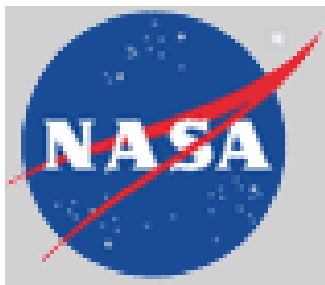
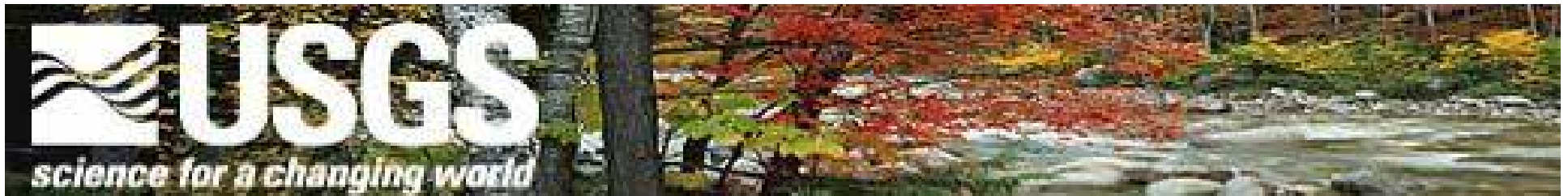


Partnerships in Mapping Tamarisk and Other Invasive Species in the US: The “One If By Land, Two If By Sea” Initiative

Tracy Davern, Greg Newman, Tom Stohlgren,
Jim Graham, Paul Evangelista, Catherine Crosier, Nate
Alley, Bill Gregg, Sue Haseltine, Randy Westbrooks,
John Schnase, Jeff Pedelty, Jeff Morissette, and . . .



Main Project Web Page

<http://www.nrel.colostate.edu/projects/stohlgren>



Created March 2004



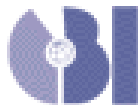
National Institute of Invasive Species Science



Tom Stohlgren, Science Program Director



and **Geneva Chong, Catherine Crosier, Tom Fritz, Gordon Rodda, Kathy Dean-Bradley (FORT, USGS), David Barnett, Greg Newman, Sara Simonson, Rick Shory, Jim Graham, Mohammed Kalkhan, Robin Reich (CSU), John Schnase, Jim Smith, Jeff Pedelty, Jeff Morissette (NASA), Mike Ielmini (USFS), Pam Fuller, Josh Dein, John Sauer, Carl Korcshgen, Doug Posson, Anne Frondorf, Annie Simpson, Bob Stewart, Larry Ludke, Frank D'Erchia, Bruce Peterjohn, Rachel Muir, Bill Gregg, Sue Haseltine, Tom Owens, Gladys Cotter, Anne Kinsinger, Frank Shipley, Romeo Flores (USGS) Ann Bartuska (USFS), John Randall (TNC), John Kartesz (UNC), Jim Quinn (UCD), Merrill Kauffman (USFS), Dan Steinwand (EDC), David Parsons (ALWRI), Jim Gosz (LTER), Bob Shaw (CEMML), Bob Adamcik (USFWS), Tonie Ott (EPA), Tim Carlson (The Tamarisk Coalition) and many more.**



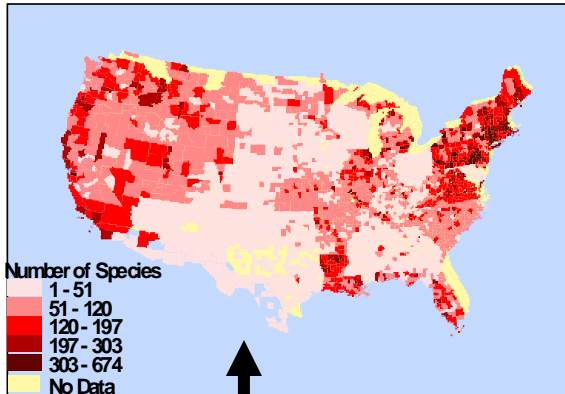
Questions Managers Ask:

- **Where is it?**
- **How can I kill it?**

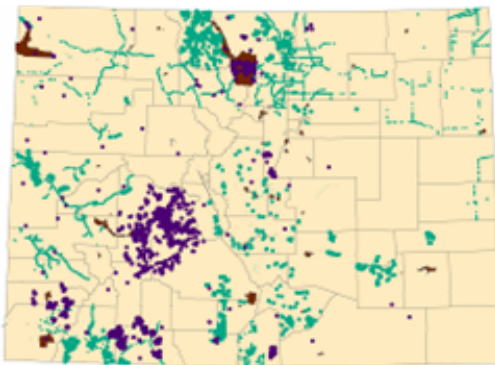
What Managers Really Mean:

- Where is it? (What are the current and potential distributions, rates of spread, and ecological and economic risks – and how can I share information to assist adjacent landowners?)
- How can I kill it? (. . . and restore the area, prevent future invasions, minimize non-target effects, monitor effectiveness, share information to assist adjacent landowners?)
- How do I select priority species and areas for immediate and long-term management?
- How can science-based decisions provide a targeted approach that is cost-efficient and accountable ?

Departments, OMB
National Priorities



State Priorities



Legend

- Vegetation Plots
- Species Lists
- Weed Mapping
- Counties

States, Inter-states

Communities, ranchers, farmers, citizens
Local Infestation



Watershed Infestation



We need useful products for many customers

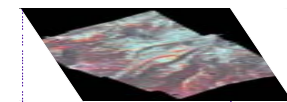
County/Park/Refuge Control Priorities

Land managers, tribes, counties

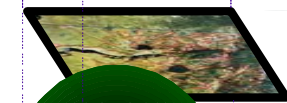


R² based on OLS and Regression Trees = 42 %

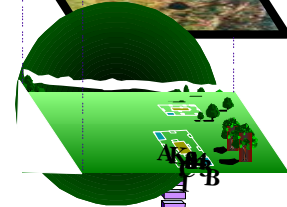
Modeled Landscape



Satellite Imagery for broad-scale extrapolation



High Resolution Aerial Photographs with common and rare habitats stratified



Field Sampling subset of random plots selected in common and rare habitats for long-term monitoring



GIS Based Predictive Model links to causal mechanisms

jan04_data

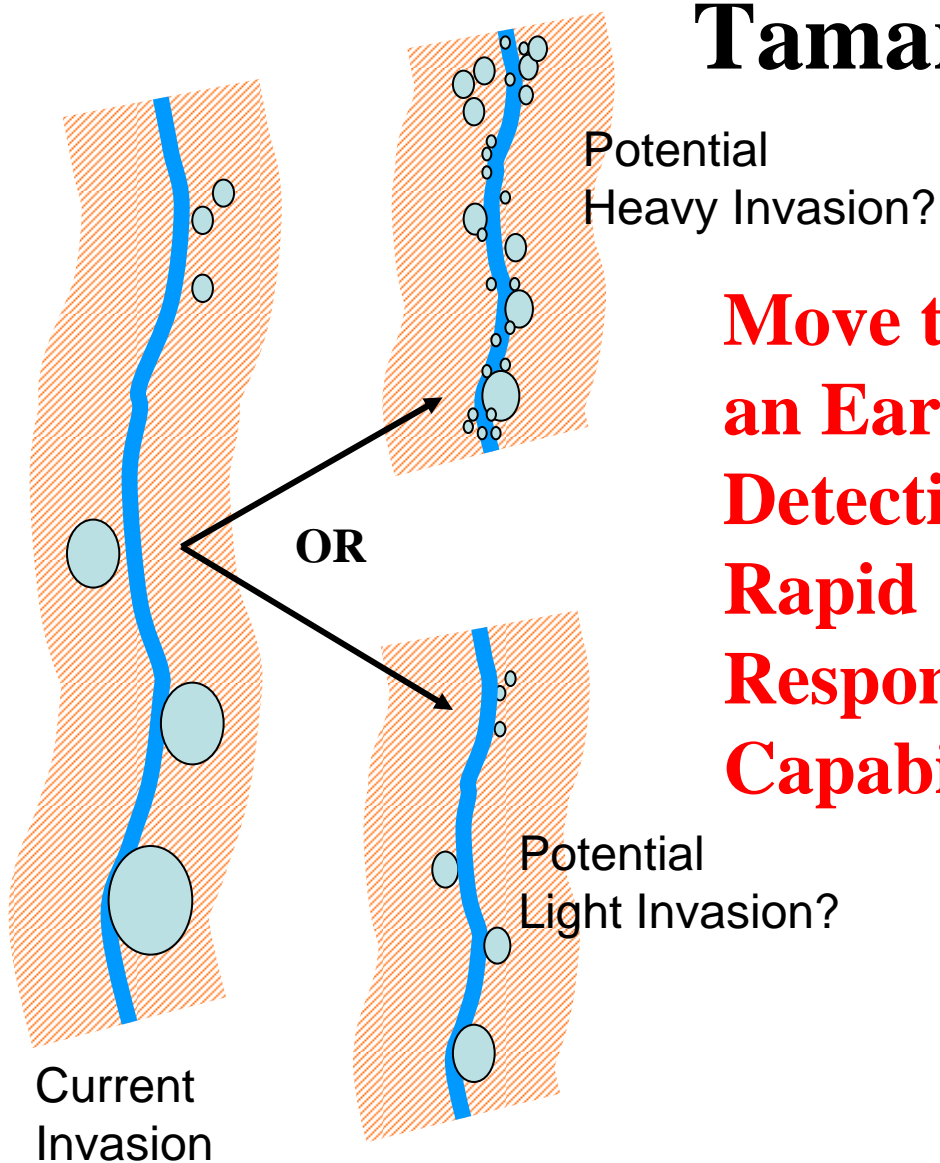
Date	<input type="text" value="1/6/2004"/>	Dominance	<input type="text" value="None"/>
State	<input type="text" value="UTAH"/>	Percent cover of an FHM plot (186 m2)	<input type="text" value="0-25%"/>
County	<input type="text" value="Kane/Garfield"/>	Infestation_level	<input type="text" value="0 (none)"/>
Examiner	<input type="text" value="N. Alley"/>	Other species	<input type="text" value="Russian olive"/>
Intersection	<input type="text" value="Base of Smoky Mtn Road at a dry wash."/>	Other species1	<input type="text"/>
Water?	<input type="checkbox"/>	Other species2	<input type="text"/>
UTM_Easting	<input type="text" value="459968"/>	Notes	<input type="text"/>
UTM_Northing	<input type="text" value="4112868"/>		
Elevation(meters)	<input type="text" value="1324"/>		
0-1m (Seedling)	<input type="checkbox"/>		
1-3m (Sapling)	<input type="checkbox"/>		
>3m (Mature)	<input type="checkbox"/>		
none	<input checked="" type="checkbox"/>		

Record: of 119



Standardized reporting formats improves data comparability and sharing.

Tamarisk Mapping



**Move to
an Early
Detection,
Rapid
Response
Capability**



**Ancillary data
will help!**



Launching the Invasive Species Mapping and Forecasting Service

The screenshot shows a web browser window titled "T-Map Tamarix Cooperative Mapping Initiative - Microsoft Internet Explorer". The address bar displays "http://squal/cwis438/tmap/index.html". The page header includes the "T-Map" logo and the text "Tamarix • Cooperative Mapping Initiative".

On the left side, there is a vertical navigation menu with the following items:

- Home
- Tamarix
- Add Data
- About Us
- Help
- Register
- Login
- Contact Us

The main content area is titled "Current Distribution" and contains a map of the United States. Above the map are navigation controls: "Zoom In", "Full Map", "Zoom Out", "Zoom In", "Zoom Out", and "Center". A compass rose is located to the right of these controls. The map shows a network of blue lines representing rivers and green areas representing land. Below the map is a "Cursor Position" section with input fields for "X: 0" and "Y: 0".

The browser's status bar at the bottom shows "Done" on the left and "Local Intranet" on the right.

Print at
any
scale

T-Map Tamarix Cooperative Mapping Initiative - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address <http://squal/cwis438/tmap/index.html> Go

T-Map Tamarix Cooperative Mapping Initiative

Home

Tamarix

Add Data

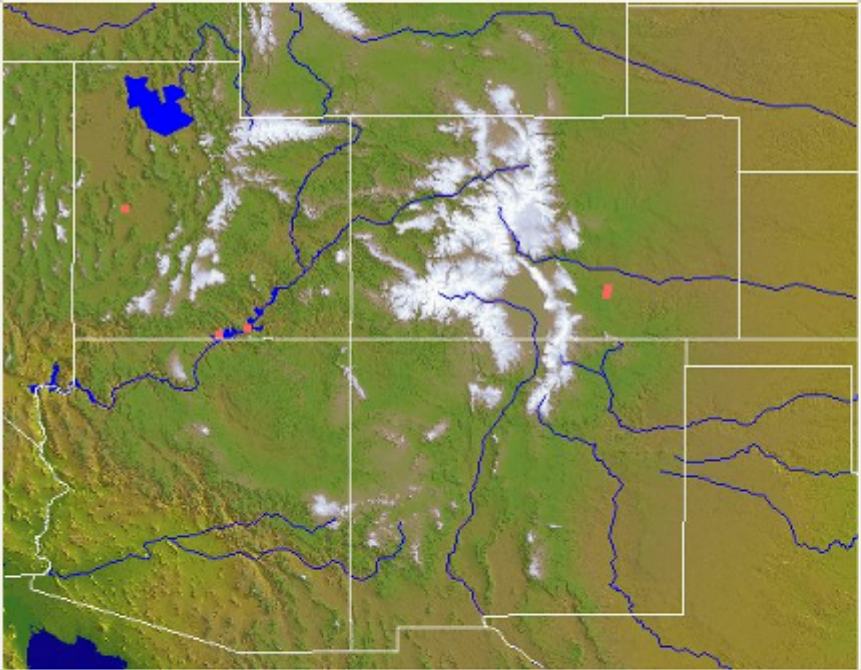
About Us

- Help
- Register
- Login
- Contact Us

Add Data

Zoom In Full Map Zoom Out

Zoom In Zoom Out Center Get Info Add Point Add Point w/ Info

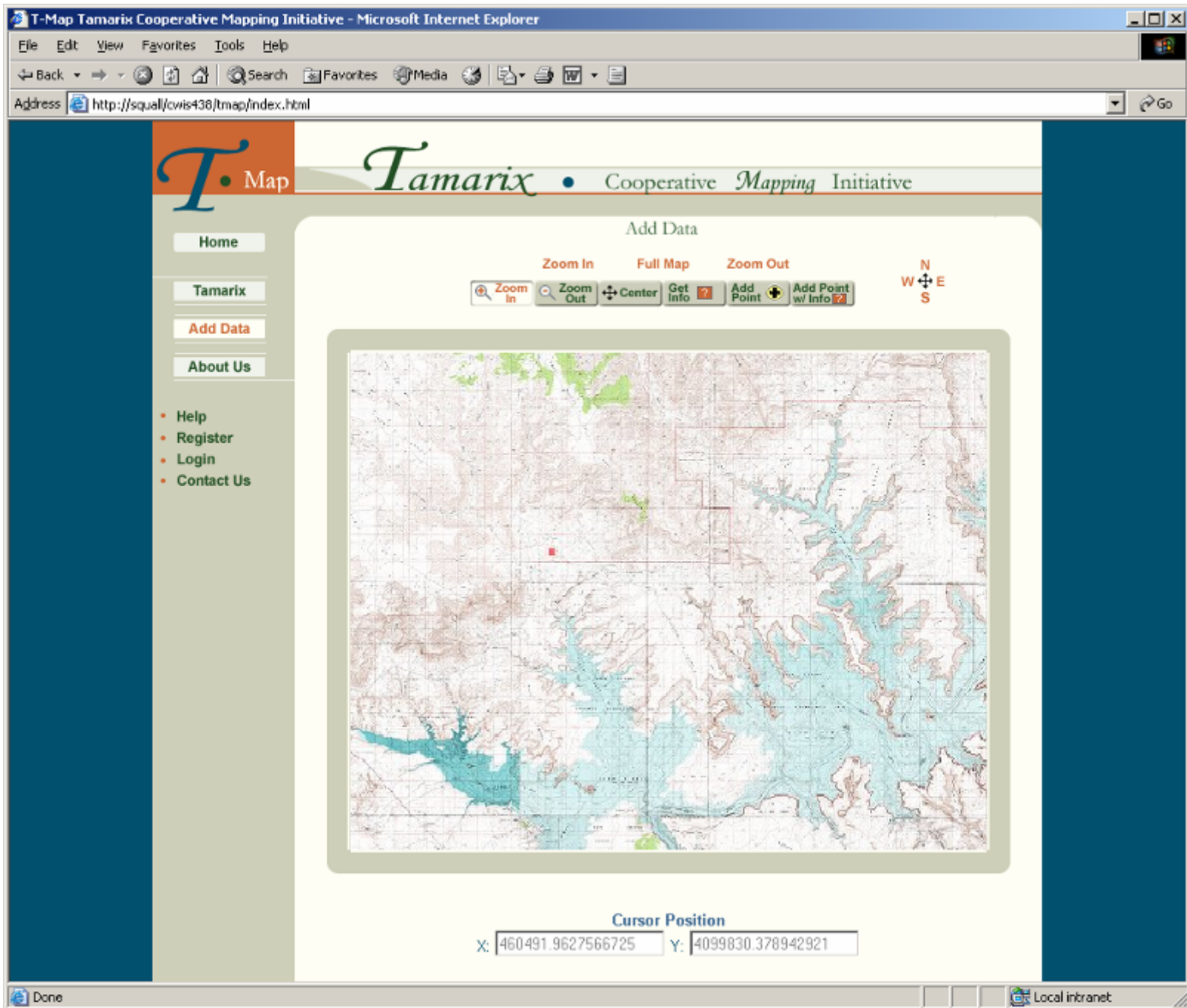


Cursor Position

X: -102.59288399599143 Y: 34.401547429912036

Done Local intranet

Print at
any
scale



Print at
any
scale

T-Map Tamarix Cooperative Mapping Initiative - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address <http://squal/cwis438/tmap/index.html> Go

T-Map Tamarix • Cooperative Mapping Initiative

Home

Tamarix

Add Data

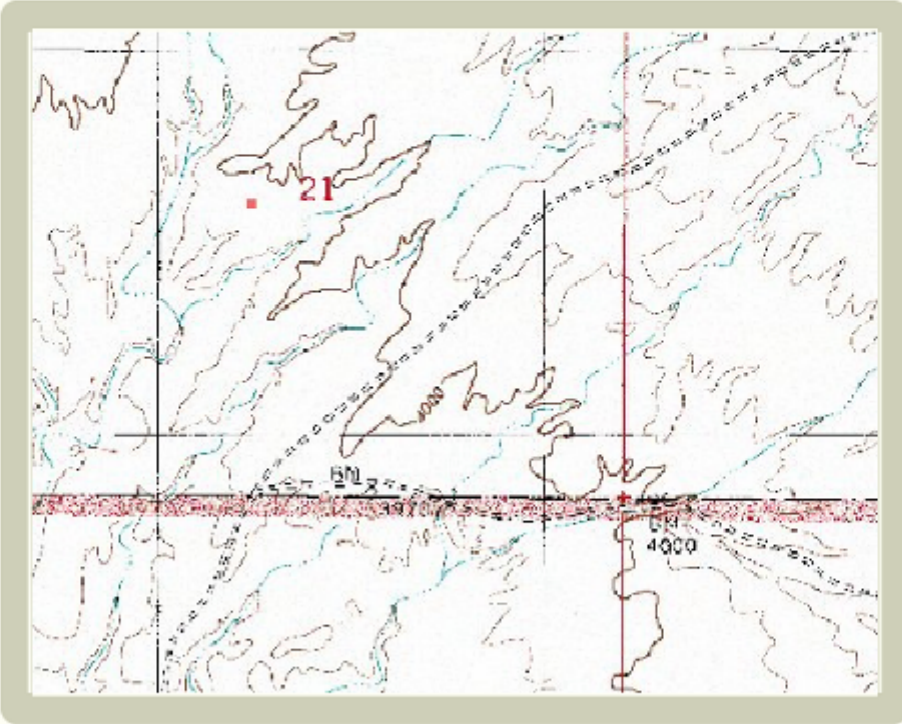
About Us

- Help
- Register
- Login
- Contact Us

Add Data

Zoom In Full Map Zoom Out

Zoom In Zoom Out Center Get Info Add Point Add Point w/ Info



Cursor Position

X: 458394.86610178684 Y: 4110392.5604584995

Done Local intranet

Print at
any
scale

Enter additional information for the point

Tamarix Cover:	<input type="text" value="20%"/>
Willow Cover:	<input type="text" value="10%"/>
Cottonwood Cover:	<input type="text"/>
Russian Olive Cover:	<input type="text" value="- 5%"/>
Height:	<input type="text"/>
Infest Size:	<input type="text"/>
Dominance:	<input type="text" value="unknown"/>
Vigor:	<input type="text" value="none"/>
Comments:	<input type="text"/>
Area Name:	<input type="text" value="Newman's Crossing"/>
Visit Date:	<input type="text" value="26th"/> of <input type="text" value="January"/> , <input type="text" value="2004"/>

Submit

VisitID=22014

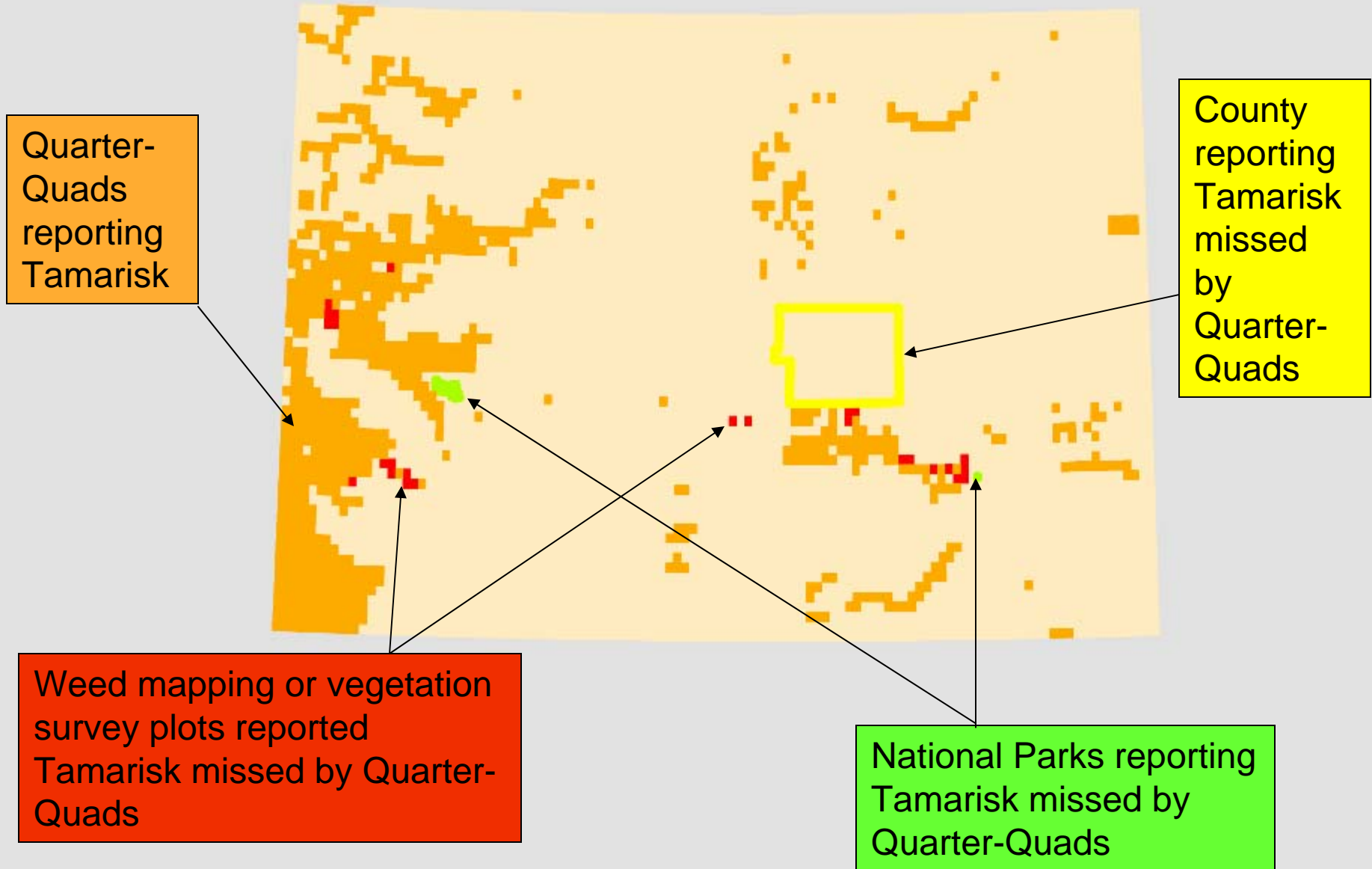
Information for the siting

Comments:	High tamarix cover, large infestation, near Paria creek
Date:	1/26/2004
Area Name:	Paria river site 5
Tamarix Cover:	20
Tamarix Height:	12
Tamarix Dominance:	primary
Tamarix InfestArea:	14
Tamarix Vigor:	low

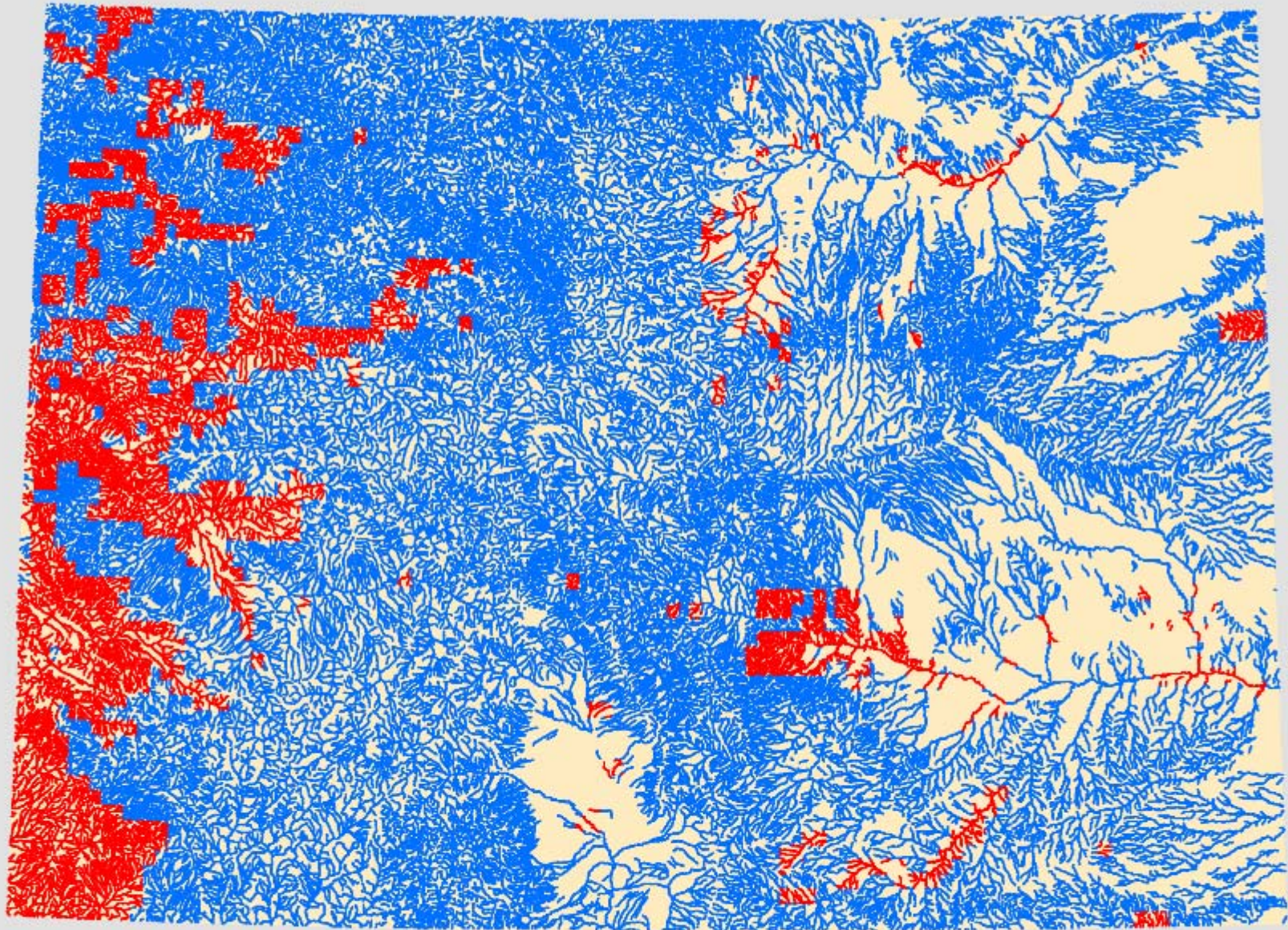


[http://www.nrel.colostate.edu
/projects/stohlgren/_projects/
tmap.html](http://www.nrel.colostate.edu/projects/stohlgren/_projects/tmap.html)

Gathering existing data from all sources: Colorado example



Retrieve data from the web and print at any scale



Legend

— Tamarisk present

— Tamarisk absent

Legend

Probability of Occurrence

— 0 - 0.2

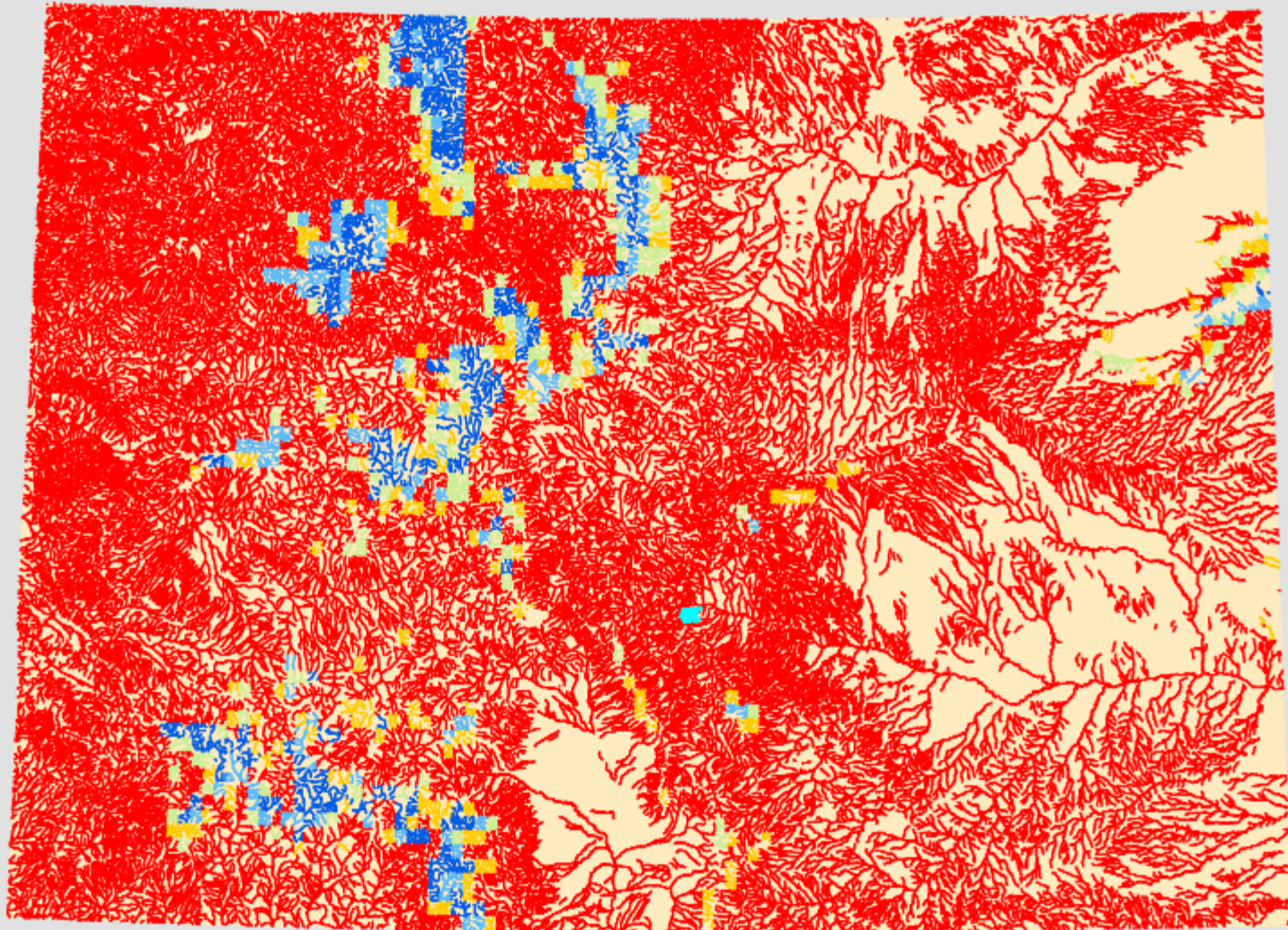
— 0.2 - 0.4

— 0.4 - 0.6

— 0.6 - 0.8


— 0.8 - 1

The Bad News: Tamarisk has few physiological or geographic barriers to invasion in Colorado. The invasion may just be beginning!



With shared data we can...

- Map current and potential tamarisk distribution
- Prioritize areas for immediate and long term management
- Standardize data formats
- Examine data at multiple scales for multiple purposes
- Test control methods, what works where?
- Have early detection and rapid response

A photograph of a dense thicket of trees and shrubs, with a yellow text box overlaid in the center. The background shows a mix of green and brown branches against a clear blue sky.

[http://www.nrel.colostate.edu
/projects/stohlgren/_projects/
tmap.html](http://www.nrel.colostate.edu/projects/stohlgren/_projects/tmap.html)