa.us/pView.aspx?id=6002&catid=45
		Incorporated City Boundaries	2. CityLimits (polygon)	Benton County dataset; downloaded 6-14-2016	

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		Urban Growth Area Boundaries	3. UGA (polygon)	Benton County data; downloaded 6-14-2016	
		Hanford Site	4. Hanford_Site (polygon)	Benton County data; downloaded 7-11-2016	http://www.mediafire.com/download/hacww3rgbcc7t4/HanfordSite.zip
3	Hydrology	Wetlands	1. NWI_WA_Wetlands_BentonVicinity (polygon) 2. twc_wetlands_NWI_minus_NHDWaterbodiesMajorAreas	USFWS-documented wetlands; downloaded 05-24-2016; clipped and reprojected New wetland layer used for intersect; shows only NWI wetlands outside of NHD Major Areas and NHD Major Waterbodies; overlap removed by Union of layers of interest and deletion of records from NHD Major Areas and Major Waterbodies; derived by TWC 8/31/2016	https://www.fws.gov/wetlands/Data/Data-Download.html
		Drainage features- includes unverified features	3. NHD_Flowlines_BentonVicinity (polyline)	USGS NHD data set components, downloaded 6-15-2016; clipped and reprojected	http://www.ecy.wa.gov/services/gis/data/data.htm
		Streams and lakes	4. NHD_Waterbody_BentonVicinity (polygon) 5. NHD_Areas_BentonVicinity (polygon)		
		Artificial drainage features	6. NHD_FlowlinesArtificial_BentonVicinity (polyline) 7. NHD_AreasArtificial_BentonVicinity (polygon)	Derived by TWC from above USGS NHD feature classes to include only manipulated watercourses (e.g. canals, ditches, pipes, etc.)	See above
		Streams and lakes – main verified features	8. twc_NHDFlowlines_3up_ver2_countyclip_removeditch (polyline) 9. NHD_MajorWaterbodies_BentonVicinity (polygon) 10. NHD_MajorAreas_BentonVicinity (polygon)	Derived from NHD dataset by ECY; downloaded 6/14/2016; clipped and reprojected. 1. <u>Streams</u> (twc_NHDFlowlines_3up_ver2_countyclip_removeditch) The stream layer is based of streams 3 rd order and higher. Additional manual editing and deletion of NHD segments occurred as follows: For areas of irrigated agriculture (Yakima Valley streams and Lower Glade Creek)- Named streams 3 rd order and higher, including unnamed areas of Amon Creek For areas of non-irrigated agriculture (Upper Cold Creek, Upper Glade Creek, Sulphur Creek, Spring Creek, and Dry Creek)- Named streams 7 th order and higher	http://www.ecy.wa.gov/services/gis/data/data.htm

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#	DATA GROUP	INTENDED USE	FEATURECLASS	DESCRIPTION/NOTES	SOURCE DOWNLOAD AND METADATA LINKS
		Floodplain and Floodway	2. FEMA_Q3_Benton (polygon)	Q3 map generated by FEMA; downloaded 3-5-2012 from ECY, not updated recently; includes only Benton County, not the surrounding vicinity.	http://www.ecy.wa.gov/services/gis/data/inlandWaters/flood/flood.htm
		WRIA	3. WRIA_Benton (polygon)	ECY dataset (2011 publication); Clipped to County Boundary, slivers merged, and reprojected.	http://www.ecy.wa.gov/services/gis/data/inlandWaters/wria.htm
		Aqueducts (DNR)	4. Aqueducts_Canals_Siphons_DNR_Hydro (polyline)	Derived from DNR watercourse dataset for Benton County. WB_CART_FTR_CD = Ditch/canal, Aqueduct, or Siphon.	https://fortress.wa.gov/dnr/adminsa/gisdata/metadata/WA_Hydro_Data_Dic.htm
		Aqueducts (NHD)	5. Aqueducts_NHD (polyline)	Derived from NHD_Flowlines_BentonVicinity dataset where FCode = 33601; 42801; 42803; 42804; 42816. Note: Refinement of NHD Aqueduct dataset needed.	http://www.ecy.wa.gov/services/gis/data/data.htm
		Hydrologic Study Area	6. twc_HSA_20161005 (polygon)	Derived by TWC: 100ft buffer applied to the new stream layer, the NHD major water bodies, and the NWI wetlands; merged dissolved and clipped to Benton County boundary. Updated HSA layer based on 100ft buffer around and including twc_NWI_minus_NHDWaterbodiesMajorAreas; NHD_MajorWaterbodies_BentonVicinity; NHD_MajorAreas_proj; and twc_NHDFlowlines_3up_ver2_removeditch; merged, dissolved and clipped to county boundary	TWC
4	Critical Aquifer Recharge Areas	Wellhead Protection Areas	1. DOH_WHPA_Assigned_BentonVicinity (polygon) 2. DOH_WHPA_6mo_BentonVicinity (polygon) 3. DOH_WHPA_1yr_BentonVicinity (polygon) 4. DOH_WHPA_5yr_BentonVicinity (polygon) 5. DOH_WHPA_10yr_BentonVicinity (polygon)	DOH dataset; downloaded 6-24-2016. Five feature classes showing wellhead protection areas and derived migration. Unclear from metadata as to the year the 'Assigned' feature class was made. Each is clipped and reprojected.	http://www.doh.wa.gov/DataandStatisticalReports/DataSystems/GeographicInformationSystem/DownloadableDataSets
		Well Locations	6. ECY_WellLog_BentonVicinity (point)	ECY dataset from April 2016; downloaded 6-24-2016; clipped and reprojected.	http://www.ecy.wa.gov/services/gis/data/data.htm

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#	DATA GROUP	INTENDED USE	FEATURECLASS	DESCRIPTION/NOTES	SOURCE DOWNLOAD AND METADATA LINKS	
		Alluvial Geology / Hydrologic Soil Group A	7. NRCS_ParentMaterial_Alluvial_Benton (polygon) 8. NRCS_HSG_wa605_proj (polygon) 9. twc_NRCS_Parent_Material_Alluvial_IrrigatedOnly_NoCitiesNoHanford (polygon) 10. twc_NRCS_HydroSoilGrpA_IrrigatedOnly_NoCitiesNoHanford 11. twc_NRCS_HydroSoilGrpA_ParentMaterialAlluvial_IrrigOnly_NoCNoH_merge	Derived from NRCS Soil Geodatabase. Downloaded by TWC 6-24-2016 Hydrologic Soil Group (HSG) layer isolated from NRCS data Alluvial layer with only Irrigated Areas outside of city and Hanford boundaries; derived by TWC 8/31/2016 HSG layer with only Soil Group A within irrigated areas and outside of city and Hanford boundaries; derived by TWC 8/31/2016 The above two layers merged. 20161006	http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm	

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5	Geologic Hazards	Slopes > 15%	1. uw_ewa_slope_clip (raster)	Derived by TWC from a DEM for Eastern Washington, downloaded from University of Washington in 2013. The DEM was reprojected, clipped, then run through the Spatial Analyst Slope tool. To symbolize, categorize with 2 manual breaks (0-<15, 15+). This raster is located within the main geodatabase, but not grouped in the Geologic Hazard feature class group since it's not vector format.	Link not currently available	Yes	Yes
			2. twc_slope_RasterToPolygon2 (polygon)	Derived from raster using raster calculator tool such that 1 >= 15% slope and 0 < 15% slope; gridcode=0 then deleted to leave only areas with 15% slope or greater.			
		Documented Landslides	3. DNR_Landslide_Benton_Vicinity (polygon)	DNR Geology Division datasets; downloaded 6-24-2016. Reprojected and clipped.	http://www.dnr.wa.gov/GIS	Yes	Yes
		Documented Earthquakes	4. DNR_EarthquakesPNSN_BentonVicinity (point)			No	No
			5. DNR_EarthquakesRelocated_BentonVicinity (point)				
		Liquefaction	6. DNR_Liquefaction_BentonVicinity (polygon)			Yes	Yes
		Seismic Design Site Class	7. DNR_SeismicDesignSiteClass_BentonVicinity (polygon)			No	No
		Potential Land Hazards	8. DNR_Fault_BentonVicinity (polyline)			Yes	Yes
			9. DNR_Fold_BentonVicinity (polyline)				
		Erodible Soils	10. NRCS_ErosionHazard_proj (polygon)	Derived from NRCS Soil Geodatabase. Downloaded by TWC 6-24-2016	http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm		
	Channel Migration Zone	11. twc_CMZ_poly_proj (polygon)	Derived by TWC and Al Wald during Benton Co 2012 SMP; TWC enhanced original polyline featureclass by connecting lines using a combination of NHDArea and a 100ft NHDStream Buffer to follow. Then, converting the closed polyline into a polygon.	TWC			
6	Threatened, Endangered, and Sensitive Species	Federally-identified Critical Habitat	12. USFWS_CritHabLine_BentonVicinity (polyline)	USFWS dataset downloaded 6-24-2016; clipped and reprojected.	https://www.fws.gov/GIS/Data/national/index.html	Yes	Yes
			13. USFWS_CritHabPoly_BentonVicinity (polygon)				
7	Priority Habitats and Species	State-identified Priority Habitats and Species	See wdfw_phs folder	WDFW detailed PHS data obtained June 15, 2016. To be used for data table creation and analysis.	http://wdfw.wa.gov/mapping/phs/	No	Yes
		State-identified Priority Habitats and Species	See phspluspublic folder	WDFW publicly facing PHS data obtained June 15, 2016. To be used for mapping purposes.	http://wdfw.wa.gov/mapping/phs/	Yes	No
8	Rare Plants	Natural Heritage Program Rare Plants		Dataset not provided. Per metadata, dataset is not to be shared publically and may only be used internally. TWC will incorporate as part of analysis but will not share for mapping purposes.		No	Yes

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#	DATA GROUP	INTENDED USE	FEATURECLASS	DESCRIPTION/NOTES	SOURCE DOWNLOAD AND METADATA LINKS	MAP?	DATA TABLE?
9	Intersect	Base Layers	14. twc_AgIntersectAll_revised 15. twc_Barker_Umatilla_Hover_merge	Merged and dissolved Agriculture and Rangeland datasets, prepared by TWC for intersect analysis Merged layer of the following, prepared by TWC for sub-intersect analysis: Barker Ranch LTD, isolated from all BCD datasets; Umatilla Wildlife Refuge, isolated from USFWS Cadastral geodatabase; Hover Park and North subarea created by TWC for additional analysis of HSA/Wetland intersection cluster	See associated parent layers above; TWC		
		FWCHA and Wetlands	16. twc_WetlandIntersect_08312016 a. twc_Wetlands_subIntersect_20160902 17. twc_HSAintersect_20161005 twc_HSAsubintersect_20161005 18. twc_streams_Intersect 19. twc_ws_occurpoint_Intersect 20. twc_ws_occurpolygon_Intersect 21. twc_phsregion_Intersect 22. twc_swifd_Intersect	All associated Intersect and SubIntersect layers were derived by TWC by intersecting appropriate "parent" base layers with the intersect base layers and dissolving. *subject to revision; may change after final consensus regarding alluvial parent material vs hydrologic soil group A	See associated parent layers above; TWC		
	Frequently flooded areas	23. twc_100yrflood_Intersect 24. twc_floodway_Intersect					
	Geologically hazardous areas	25. twc_SlopeErosion_Intersect 26. twc_CMZpoly_Intersect					
	Critical aquifer recharge areas	27. twc_DOH_WHPA_Assigned_Intersect 28. twc_DOH_10yrWHPA_Intersect 29. twc_HydroSoilGrpA_PMAlluvial_intersect					