

# WAMIS an aid in locating information



*by Linda M. White\**

The effects of vegetation management on water and other renewable natural resources and amenities are the subjects of a computerized reference retrieval information system operated out of the Department of Watershed Management at the University of Arizona. The purpose of the system is to provide users with references to sources of information in an area of interest or study, references which could be consulted in searching for answers to a problem. Any person who could profit from use of the system are considered users, and include researchers, students, professors, land managers, private interests or citizens, and decision makers.

The Watershed Management Information System (WAMIS) is a subsystem of the Arid Lands Information System, which is under the direction of Miss Patricia Paylore, Office of Arid Lands Studies. As such, both systems use the same thesaurus for indexing documents and the same computer program for storage and retrieval of citations.

Although there is some overlap in the scopes of the two systems, differences do exist. WAMIS citations relate to vegetation management and treatments, such as timber harvest, vegetation conversion, and chemical control methods, and their effects on water and other renewable natural resources. Subject areas covered in WAMIS include: (1) responses of water quantity (runoff), timing of delivery, and water quality to various vegetation treatments and management practices; (2) responses of other resource-based products and uses (timber, livestock, wildlife, recreation, etc.) to treatments; (3) hydrology on wildlands; and (4) vegetation resources, particularly of Arizona.

Although WAMIS primarily reports studies done in Arizona and the Southwest, the system also includes references to studies done elsewhere in the United States. Documents are mostly conference and symposium reports, journal articles, and publications of various governmental agencies, but also include theses, dissertations, progress reports, and reviews.

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Figure 1. At left, the author Linda M. White, is mailing a computer retrieval printout to person seeking information on a given area.

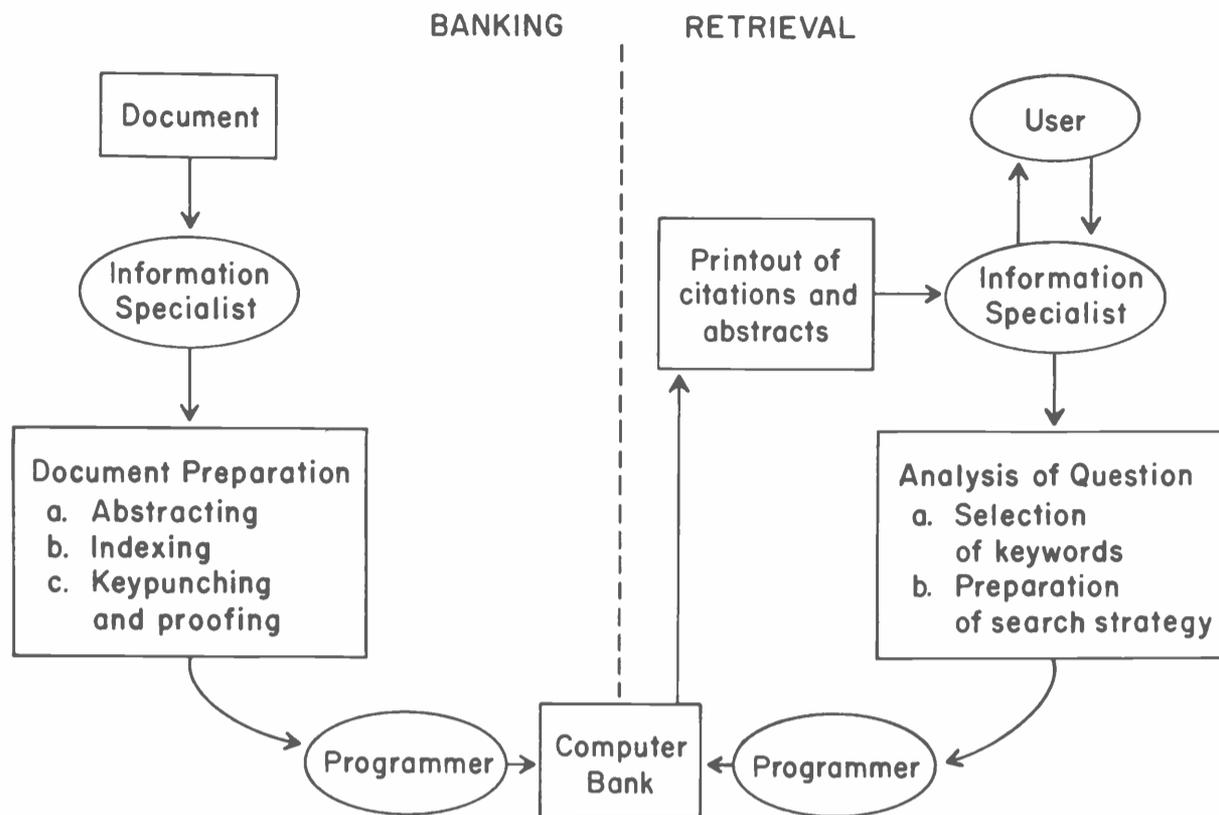


Figure 2. At right is a schematic diagram of banking and retrieval activities of WAMIS.

- (1) Indicate geographic location (state, states, region, or more specific locations such as river basins or experimental areas) where research has been done.
- (2) Identify specific genus or species of plant(s) or animal(s) involved in the study, or the general ecosystem.
- (3) Specify whether the site is disturbed or undisturbed, and, if disturbed, how it is disturbed (for example, by wildfire, clearcutting, conversion, or chemical treatment).
- (4) List the physical-biological attributes of concern (i.e., forage production, wildlife habitat, revegetation, timber production, water yield, sedimentation, or recreational carrying capacity) and/or the social-economic attributes of concern (i.e., tangible benefits, intangible benefits, direct costs, or production functions).
- (5) Define any terms that may have special meaning in the search request. A sample listing of indexing terms used in the system are
 

logging (timber)	water quality
conversion	evapotranspiration
clear-cutting	watershed management
forest products	water loss
grazing	sedimentation
land use	interception
multiple purpose	infiltration
range management	surface runoff
brush control	wildlife management
chemical controls	wildlife habitats
soil management	erosion control
distribution patterns	flow measurement
- (6) Please include any other information about the request that will help clarify the type of citations or information desired.

After documents are obtained for input to the system, the information specialist analyzes, abstracts, and indexes the references. Then citations, abstracts, and indexing terms are keypunched and stored in the computer bank (Fig. 1 — banking) to await future retrieval.

The publication of a sample bibliography to serve as an example of the material within the collection is anticipated during 1974 and will be available upon request. However, the system is designed to respond to individual requests for bibliographic references on a specific subject basis.

When information is requested on some particular topic by a user, the question is analyzed by the information specialist in terms of key concepts, indexing terms are selected for these concepts, and the computer tapes are searched for references on this topic (Fig. 1 — retrieval). The user receives, in response to a particular subject inquiry, a computer printout of citations and abstracts relating to the topic of interest.

WAMIS is designed to assist persons in finding information and invites users to correspond with the Department of Watershed Management regarding search requests. In such correspondence, the user, being as specific as possible, should describe the topic for which the search is to be conducted.

The specificity or generality of searches can vary, from a computer printout of references on a topic as broad as wildlife management to one of studies reporting summer storm runoff from chemically treated chaparral vegetation zones in Arizona. The more general the search request, the greater the number of citations that the user will probably receive in response to a query.

In formulating searches, WAMIS suggest users follow the structure outlined below in delineating areas of the search, if it is appropriate to a search:

Address correspondence regarding the operation of WAMIS or requests for searches to Ms. Linda M. White, Department of Watershed Management, College of Agriculture, University of Arizona, Tucson, 85721. At this stage of development, no charge to the user is required for use of the WAMIS system.