



**Mojave Desert Ecosystem
Program (MDEP) review**

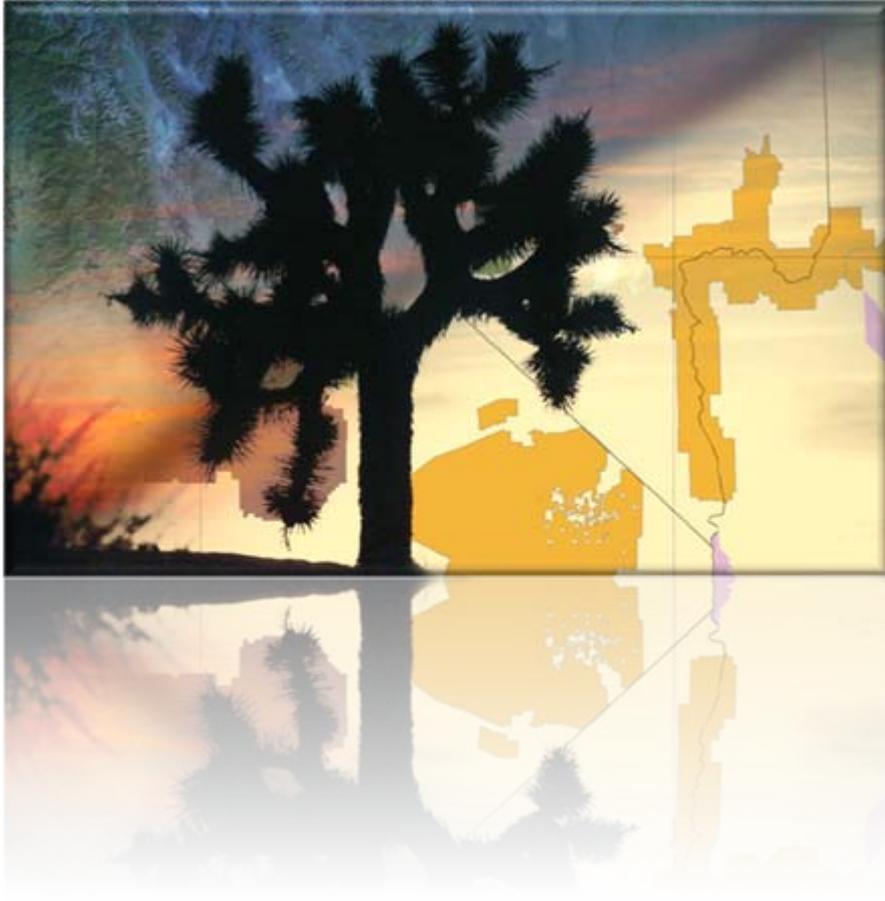
for the

**Desert Managers Group
Meeting**

11/30/2010



*Supporting government agencies
through geospatial solutions.*



- Mojavedata.gov updates

- Historical overview of the program
- Current accomplishments and activities
- Future projects to guide the program

- Data Management Work Group

- Desert Tortoise Smart Phone Application

Historical overview of the program



Fact: The World Wide Web went live December 1990 which we are now celebrating 20 years of operation

Fact: The Mojave Desert Ecosystem Program was started in 1995 and known then as the Mojave Desert Ecosystem Initiative (MDEI)

Text from a case study on MDEI written in 1995:

“The Mojave Desert Ecosystem Initiative (MDEI) represents the Department of Defense's first attempt to meld together a scientific data base that can be utilized to affect dynamic sustainable land management decision making. It is not itself a management process as much as a tool to enable more accurate modeling and facilitate better decision making, It fits within the framework of the broad base management plans being promulgated under the Department of the Interior.”

Historical overview of the program (cont.)

- Various documents from DOD, DOI and other agencies indicate that the area of focus of the MDEP is to support the ecoregion of the Mojave Desert with the clear understanding that this region reached four states in the south west.
- One of MDEP's accomplishments was the production of a Mojave Desert wide data set in the late nineteen nineties. This data set was considered one of the most complete sets of GIS data for an ecoregion. Some of this data is still in use today and one can still obtain the information from various sources today.



Historical overview of the program (cont.)

- MDEP was one of the first to establish an online mapping tool that was open to the public.
- MDEP has been more than a repository for GIS for some time now. The program has supported various websites, extranets and unique projects such as Mojave Max and CERL remote sensing of Desert Tortoise.



Current accomplishments and activities

- Revamp of the MDEP site:
 - From ArcIMS sessions to catalog services
 - Redesigned navigation
 - New reporting solution for data request
- Cloud piping
 - Connectivity to larger organizations to server data into their environments
 - Connectivity to smaller organizations to share a finer level of data to larger organizations.
 - Navy EIMS, USGS and NGA RDOG
- Establishment of new data partners
 - Southern Nevada Agency Partnership (SNAP)
 - Coachella Valley Association of Governments (CVAG)



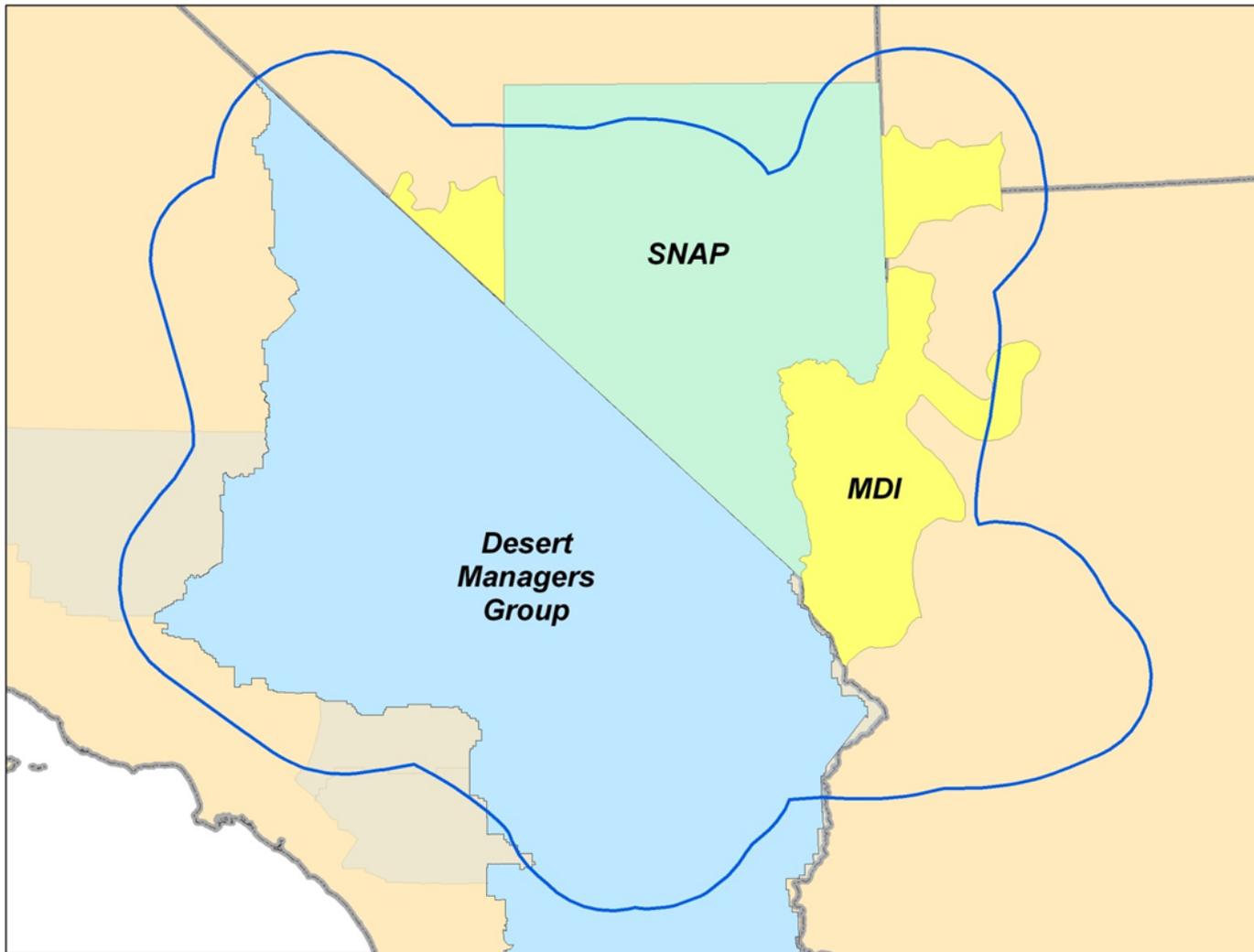
Current accomplishments and activities (cont.)

What are the goals of the SNAP, CVAG & MDEP partnership

- To join and host a vast amount of GIS data for the benefit of the Mojave ecoregion
- Provide a secure, stable and shared enterprise solution for the benefit of both groups
- The opportunity for both groups to utilize each others technical members to collaborate with and work share to increase productivity when possible
- Work collaboratively on data collection to speed up the process and reduce duplication of effort
- Gain cost reduction through share solutions and services from a greater partnership through both MDEP and SNAP



Current accomplishments and activities (cont.)



Current accomplishments and activities (cont.)

Establishing virtual machines for greater support of various programs.

Examples:

- Supporting Coachella Valley Association of Governments (CVAG) ability to serve data for their need and the needs of other agencies in the region.
- Supporting SNAP in their efforts to have a unique environment to operate within for their GIS needs.

Greater use of extranet solutions such as SharePoint.

Example:

- MDEP currently hosts 10 SharePoint sites for various agencies with interest within the Mojave

Manage and working with various geospatial models.

Examples:

- Rebuilding the Ft. Irwin archeological predictive model.
- Univ. of Redlands students developing tools and models for Alt. Energy modeling and 3D modeling for temporal analysis of disturbed lands.

Future projects for the program

Desert Renewable Energy Conservation Plan (DRECP).

- MDEP is current working with the DRECP to establish a central repository for all the GIS data to reside for this plan.

Supporting national data efforts

- Working with the BLM NOC out of Denver to be a data source for BLM on Mojave wide data.
- Working with the DOI Landscape Conservation Cooperative (LCC) in data support and services for the Mojave region of the Desert LCC.

Develop greater QA/QC for GIS data and improved data sets.

- Through new software solutions and greater resources for data MDEP is establishing a workflow for submitted data, review of data on hand and connection to systems with data meets set standards to provide the best data available

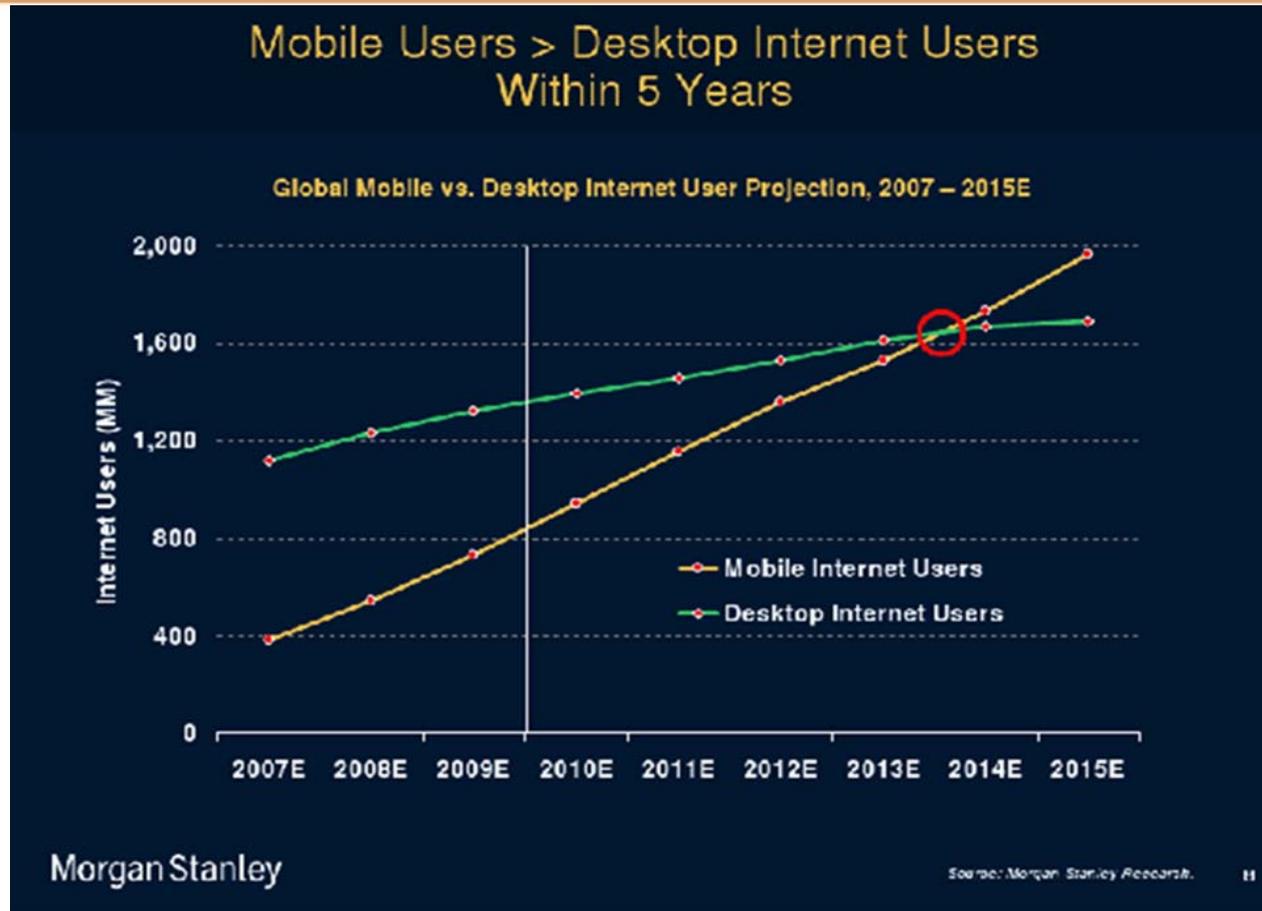
Data Management Work Group

- This group has roots based from a data management work group formed back in 2001 within the DMG.
- The participants of this group will be made up GIS “OPERATORS” to meet quarterly who work for various agencies and maintain data for the Mojave Desert Region.
- The requirements from the DMG will be to obtain a chair for the committee and for each member to commit to have one GIS “OPERATOR” attend meetings.
- This group will be chartered and managed within the DMG but other groups such as SNAP and CVAG has offered to support and attend.
- The goal is to have the approved group meet in March 2011 in Palm Springs to coincide with another GIS event supported by CVAG.

The benefits from attendance are as follows:

- Knowledge of who is working in GIS within the region to create individual or group shares of data and or work goals.
- Share individual activities to either gain greater support or identify efforts with similar goals.
- Identify data sources and data gaps through group discussion of needs
- Identify projects and programs that can go Mojave wide for all members to share in and promote as solutions within their organizations while reducing cost.

Desert Tortoise Smart Phone Application



"More users will connect to the internet over mobile devices than desktop PCs" April 12, 2010 Mary Meek of Morgan Stanley:

Desert Tortoise Smart Phone Application

Mobile activity overview:

- Obtained enterprise level software to offer flexible solutions for remote data collection. Solutions offered through Pendragon Enterprise, ESRI Arch Mobile and ESRI Arch Pad server support.
- Development and support of tools using Smart Phone technology. Current solutions is the Desert Tortoise Application for the iPhone and the Android platform. Current talks to develop applications for various subjects such as the Desert Trash Dumping and others.
- Obtained equipment such as the GPS Trimble Juno to develop support solutions so MDEP can provide complete support solutions that are tested for both government review and minimal systems conflict for success on first time use.



Desert Tortoise Smart Phone Application

With the growth of smart phones and more citizen involvement each day the concept of an application to both educate and collect basic data has become more valuable to the day to day mission of government.

This application was based around the following concepts:

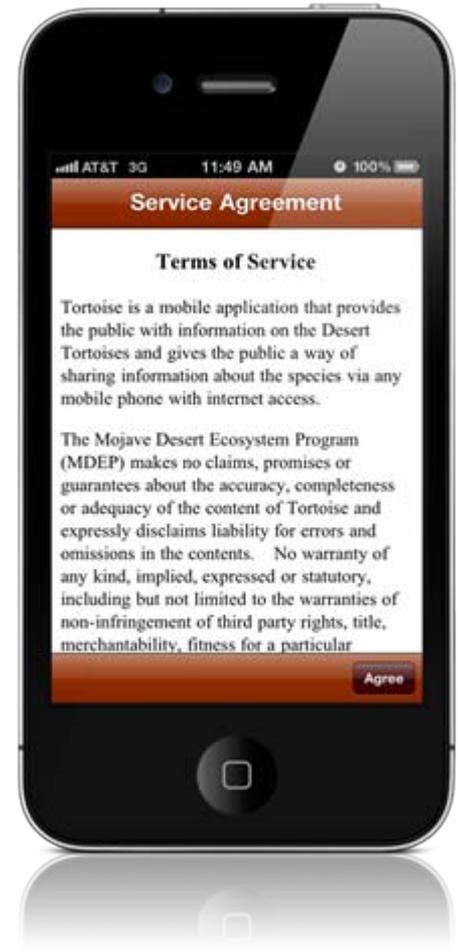
1. To educate the public on the Desert Tortoise within the Mojave Desert using smart phone platforms.
2. Collect present / absence data using cognitive surplus through moments of opportunity.
3. As an additional source of species data to support additional research concepts and alternate reporting opportunities.



Desert Tortoise Smart Phone Application

This walkthrough is simulating a “first time load” of the app

- User obtains app from the iTunes App Store for FREE
- User taps the app icon
- App shows loading screen
- Once the app has loaded, the user will be asked to agree to a Service Agreement, once
- User must tap “Agree” to move on



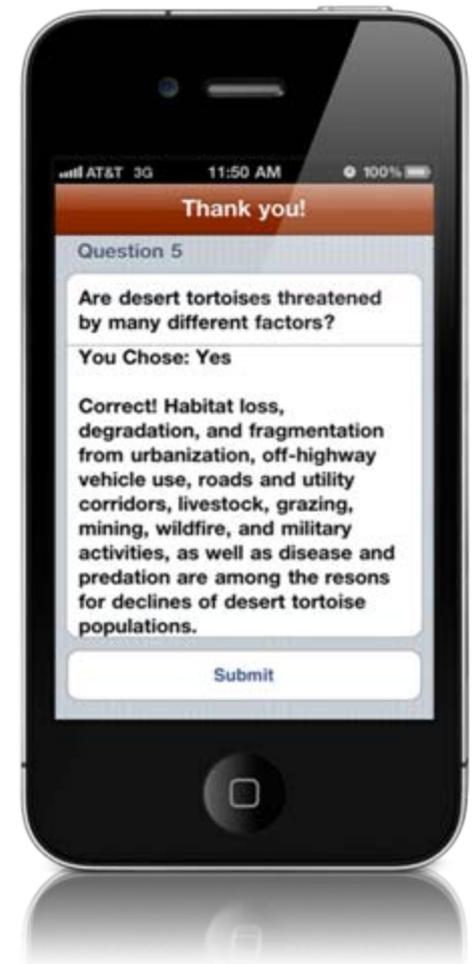
Desert Tortoise Smart Phone Application

- User is told what the app is about
- Also gives the user critical warnings about the species



Desert Tortoise Smart Phone Application

- Simple 5 question survey developed for the species
- User must select an answer before the next question will be presented
- Version one is just “Yes” and “No”, other options could be available in other versions
- The survey is taken only on first load of the app and results are collected in a database
- The user is then shown the results along with an explanation of why the answer is correct or incorrect



Desert Tortoise Smart Phone Application

- After the survey has been taken the user is taken to the home screen, and will be taken here from now on

Options for the user:

- Take Photo
- Desert Tortoise Info
- Credits
- View “About” page and “Service Agreement” page
- View version number



Desert Tortoise Smart Phone Application



Desert Tortoise Smart Phone Application

- The home screen is displayed once the information has been submitted and the user is finished viewing the credits
- The user is now timed out of taking a photo for 30 minutes
- All information is dumped to an external database for future use



Desert Tortoise Smart Phone Application



Desert Tortoise Smart Phone Application

The Android version will be available for download within one week!

Thanks for Victor Valley College, Paul Toning and team for the Android app

&

Thanks to Shawn Irving for the iPhone app



Desert Tortoise Smart Phone Application

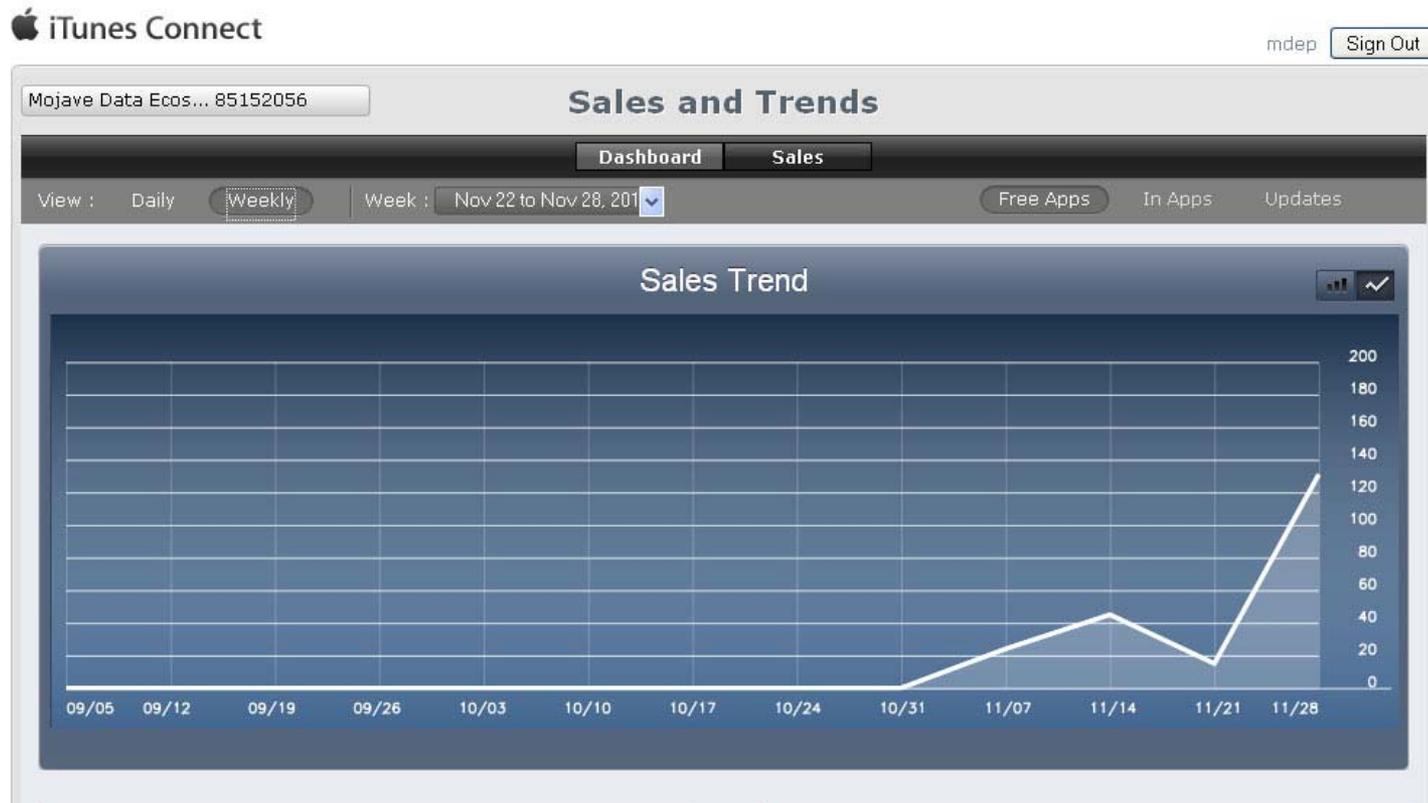
Another example of a similar endeavor:



- What's invasive was available to the public six months ago
- To locate invasive species by making geo-tagged observations and taking photos to alert us of the spread of habitat-destroying invasive plants and animals!
- Developed with various Colleges and NPS out of Santa Monica Mountains
- There are currently **1009** registered users who have contributed **3315** observations of invasive weeds in **20** active parks!

For more details: <http://whatsinvasive.com/>

Desert Tortoise Smart Phone Application



- iPhone version of the App was launched 11/5/2010
- 215 total downloads as of 11/28/10
- Surveys as of Monday morning, 11/29/10 – 125 surveys submitted
- Photos submitted – 1 from NPS observer in Joshua Tree (carcass)