

# Colorado butterfly plant surveys along Porter Draw for the proposed Cheyenne Prairie Generating Station Pipeline

Laramie County, WY



*Prepared for:*

**CH2M HILL Engineers, Inc.**

9191 S Jamaica Street

Englewood, CO 80112-5946

---

*Prepared by:*

Gregory Johnson and Joel Thompson

**Western EcoSystems Technology (WEST), Inc.**

415 W. 17<sup>th</sup> St., Suite 200

Cheyenne, Wyoming 82001

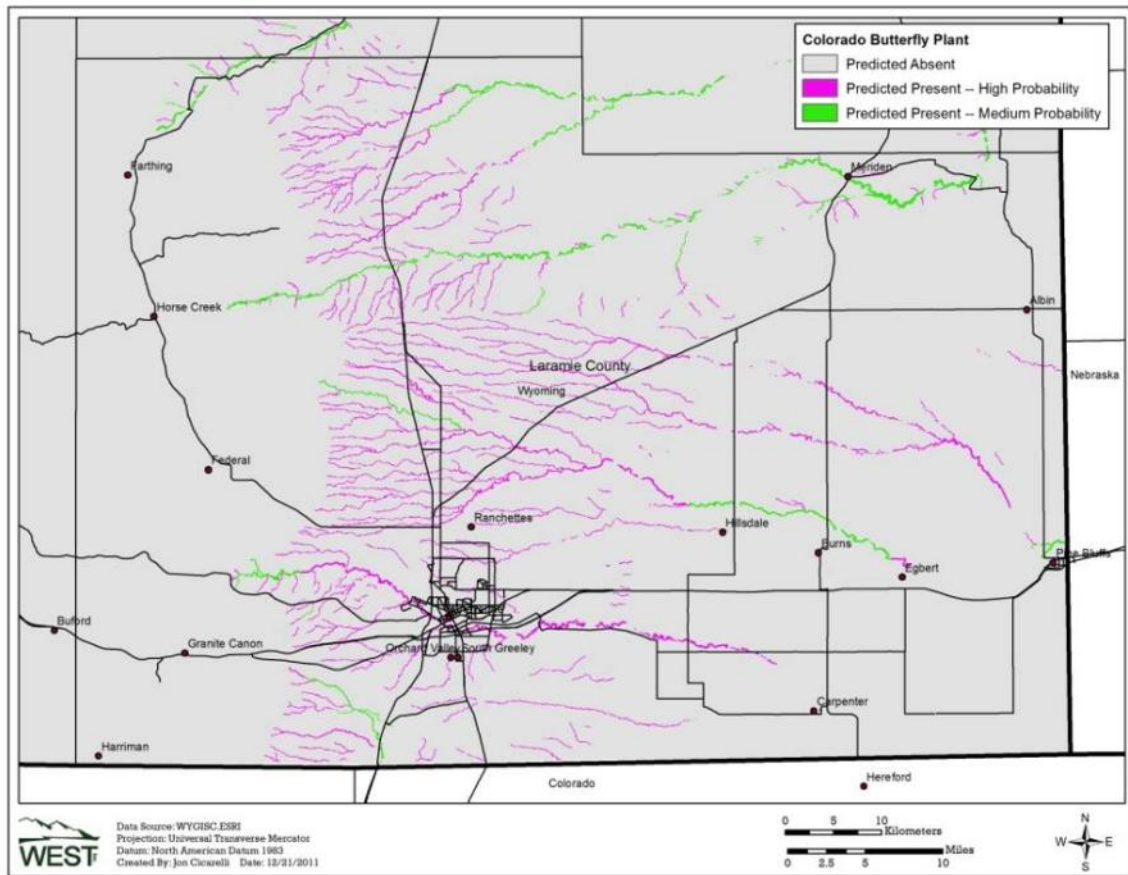
**August 3, 2012**



## INTRODUCTION

CH2M HILL Engineers, Inc. (CH2M HILL) contracted with Western EcoSystems Technology, Inc. (WEST) to assess the habitat suitability for three federally listed threatened species, Preble's meadow jumping mouse [PMJM; *Zapus hudsonius preblei*]), Ute ladies'-tresses orchid (*Spiranthes diluvialis*), and Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) at the site of a proposed natural gas plant and pipeline to be constructed in Laramie County, just east of Cheyenne, Wyoming. Based on a site visit to the proposed gas plant development sites and pipeline corridor in December 2011 to evaluate habitat for listed species and follow-up consultations with the U.S. Fish and Wildlife Service (USFWS), it was determined that surveys for Colorado butterfly plant during the appropriate flowering/fruitletting period should be conducted where the proposed pipeline crosses Porter Draw. Surveys at this location were recommended by the USFWS based on habitat modeling conducted by the Wyoming Natural Diversity Database which indicated potentially suitable habitat in that area (Figure 1).

The pipeline crosses Porter Draw approximately five miles south of Cheyenne along the section line between Section 36 in Township 13N Range 66W and Section 31 in Township 13N Range 65W (Figure 2). The site of the proposed crossing of Porter Draw was surveyed for Colorado butterfly plant on August 3, 2012, the same day that a visit to a known population of Colorado butterfly plants just west of Cheyenne confirmed the plants were in flower.



**Figure 1. Predicted probability of occurrence of Colorado butterfly plant in Laramie County, Wyoming.**

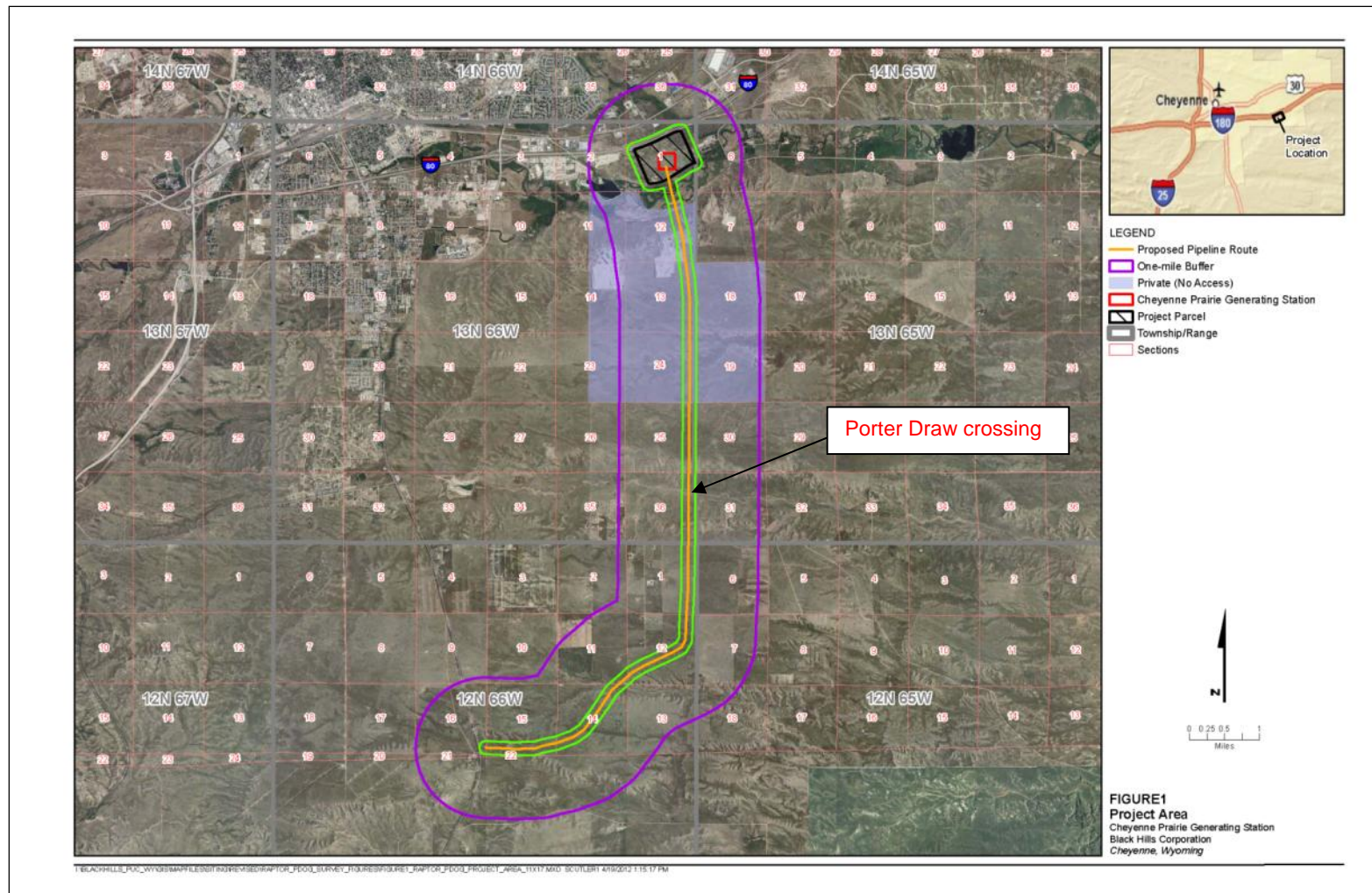


Figure 2. Location of the Cheyenne Prairie Generating Station pipeline crossing of Porter Draw, Laramie County, Wyoming.

### **Colorado Butterfly Plant**

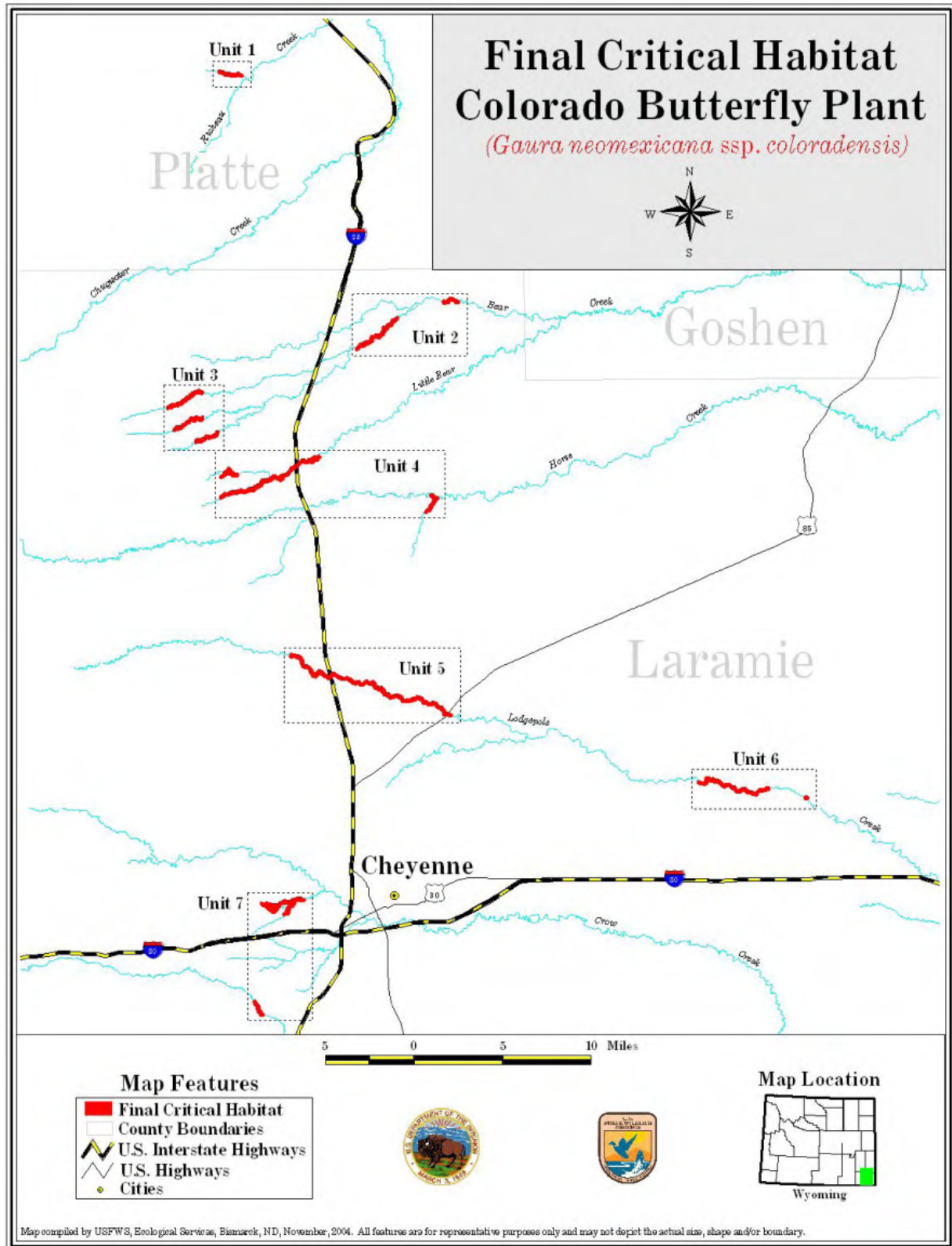
Colorado butterfly plant is a short-lived biennial (sometimes perennial) herb that grows 19.7-31.5 inches tall. Leaves are lanced shaped with smooth edges and are 2 to 5.9 inches long. The Colorado butterfly plant has small (5-14 mm) white flowers that turn pink or reddish with age. This species flowers in June through October and produces fruit from July to October. This plant will continue to flower until the first frost of the year. Non-flowering plants consist of a prostrate rosette of oblong, mostly glabrous entire or toothed leaves 4-18 cm long (Fertig 2000).

Colorado butterfly plant is found in moist meadows typified by sub-irrigated, alluvial soils of streams surrounded by mixed grass prairie. It is found at an elevation of 5,000 to 6,400 feet. Colonies are often found in low depressions or along bends in wide, meandering stream channels (Fertig 2000). The Colorado butterfly plant prefers open habitat without dense or overgrown vegetation (USFWS 2010). Establishment and survival of seedlings is enhanced where tall and dense vegetation has been removed by some form of disturbance (Fertig 2000).

Since 1977, over 20 populations have been discovered in Colorado, Wyoming and Nebraska. Currently, this plant is restricted to Laramie and Platte Counties, Wyoming, Kimball County, Nebraska, and Weld County, Colorado (Jennings et al. 1997). Current populations occur along Bear, Crow, Horse, Lodgepole and Spring Creeks (Fertig 2000). The populations along Crow Creek and its tributaries occur west of Cheyenne; however, no populations have been found along these drainages east of Cheyenne. The nearest known populations are located on F.E. Warren Air Force Base approximately five miles west of the project.

Loss of habitat and the small population are the main issues of concern regarding this species. Critical Habitat for this species has been designated in Laramie and Platte Counties along Tepee Ring Creek, Bear Creek, Little Bear Creek, Horse Creek, Lodgepole Creek, and Lone Tree Creek (Figure 3), but no critical habitat has been designated in the project area (USFWS 2010). The nearest Critical Habitat is located along Diamond Creek approximately eight miles west of the project (USFWS 2010; Figure 3).





**Figure 3. Designated critical habitat for Colorado Butterfly plant in Laramie County, Wyoming (from USFWS 2010).**

## SURVEY RESULTS

No suitable habitat for Colorado butterfly plant is present along Porter Draw at the site of the proposed pipeline crossing. This drainage is ephemeral, with no indication that seasonally sub-irrigated soils are ever present. Plant species at this site were primarily all upland species typical of dry, short-grass prairie and included needlegrass (*Stipa comata*) and blue gramma (*Bouteloua gracilis*), with some foxtail barley (*Hordeum jubatum*) within the Porter Draw channel itself. Based on hydrology and the plant association at this site, Porter Draw at this location is not suitable for Colorado butterfly plant. Photographs documenting conditions of the site are provided in Appendix A.

## LITERATURE CITED

- Fertig, W. 2000. Status review of the Colorado Butterfly Plant (*Gaura neomexicana* ssp. *coloradensis*) in Wyoming. Wyoming Natural Diversity Database, Laramie, Wyo.
- Jennings, M., H. Marriott, and W. Fertig. 1997. Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) draft recovery plan. U.S. Fish and Wildlife Service, Cheyenne, Wyo.
- U.S. Fish and Wildlife Service (USFWS). 2010. Recovery outline for *Gaura neomexicana* ssp. *Coloradensis* (Colorado butterfly plant). USFWS, Denver, CO.

Appendix A. Photographs of Porter Draw in the vicinity of the proposed pipeline crossing





Habitat at the pipeline crossing of Porter Draw



Porter Draw at the proposed pipeline crossing location





Porter Draw at the proposed pipeline crossing location