Visitor Use Zone (VZ)

(Map 2)

Desired Future Condition

- Support adjacent Historic District Zone with compatible elements such as orchard, native and pioneer gardens and native vegetation
- Provide for safe visitor use (picnic and garden harvesting), movement, and interpretive opportunities
- Transition from contemporary context to Historic District Zone

Condition of Existing Vegetation (Native)

The Visitor Zone landscape is the most disturbed within the monument. Historically the VZ was grazed, trampled, cultivated for pasture, gardens and orchards and developed (campground, irrigation system, picnic lawn, visitor center and parking lot). Natural water courses were modified to support irrigation needs and divert flood waters (McKoy 1997). Little remains of the topsoil, topography, or hydrology. Consequently, most existing vegetation is early to mid-successional in species composition. Dominant species include four-winged salt brush, rabbit brush and sand sage. The existing community is lacking in species diversity and age diversity when compared to undisturbed (relatively undisturbed) shrub steppe communities in the region.

Condition of Existing Vegetation (Introduced)

A chronological record of the introduction (and sometimes removal) of non-native plants in the Pipe Spring area from 1863 to the mid-1980s has been compiled (Newton 2007)

from the PISP administrative history, *Cultures at a Crossroads* (McKoy, 2000). Most of the plants were introduced for utilitarian and ornamental purposes (fruit, forage, shade, wind breaks etc.) Plants listed as having been introduced (principally planted in the VZ and HD) include cottonwood, poplar, elm, willow, ailanthus, black locust, apple, peach, apricot, and plum trees, currant, grape and wild rose. For the most part, exact introduced species or cultivars have not been identified in the original source material, although specific reference is made to Carolina and Lombardy poplar, silver-leaf cottonwood, and Pottawatomie plums. As noted in the PISP *Pre-settlement Vegetation Literature Survey* by Alexander, *Populus alba* (white poplar or silver-leaf cottonwood), *Populus fremontii* (Fremont or Western cottonwood), and *Populus nigra* (Lombardy poplar), were planted by the Woolley family in the 1880's (Alexander, 1998). The current species list included by Alexander identifies the same three poplars as introduced tree species presently growing on-site, as well as Robinia pseudoacacia (black locust), and Ulmus pumila (Siberian elm).

Time (many plants are in scenesiance) and the recent six year drought have stressed introduced plants. These problems have been exacerbated by decreased spring flows which have reduced water available for irrigation. Ground water levels may also have been altered by drawing down the aquifer via regional pumping. Additional stressors could include salt build up in irrigated soils, limited biological soil crust and lowered water table issues noted above.

With few exceptions, the introduced plants and plantings are seriously degraded. Although located outside the HD, they have a supportive role to play and are an integral part of the interpretive program and long term visitor enjoyment. In addition, they are important habitat for several bird species that breed on the monument and migratory neo-tropical birds. These species use PISP as a rest stop during their transcontinental migration.

Actions

1- Revitalize the decadent poplar hedgerow along the corral with one of several options :
   - 1A Option: Cut down all the existing trees (most of which are old and in decline), save grapes and plums and as much of the understory vegetation as possible and replant the tree component of the hedgerow with fastigiated (tall, narrow, vertically formed) species
   - 1B Option: Selectively thin the existing hedgerows by > 50%, remove every other tree plus any that are hazardous, saving as much understory vegetation as possible, and replant new fastigiate populus sp. in spaces made available by removal of existing trees. Over the next 20 years the remaining poplars would be removed and replaced with fastigiate populus sp.
   - 1C Option: Similar to option B, but the stumps of cut trees are not treated, instead saving the dominant sucker and cutting off all others. The dominant sucker is then pruned to replace the removed decadent tree.

2- Selective removal of scattered *Ailanthus* trees throughout Visitor Zone

3- Replace *Ailanthus* trees at south end of the hedgerow with willow/cottonwood plantings

4- Realign the flood ditch and redesign the cross section to enhance its ecological function and appearance, while retaining designed flow capacity.

5- Save and revitalize plums along walkways north and west of the orchard and currant thickets along the walkway north of the orchard.

6- Develop "living grasslands" plots to reintroduce native vegetation in controlled zones. Any or all of the following option could be pursued.
   - 6A Action: Create native vegetation plot south of the Monument trail between the Monument boundary and the flood drainage channel
   - 6B Action: Create native vegetation plot north of the Monument trail between the Monument boundary and the flood drainage channel
   - 6C Action: Create native vegetation plot south of the Monument trail between the flood ditch and the present picnic area, and around southside of picnic area
   - 6D Action: Downsize the large corrals west of the poplar hedgerow, retaining the south end as a corral, and developing a native vegetation plot in the northern end of currently existing corrals

7- Revitalize orchard. Any or all of the following option could be pursued.
   - 7A Action: The spacing and distribution of fruit trees in the present orchard does not create a strong visual grid. Downsize and fill in the existing orchard with additional fruit trees representative of the historical period (apple, peach, apricot, and plum)
   - 7B Action: Ground surface beneath orchard is difficult to maintain, and prone to invasion of exotics. Plant a cover crop in the orchard.
   - 7C Action: Reconstruct surface flow system utilizing gravity flow from pond for historical interpretation, retaining existing pressurized irrigation system as back-up.
   - 7D Action: Consider the addition of a nursery to grow replacement stock.

8- Replace and widen all concrete walkways in VZ and HD. (Project prospectively scheduled for funding in FY 2010.)

9- Phased removal of the cottonwood tree line on the west side of the flood ditch

10- Consider relocation of demonstration garden to historically accurate location below ponds.

11- Reestablish native plant community characteristics

12- Enhance black locust planting in picnic area, and add drip irrigation and crushed local stone mulching