

# INTERAGENCY WEED SENTRY PROGRAM



Annual Progress Report -August 11, 2009



# GOALS



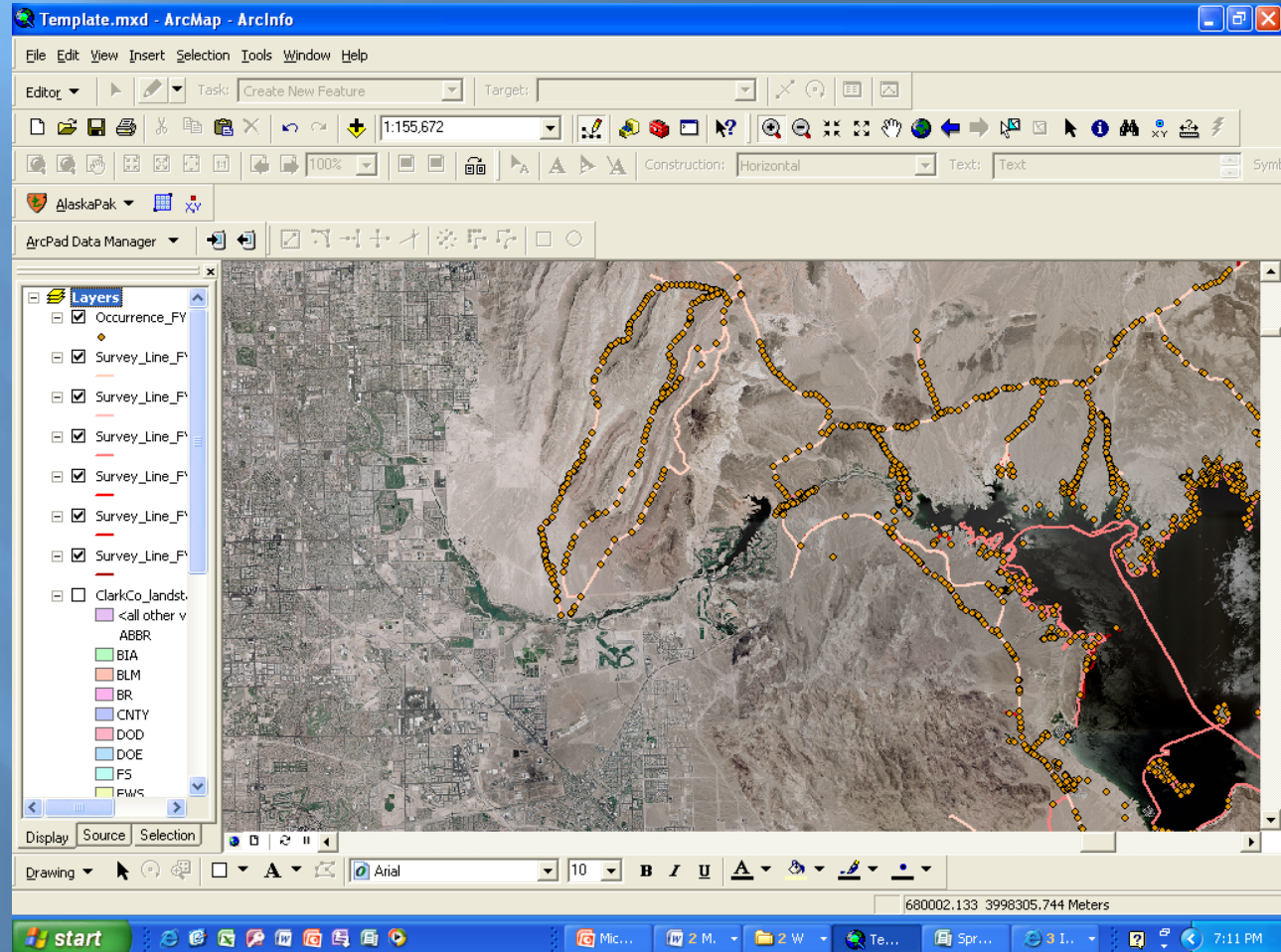
to be as proactive as possible at detecting incipient invasive plant populations so they can be controlled or eradicated before they negatively impact ecosystems and species of concern.

# OBJECTIVES

- (1) Identify and document the presence of new exotic invasive plant species;
- (2) Document targeted incipient populations of weeds in Clark County or vectors outside of Clark County and determine their distribution; and
- (3) Control incipient weed populations when feasible and prioritize areas for more extensive control efforts.

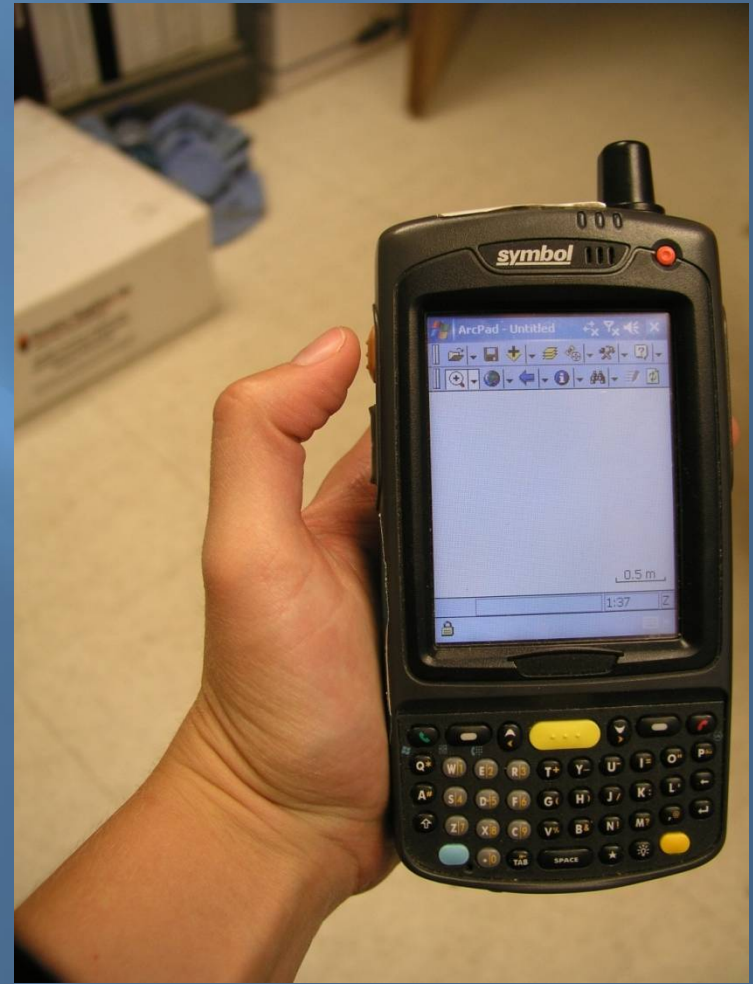


# VEHICLE AND HIKING SURVEYS



# ATTRIBUTES DOCUMENTED

- Number of plants
- Phenology
- Condition
- Reproductive potential
- Affected acres
- Canopy cover
- Distance from water
- Distribution





# TRIP REPORTS

## Interagency Weed Sentry Trip Report

Report Date: June 18, 2009

From: Jill Craig, Weed Sentry Program

To: BLM

Attn: Gayle Marrs-Smith, BLM Rare Plants  
Gayle\_Marrs-Smith/LVFO/NV/BLM/DOLBLM@nps.gov

Nora Caplette  
Nora.Caplette@blm.gov

RE: Sloan Canyon NCA; May 6, 19 & 21, 2009

This memo is intended to convey information regarding Weed Sentry survey activities within areas for which you may have responsibilities for monitoring and/or treating noxious invasive weeds. Below we describe the areas surveyed, the weeds found, any treatments conducted, and recommendations for follow-up treatments.

### Area Surveyed

We surveyed the northeast section of Sloan Canyon NCA, with entrances off of Mission Drive, the utility road off of Sandy Drive, and Greenway Road. These surveys were conducted by foot, following a variety of closed roads, mining roads, ATV trails, etc.

On the northwest side of Sloan Canyon NCA we surveyed the road off of McCullough Hills Parkway. (See attached maps).

### Weeds Found

We encountered *Brassica tournefortii*, *Bromus tectorum*, *Halogeton glomeratus*, *Pennisetum setaceum*, *Salsola tragus*, and *Sisymbrium irio*.

### Treatments

Single *Pennisetum setaceum* and *Halogeton glomeratus* were encountered and hand-pulled. There were some *Brassica tournefortii* and *Sisymbrium irio* that were also hand-pulled and disposed of off-site, but control did not remove all individuals occurring in the area.

### Recommendations

I would recommend extensive weed surveys of the NCA that primarily focus on closed roadways and other disturbed right-of-ways. I was only able to survey a small portion of Sloan Canyon during the time I had allotted.

6/29/2009

## Sloan Canyon NCA, BLM

Jill Craig; May 6, 19 & 21, 2009



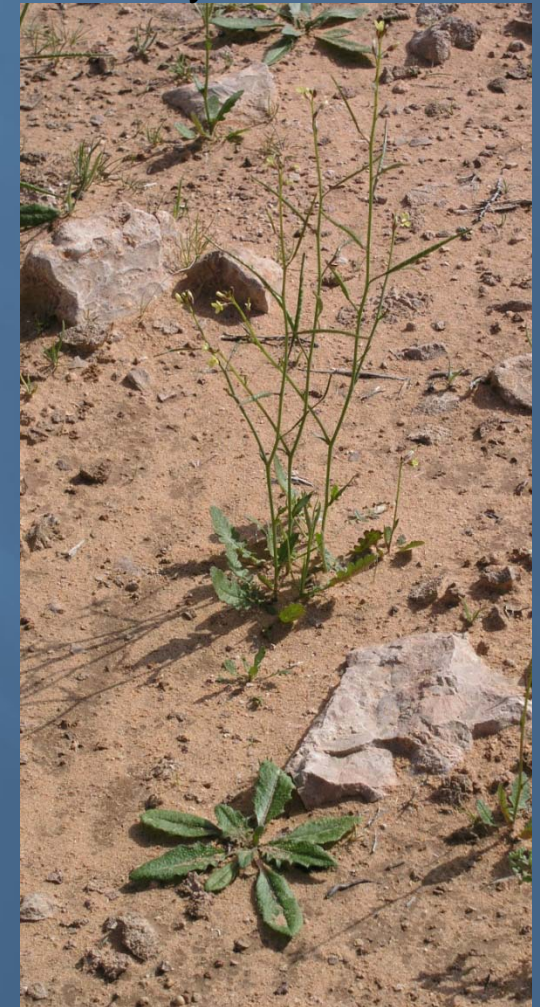
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# COMMONLY ENCOUNTERED

*Brassica tournefortii*,  
*Bromus tectorum*,  
*Malcolmia africana*,  
*Sisymbrium irio*, and  
*Tamarix ramosissima*.



Photos by Carrie Norman





# *Tribulus terrestris*

(puncturevine)





# *Malcolmia africana*

(African mustard)



Photos by Carrie Norman



# *Halogeton glomeratus*



(Halogeton)





# CONTROL INCIPIENT POPULATIONS



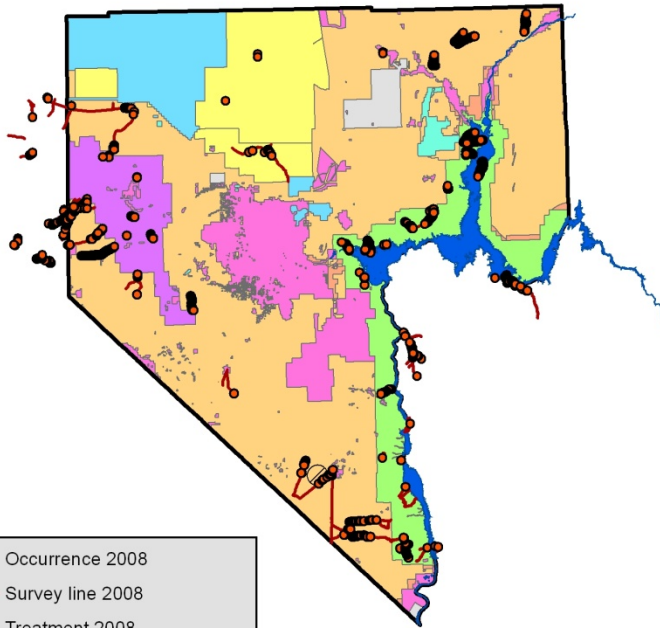
# ACCOMPLISHMENTS FY2008-09

- ▣ Surveyed BLM, NPS, USFS and USFWS lands for weed infestations.
- ▣ Compiled a database of exotic plant infestations.
- ▣ Treated invasive plant species.
- ▣ Produced trip reports and offered recommendations for weed control to land managers.
- ▣ Published a scientific journal article about the program.



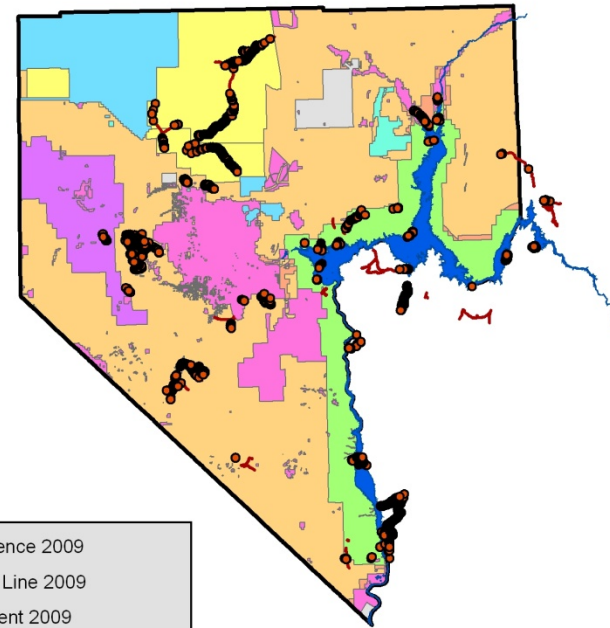
# SURVEYS

2008



- Occurrence 2008
- Survey line 2008
- ▨ Treatment 2008
- Water
- Clark County
- Management Authority**
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
- Forest Service
- National Park Service
- Nevada State
- Private

2009



- Occurrence 2009
- Survey Line 2009
- ▨ Treatment 2009
- Water
- Clark County
- Management Authority**
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
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- Nevada State
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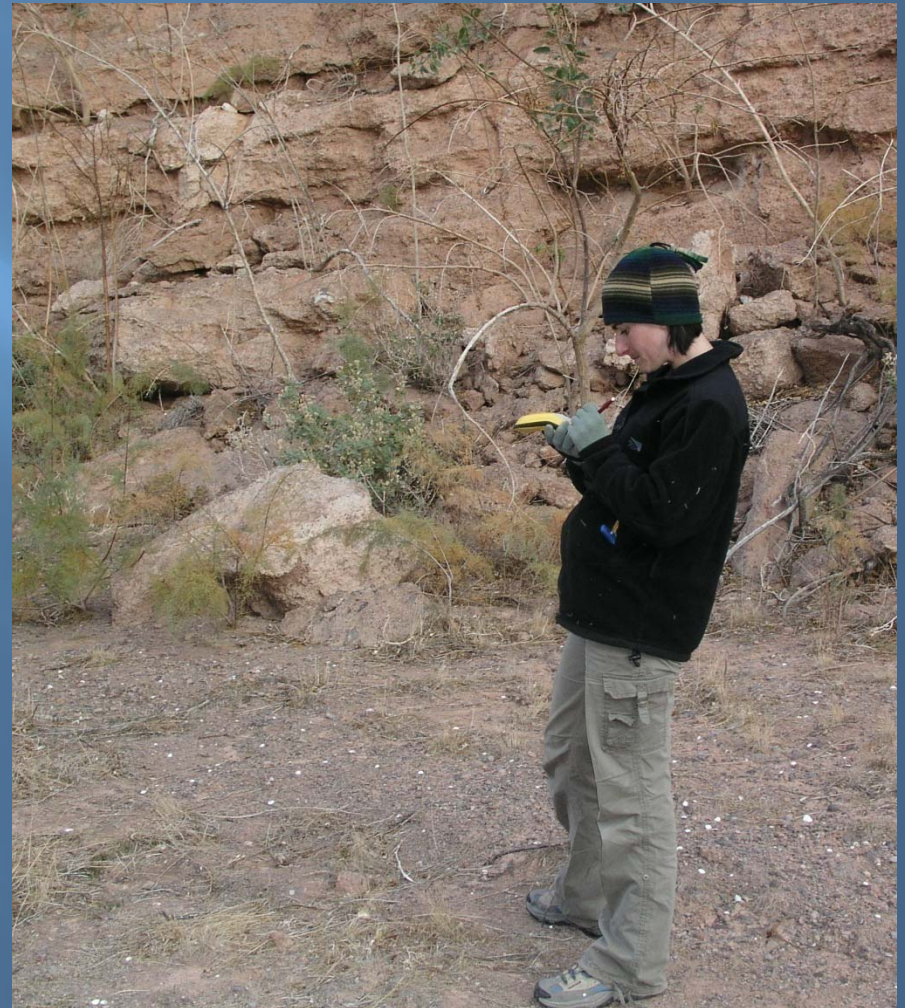
# SURVEYED BLM, NPS, USFS & USFWS LANDS.

## FY2008

Agency	Miles	Acres
BLM	213	1,695
NPS	132	1,030
USFS	7	37
USFWS	22	159

## FY2009

Agency	Miles	Acres
BLM	143	1,089
NPS	158	1,224
USFS	7	16
USFWS	101	702





# COMPILED DATABASE

FY2008  
1,486 infestations

FY2009  
1,888 infestations

OBJECTID	SHAPE *	Owner	Species	Number of Plants	Phenology	Condition	Reproductive_Potential	Affected Acre
31626	Point	USFS	Salsola tragus	10 - 100	Flowering	Good	High	0.1 - 0.5
31627	Point	USFS	Malva neglecta	10 - 100	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31628	Point	USFS	Sisymbrium altissimum	10 - 100	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31629	Point	USFS	Mellilotus officinalis	10 - 100	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31630	Point	USFS	Bromus tectorum	< 10	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31631	Point	USFS	Portulaca oleracea	< 10	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31632	Point	USFS	Verbascum thapsus	101 - 1,000	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31633	Point	USFS	*New Species*	101 - 1,000	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31634	Point	USFS	Sonchus oleraceus	10 - 100	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31635	Point	USFS	*New Species*	10 - 100	Mature fruit	Good	Low	0.1 - 0.5
31636	Point	USFS	Tragopogon dubius	< 10	Mature fruit	Good	Low	0.1 - 0.5
31637	Point	USFS	Lolium perenne	10 - 100	Mature fruit	Good	Low	0.1 - 0.5
31638	Point	USFS	*New Species*	10 - 100	Mature fruit	Good	Low	0.1 - 0.5
31639	Point	USFS	Verbena bracteata	< 10	Leaf-out Vegetative	Good	Low	0.1 - 0.5
31640	Point	USFS	Agropyron cristatiforme	10 - 100	Mature fruit	Good	High	0.1 - 0.5
31641	Point	USFS	Verbascum thapsus	10 - 100	Mature fruit	Good	High	0.1 - 0.5
31642	Point	USFS	Mellilotus officinalis	101 - 1,000	Mature fruit	Dying	High	0.1 - 0.5
31643	Point	USFS	Verbena bracteata	10 - 100	Mature fruit	Dying	High	0.1 - 0.5
31644	Point	USFS	Sisymbrium altissimum	< 10	Mature fruit	Dead	Medium	0.1 - 0.5
31645	Point	USFS	Sonchus oleraceus	< 10	Mature fruit	Dying	Medium	0.1 - 0.5
31646	Point	USFS	Tragopogon dubius	< 10	Flower Bud/Bolting	Good	Medium	0.1 - 0.5
31647	Point	USFS	Tragopogon dubius	< 10	Flower Bud/Bolting	Good	Medium	0.1 - 0.5
31648	Point	USFS	Sisymbrium orientale	< 10	Mature fruit	Dead	Medium	0.1 - 0.5
31649	Point	USFS	Bromus tectorum	101 - 1,000	Mature fruit	Dead	Medium	0.1 - 0.5
31650	Point	USFS	Bromus tectorum	> 100,000	Mature fruit	Dead	Medium	0.1 - 0.5
31651	Point	USFS	Lolium perenne	< 10	Mature fruit	Good	Medium	0.1 - 0.5
31652	Point	USFS	Sonchus asper	10 - 100	Flower Bud/Bolting	Good	Medium	0.1 - 0.5
31653	Point	USFS	Verbena bracteata	10 - 100	Mature fruit	Dying	Medium	0.1 - 0.5
31654	Point	USFS	Bromus tectorum	> 100,000	Mature fruit	Dead	High	0.1 - 0.5
31655	Point	USFS	Sisymbrium altissimum	101 - 1,000	Mature fruit	Dead	High	0.1 - 0.5
31656	Point	USFS	Sisymbrium orientale	101 - 1,000	Mature fruit	Dead	High	0.1 - 0.5
31657	Point	USFS	Verbena bracteata	10 - 100	Mature fruit	Dying	High	0.1 - 0.5
31658	Point	USFS	Verbascum thapsus	10 - 100	Mature fruit	Dying	Medium	0.1 - 0.5
31659	Point	USFS	Mellilotus officinalis	1,001 - 5,000	Mature fruit	Dying	Medium	0.1 - 0.5
31660	Point	USFS	Lolium multiflorum	101 - 1,000	Mature fruit	Fair	Medium	0.1 - 0.5
31661	Point	USFS	*New Species*	5,001 - 10,000	Mature fruit	Good	Medium	0.1 - 0.5
31662	Point	USFS	*New Species*	< 10	Mature fruit	Dead	Medium	< 0.1
31663	Point	USFS	Sisymbrium orientale	101 - 1,000	Mature fruit	Dead	High	< 0.1
31664	Point	USFS	Acroptilon repens	> 100,000	Mature fruit	Good	High	0.1 - 0.5
31665	Point	USFS	*New Species*	10 - 100	Mature fruit	Dying	Medium	0.1 - 0.5

# TREATED INCIPIENT POPULATIONS

## FY2008

Agency	Individuals	# of species
BLM	14	1
NPS	1,426	9
USFS	60	2
USFWS	45	3



## FY2009

Agency	Individuals	# of species
BLM	2,160	10
NPS	43,364	10
USFS	9	2
USFWS	121	4



## Assessing an exotic plant surveying program in the Mojave Desert, Clark County, Nevada, USA

Scott R. Abella · Jessica E. Spencer ·  
Joshua Hoines · Carrie Nazarchyk

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**Abstract** Exotic species can threaten native ecosystems and reduce services that ecosystems provide to humans. Early detection of incipient populations of exotic species is a key step in containing exotics before explosive population growth and corresponding impacts occur. We report the results of the first three years of an exotic plant early detection and treatment program conducted along more than 3,000 km of transportation corridors within an area >1.5 million ha in the Mojave Desert, USA. Incipient populations of 43 exotic plant species were mapped using global positioning and geographic information systems. *Brassica tournefortii* (Sahara mustard) infested the most soil types (47% of 256) surveyed in the study area, while *Nicotiana glauca* (tree tobacco) and others currently occupy less than 5% of soil types. *Makolmia africana* (African mustard) was disproportionately detected on gypsum soils, occurring on 59% of gypsum soil types compared to 27% of all surveyed soils. Gypsum soils constitute unique rare plant habitat in this region, and

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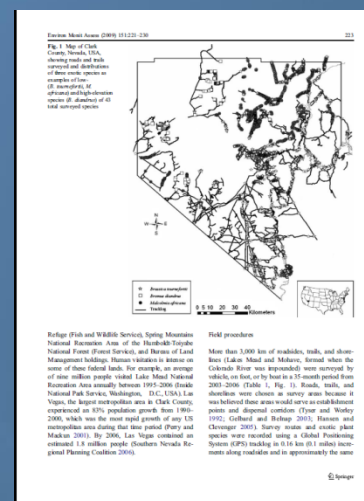
by conventional wisdom were not previously considered prone to invasion. While this program has provided an initial assessment of the landscape-scale distribution of exotic species along transportation corridors, evaluations of both the survey methods and the effectiveness of treating incipient populations are needed. An exotic plant information system most useful to resource managers will likely include integrating planning oriented coarse-scale surveys, more detailed monitoring of targeted locations, and research on species life histories, community invasibility, and treatment effectiveness.

**Keywords** Distribution · Invasibility · Landscape · Mapping · Monitoring · Roads · Transportation corridor

### Introduction

Exotic species in general are threats to native ecosystems and to ecosystem services provided to human societies (Higgins et al. 1999; DiTomaso 2000). For example, *Tamarix ramosissima* (saltcedar) invasion of riparian areas in the western United States often depresses plant diversity (Busch and Smith 1995). Dense stands of this deep-rooted exotic tree with high leaf area also can usurp more water than native riparian vegetation of lower leaf area, reducing available water for native wildlife and for human populations in the arid West (Shafroth et al. 2005).

Springer



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[http://faculty.unlv.edu/abellas2/list\\_of\\_publications.htm](http://faculty.unlv.edu/abellas2/list_of_publications.htm)

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