Tallgrass Prairie National Preserve
Bottomland Prairie Restoration 2011 Update

Tallgrass Prairie National Preserve (TAPR) is mostly comprised of Flint Hills upland tallgrass prairie habitats however; there are smaller habitats such as bottomland and riparian habitats. The largest of these habitats is associated with Fox Creek and covers nearly 500 acres. The Fox Creek bottomland and riparian corridor has had a long history of disturbance and use, including crops, grazing, and development (cattle operations).

History:

1857– Bottomland fields of native prairie with wooded riparian corridor up to ¼ mile wide (Land Survey Maps).

1877 – Bottomland fields comprised of cultivated acres, orchard, garden, and park (Cultural Landscape Report, 2004).

1907 – Bottomland fields comprised of cultivated acres (Cultural Landscape Report, 2004; 1938 Aerial Photographs).

1994 – Bottomland fields planted to smooth brome (M. Holder, pers. comm.)

2003 – Bottomland restoration project starts at Bottomland Trail area (Field 1).

Figure 1. TAPR's bottomland smooth brome hay fields shortly after haying. Fox Creek and native prairie uplands in background.

TAPR's native prairie and riparian areas support a wide diversity of life. Only a small number of species inhabit the smooth brome hay fields. The fields lack heterogeneity, or diversity of habitat types, to support large numbers of species.

Why Restore?

- *National Park Service Management Policies (2006)* outlines a goal "to re-establish natural functions and processes in parks" in which the Service "will seek to return such disturbed areas to the natural conditions and processes characteristic of the ecological zone in which the damaged resources are situated".
- The TAPR *General Management Plan (2000)* outlines two goals: 1) "to provide examples of species extirpated from the area (species previously removed by plowing and the planting of non-native species), and for interpretation of this rare plant and animal community and the pre-agricultural prairie" and 2) "to protect riparian areas, including reducing vegetation loss (and erosion) and restoring vegetation".
- The TAPR *Cultural Landscape Report (2004)* provides a treatment recommendation to "re-establish bottomland prairie".

Table 1. Natural resource management activities for TAPR bottomland reconstruction fields (FY11). Age represents the age of the planting (eg. 2 years = 2009 planting). "Weeds" refers to weed management activities including both chemical and mechanical treatments.

Field #	Age (yr)	Acres	FY11 Management Activity			
			Burn	Hay	Graze	Weed
1	7	25	N	Y	N	Y
2	6	12	N	Y	N	Y
3	6	17	N	Y	N	Y
4	4	9	Y	N	N	Y
5	4	8	N	Y	N	Y
8	3	31	Y	N	N	Y
11	2	33	Y	N	N	Y
12	2	15	Y	N	N	Y
13	2	46	Y	N	N	Y
19	2	12	Y	N	N	Y
20	2	11	Y	N	N	Y

Kristen Hase

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Restoration Objectives:

Reduce exotic plant species composition by 75% or greater after three years

Reach a planned condition of at least 60% native grass and forb cover after five years

Provide an example of a rare plant community

Provide public awareness about the plight of prairie species and efforts to restore these species

Maintain and enhance an example of a riparian woodland

Provide public access to the restoration for the purposes of education, scientific research, and nature appreciation opportunities

Prevent further encroachment by smooth brome and other invasive exotic plants into the Fox Creek riparian corridor

Figure 2. Percent native species cover by age of prairie restoration at TAPR FY11. Age represents the age of the planting (eg. 2 years = 2009 planting). As expected, the percent native vegetation increases over time, however; % native is highly variable among sites and fields.

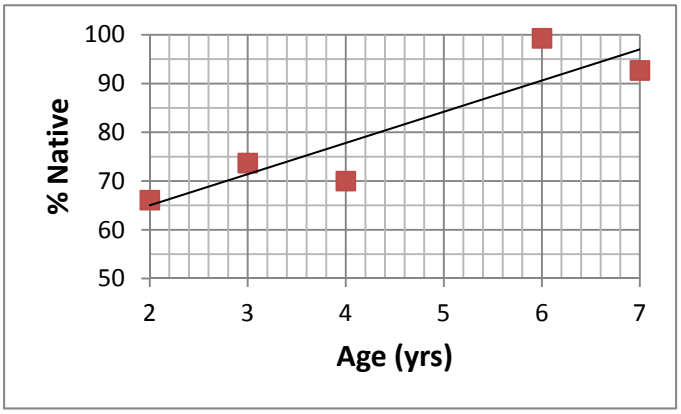
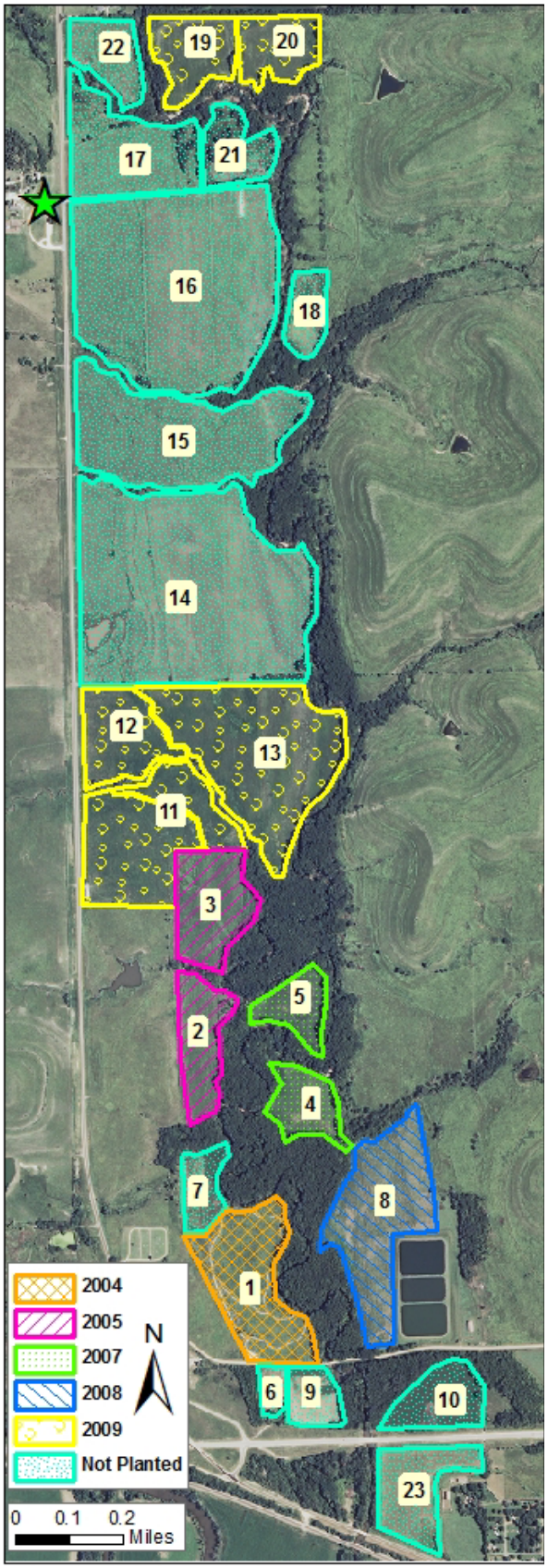


Figure 3. 2010 Bottomland Photopoint on Bottomland Trail, TAPR (l-r, May, June, July).

Next fields slated for prairie restoration (FY13) are 14 and 18. Portions of 16 and 17 may be used for historic agricultural/orchard demonstration (pending compliance).



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