



Please!

**turn OFF cell phones
and refrain from using
flash photography**

Streamlining Arizona's Online Environmental Review Process (while enhancing the user's experience)

Sabra Tonn

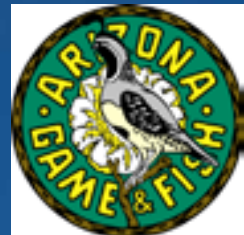
Heritage Data Management System, AZGFD

Lori Scott

Chief Information Officer, NatureServe



ESRI UC 2014



What is it?

- Interactive web application for submitting development projects for environmental compliance
- The Online Tool satisfies Phase I compliance under NEPA



What it Provides

- Preliminary data and recommendations for all land and water projects
- Minimum of Special Status Species list in initial response: includes USFS, BLM, and ESA (including Critical Habitats) as well as state lists and wildlife corridors
- General wildlife and habitat potential impacts are addressed via project type recommendations and/or further requested review and evaluation
- Formal EA, EIS, BE, BA, or other documentation are later submitted for further review and evaluation
- Development of project specific mitigation measures are coordinated through further review and evaluation

Online Environmental Review Tool History

- Implemented using an ArcIMS /SDE framework pioneered by Pennsylvania Heritage Program, ESRI, and NatureServe
- Released to the public in summer 2006
- Updated and enhanced in summer 2009
- Supported by hosting contract through summer 2014



Opportunity

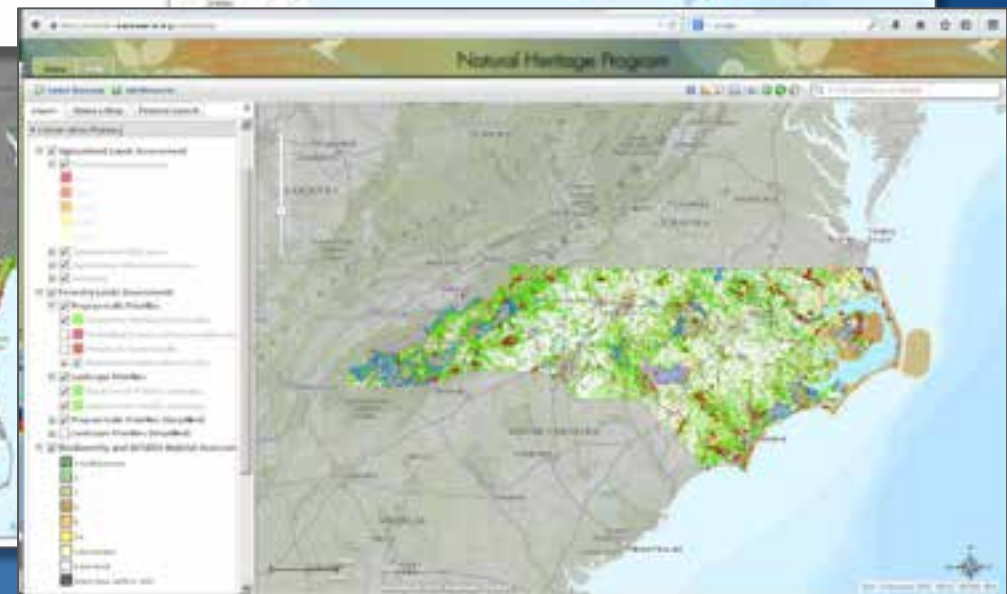
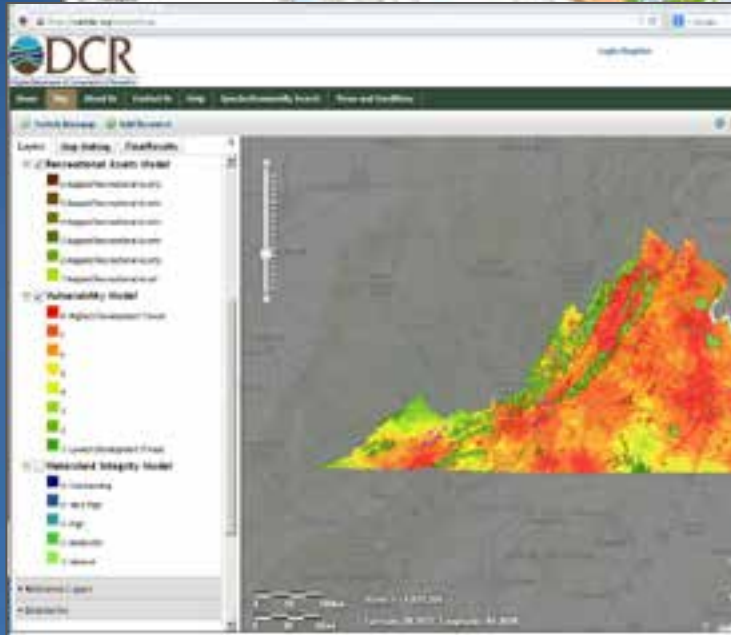
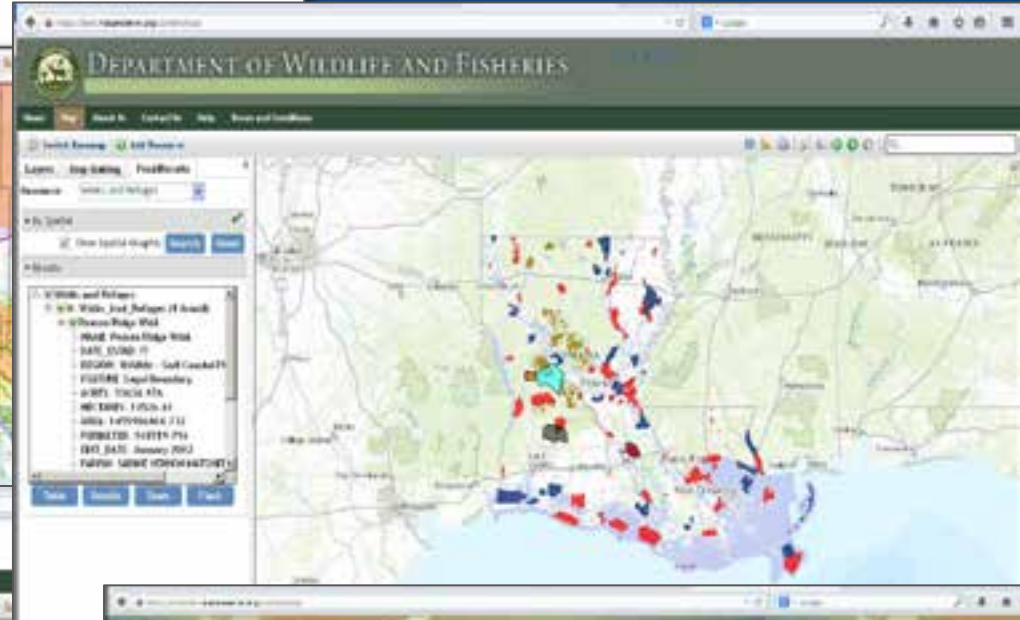
- Migrate legacy ArcIMS-based technology to ArcGIS Server
- Take advantage of cloud hosting opportunities and NatureServe Network work in other states
- Implement JavaScript map viewer framework
- Leverage decision support system approaches in related programs (e.g. WGA Wildlife Corridor DSS)



Why Migrate to ArcGIS Server?

- Reduces legacy dependencies by leveraging current GIS technology
- Provides a longer application life span
- Lays groundwork for integrating important AZGFD applications
- Supports AZGFD Enterprise GIS efforts
- Encourages common tools and data
- Customers want something better

A Repeatable Solution



Enhancements

- Ability to add web services by us to integrate our various applications (e.g., HabiMap.org) and also by the customer
- Ability to create and print maps
- Ability to edit the project footprint and rerun an analysis
- Ability to have multiple user levels and have different layers viewable by different users
- Feature search and zoom to tools
- Addition of content management so we can make edits at any time (that don't require business rules)

Add Resources

The screenshot shows the Arizona Game & Fish website interface. At the top, the logo features a bird and the text "Arizona Game & Fish" with the tagline "MANAGING TODAY FOR WILDLIFE TOMORROW" and the website "azgfd.gov". Navigation buttons for "Home", "Map", "My Projects", "Help", and "Admin" are visible. Below the navigation, there are links for "Switch Basemap", "Add Resources", and "Create Project".

The main content area is a map of Arizona and surrounding regions, including parts of California, Nevada, Utah, Colorado, and New Mexico. The map is overlaid with various colored polygons representing different bird resources. A dialog box titled "Add Resource" is open, containing the following fields and buttons:

- URL of Mapservice to Add:
- Unique Title for Resource:
-

On the left side of the map, there is a "Layers" panel with a "Feature Search" tab. Under "Added Resources", a list of bird species is shown with checkboxes and color-coded squares:

- Birds
- Abert's Towhee
- American Bittern
- American Dipper
- American Peregrine Falcon
- Arizona Bell's Vireo
- Arizona Botter's Sparrow
- Arizona Grasshopper Sparrow
- Arizona Woodpecker
- Azure Bluebird
- Bald Eagle
- Black-billed Magpie
- Black-capped Gnatcatcher
- Blue-throated Hummingbird
- Broad-billed Hummingbird
- Buff-collared Nighthawk
- Cactus Ferruginous Pygmy-Owl
- California Black Rail
- California Condor
- California Least Tern
- Common Nighthawk
- Desert Purple Martin
- Dusky Grouse
- Dusky-capped Flycatcher
- Elegant Trogon
- Evening Grosbeak
- Ferruginous Hawk
- Florida Redstart

At the bottom of the map, there is a scale bar (0 to 200 km), a coordinate system (NAD 83 UTM 12N), and a copyright notice: "National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, etc.".

Edit Existing Project

The screenshot shows the Arizona Game & Fish web application interface. The browser address bar displays <https://azdler.natureserve.org/contest/n>. The page header includes the Arizona Game & Fish logo and the tagline "MANAGING TODAY FOR WILDLIFE TOMORROW" with the website azgfd.gov. The navigation menu includes "Home", "Map", "My Projects", and "Help".

The main interface features a "Draw/Edit" toolbar with various icons for drawing and editing. Below the toolbar, the "Edit Mode" is active, with "Cancel" and "Alright" buttons. The map displays a cyan-colored project area near Prescott Valley. The layers panel on the left is expanded to show the following categories:

- Environmental Review
 - Environmental Review Layer
 - Areas of Capture Cores
- Special Areas
 - Critical Habitat
 - Special Areas
 - Tribal Lands
 - Wildlife Corridors
- Reference Layers
 - AGFD Regions
 - Counties
 - Land Ownership
 - Milepost
 - Quadrangles
 - Townships
- Basemap
 - Basemap: National Geographic

The map shows a cyan-colored project area near Prescott Valley, with a scale bar and a north arrow. The National Geographic logo is visible in the bottom right corner of the map.

Advanced User Level

The screenshot shows the Arizona Game & Fish website interface. The browser address bar displays the URL: <https://azgfd.natureserve.org/Content/Map>. The page header includes the Arizona Game & Fish logo and the tagline "MANAGING TODAY FOR WILDLIFE TOMORROW". Below the header, there are navigation tabs for "Home", "Map", "My Projects", and "Help".

The main content area features a map of Arizona with various layers and features. The "Layers" panel on the left is expanded, showing the following options:

- Environmental Review Layer (checked)
- Areas of Capture Concern (unchecked)
- Special Areas
 - Critical Habitat (checked)
 - Special Areas (checked)
 - Tribal Lands (unchecked)
 - Wildlife Corridors (unchecked)
- Reference Layers
 - AGFD Regions (unchecked)
 - Counties (unchecked)
 - Land Ownership (unchecked)
 - Milepost (checked)
 - Quadrangles (unchecked)
 - Townships (unchecked)
- Basemap
 - Basemap: National Geographic (checked)

The map itself shows a topographic view of a region in Arizona, with red outlines indicating the Environmental Review Layer. A search bar at the top right of the map area contains the text "Find address or place".

Feature Search

The screenshot displays the Arizona Game & Fish website interface. The main navigation bar includes 'Home', 'Map', 'My Projects', and 'Help'. The search bar is located at the top left, and the 'Feature Search' button is circled in red. The 'Identify' tool is also circled in red, showing a dropdown menu with 'Critical Habitat' selected. The search results panel shows two critical habitat features for *Astragalus holmgrenii*. The 'Zoom' button is also circled in red.

Arizona Game & Fish
MANAGING TODAY FOR WILDLIFE TOMORROW
azgfd.gov

Search Results Add Resources Create Project

Layers Make a Map **Feature Search**

Resource Visibility:

Attributes Search

Spatial Search

Search Reset

Results

- Critical Habitat
- 0 Critical Habitat (2 found)
- CH for *Astragalus holmgrenii*
- CH for *Astragalus holmgrenii*

Zoom Details Refresh

Identify

Select a resource and click on map to identify

Critical Habitat

Details: Critical Habitat - CH for *Astragalus holmgrenii* (1 of 1)

Layer: Critical Habitat

Name: CH for *Astragalus holmgrenii*

Common Name: Designated Critical Habitat for *Astragalus holmgrenii* (Paradox) Milk-vetch

Zoom Rank < > 100%

Report

Arizona Game and Fish Department

Project ID: 27

Review Date: 8/9/2014 07:12:34 PM

Project Name: test

Project Description: test

Project Type: Forest, Woodland, Vegetation Management, Fencing

Submitted By: Austin

Organization: agfd

On Behalf Of: AZGFD

Project Size (acres): tbd

Latitude/Longitude (DMS): 34°33'54.1931"N / 112°22'45.4083"W

County: tbd

USGS 7.5 Minute Quadrangle ID: tbd

Please review the entire report for project type recommendations and/or species or location information and retain a copy for future reference. (Placeholder text)

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Locations Accuracy Disclaimer:

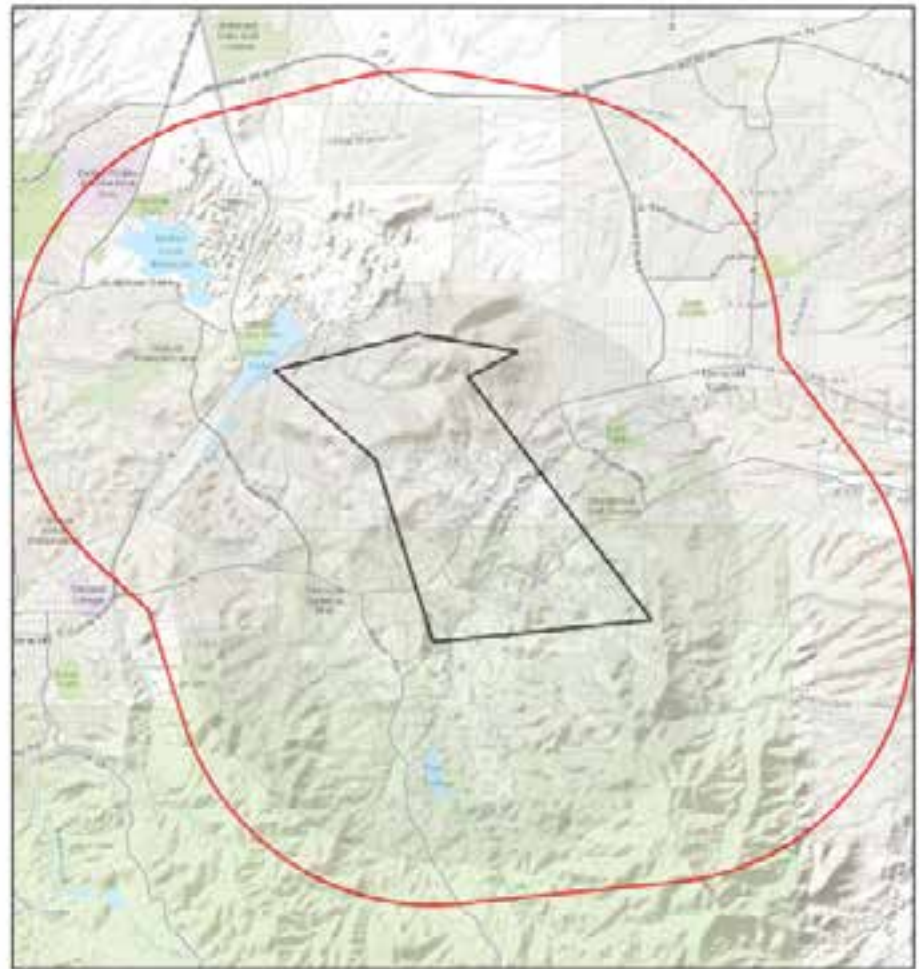
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Project Location:

Report

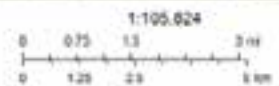
Arizona Game and Fish Department
Project ID: 27
Review Date: 6/9/2014 07:12:54 PM

test



June 9, 2014

- Project Boundary
- Buffered Project Boundary



Report

Arizona Game and Fish Department
Project ID: 27
Review Date: 5/9/2014 07:12:34 PM

Detected Species Occurrences within 3 Miles of Project Vicinity

Scientific Name	Common Name	ESA	USFS	BLM	State
Megasceryle alcyon	Belted Kingfisher				WSC
Anaxyrus microscaphus	Arizona Toad	SC			
Heuchera eastwoodiae	Lastwood Alum Root		S		
Phlox amabilis	Arizona Phlox		S		
Cicindela oregona maricopa	Maricopa Tiger Beetle	SC			
Strix occidentalis lucida	Mexican Spotted Owl	LT			WSC
Setophaga ruticilla	American Redstart				WSC
Coccyzus americanus	Yellow-billed Cuckoo (Western U.S.)	PT	S		WSC
Haliaeetus leucocephalus (wintering pop.)	Bald Eagle - Winter Population	SC	S	S	WSC
Erigeron anchara	Mogolon Fleabane	SC	S		
Aquila chrysaetos	Golden Eagle			S	
Haliaeetus leucocephalus pop. 3	Bald Eagle - Sonoran Desert Population	SC	S	S	WSC

Project Category: Forest, Woodland, Vegetation Management, Fencing

Project Type Recommendations:

Recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 18". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located at <http://www.azgfd.gov/his/guidelines.aspx>.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered; coordination with State Historic Preservation Office may be required. <http://www.pr.state.az.us/partners/hpsa/hspo/hspo.html#anchor561095>

Project Location and/or Species Recommendations:

HGIS analysis has determined your project site has conflicts with endangered species. Please be very careful.

US Fish and Wildlife Service report text goes here.

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. Please contact:

Ecological Services Office
US Fish and Wildlife Service

Report

Arizona Game and Fish Department
Project ID: 27
Review Date: 6/9/2014 07:12:34 PM

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during preliminary project development.
3. Additional site specific recommendations may be proposed during further NEPA/EIS/EA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed in this report, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. Further coordination requires the submittal of this initialed and signed Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona
85088-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366

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1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this web site for any other purpose.
2. Unauthorized attempts to upload information or change information on this web site are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1980 and/or the National Information Infrastructure Protection Act.
3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the web site and to terminate or restrict your access to the web site.
4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.
5. A signed and initialed copy of the Environmental Review Report indicates that the entire report has been read by the signer of the Environmental Review Report.

SECURITY

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

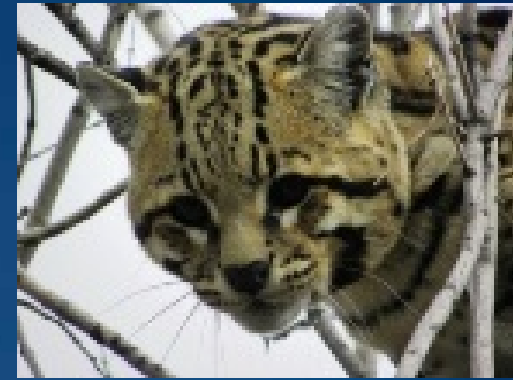
If necessary, the Review Report and supporting material should be mailed to the Department or other appropriate agencies. The report is considered to be null and void after six (6) months of the Project Review Report date, therefore a new review must be initiated.

Print this Environmental Review Report using your Internet browser's print function and keep it for your records.
(Placeholder text)

Signature: _____

Date: _____

Questions?



- Lori Scott lori_scott@natureserve.org
- Sabra Tonn stonn@azgfd.gov

