

# RANGELAND MANAGEMENT INFORMATION ON THE WEB

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## INTRODUCTION

For the past four years, an interdisciplinary team at the University of Arizona has been involved in the development of a comprehensive web site on the topic of managing rangelands. Part of a national-level initiative to create an electronic library of agricultural information called the Agriculture Network Information Center (AgNIC), the Arizona AgNIC web site provides access to a wide variety of rangeland resources as well as links to other agricultural information. Figure 1 shows

the home page for the site, located at: <http://ag.arizona.edu/agnic/range.html>.

Besides a section that contains general introductory information about the subject, there are five main categories that include the majority of the site's resources: Rangeland Science; Practical Tools; Policy Issues; Education, Teaching and Careers; and General Resources. The right side panel provides a list of special highlighted resources contained in the web site, while the left side panel gives the user opportunities to learn more about the site and its developers, to search the site, to ask specific questions, and to provide feedback.

## NAVIGATING THE WEB SITE


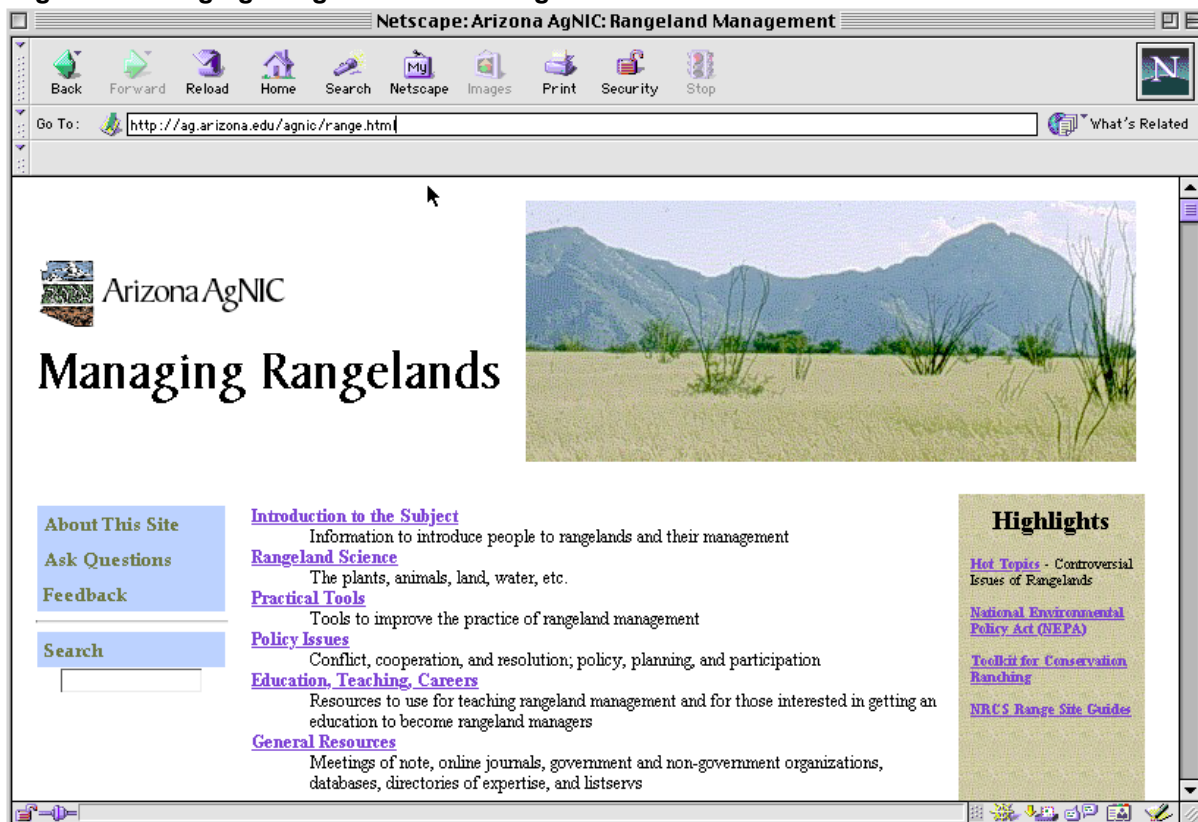
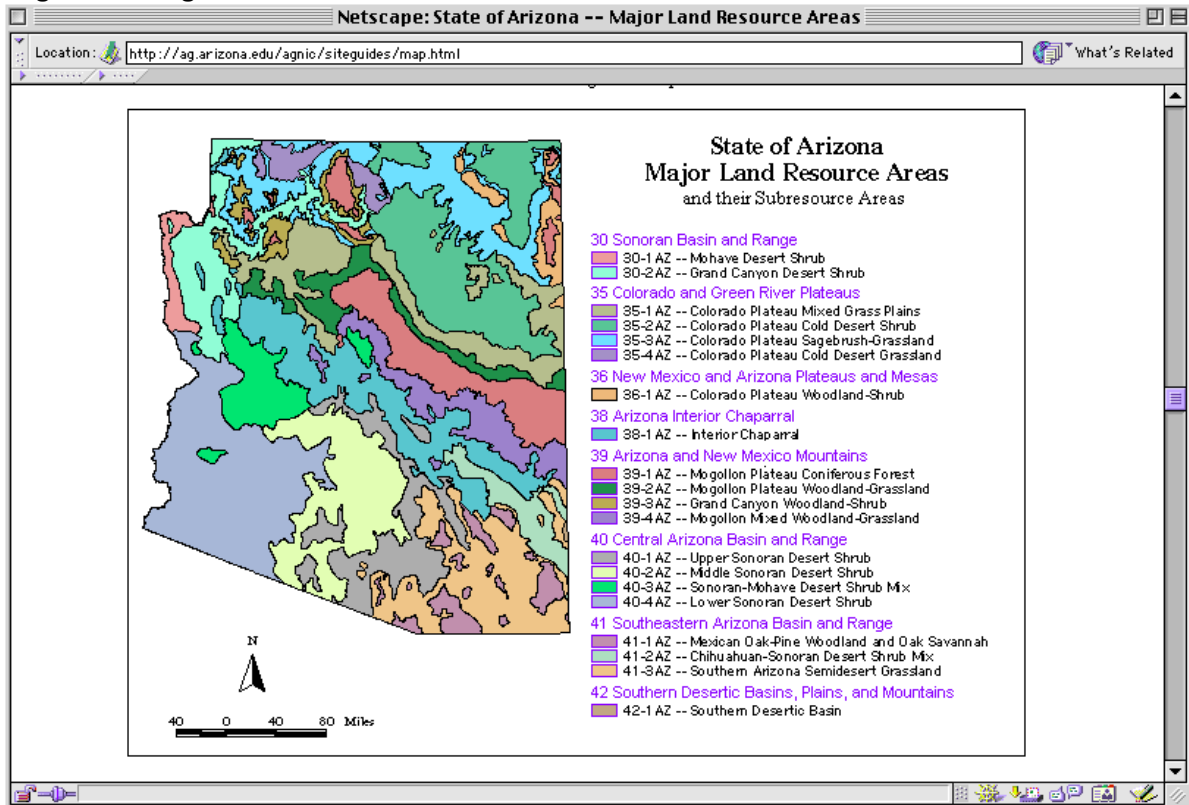

On subsequent pages two icons are used throughout the site to signify whether or not the section was developed by Arizona AgNIC. For instance, if a miniature of the Arizona AgNIC symbol  is seen, it indicates that the

Figure 1. Managing Rangelands Home Page



**Figure 2. Range Site Guide Interface**



link is to pages the AgNIC team has prepared. Links with the offramp sign  take users to sites prepared by other people and organizations.

After leaving the home page, the user will notice a blue navigational bar at the top of each page that includes links to every other major section of the site. The Arizona AgNIC symbol at the top and bottom of each locally developed page is a hot link that will always take the user back to the Managing Rangelands home page. If leaving the site via an "off-ramp" page, the user will need to use the browser's back button/arrow to return to the Managing Rangelands home page.

### **WEB SITE SECTIONS**

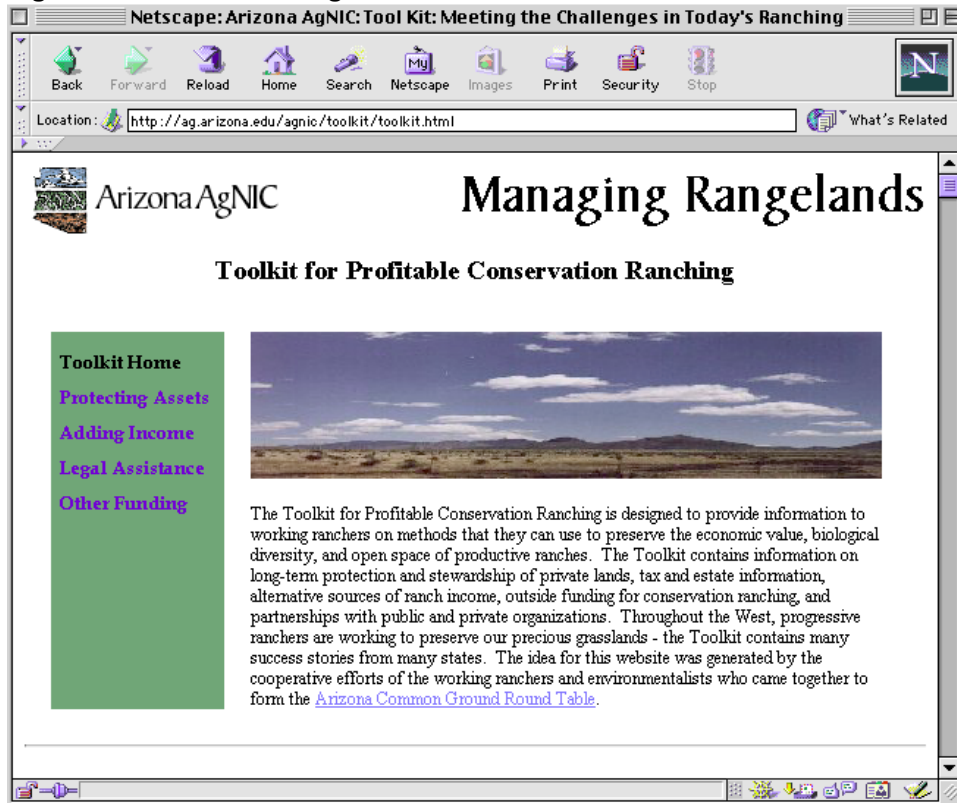
#### **Rangeland Science**

This section is oriented toward the scientific study of rangelands, their understanding and management. Topics on the main page are specified

in several different ways. Under the "general" topic are *Special Resources*, which usually feature those resources created especially for the site by University of Arizona project personnel, but may also include links to particularly noteworthy web resources compiled elsewhere. The *Other Information* section is primarily composed of links to other related sites on the web.

Of particular interest to Arizonans are the selections Range Site Descriptions for Arizona and the Santa Rita Experiment Range. Range (or Ecological) Site Guides are produced by the Natural Resources Conservation Service and provide information on the ability of land to produce vegetation—and hence support grazing—based on soil and climate. As with much of this web site, the work is ongoing for putting up all Arizona range site guides and creating simple methods for using them. However, interactive maps are available to help the user locate specific information (see figure 2).

Figure 3. Toolkit Home Page



The Santa Rita Experimental Range web site provides data and repeat photography from the first experimental range in the United States, founded in 1903, and located south of Tucson. The photos demonstrate changes in vegetation through the years from various locations on the 53,159-acre site.

Other resources are organized by specific topic and can be reviewed by clicking on the topic of choice as noted in the bar at the top: Animals | Climate | Land | Plants | Water. These include links to both Arizona AgNIC and non-Arizona AgNIC web sites with information in these areas.

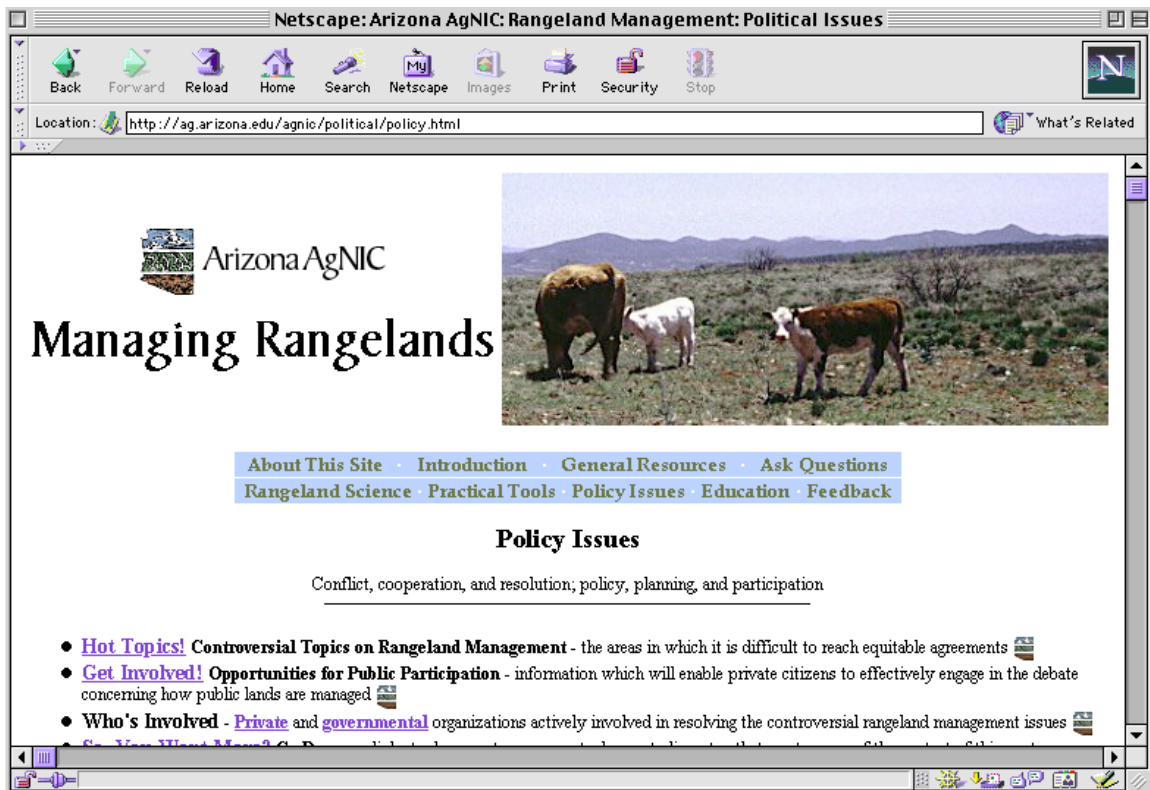
### Practical Tools

The main page for the section on Practical Tools is organized similarly to Rangeland Science. At the top are those resources that hold promise for helping users answer questions of a practical nature that can lead to new and better management strategies.

Here you can find links to information on noxious weeds, rangeland health standards, and the full-text of the *Arizona Ranchers' Management Guide*.

Of particular note is the Toolkit for Profitable Conservation Ranching (Figure 3). This sub-section was prepared in cooperation with the Arizona Common Ground Roundtable, a state-wide group of ranchers, environmentalists, researchers, public agency personnel, sportsmen, and other interested citizens who are seeking to identify tools and policy changes that will conserve Arizona's open spaces (see their web site at: <http://udallcenter.arizona.edu/commonground/>). Links provide information on how to preserve open space through such means as conservation easements, land trusts, and family trusts. Alternative forms of income generation for ranches are discussed, such as guest ranches, summer camps, and fee hunting, and the toolkit also includes information on finding

Figure 4. Policy Issues



legal assistance and supplemental grants and funding opportunities.

### Policy Issues

Managing the rangelands of the western United States involves many different people, groups, and agencies with differing points of view. Issues surrounding the preservation, conservation, and fair use of rangelands are often controversial and seem intractable. The resolution of those conflicts involves developing a constructive dialog based on finding common ground and areas of compromise. This section of the web site focuses on aspects of the policy and political issues regarding our rangelands.

Beginning with a link to a section on "hot topics," the user can find links to other web sites on the subjects: Indian Lands, Urbanization, Water and Riparian Areas, Recreation, Mining, Logging, Grazing on Public Lands, and Wildlife and Endangered Species. Each

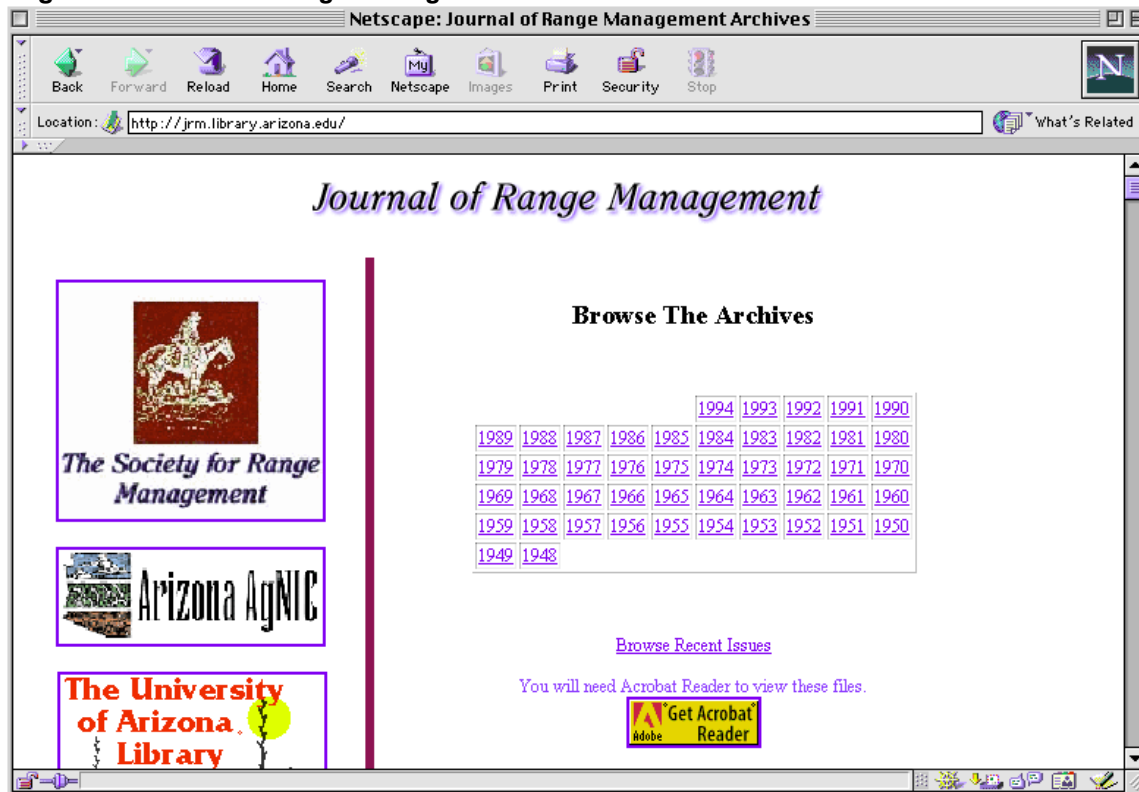
of these topics is divided into three sub-sections providing background information, newspaper items, and information on legal issues.

The "Get Involved" section provides an in-depth review of the National Environmental Policy Act (NEPA) including a description of federal regulations, various agency implementation procedures, and a discussion of how NEPA has been interpreted by the courts. It also provides links to facilitate public participation in the process of making decisions about how public lands are used.

### Education, Teaching, and Careers

To assist teachers and students in their academic pursuits, this section provides links to potentially useful teaching materials, lists of college programs in rangeland management, and guidance in planning for a career in this field. In particular, faculty in the Rangeland Program at the University of Arizona

**Figure 5. Journal of Range Management Archives**



are preparing an online textbook for the site titled, *Principles of Rangeland Science and Management*. At the time of this publication, Chapter 4 (Ecology and Management of Rangeland Vegetation) and Chapter 5 (Rangeland Inventory and Monitoring) are in place. Within these chapters are links to further explanations and to related readings.

### General Resources

This section contains links to academic institutions with rangelands programs, selected Extension publications, online bibliographic databases, online journals, meeting announcements, government and non-government organizations, directories of expertise, and related listservs. Of particular importance, project staff from the University of Arizona Library have worked with the Society for Range Management to digitize articles (Volumes 1–47, 1948–1994) of the *Journal of Range Management*, and make them available through

this web site. Each article in these issues may be read in its entirety online with Adobe Acrobat Reader, which must be installed.

### Ask Questions (Left Side Panel)

The web site provides an interactive form in this section for questions about rangelands. First-time users should read the Frequently-Asked-Questions (FAQ) about this reference service, linked at the top of the form.

Individuals using the query form should fill out all five sections with their name, email address, occupation and affiliation, the question, and additional information that will provide context for the question. A response to the question is usually provided within 24 hours.

Queries have been received from many different geographic locations worldwide and many different kinds of users. Questions from Arizonans make up a large percentage of all queries.

## **Feedback From Users**

The project team for the Managing Rangelands web site is committed to improving the site and making it more useful. The interactive feedback form gives users the opportunity to evaluate the site and make suggestions (additional sites to link to, etc.).

## **Searching for Specific Information**

A search function is provided that allows users to enter words, phrases, or combinations of words using Boolean operators (and, or, not), to find specific locations where those words are mentioned on the Managing Rangelands web site. It provides a means to locate specific information or resources when the user is not sure how to find that information or has tried and not been successful.

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