

Exotic Plants

2009

Importance

Invasive exotic plants have been consistently ranked as a top vital sign for long term monitoring as part of the NPS Inventory & Monitoring (I&M) Program. During final selection of SOPN vital signs in 2006, invasive exotic plant monitoring was recognized across all network parks as the most important shared monitoring need. Early detection is a key strategy for successful invasive exotic plant management. Therefore, the SOPN has incorporated the following objectives into its monitoring plan for Exotic Plants: (1) to detect the initial occurrence for any of a subset of high priority species in areas of high and low invasion probability, (2) to determine changes in the status and trend (density, abundance or extent) of a subset of high priority species in areas of high and low invasion probability, and (3) to determine changes in species composition of a subset of high priority species in areas of high and low invasion probability, taking into account any management treatments that occurred between sampling intervals. Following is an overview of results for the 2009 pilot monitoring season.

Table 1. The number and percentage of primary (N=56) sample units that each species was detected at Chickasaw N.R.A. in 2009.

		Primary Sample Units	
Scientific Name	Common Name	No. Primary Vector Blocks	% Blocks Sampled (N=56)
<i>Cyperus (esculentus ?)</i>	Nutgrass sedge	54	96
<i>Eupatorium dentata</i>	toothed spurge	12	21
<i>Lespedeza cuneata</i>	sericea lespedeza	9	16
<i>Albizia julibrissin</i>	mimosa tree	7	13
<i>Bromus japonicus</i>	Japanese brome	5	9
<i>Erodium cicutarium</i>	red-stem stork's-bill	4	7
<i>Lactuca serriola</i>	prickly lettuce	3	5
<i>Agrostis gigantea</i>	creeping bentgrass	2	4
<i>Cynodon dactylon</i>	Bermudagrass	2	4
<i>Taraxacum officinale</i>	dandelion	2	4
<i>Echinochloa colona</i>	jungle ricegrass	1	2
<i>Lonicera japonicus</i>	Japanese honeysuckle	1	2
<i>Tragopogon dubius</i>	western salsify	1	2

RESOURCE BRIEF



yellow nutsedge (*Cyperus esculentus*)

2009 Sampling

During 2009, exotic plant monitoring occurred at CHIC for one day in early August (Fig. 1). Two monitoring teams worked simultaneously, providing similar man-hour effort as our normal two-day efforts. The vector sampled was the

Nature Trail behind the Nature Center, an unpaved trail improved with gravel. Twenty-eight vector blocks were monitored for a total of 1,400 linear meters. This area has received active exotic management and reflects these on-going efforts. The limited number of exotic plants has resulted in a decision to exclude this trail from future exotic plant monitoring, replacing it with a section of equestrian trail of more serious concern. No secondary interior monitoring took place at CHIC in 2009.

Only one species of sedge (*Cyperus*) was observed as scattered patches in all vector blocks (Table 1). This sedge was not in bloom, which precluded species identification. One very invasive exotic sedge, yellow nutgrass (*Cyperus esculentus*) has

Chickasaw NRA Exotics Sampling Panel 1 - August 2009

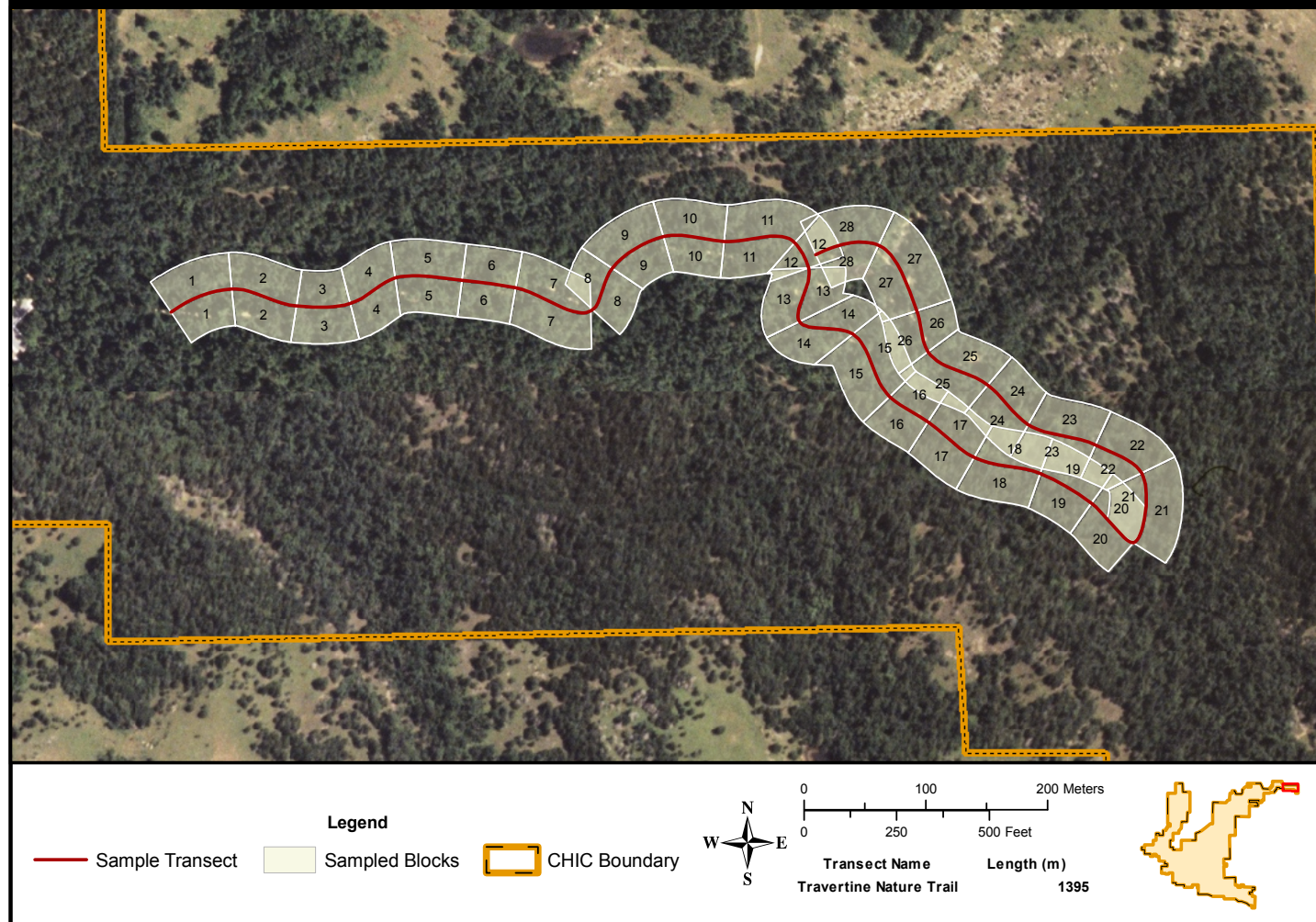


Figure 1. The 2009 panel (annual sample) at Chickasaw N.R.A. showing the individual vector blocks sampled.

been previously identified within CHIC. The sedge observed during monitoring was tracked in order to provide distribution density should this species later prove to be yellow nutgrass. There are a number of native sedges at CHIC, so positive identification is required before any control methods are implemented.

Sericea lespedeza (*Lespedeza cuneata*), toothed spurge (*Eupatorium dentatum*) and mimosa tree (*Albizia julibrissin*) were found in 25% or fewer vector blocks. *Sericea lespedeza* was found primarily in the first 2 meters from the trail, but was observed evenly distributed up to 10 meters into the landscape in one block located at the site of an abandoned road. Toothed spurge was found in scattered patches generally in the first 2 meters of the vector. Several mature mimosa trees were found along the creek with numerous seedlings and saplings found in the adjacent area. This can be a very invasive tree in CHIC riparian habitats and this observed population located near the headwaters of the creek will continue to provide propagules

for further expansion until eradicated. The riparian area downstream from this population should be investigated for additional populations of this tree.

The remaining exotic plant species observed at CHIC were observed in small, limited populations, making them prime candidates for eradication before they begin to spread throughout the habitat. Japanese brome (*Bromus japonica*) and red-stem stork's-bill (*Erodium cicutarium*) were found in limited numbers along the trail, as were prickly lettuce (*Lactuca serriola*), Japanese honeysuckle (*Lonicera japonicus*) and western salsify (*Tragopogon dubius*). Bermudagrass (*Cynodon dactylon*) was found in only one vector block, but was establishing in scattered patches. The area between Antelope Springs and the abandoned road contained several exotics found nowhere else along the vector. These included a few plants of dandelion (*Taraxacum officinale*) and jungle ricegrass (*Echinochloa colona*), and larger patches of creeping bentgrass (*Argosies gigantea*).