shown in Figure 3-8. Although relatively sparse within and adjacent to the main streamflow channels, facultative wetland forb species such as sedge (*Carex ssp*.) were observed. Several Palustrine Emergent (PEM) wetland complexes were identified upgradient along the floodplain. In addition, weedy forb species were observed within relatively disturbed areas (e.g., along Bear Creek Road). These included mullein (*Verbascum thapsus*), ragweed (*Ambrosia psilostachya*), dock (*Rumex crispus*), and spotted knapweed (*Centaurea stoebe*).

Figure 3-7. Example of densely forested floodplain vegetation from October 2024 site visit.

Figure 3-8. Grassy floodplain with poor bank vegetation and no willow or cottonwood recruitment.

The project team, including Ecosystem Sciences, mobilized to the project area in October 2024 to complete an aquatic resources assessment. Remote data, including high-resolution elevation data and aerial imagery, were used in conjunction with data taken in the field (ordinary high-water mark [OHWM] field identification and general Waters of the United States [WOTUS] observations) to delineate WOTUS and associated wetlands within the project area. The total estimated areal extent of likely WOTUS/associated wetlands is 27.3 acres (ac), with four likely classes delineated within the project area, as summarized in Table 3.3 and further defined below. The spatial distribution of each class of WOTUS/associated wetlands along with the survey data points are shown for the six individual areas in Figures 7-12 of the Aquatic Resources Report (ARR), which has been included as Appendix D of this report.

Table 3.3. Likely WOTUS/Wetlands Classes and Their Respective Acreages Within the Project Area

Likely WOTUS/Wetlands Classification	Acres Within Project Area (Ac)
R3UB1 (Upper Perennial Riverine Unconsolidated Bottom Cobble/Gravel	22.0
PFO1 (Broad-Leafed Deciduous Palustrine Forested)	1.5
PSS1 (Broad-Leafed Deciduous Palustrine Shrub-Scrub)	0.2
PEM2 (Nonpersistent Palustrine Emergent Wetland)	3.6
Total	**27.3**

R3UB1 (Upper Perennial Riverine Unconsolidated Bottom Cobble/Gravel): These areas are likely to be classified as WOTUS, as they consist of channel area that is influenced by the effective discharge. Within the project area, this classification of WOTUS consists of the main river channel and adjacent high-flow channels that occur within the active floodplain. Some of the areas that are classified as below the OHWM remain dry throughout most or all of the year during low water years; however, this area is likely near or in contact with groundwater and is inundated every two to five years. There are instances of PEM, Palustrine Shrub-Scrub (PSS), and Palustrine Forested (PFO) that occur below the OHWM.

PFO1 (Broad-Leafed Deciduous Palustrine Forested): These areas consist of forested wetlands where black cottonwoods, willows, and/or mountain alder recruitment has occurred (see Figures 14, 17, and 23 in the ARR; Appendix D). These areas occur both directly adjacent to the OHWM along active channels, and at the base of hillslopes along the edges of the floodplain. Note that areas classified as PFO often contain species that are characteristic of the PSS or PEM classes underlying a canopy of black cottonwood, willow, and/or mountain alder. Due to the size and scale of the project area, there are likely some PFO areas that occur within the project area but were not identified during the field survey and are consequently not shown in Figures 7-12 in the ARR (Appendix D).

PSS1 (Broad-Leafed Deciduous Palustrine Shrub-Scrub): These areas consist of shrub-scrub wetlands where willow recruitment has occurred (see Figure 25 in the ARR; Appendix D). These areas mostly occur directly adjacent to the active channels at or near the OHWM within the project area. Due to the size and scale of the project area, there are likely some PSS areas that occur within the project area but were not identified during the field survey and are consequently not shown in Figures 7-12 in the ARR (Appendix D).

PEM2 (Nonpersistent Palustrine Emergent Wetland): These areas consist of emergent wetlands that have developed along channel margins at or near the OHWM, at the mouth of tributaries that enter Bear Creek, or within the floodplain where spring water/surface water from tributaries are actively draining into Bear Creek within the project area (see Figures 16 and 22 in the ARR; Appendix D). The PEM classification is characterized by the presence of grasses, forbs, and other herbaceous wetland vegetation (sedges, rushes, smartweed, etc.). Due to the size and scale of the project area, there are likely some PEM areas that occur within the project area but were not identified during the field survey and are consequently not shown in Figures 7-12 in the ARR (Appendix D).

3.5 Other Relevant Conditions

There is limited infrastructure within the project area. At the upstream project boundary, the McDaniel property has a cabin that is on the valley margin, offset from Bear Creek, but only 0.6 feet above the modeled existing 100-year WSE. There is an existing Wallowa County-owned bridge roughly halfway through the project area at RM 4.3 (Figure 3-9). At the 100-year recurrence interval flood, it is estimated that the low chord of the bridge is 1 ft below the modeled WSE, indicating that the bridge opening is undersized and at risk of failure during flooding. Near the county bridge there is a small parcel that has a cabin that is currently 4 ft above the existing modeled 100-year WSE. However, this parcel is for sale—the project team is looking at acquiring the property and may remove or relocate the structure. There is a private bridge, owned by the Sauvage family, at the downstream end of the project area that the landowner indicated could be removed (Figure 3-10). Coordination with OWRD is ongoing to determine if the existing stream gage needs to be relocated. Hydraulic modeling suggests this bridge may become inundated and exhibit pressure flow at the 100-year recurrence interval flood. From the downstream end of the project at RM 3.1 up to RM 3.6, Bear Creek flows directly adjacent to Bear Creek Road. Existing conditions model results indicate that portions of Bear Creek Road experience flooding at the 100-year recurrence interval flood (Figure 3-11). Additionally, observations in the field indicate that maintenance has historically been performed to fix erosion hazards along Bear Creek Road through this reach, suggesting that erosion of the road prism has been a problem in the past and will likely continue in the future if no action is taken.

Figure 3-9. The existing Wallowa County bridge is located halfway through the project at RM 4.3.