CERTIFIED WETLAND REPORT
C/O D. FLYNN AND CONCERNED COMPANIONS OF THE DRUMHELLER SPRINGS PARK,
DRUMELLER SPRINGS CREEK AND ARTESIAN SPRING AREA
CITY OF SPOKANE, SPOKANE COUNTY WA.

Physical Address:
1915 W. Dalton (Drumheller Spring Park/Conservation Area) and
1630 W. Euclid (Drumheller Artesian Spring Park)
Spokane, Spokane County, WA. 99005
Parcels #25014.3135,.2203,.2204,.2205,.2206,.2207,.2208,.2209,.2201,.4609
Sec 1 T25N R42E

PREPARED FOR:

Dennis Flynn care of Concerned Companions of

Drumheller Conservation Area 2108 W. Euclid Spokane, WA 99205

AND WITH PERMISSION OF:

City of Spokane Parks and Recreation Department

808 W. Spokane Falls Blvd. #5 Spokane, WA 99201

PREPARED BY:

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PO BOX 443
Loon Lake, WA. 99148

June 25, 2025

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ATTACHMENTS 5 ECOS USA BASELINE PHOTO LOG 05/15/2025 AND JUNE 03, 2025. AVAILABLE UPON REQUEST.

Attachment 6 US DEPARTMENT OF INTERIOR (DOI), UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) National Wetland "INDICATOR CATEGORY AND OCCURRENCE CRITERIA FOR WETLANDS OF THE UNITED STATES OF AMERICA. Cited from Chinn, 2003. "*Wetland Delineation & Management Training Manual and Workbook*". Brandon, Florida. http://www.richardchinn.com.

Report Preface

This wetland delineation report has been prepared for use by the client and its agents. I am certified and qualified to delineate and analyze terrestrial and wetland ecosystems from 2004 to present. The findings in this report are based on information gathered in the field at the time of investigations; my understanding of the U.S. Army Corps of Engineers Triple Parameter Methodology (1987), and as updated (in 2010) by the U.S. Army Corps of Engineers. September 2008. "*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0")*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center; and federal, state, and local regulations governing wetland and stream areas. Prior to onsite work potentially affecting regulated "Waters of the US", all appropriate regulatory agencies should be contacted to verify the findings of this report and to obtain required approvals and permits.

The wetland boundary and wetland classification are presented using thorough application of knowledge, experience, and best professional judgment based on the circumstances and site conditions at the time of the study. The final wetland boundary determination, regulatory and jurisdictional issues, classification of wetlands, and the required buffers and setbacks (if any) are made by the appropriate federal, state, and local jurisdiction. I have provided professional services in accordance with the degree of care and skill generally accepted in the nature of the work performed.

Sondra L. Collins

Certified National Professional Society Wetland Scientist. Certificate: SWS #2821. Certified USACE Wetland and Ordinary High Water Mark Delineator #3130.

Executive Summary

At the request of the "Concerned Companions of Drumheller Springs Conservation Area" and coordination with the City of Spokane Parks and Recreation Planning Development, I completed wetland delineations and determinations for **1915 W. Dalton (Drumheller Spring Park/Conservation Area) and 1630 W. Euclid (Drumheller Artesian Spring Park "Drumheller Spring Creek" Spokane, Spokane County, WA. 99005.** The project area encompasses approximately 14 acres and is located on **Parcels# 25014.3135, .2203, .2204, .2205,.2206,.2207,.2208,.2209,.2201,.4609** and within **Sec 1 T25N R42E**. The property has a Type N or "Intermittent/Seasonal" waterbody which is considered Drumheller Springs Creek and an Artesian Spring which has year-round surface outflow from a piped area which flows underground with the City of Spokane stormwater system along Ash Street. The area also has an associated depressional freshwater emergent wetlands, vernal pools area wetlands, and a seasonal Type N waterbody commonly known as Drumheller Creek with its associated Drumheller Artesian Springs area. Please see Figure 1. The wetland delineation was completed by ECOS USA on May 15 and June 3, 2025, using the U.S. Army Corps of Engineers. September 2008. "*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0")*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

The project area encompasses a total of about 14 acres property area for the purposes of this wetland report approximately ½ of the "eastern side" of the property was surveyed and included in this Certified Wetland Report.

This Certified Wetland Report has been prepared in accordance with the City of Spokane Municipal Code Title 17E "***Environmental Standards***" Chapter 17E.070 Section 17E.070.110 and Table 17.E.070.110.3 . There are two Category I Wetland Units (WU-1, WU-2) and one Category II Vernal Pool Area Wetland Unit (WU-3) in this area commonly known as the Drumheller Springs Park and Conservation Area.

Introduction

Project Description

Drumheller Springs Park Conservancy was known historically as "Lone Pine" "Spring Hill" or "Garry Springs" and is considered a "Cultural Heritage Site" and is listed on the United States Department of Interior National Historic Registry, (NHR). Please see Attachments 4 NHR "Nomination Form". It was well known by the Spokane Tribe of Indians (STOI) to be an important pre-historic encampment site. It was considered one of the only available drinking water available on the entire North Hill of Spokane. A branch of the Spokane Indian tribe made this area its winter headquarter and was considered over time as a "educational shrine". Historically, Chief Garry of the Spokane Tribe of Indians in 1830 built a school and taught religion and farming on the property. Then in 1879, a well-known stock man, Mr. Daniel M. Drumheller, erected a slaughterhouse to access the clear, cold water of the numerous springs on the property and used it as an outlet for the market for his cattle. A monument is erected at the South end of the park conservancy by Chief Garry Chapter, Daughters of the American Revolution in 1955. The City of Spokane was granted ownership of the property in 1950-present and is known as "Drumheller Springs Park" and maintained by the City of Spokane Parks and Recreation. Please see Attachments 4.

Purpose

ECOS USA was contacted by "Concerned Companions of Drumheller Springs Creek on 5/7/2025 by Anne Marie Liebhaber and was retained to complete and deliver a "Certified Wetland Report" as there was no existing and or outdated Certified Wetland Report on file with the City of Spokane Planning Department. There was only a "reconnaissance survey by L. Dawes sometime in September 2024 and March 11, 2025, with a "laser rangefinder". Sometime shortly after a wetland determination letter from L. Dawes was completed. There was not associated mandatory "E. WA Wetland Rating", "WETLAND DETERMINATION DATA FORMS-ARID West Region", NOR ANY DATA FORMS, APPLICABLE FIGURES AND MAPS completed by L. Dawes.

Also L. Dawes time window for wetland reconnaissance was not completed during the short window of time, which for Vernal Pools is from only May 1-June 1, 2025, and typical can be only 14days to delineate vernal pools due to blooming time of native herbs including Common Camas.

L. Dawes did not visit this site area during this short time window. ECOS USA did conduct the Certified wetland survey on May 15 and June 3, "in short window of time", and was able to delineate this Vernal Pool area as a Category II "Based on Special Characteristic" based on the Washington State Department of Ecology "E. WA Wetland Rating Form" which is provided in Attachments 3 as Wetland Unit 3 (WU-3) and requires a 200ft wetland buffer.

The client is aware that the western ½ of the property was not included in the certified wetland survey as the proposed impacts of the proposed townhouse developments are all situated along the eastern boundary of the park conservancy property and will not be considered in this wetland report as jurisdictional wetlands area and not included in this wetland report. The property has an outlying Vernal Pool -Camas "*Wet Meadow Plants Association*" and a Palustrine Emergent Persistent Seasonally Flooded (PEM1C) wetlands and the proposed townhouse developments will encroach into both this WU-3 Vernal Pool 200ft wetland buffer and the WU-2 PEM1C 250 ft wetland buffer. Please See "Wetlands Buffer and Boundary Map" in Figure 2.

Wetland Descriptions and Classification

This property area has 3 wetland units:

Wetland Unit-1 (WU-1), is considered the Drumheller Springs Creek and Artesian Spring, Intermittent Type N waterbody and according the "Wetland Rating Summary- Eastern Washington" is considered a Category I wetland based on "FUNCTIONS" of wetland with a total score of 24, requires a 250ft wetland buffer each side of the Creek which provides greater protection. The property parcel has 3 wetlands units.

Wetland Unit 1, (WU-1) is considered by Cowardwin's, 1979 "*Wetlands and Deepwater Habitats Classification"* as Riverine Intermittent Rock Bottom Bedrock (R4RB1) of approximately 200x500ft area including the wetland buffer area. On June 3, 2025, the Spring temperature was 51 degrees F. Drumheller Springs Creek average bankfull width was 1.5m, average bank full height was 0.1m , average wetted width 0.02m, and average wetted depth was 0.01m.

Wetland Unit 1, (WU-2) is considered as a Palustrine Emergent Persistent Seasonally Flooded (PEM1C) wetland.

Wetland Unit, (WU-3) is considered as a Depressional Vernal Pool Area. Please see all applicable wetland maps, figures, tables, ratings, and the fieldwork forms in Attachments 3.

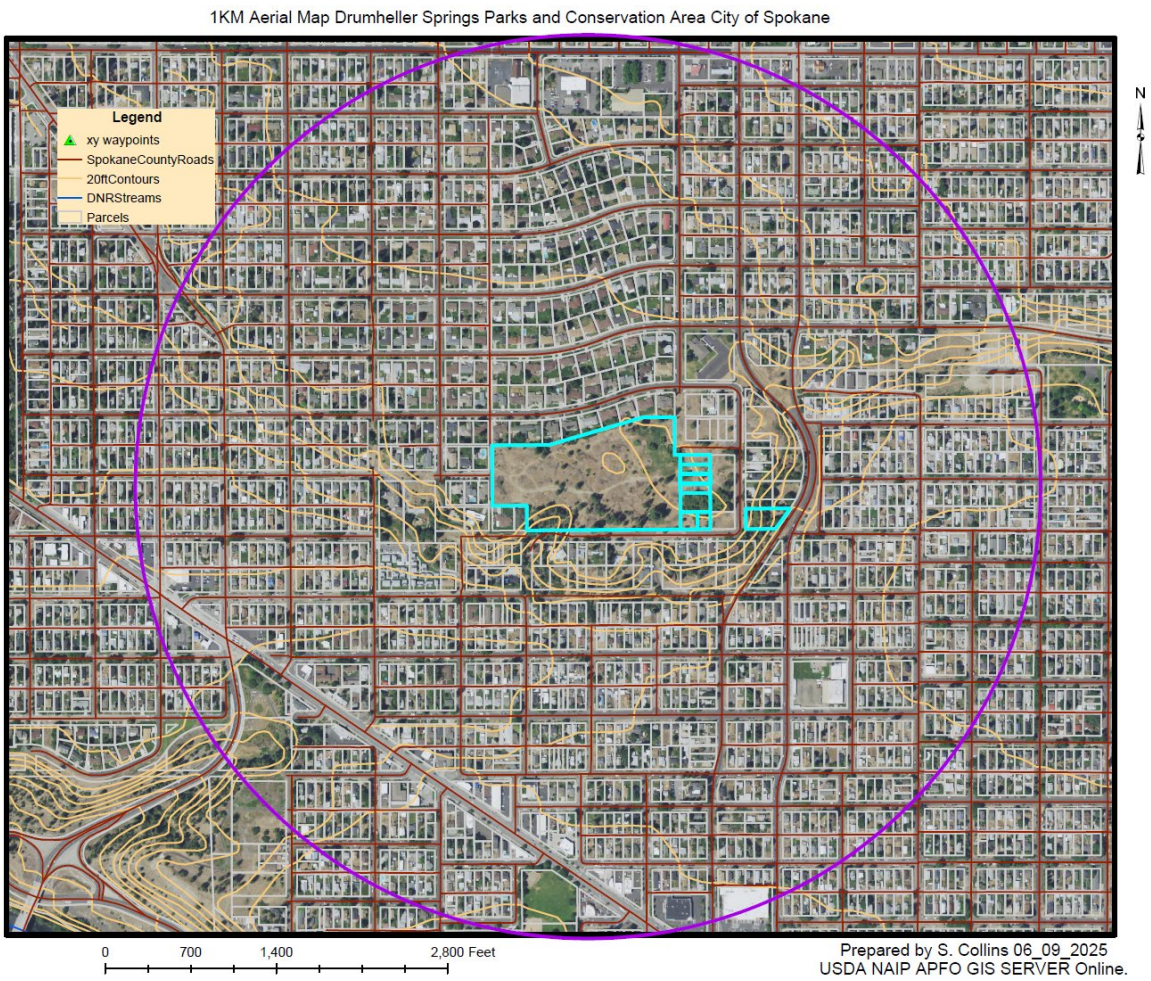

Figure 1: USFWS WETLANDS 1KM MAP

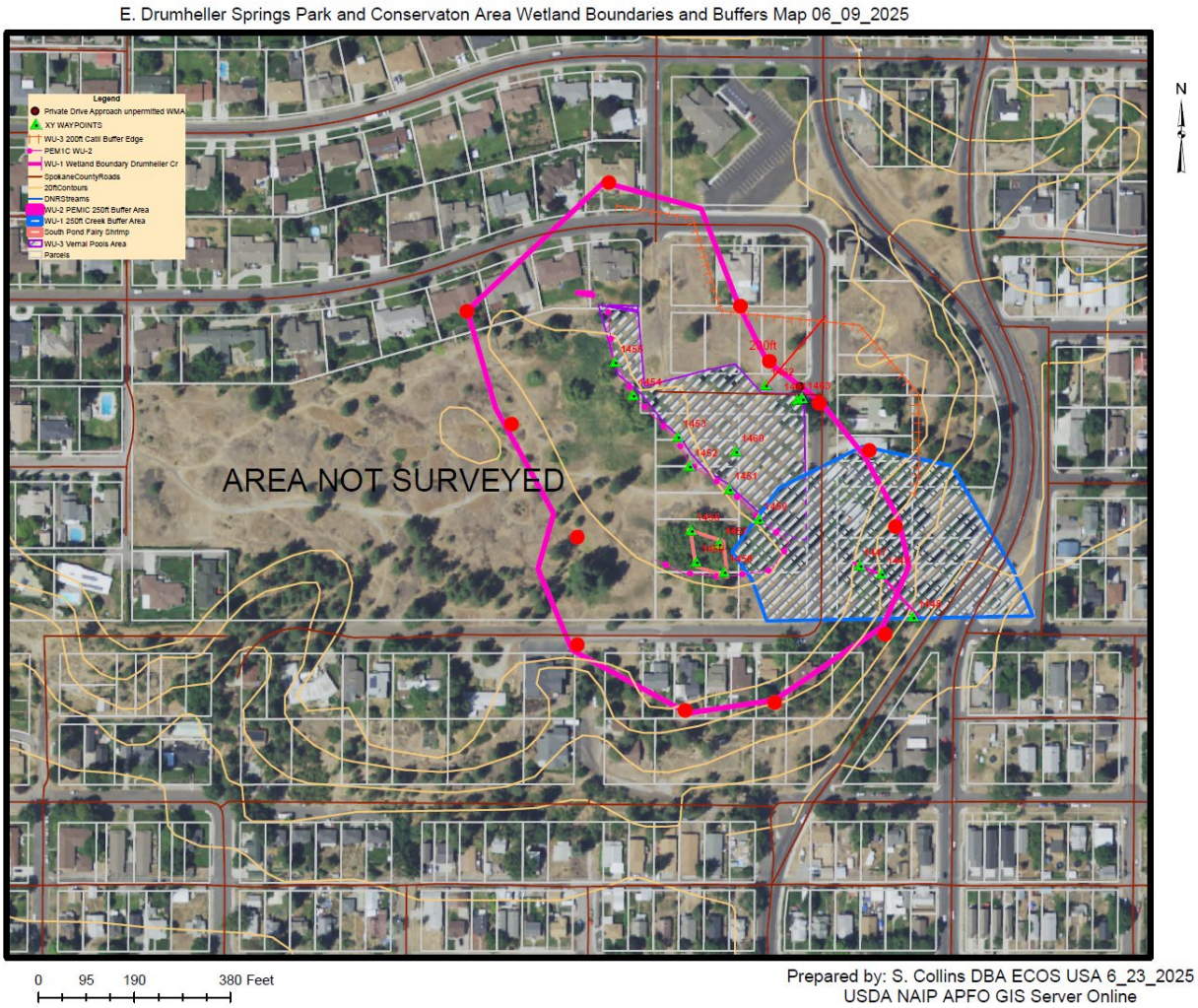

Figure 2: WETLAND BOUNDARY AND BUFFERS MAP.

Figure 3. Looking North at Wetland Boundary "Pink flag" towards Wetland Unit 3, Vernal Pool Area at N. Ash Pl junction and Dalton Ave and 200ft Critical Area Wetland Buffer. Photo taken June 03, 2025, S. Collins DBA ECOS USA.

Figure 4. Photo taken standing at the Wetland Unit 3 (WU-3) "Vernal Pool Area" Wetland Boundary and looking East, out to its 200ft required wetland buffer along N. Ash Pl Road Spokane, WA. and at the North boundary of City of Spokane Drumheller Springs Park, City of Spokane. Photo taken June 03, 2025, S. Collins DBA ECOS USA.

Figure 5. Standing at Wetland Unit 3 "Vernal Pool Area" Wetland Boundary Looking West Towards Vernal Pool Area and Wetland Unit 2-Depressional Freshwater emergent wetland in the distance.

Figure 6. Pictured of Camas (*Camassia quamash*) a wetland dependent herb found 40% absolute cover species throughout Wetland Unit 3-Vernal Pool Area. (Please see Attachments 3 "*Wetland Determination Data Form*" for Wetland Unit 3.)

Figure 7. Picture of Mature Old Growth Pacific Willow (*Salix alba*) in Wetland Unit 2-Depressional Freshwater emergent wetland.

Methods

Wetland investigations were undertaken by ECOS USA utilizing the *Corps of Engineers Wetland Delineation Manual* (Technical Report Y-87-1) as well as the U.S. Army Corps of Engineers. 2010. "***Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)***. This method requires that evidence of three parameters (a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology) be simultaneously present for a jurisdictional wetland determination. Hydric Soils of the United States (NTCHS, NRCS, 1995) acts as an amendment to the Corps manual and is used for determining hydric soils. Analysis of wetlands on-site involves collecting preliminary data and conducting a site-specific investigation. The methods used in these approaches are described below.

Preliminary Research

Review of existing information was conducted to develop background knowledge of physical features and to identify the potential for wetland occurrence on the subject property. Information related to topography, drainage,and water features was obtained from these sources. The following resource documents were available for preliminary review of the site conditions:

- US Department of Agriculture, National Soils Conservation Service.
- US Department of the Interior, US Geological Survey Map.
- US Department of the Interior, National Wetland Inventory Map

Site-Specific Investigation

Vegetation: Hydrophytic vegetation criteria for wetlands are where: (1) the total dominants of obligate (OBL) and facultative wetland (FACW) plant species exceed the total dominants of facultative upland (FACU) and upland (UPL) species; or (2) the Prevalence Index value is less than 3.0. Representative sample plots were located in areas of homogeneous vegetation. All dominant herbaceous species were identified in the 0.01-acre (11.8-foot radius) data plots. The nomenclature of plant species follows *Vascular Plants of the Pacific Northwest* (Hitchcock et al., 1977), or as modified by Reed (1988, revised 1994). For trees and shrubs, the plot size was increased to a 30-foot radius. Percent cover within the plots is determined by ocular observation. Cover is assigned to cover classes, and the species ranked according to the midpoints of their respective cover classes. The midpoints of ranked species are cumulatively summed up to 50 percent of the total for all species when the midpoints are immediately exceeded. All species contributing to the cumulative total plus any species having 20 percent of the total midpoint value are considered dominant. Plant indicator status is then assigned (per Reed 1988, and 1994) to each dominant to determine the percentage of hydrophytes. Vegetation in areas where more than 50 percent of the dominant species arehydrophytes (plant species adapted to saturated conditions, i.e., FAC or wetter) was considered to be hydrophytic. Plant indicator status definitions and a list of vascular plant species identified during the wetland survey on May 15 and June 3, 2025, are provided in Attachments 3 in the "***WETLAND DETERMINATION DATA FORMS-Arid West Region'*** .

Vegetation Wetland Unit 1-Drumheller Spring Creek and Artesian Spring

Drumheller Spring Creek and Artesian Spring (Wetland Unit 1) is considered as the Douglas Fir *(Pseudotsuga menzieii* /Chokecherry (*Prunus virginiana*) riparian forest habitat type according to the Hansen P. Et al. May 1995. There was approximately 10% bluejoint reedgrass (*Calamagrostis canadensis*) and was the dominant herb stratum. There were 2 Western Red Cedars (*Thuja plicata*) @ 13"(DBH). The upland community is considered by Copper et al., (1991), Ponderosa pine (*Pinus ponderosa*)/ Douglas Fir (*Pseudotsuga menzeii*), Idaho fescue (*Festuca idahoensis*) habitat type. Introduced noxious weeds included spotted knapweed and introduced pursaline. A detailed list of other vegetation is provided in Attachments 3 "*Wetland Determination DATA FORM-Arid West Region"*.

Vegetation Wetland Unit 2-Depressional Freshwater Emergent (PEM1C) Wetland

The Depressional Freshwater Emergent wetland area (Wetland Unit 2) is considered as the Old Growth Mature Pacific Willow/Mesic Forb riparian plant association according to Kovalchik, Bernard L.; Clausnitzer, Rodrick R. 2004. Red Osier Dogwood (*Cornus alba),* Reed Canary Grass (*Phlaris arundinacea*), Foxtail (*Alopecurus pratensis*), and Poison Ivy (*Taxicendendra radicans)* were also identified onsite. The upland community type is considered by Copper et al., (1991), Ponderosa pine (*Pinus ponderosa*)/ Douglas Fir (Pseudotsuga menzeii), Idaho fescue (*Festuca idahoensis*) habitat type. The Old Growth Mature Pacific willow's onsite is approximately 110 years old.

Vegetation Wetland Unit 3-Vernal Pools Area

The Vernal Pools wetland area (Wetland Unit 3), is considered as the Camas (Camassia quamash) Wet Meadow Plant Association with Sedges species with a combined canapy coverage of <25% or not dominant or "Non Sedge Plant Association" Bluejoint reedgrass (*Calamagrostis canadensis*) and Camas (*Camassia quamash*) >40 percent cover. Camas *(Camassia quamash*) was an essential staple food

source for Native Americans. Other wetland dependent species in WU-3 Vernal pools area included the following:
Tufted hairgrass (*Deschampsia caespitosa*), Wild onion (*Allium geyeri*), Wild celery (*Lomatium nudicaule*), Desert parsley (*Lomatium bradshawii*), Wasath Desert parsley (*Lomatium bradshawii*), Cooks Desert parsley (*Lomatium cookii*). Bitteroot (*Lewisia rediviva*), Intr. Iris (*Iris sp.*), and Wild carrot (*Perideridia gairdneri*). These herb species are all considered wetland dependent species. A detailed list of other wetland vegetation is provided in Attachments 3 "*Wetland Determination DATA FORM-Arid West Region"*.

Hydrogeomorphology Classes for Wetlands Wetland Unit (1&2) and Cowardin Classification
The three wetland units are considered by Cowardwin's, December 1979 "*Classification of Wetlands and Deepwater Habitats of the United States" and the "Classification of Wetlands and Deepwater Habitats Classification"* as follows:

1. Wetland Unit 1, (WU-1) is considered by Cowardwin's, 1979 "*Wetlands and Deepwater Habitats Classification"* as Riverine Intermittent Rock Bottom Bedrock (R4RB1)
2. Wetland Unit2, (WU-2) is considered as a Palustrine Emergent Persistent Seasonally Flooded (PEM1C) wetland.
3. Wetland Unit 3 (WU-3) is considered a Depressional, Vernal Pools wetland area which is a precipitation based, seasonal wetland.

Drumheller Springs Park and Area Vernal Pools, (Wetland Unit-3) Summary

SC 1.0 Vernal pools
Vernal pools are precipitation-based, seasonal wetlands. For the purposes of this rating system, they include only scabrock and rainpool vernal wetlands. Pools where surface water ponds for short periods that are found in forested areas, or surrounded by trees and shrubs, are not considered vernal pools in the context of this rating system. Figure 3 shows the typical vernal pools eastern portion of the Drumheller Springs Park area property. This vernal pool area is relatively undisturbed, and in an area where there are at least three other separate aquatic resources (other wetland, rivers, streams, rivers within a 1.5mile area, and based on special characteristics is considered a Category II, depending on their location in the landscape.
This vernal pool area is less than 4000 ft2, and meets **at least two** of the following criteria:
 Its only source of water is rainfall or snowmelt from a small contributing basin and the wetland has no groundwater input. The wetland will typically lie in areas where the basalt has been exposed by the ice age floods and where the basalts have small depressions that collect rainwater or snowmelt.

 Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. The water is present in the wetland for only short periods of time, usually less than 120 days. Wetland plants will be found only during the time of standing water or immediately afterwards. **NOTE:** If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.

 The soils in the wetland are shallow (<30 cm or 1 ft deep) and are underlain by an impermeable layer such as basalt or clay. You can determine the depth of the soil by digging a small hole with a tile spade. Determining if the impermeable layer is basalt should be easy (cannot dig any farther), but identifying a clay layer is harder. You may have to take some of the soil between your fingers, add water, and feel if it is greasy and smooth (without grit). If in doubt, use the "ribbon test" for clay (Appendix C).

 Surface water is present for less than 120 days during the wet season. Estimating the duration of surface water in a vernal pool wetland is difficult unless one visits the wetland several times and notes

the time at which the wetland fills and the time it dries out. Information about the drying and wetting cycles in the wetland may sometimes be obtained from local residents or frequent visitors to the wetland. The vernal pool area has no disturbance within 200 ft during the months of February and March except for light foot hiking areas.

Cited source: Washington State Dept. of Ecology. Hruby, T. 2014 Update. "*Washington State Wetland Rating System for Eastern Washington 2014 Update*":p,105.

Mysis Fairy Shrimp (*Branchinecta lynchi)* were identified in the South pond at the corner of Euclid and Ash Place by local resident, T. Ray in Spring 2024 and by S. Collins on 5/15/2025. The length can range to only 0.12 to 1.5 in (3 to 38 mm) depending on time of emergence and collection. The vernal pool fairy shrimp was listed as threatened by the USFWS on September 19, 1994.

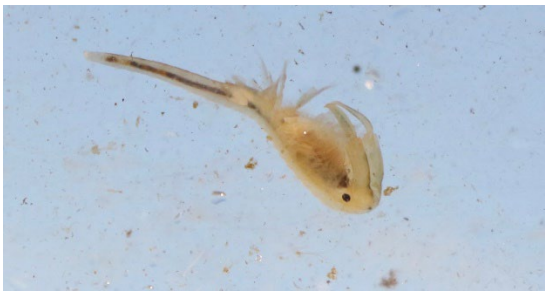

Figure 8: Vernal Pool Fairy Shrimp (*Branchinecta lynchi*). Photo courtesy of the USFWS.

Tadpoles and salamanders have been observed in the same vernal pool as well.

Soils

Hydric soil is defined as *soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part*. In accordance with the methodology, soil samples were taken at all data plots as well as other points on the site. The test of this definition is met when the following indicators of hydric conditions are present: direct observation of flooding, ponding, or surface saturation, thick organic layers, and low soil matrix chromas (chroma of 1 without mottles or chroma of 2 or less and value of 4 or more with mottles). Low chroma soils are indicative of reducing conditions (typically during the growing season when soil oxygen is being utilized by soil microorganisms as well as plants). Mottling occurs in areas of fluctuating water table levels (alternating reducing and oxidizing environments). Soils were moistened during the dry season to accurately determine colors on the Munsell Color Charts. During the dry season, apparent surface indicators of wetland hydrology would be used to assess flooding or ponding. Duration of flooding, ponding, or saturation is also important. Hydric soils must be flooded or ponded for a long (7 to 30 days) or very long (more than 30 days) duration during the growing season. Hydric soils must be saturated in the upper part for a significant period (usually more than one week) during the growing season. The property site soil series unit descriptions and UDSA NRCS National Cooperative Soil Survey "Web Soil Survey" online mapper was prepared on 4/29/2025. These soil series descriptions and maps of the wetland and upland areas are provided in Attachments 3. The Wetland soil series is #3117-"*Northstar Rock Outcrop-Rockly Complex-Cocolalla 0-15%*

slopes" and the Upland soil is #7130 "*Urban land-Northstar, disturbed Complex, 0-3% slopes*".

Hydrology: Wetland hydrology is defined as *all hydrological characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season.* The criteria are: (1) inundation (flooding or ponding) occurs for 7 consecutive days or longer during the growing season in most years (50% chance or more); or (2) saturation at or near the surface occurs for 14 consecutive days or longer during the growing season in most years (50% chance or more). Soils may be considered to be saturated to the surface when the water table is within: (a) 0.5 ft of the surface for coarse sand, sand or fine sandy soils; or (b) 1.0 ft of the surface for all other soils.

Areas with evident characteristics of wetland hydrology are those areas where the presence of water has an overriding influence on characteristics of vegetation and soils because anaerobic and reducing conditions exist. The test of this definition is met when data plots show direct observation of wetland hydrology, or a sufficient number of apparent indicators, including indirect evidence of flooding, ponding, saturation, water marks, drainage patterns, oxidized root rhizospheres, water-stained leaves, and sediment deposits. Duration of hydrologic conditions creating anaerobic and reducing conditions must also be satisfied.

The hydrological conditions onsite were below average, with the 30-day average for May 2025 of ", with the normal 30-day sum of 0.94", which is a departure of 0.61" as observed by the NOAA National Weather Service station at Spokane International Airport (GEG). Please see "Hydroperiods" and "Climatological Data for Table 1, in Attachments 3.

Stream Channel Morphology Drumheller Springs Creek

The Drumheller Springs Creek is considered an Intermittent Creek, according to Washington Department of Natural Resources (DNR) Type N waterbody with a perennial year-round Artesian spring or (side, slope, seep (SSS)). It is considered an A1 Stream Type based on Rosgen, (1942) where channel gradients are >10%, and the stream bed is seen as cascading, and irregular and a series of vertical drops. Please see "DNR Water Type Map" in Attachments 3. From ECOS USA survey on 5/15/2025 and 6/03/2025 the following channel measurements were observed along 3 transects (T-1-3).

- average bank full width (BFW)= 1.5(m)
- average bank full height (BFH)= 0.7m (2.3ft)
- average wetted depth= (WD) 0 .01(m) (.03ft)
- average wetted width= (WW) 0.02(m) (.07ft)

These wetland units are considered at higher elevations and at some time in the past were a headwater tributary of the Spokane River.

Water quality

There were no known water quality impairments observed onsite on 5/15/ and 6/03/2025 by S. Collins and B. Kinard DBA ECOS USA. The property is considered as Drumheller Springs Park with Drumheller Creek with an associated Artesian spring, (SSS) then drop into a City of Spokane Stormwater grate and water quality permitted "associated facilities, groundwater, surface water outfalls, and other outfalls" which eventually flows downstream and receives into the Spokane River @ Menach Drive approximately .67miles downstream. The property had no Clean Water Act 303(d) listed impairments and or Total maximum daily loads (TMDL's). The Spokane River a Category 5 for Bacteria Fecal Coliform, Category 4a for Zinc and Lead, Category 2 for pH as listing of impairments **within the WRIA 55 (Lower Spokane)** in which the Spokane River, being the closet in proximity, downstream included 303(d) listings for pH, Temperature, Fecal Coliform, and Dissolved Oxygen, Total Phosphorus, Ammonia-N, Chlorine, & pH. Othe TMDL listings within the sub basin are provided in Attachments 3. The screen shot TMDL maps, as mapped by S. Collins on May 28, 2025, according to Ecology's "Water Quality Atlas" Water Quality Atlas - Map., are provided in Attachments 3. There are no 303(d) listed impairments on the site.

Critical Area Priority Habitat and Priority Species

The property has a total of 5 priority habitat areas.

1. Biodiversity/Areas and Corridors
2. Old Growth/Mature Forests
3. Riparian
4. Shrub-Steppe
5. Eastside Steppe

and 3 priority species. This includes the following:

1. Shrubsteppe
2. Big brown bat.
3. Townsend's Big-eared Bat.

The WDFW PHS Species/Habitat details and Report mapped by S. Collins on May 28, 2025, are provided in Attachments 3. Ungulates including Mule deer (*Odocoileus hemionus hemionus*) are residence to the Drumheller Springs Park area. ECOS USA observed 2, 6x Mule Deer in velvet resting and foraging along Park and at bordering Euclid Rd local residence home on June 3, 2025. S. Collins and B. Kenard also observed basalt cliffs and a cave located above the Drumheller Springs Creek and the Artesian Spring, approximately 20-25ft in height. Local residences reported numerous sightings of an unidentified bat species community, and state the bats, are in year-round permanent residency onsite. S. Collins and B. Kernard also observed native wetland dependent herbs including Camas (***Camassia quamash***) Camas is considered Facultative Wetland (FACW) "***Indicator Category***" species, in which the USFWS National Wetlands Inventory "***Plant Indicator Status-Occurrence in Wetlands***" is 67-99%. Native Camas was observed by S. Collins and B. Kenard during wetland survey's on May 15, 2025 and June 3, 2025 throughout the entire area park area and including the bordering Spokane County parcels #25014.2107, 25014.2108, 25014.2109, 25014.4207, 25014.4701, and 25014.4702. Please see Attachment 6 excerpt from Chinn, R. 2003. Additional information of the ECOS USA fieldwork log and observations is available upon permission from the client.

Wetlands of High Conservation Value-DNR Heritage Program

There were no observed point observations for the site as a "Wetland of High Conservation Value" as mapped online by S. Collins on 5/08/2024 at Wetlands of High Conservation Value Map Viewer | WA - DNR. Please see "*WNHP Ecological Integrity Assessment Data*" in Attachment 3.

Wetland Determination

Jurisdictional wetlands were delineated where vegetation, soils, and hydrology all reflect anaerobic conditions as defined and described above. Topography, when diagnostic of hydrologic confines, was considered in refining the wetland boundary. Wetland boundaries were identified and mapped by ECOS USA on USDA NAIP GIS SERVER ONLINE 6_09_2025 using ESRI ArcMap software and sub-meter GPS-ECOS USA GARMIN ETREX 20X. These GPS points were captured on May 15 and June 3, 2025, by S. Collins DBA ECOS USA. These GPS points for the wetland boundary (edge) and CAWB are provided in Attachments 3 in an Excel Table format.

The total wetland area on the property was not determined as only the Eastern ½ of the total property area was surveyed for the purpose of this Certified Wetland Report.

RESULTS

ECOS USA determined on site along the properties wetland units onsite are classified by the USFWS NWI "Wetlands and Deepwater Habitats Classification" as:

The three wetland units are considered by Cowardwin's, December 1979 "*Classification of Wetlands and Deepwater Habitats of the United States" and the "Classification of Wetlands and Deepwater Habitats Classification"* as follows:

1. Wetland Unit 1, (WU-1) is considered by Cowardwin's, 1979 "*Wetlands and Deepwater Habitats Classification"* as Riverine Intermittent Rock Bottom Bedrock (R4RB1)
2. Wetland Unit 2, (WU-2) is considered as a Palustrine Emergent Persistent Seasonally Flooded (PEM1C) wetland.
3. Wetland Unit 3, (WU-3) is considered a Vernal Pool wetland area which is a precipitation based, seasonal wetland.

ECOS USA performed the Certified Wetland delineation survey on May 17, 2025, and based on the WA State "Eastern Washington Wetland Rating Summary" are as follows:

1. Wetland Unit 1 is considered a Category I "based on functions" with a total score of 24, based requires a 250ft wetland buffer according to City of Spokane Table 17E.070.110.3.
2. Wetland Unit 2 is considered a Category I "based on functions "with a total score of 22 requires a 250ft wetland buffer.
3. Wetland Unit 3 is considered a Category II "based on special characteristics" as it is considered a "Vernal Pools" area and requires a 200ft wetland buffer.

Please see "Wetland Boundaries and Buffers Map" in Figure 2.

Proposed Impacts
There are anticipated direct impacts to the Wetland Unit 2 (WU-2) PEM1C Category I 250 ft wetland buffer and also the Wetland Unit 3 (WU-3) Category II Vernal Pools 200ft wetland buffer onsite due to the proposed Ash Pl Townhouse Development and the Dalton Townhouse Development. Please see "Wetland Boundary and Buffers Map" in Figure 2 and Attachments 1.

The property owner, City of Spokane, will be responsible for any applicable state, county, and/or federal permits, which may include but not be limited to the review of City of Spokane Parks and Recreation Project Development and the City of Spokane Building and Planning permits or applications. The client "D. Flynn c/o Concerned Companions of Drumheller Springs Park and Artesian Spring Area" has and will continue to work with WDFW in wetland habitat conservation programs and to coordinate and seek applicable program grant funding for conservation and restoration funding, and critical area wetland planting and clean-up programs with the Upper Columbia United Tribes (UCUT). The client "D. Flynn c/o Concerned Companions of Drumheller Springs Park and Artesian Springs Area" will continue to coordinate efforts of upstream stormwater retention, surface and groundwater outfalls maintenance downstream with the City of Spokane Parks and Recreation Department-Project Developments, the City of Spokane Public Works and Utilities Municipal Stormwater and Utilities, and the Washington Department of Ecology Water Quality Program.

Preparers Signature SJC Date: 6/20/2025

Client Signature c/o Concerned Companions Date: 6/20/2025

This wetland report was prepared with the "*Best Available Science*" during the past month of the scientific inquiry by Sondra Collins DBA ECOS USA. The full data analysis and datum are available upon request. Sonnysalmon9@gmail.com. This wetland report is valid for a period of 5 years from the date of signature above.

CITED LITERATURE:

Antos, Joe. Et al. 1950. Plants of the Inland Northwest and Southern Interior British Columbia. Parish-Coupe-Lloyd. B.C. Ministry of Forest, British Columbia, Canada.

Bigley R.E. and S.W. Hull. 2000. Recognizing Wetland and Wetland Indicator Plants on Forest Lands in Washington. Washington State Department of Natural Resources, Scientific Support Section, Olympia, WA.

Chinn, Richard. 2003. Wetland Delineation & Management Training Manual and Workbook. Brandon, Florida. <Richard Chinn Environmental Training for Wetland Training, Wetland Delineation Training>.

Cowardin, Lewis, V. Carter, F. Golet, E. LaRoe. December 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31. U.S. Department of Interior U.S. Fish and Wildlife Service, Office of Biological Services. Washington, DC.

Fitzgerald, Tonie, S. McCrea, D. Notske, M. Burtt, J. Flott, Landscape Plants for the Inland Northwest Including native and adapted plants. Washington State University, College of Agriculture and Home Economics Pullman, WA.

Given, David R. 1994. Principals and Practice of Plant Conservation. Timber Press Inc. Portland, Oregon.

Guard, Jennifer B. 1995. WETLAND PLANTS OF OREGON & WASHINGTON. Lone Pine PublishinClg. Vancouver, British Columbia, Canada.

Halfpenny J.C. and E.A. Biesiot. 1986. Mammal Tracking in North America.

Hall, Fredrick C. 2001. Photo point monitoring handbook: part A-part B-concepts and analysis. Gen. Tech. Rep. PNW-GTR-526. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station Portland, Oregon. 86p. 2 parts.

Hansen P.L et al. May 1995. "*Classification and Management of Montana's Riparian and Wetland Sites*". Montana Forest and Conservation Experiment Station School of Forestry University of Montana, Missoula Montana.

Heinze D.H. 1992. "*Montana Willows-(A Third Approximation)*". Riparian Technical Bulletin No. 2. US Department of Interior Bureau of Land Management Montana State Office. Billings Montana.

Hilty, Ivy E. February 1980. *Nutritive Values of Native Foods of Warm Springs Indians* Extension Circular 809. Oregon State University. Corvalis, Oregon.

Hilty, Jodi A. William Z. Lidicker Jr, and Adina M. Merenlender. 2006. Corridor Ecology, The Science and Practice of Linking Landscapes for Biodiversity Conservation. Washington DC, Island Press.

Hitchcock, Charles L. & Arthur Cronquist. 1973. *Flora of the Pacific Northwest*. University of Washington Press. Seattle Washington and London England.

Hruby, T. (2014). *Washington State Wetland Rating System for Eastern Washington: 2014 Update*. (Publication #14-06-030). Olympia, WA: Washington Department of Ecology.

Hurd, Emerenciana G. N.L. Shaw, J. Mastrogiuseppe, L.C. Smithman, and S. Goodrich. "*Field Guide to Intermountain Sedges.* June 1998. United States Department of Agriculture. Forest Service. Rocky Mountain Research Station. RMRS-GTR-10. Ogden, Utah.

Kovalchik, Bernard L.; Clausnitzer, Rodrick R. 2004.Classification and management of aquatic, riparian, and wetland sites on the national forests of eastern Washington: series description. Gen. Tech. Rep. PNW-GTR-593. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 354 p. In cooperation with: Pacific Northwest Region, Colville, Okanogan, and Wenatchee National Forests.

National Research Council. 1995. Wetlands-Characteristics and Boundaries National Academy Press, Washington DC. 152-155.

NOAA National Weather Service. Climatological Data for SPOKANE INT Airport GEG, WA . "May 2025, 30 day Precipitation" Online 7 June 2025. < https://w2.weather.gov/climate/xmacis.php?wfo=otx>

Patterson, P.A. K.E. Neimen, Jr. Tonn. 1985. "Field Guide to Forest Plant of Northern Idaho". USDA Intermountain Research Station. Ogden, UT. Technical Reference. INT-180.

Reed, Porter. 1988 and revised 1994. National List of Plant Species that occur in Wetlands. U.S. Department of Interior Fish and Wildlife Research and Development. Washington DC.
Rosgen, Dave. 1996. Applied River Morphology. Pagosa Springs, Colorado.

U.S. Army Corps of Engineer. November 2, 2021: Final National Plant List online. <NWPL Home v3.4-f9c (army.mil)>.
U.S. Army Corps of Engineers. September 2008. "*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0")*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
U.S. Department of Agriculture. National Cooperative Soil Survey. Web Soil Survey Online. 29 April 2025. *Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Available online. Accessed* <Web Soil Survey - Home (usda.gov)>.
U.S. Department of Agriculture. Natural Resource Conservation Service. Oregon and Washington Guide for Conservation Seeding and Plantings. April 2000. Portland, Oregon.
U.S. Department of Agriculture. Natural Resource Conservation Service. Plants Database Advance Search and Download Home Page. 12 December 2013 <http://plants.usda.gov/adv_search.html.>.
U.S. Department of Agriculture. Natural Resource Conservation Service. EFOTG Critical Area Planting Specification 342. 27 2016.
<https://efotg.sc.egov.usda.gov/references/public/ND/critical_area_planting_342.pdf>
U.S. Department of Agriculture. U.S. Environmental Protection Agency, Tennessee Valley Authority, Federal Emergency Management Agency. U.S. Department of Commerce NOAA, NMFS, U.S. Department of Defense USACE. U.S. Dept. of Housing and Urban Development, and U.S. Dept. of Interior, BLM, BOR, USFWS, NPS, and USGS. "The Federal Interagency Stream Restoration Working Group. October 1998. "*Stream Corridor Restoration; Principles, Processes and Practices"*. Appendix A. Washington, DC.
Washington Department of Ecology. "Water Quality Atlas Online Mapper". 29 April 2025. < Water Quality Atlas - Map>.
Washington State Department of Ecology. Water Quality Assessment for Washington. 10 October 2015. <http:www.ecy.wa.gov/programs/Wq/303d/index.html>.

Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10. March 2006. Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1).
Washington State Department of Ecology. 2006. Publication #06-06-011a. Olympia, WA.
Washington State Department of Ecology. March 2005. "*Wetlands in Washington State, Volume 1: A Synthesis of Science*". Publication #05-06-006, Olympia, WA.
Washington State Department of Ecology. April 2005. "*Wetlands in Washington State, Volume 2: Managing and Protecting Wetlands*". Publication # 05-06-008, Olympia, WA.
Washington State Department of Fish and Wildlife. PHS on the Web. 29 April 2025. <http://wdfw.wa.gov/mapping/phs/>.

ATTACHMENTS 1-REAL PROPERTY DESCRIPTIONS OF WETLAND ANALYSIS AREA, PRELIMINARY SITE AREA MAP, GOOGLE EARTH PRO MAP SHOWING VERNAL POOLS AREAS.

ATTACHMENTS 2 APPLICABLE PROJECT EMAIL CORRESPONDANCES AND City of Spokane SMC 17E.070.110 CODE AND Excerpts from "Concerned Companions" online "Concerned Companions"< https://concerned companions.com/ASH/> GUIDANCE .

ATTACHMENTS 3- ECOS USA Wetland Analysis: Required maps, tables, and figures prepared online.

- **WETLAND BOUNDARY AND 110FT CRITICAL AREA WETLAND BUFFERS MAP.**
- **Eastern WA. Wetland Rating.**
- **Wetland Determination Data Forms.**
- **Cowardin plant classes and classes of Emergents.**
- **Hydroperiods and Climate Maps. Http://www.weather.gov/otx** and www.weather.gov/wrh/climate?wfo=ot.
- **USFWS NWI 4K Map showing Boundary of Area within 150ft of the wetland.**
- **EXCEL TABLE WITH GPS COORDINATES.**
- **USFWS NWI 1 KM MAP.**
- **WDFW Priority Habitat Map and Report.**
- **Water Quality CWA TMDL 303D Map "WATER QUALITY ATLAS" OF SITE AND SUBBASIN.**
- **USDA WEB SOIL SURVEY MAP "WEB SOIL SURVEY".**
- **WA DNR "Wetlands of High Conservation Value Map.**
- **Cowardin "Wetland and Deepwater Habitats Classification".**
- **DNR Watertype Map**

ATTACHMENTS 4

- **LARRY DAWES WETAND LETTER with S. Collins DBA ECOS comments.**
- **Appellant Exhibit 1-National Register of Historic Plance Inventory-Nomination Form.**

ATTACHMENTS 5 ECOS USA BASELINE PHOTO LOG May 15, 2025 AND JUNE 03, 2025. AVAILABLE UPON REQUEST.

Attachment 6 US DEPARTMENT OF INTERIOR (DOI), UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) National Wetland "INDICATOR CATEGORY AND OCCURRENCE CRITERIA FOR WETLANDS OF THE UNITED STATES OF AMERICA. Cited from Chinn, 2003. "*Wetland Delineation & Management Training Manual and Workbook*". Brandon, Florida. http://www.richardchinn.com.

Plant Indicator Status

National Wetlands Inventory

Indicator Category	Symbol	Occurrence in Wetlands
Obligate Wetland	Obl	> 99%
Facultative Wetland	FacW	67 - 99%
Facultative	Fac	34 - 66%
Facultative Upland	FacU	1 - 33%
Upland	UPL	< 1%

Note: FacW, Fac and FacU have + and - values to represent species near the wetter end of the spectrum (+) and species near the drier end of the spectrum (-).

Obl, FacW+, FacW, FacW-, Fac+, Fac,	Fac-, FacU+, FacU, FacU-, Upl
Hydrophytic	Nonhydrophytic

Note: The National Wetlands Inventory created revised (1996, in progress) plant lists but the ACOE is not authorized to use them. Use the 1988 list only.

If a species is not listed in the regional list and it is not listed on the synonomy list and it is the correct name and it is not a recent introduction, then the species is an UPL specied.