

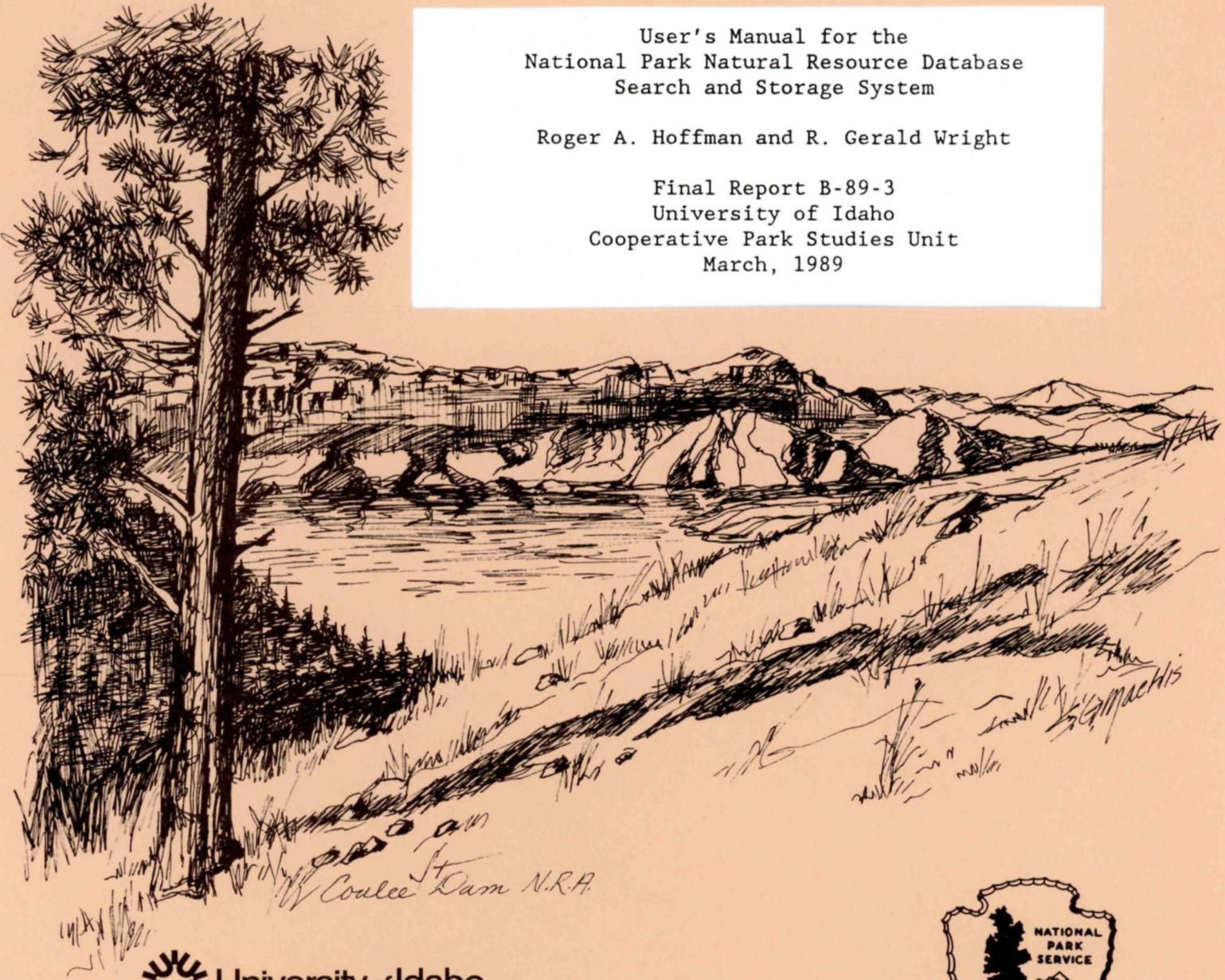
# COOPERATIVE PARK STUDIES UNIT

## UNIVERSITY OF IDAHO

User's Manual for the  
National Park Natural Resource Database  
Search and Storage System

Roger A. Hoffman and R. Gerald Wright

Final Report B-89-3  
University of Idaho  
Cooperative Park Studies Unit  
March, 1989



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SUBAGREEMENT NO. 8  
to  
COOPERATIVE AGREEMENT NO. CA-9000-8-0005  
Managing Resource Data in the Pacific Northwest Region  
University of Idaho CPSU

National Park Service  
Natural Resource Database Search and Storage System  
User's Manual

## INTRODUCTION

The National Park Service natural resource database search and storage system was designed to provide a convenient yet powerful method to store and retrieve information about the park. The system was designed to be used by resource managers and other park personnel with varying amounts of computer experience. Information stored consists of: standard bibliographic information (author, title, publishing date, source of publication, etc.) as well as various categorical information (including biotic zone, watershed, resource categories, management concerns etc.). Information in the database can be recalled and displayed in various ways.

The system is written in dBASE III+. The code has been compiled for increased execution speed. Some of the features of the system are park-specific (biotic zones, watersheds, subdistricts ...) therefore some customizing is required for each park using the system.

The purpose of this manual is to 1) provide a complete overview of how the database inventory system fits within the structure of the computer operating system and 2) provide detailed instructions on how to use the system. This overview starts with a discussion of the Disk Operating System (DOS) which provides the framework for all computer operations.

## A REVIEW OF DOS

Dos is the link between the user and the computer. It is the software that provides all the basic functions necessary to operate the hardware that makes up the computer system. Rather than having each software package dealing with the basic operations of the display, disk drives and printer, Dos takes care of all this allowing the respective software to be tailored to more specific applications such as word-processing or database management.

A major function of Dos is to organize and manage computer files, disk files, program files and data files. All of these files consist of collections of information stored on a magnetic media such as a floppy disk or a hard disk. Understanding the manner in which these files are organized and used is important to becoming proficient at operating the computer system.

Most microcomputers now include a fixed (also know as a hard) disk for the storage of files. This type of disk, unlike the smaller, removable diskette, is permanently in place in the computer. Because of the large volume of information a fixed disk can store, it is important that it be organized in a systematic manner.

In an office, information is stored in paper files which are organized in some systematic way in a file cabinet so that it can be easily retrieved. The information in a computer is organized in much the same manner. The information, whether it is in the form of a program or collections of data such as wordprocessing documents or databases, is stored in files. If a file is stored on a diskette, it is not too difficult to locate because a diskette holds a limited amount of files (one 5.25" 360K diskette will hold about 480 double-spaced typewritten

pages of information). However locating a specific file stored on a hard disk can be much more difficult because hard disks hold so much more information (a 20 megabyte hard disk will hold about 14,000 double-spaced typewritten pages of information). Hard disks that hold three or four times that amount are common. Therefore an efficient system is required to organize the storage of files on a computer system with a hard disk.

One method is to place related files together in what is called a subdirectory. This is analogous to setting aside a drawer in the file cabinet for one topic of paper files. For example one can create a subdirectory for wordprocessing files, one for database files and one for spreadsheets. Then within each drawer or subdirectory, dividers can be placed to further subdivide the individual files. For example, if the files in the database drawer were numerous, it might be advantageous to separate one type of database from another. For example the files concerned with the wildlife database would all be together and those files holding information on the case incident reports would be in a separate section of the database drawer.

Each computer file is identified by a name consisting of up to eight characters and a three character extension. The extension is used to identify the type of file (see table 1).

The first three file types will execute a program from the dos prompt simply by typing the name (without the extension).

Often the extension names used by a given software package are listed in the manual accompanying that software.

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Table 1. Listing of typical file extensions

Extension	File type
.EXE	Executable file
.COM	Command file
.BAT	Batch file consisting of Dos commands
.ASC	Text files (in ASCII format)
.BAK	Backup files
.DAT	Data file (usually for statistical packages)
.DBF	Dbase database files
.DBT	Dbase text file (memo fields)
.DOC	One type of wordprocessing file
.NDX	Dbase index files
.PIC	Picture or graphics file
.PRG	Dbase program files
.PRN	Text files (in ASCII format)
.SYS	IBM System files
.TXT	Text files (in ASCII format)
.WK1	Lotus worksheet files (V 2.X)
.WKS	Lotus worksheet files (V 1.X)

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#### General setup and requirements of NRDS

The system is currently designed to run on any IBM compatible system equipped with a hard-disk. The speed of the searches is greatly

influenced by the speed of the computer and its hard-disk. It is recommended that a 286 or 386 machine be used for practicality.

#### A BRIEF NOTE

Remember that this system was written for use by novice computer users and typing errors and mistaken actions are of no concern. The system uses a copy of the database so no harm can be done to the original. Most choices to be made in the use of the system are offered in menu form to eliminate the possibility of errors and to make using the system easy. Even pressing the escape key will only take the user to the previous menu. The user need not know any codes or abbreviations to use the system. It is hoped that anyone needing to use this system can do so with little prior instruction and with no fear of 'doing something wrong'.

#### MENU STRUCTURE

NRDS is completely menu-driven. The organization of the menus which make up the system is outlined below (with the appropriate letter choices to select the next menu):

##### Main Menu

##### [A] Search Menu

##### [A] Resource Category/subcategory

##### [A] Atmospheric/Meteorologic

- [-] All
- [A] General
- [B] Processes
- [C] General weather/climate
- [D] Wet deposition
- [E] Dry deposition
- [F] Temperature
- [G] Wind
- [H] Microclimate
- [I] Other climate/weather
- [J] General air
- [K] Visibility
- [L] Purity
- [M] Other atmospheric/meteorologic

##### [B] Geologic

- [-] All
- [A] General
- [B] Processes
- [C] Minerals
- [D] Rock types
- [E] Formations
- [F] Landforms
- [G] Soils
- [H] Fossils
- [I] Other geologic

##### [C] Hydrologic

- [-] All
- [A] General

- [B] Processes
- [C] Ground water
- [D] Springs - general
- [E] Hot springs
- [F] Cold springs
- [G] Streams/rivers
- [H] Lakes/reservoirs
- [I] Ocean
- [J] Other hydrologic
- [D] Biologic
  - [-] All
  - [A] General
  - [B] Other
  - [E] Plants
  - [-] All
  - [A] General
  - [B] General non-vascular
  - [C] Lichens
  - [D] Bryophytes
  - [E] Algae
  - [F] Other non-vascular
  - [G] Vascular
- [F] Animals
  - [-] All
  - [A] General
  - [B] Invertebrates
    - [A] Prokaryotes/protists
    - [B] General invertebrates
    - [C] Brachiopods/molluscs
    - [D] Insects
    - [E] Other invertebrates
  - [C] Vertebrates
    - [A] General vertebrates
    - [B] Fish
    - [C] Herptiles
    - [D] General birds
    - [E] Raptors
    - [F] Other birds
    - [G] General mammals
    - [H] Pinnipeds
    - [I] Carnivores
    - [J] Ungulates
    - [K] Other mammals
- [G] Biologic Processes
  - [-] All
  - [A] General
  - [B] Competition
  - [C] Herbivory
  - [D] Parasitism
  - [E] Predation
  - [F] Succession
  - [G] Symbiosis
  - [H] Other
- [H] Ecosystem

- [-] All
- [A] General
- [B] General processes
- [C] Fire
- [D] Nutrient/mineral cycling
- [E] Energy transfer
- [F] Gas exchange
- [G] Other processes
- [H] Other ecosystem studies
- [I] Anthropogenic
- [-] All
- [A] General
- [B] Adjacent lands
- [C] Archaeologic
- [D] Boundary
- [E] Historical/cultural
- [F] Legislation/policy
  - [A] General
  - [B] NPS-specific
  - [C] Park-specific
  - [D] Other
- [G] Native cultures
- [H] NPS management
  - [A] Planning Documents
  - [B] Ea's, eis's, etc.
  - [C] Administrative history
  - [D] Legislative history
  - [E] IPM program
  - [F] Other
- [I] Visitor use
  - [A] Impact data
  - [B] Use patterns
  - [C] Visitor surveys
  - [D] Other
- [J] Other
- [B] Watershed
- [C] Subdistrict
- [D] Keywords
- [E] Author
- [F] Biotic zone
- [G] Management concern
- [H] SWI number
- [I] RMP number
- [J] Published/Scientific studies
- [K] Select type of output
  - [A] Tally
  - [B] Bibliographic
  - [C] Watershed
  - [D] Subdistrict
  - [E] Funding source
  - [F] Status of project
  - [G] Year
  - [H] Type of study
- [L] Clear all criteria

- [B] Summary Matrix Menu
  - [A] All records
  - [B] All scientific studies
  - [C] All published scientific studies
  - [D] All published scientific studies (1<sup>o</sup> category)
- [C] Backup Routine

#### GENERAL SUGGESTIONS FOR CONDUCTING SEARCHES

Everyone using this system will develop their own style of searching. However, some tips may help the beginning user. All searches are cumulative, that is after one search has been carried out, the next search uses only the results of the previous search(es). The result is a paring down of the records. Therefore, it is recommended that searches be carried out starting with the most general working towards the more specific. For example, if the user needed to find out what was known about endemic vascular plants of the alpine, the recommended strategy would be; search using resource category-plants, subcategory vascular. When the search is complete, it might be useful to check the output-tally to see how many records were selected. If is a small number the user might want to go right to the output-bibliographic option and review the selected records for something interesting. If, however, the number of selected records was great, the user could then search on the biotic zone of alpine. The currently selected records would then pertain to vascular plants in the alpine. Using the same strategy as before the number of selected records could be checked. This process could be continued (if the number of selected records was still great) by searching on management concern-endemic. It is easy to see how, by combining search criteria, the number of records can be rapidly reduced to a select few pertaining to the specific criteria the user is interested in.

#### OPERATING INSTRUCTIONS

Once the database system is initiated the following main menu is displayed.

#### NATIONAL PARK RESOURCE DATABASE SYSTEM

MAIN MENU
[A] SEARCH DATABASE
[B] PRODUCE SUMMARY MATRIX FROM DATABASE
[C] BACKUP
[Q] QUIT

#### Selecting "A" of the Main Menu

All menu choices are made by either entering the letter associated with your choice or by highlighting your choice with the cursor by pressing

the up or down arrow keys then pressing enter to select that action. The choice currently highlighted is described in more detail at the bottom of the screen. From the main menu, "A" will lead the user to the following search menu.

NATIONAL PARK RESOURCE DATABASE SYSTEM	
SEARCH MENU	
[A]	RESOURCE CATEGORY/SUBCATEGORY
[B]	WATERSHED
[C]	SUBDISTRICT
[D]	KEYWORDS
[E]	AUTHOR
[F]	BIOTIC ZONE
[G]	MANAGEMENT CONCERN
[H]	SERVICE-WIDE ISSUE
[I]	RMP STATEMENT NUMBER
[J]	PUBLISHED/SCIENTIFIC STUDY
[K]	SELECT TYPE OF OUTPUT
[L]	CLEAR ALL CRITERIA
[X]	RETURN

Selecting "A" of the Search menu

"A" will lead the user to the following Resource Category Selection Menu:

NATIONAL PARK RESOURCE DATABASE SYSTEM	
RESOURCE CATEGORY SELECTION	
[A]	ATMOSPHERIC/METEOROLOGIC
[B]	GEOLOGIC
[C]	HYDROLOGIC
[D]	BIOLOGIC
[E]	PLANTS
[F]	ANIMALS
[G]	BIOLOGIC PROCESSES
[H]	ECOSYSTEM
[I]	ANTHROPOGENIC'
[X]	RETURN'

Selecting "A" for Resource Category

"A" leads the user to the following Subcategory for Atmospheric/Meteorologic menu:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

## SUBCATEGORIES FOR ATMOSPHERIC/METEOROLOGIC

[-] ALL [A] GENERAL [B] PROCESSES [C] GENERAL CLIMATE/WEATHER [D] WET DEPOSITION [E] DRY DEPOSITION [F] TEMPERATURE [G] WIND [H] MICROCLIMATE [I] OTHER CLIMATE/WEATHER [J] GENERAL AIR [K] VISIBILITY [L] PURITY [M] OTHER [X] RETURN
--

Selecting "-" through "X" for Atmospheric/Meteorologic Subcategory

"-" will select all records on atmosphere and meteorology. "A" will select all general records related to atmosphere and meteorology. "B" will select all records related to atmospheric and meteorologic processes. "C" will select general records related to climate and weather. "D" will select records related to wet deposition. "E" will select records related to dry deposition. "F" will select records related to temperature. "G" will select records related to wind. "H" will select records related to microclimate. "I" will select records related to climate and weather not in the more specific subcategories on "D" through "H". "J" will select records related to air in general. "K" will select records related to visibility. "L" will select records related to air purity. "M" will select records related to atmosphere and meteorology not in the more specific subcategories above. "X", as always, returns the user to the previous menu (Resource Category menu).

Selecting "B" for Resource Category

"B" leads the user to the following subcategories for Geologic menu:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR GEOLOGIC	
[ - ]	ALL
[ A ]	GENERAL
[ B ]	PROCESSES
[ C ]	MINERALS
[ D ]	ROCK TYPES
[ E ]	FORMATIONS
[ F ]	LANDFORMS
[ G ]	SOILS
[ H ]	FOSSILS
[ I ]	OTHER
[ X ]	RETURN

Selecting "-" through "X" for Geology Subcategory

"-" will select all records on geology. "A" will select all general records related to geology. "B" will select all records related to geologic processes. "C" will select records related to minerals. "D" will select records related to rock types. "E" will select records related to formations. "F" will select records related to landforms. "G" will select records related to soils. "H" will select records related to fossils. "I" will select records related to geology not in the more specific subcategories above. "X", as always, returns the user to the previous menu (Resource Category menu).

Selecting "C" for Resource Category

"C" leads the user to the following subcategories for Hydrologic menu:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR HYDROLOGIC	
[ - ]	ALL
[ A ]	GENERAL
[ B ]	PROCESSES
[ C ]	GROUND WATER
[ D ]	SPRINGS - GENERAL
[ E ]	HOT SPRINGS
[ F ]	COLD SPRINGS
[ G ]	STREAMS/RIVERS
[ H ]	LAKES/RESERVOIRS
[ I ]	OCEAN
[ J ]	OTHER
[ X ]	RETURN

Selecting "-" through "X" for Hydrology Subcategory

"-" will select all records on hydrology. "A" will select all general records related to hydrology. "B" will select all records related to hydrologic processes. "C" will select records related to ground water. "D" will select general records related to springs. "E" will select records related to hot springs. "F" will select records related to cold springs. "G" will select records related to streams and rivers. "H" will select records related to lakes and reservoirs. "I" will select records related to the ocean. "J" will select records related to hydrology not in the more specific subcategories above. "X", as always, returns the user to the previous menu (Resource Category menu).

Selecting "D" for Resource Category

"D" leads the user to the following subcategories for Biologic menu:

NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR BIOLOGIC
[-] ALL
[A] GENERAL
[B] OTHER
[X] RETURN

Selecting "-" through "X" for Biologic Subcategory

"-" will select all records on biology not found in the other biological categories. "A" will select all general records related to biology. "B" will select records related to more specific issues. "X", as always, returns the user to the previous menu (Resource Category menu).

Selecting "E" for Resource Category

"E" leads the user to the following subcategories for Plants menu:

NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR PLANTS
[-] ALL
[A] GENERAL
[B] GENERAL NON-VASCULAR
[C] LICHENS
[D] BRYOPHYTES
[E] ALGAE
[F] OTHER - NON-VASCULAR
[G] VASCULAR
[X] RETURN

Selecting "-" through "X" for Plants Subcategory

"-" will select all records on plants. "A" will select all general records related to plants. "B" will select all general records related to non-vascular plants. "C" will select records related to lichens. "D" will select records related to bryophytes. "E" will select records related to algae. "F" will select records related to non-vascular plants not found in the more specific categories "C", "D" and "E". "G" will select records related to vascular plants. "X", as always, returns the user to the previous menu (Resource Category menu).

Selecting "F" for Resource Category

"F" leads the user to the following subcategories for Animals menu:

NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR ANIMALS
[-] ALL
[A] GENERAL
[B] INVERTEBRATES
[C] VERTEBRATES
[X] RETURN

Selecting "-" through "B" for Animals Subcategory

"-" will select all records on animals. "A" will select all general records related to animals. "B" will lead the user to the following menu for the subcategories for invertebrates.

NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR INVERTEBRATES
[A] PROKARYOTES/PROTISTS
[B] GENERAL INVERTEBRATES
[C] BRACHIOPODS/MOLLUSCS
[D] INSECTS
[E] OTHER INVERTEBRATES
[X] RETURN

Selecting "A" through "X" for Invertebrates Subcategory

The "A" selection will select records related to prokaryotes and protists. "B" will select all records on invertebrates. "C" will

select records related to brachiopods and molluscs. "D" will select records related to insects. "E" will select records related on invertebrates not in the more specific subcategories of "C" and "D". "X", as always, returns the user to the previous menu (Subcategories for Animals menu).

Selecting "C" for Animal Subcategory

"C" will lead the user to the following menu for the subcategories for vertebrates.

NATIONAL PARK RESOURCE DATABASE SYSTEM	
SUBCATEGORIES FOR VERTEBRATES	
[A]	GENERAL VERTEBRATES
[B]	FISH
[C]	HERPTILES
[D]	GENERAL BIRDS
[E]	RAPTORS
[F]	OTHER BIRDS
[G]	GENERAL MAMMALS
[H]	PINNIPEDS
[I]	CARNIVORES
[J]	UNGULATES
[K]	OTHER MAMMALS
[X]	RETURN

Selecting "A" through "X" for Vertebrates Subcategory

"A" will select all records on vertebrates. "B" will select records related to fish. "C" will select records related to reptiles and amphibians. "D" will select records related to birds in general. "E" will select records related to raptors. "F" will select records related on birds not in the more specific subcategory "E". "G" will select records related to mammals in general. "H" will select records related to pinnipeds. "I" will select records related to carnivores. "J" will select records related to ungulates. "K" will select records related on mammals not in the more specific subcategories of "H", "I" and "J". "X", as always, returns the user to the previous menu (Subcategories for Animals menu).

Selecting "X" for Animal Subcategory

This option, as always, returns the user to the previous menu (Resource Category menu).

Selecting "G" for Resource Category

"G" will lead the user to the following menu for Biological Processes:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR BIOLOGICAL PROCESSES	
[A]	GENERAL
[B]	COMPETITION
[C]	HERBIVORY
[D]	PARASITISM
[E]	PREDATION
[F]	SUCCESSION
[G]	SYMBIOSIS
[H]	OTHER
[X]	RETURN

Selecting "A" through "X" for Biological Processes Subcategory

"A" will select all general records on Biological Processes. "B" will select records related to Competition. "C" will select records related to Herbivory. "D" will select records related to Parasitism. "E" will select records related to Predation. "F" will select records related to Succession. "G" will select records related to Symbiosis. "H" will select records related to pinnipeds. "H" will select records related on Biological Processes not in the more specific subcategories of "B" through "G". "X", as always, returns the user to the previous menu (Resource Category menu).

Selecting "H" for Resource Category

"H" leads the user to the following subcategories for Ecosystem menu:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR ECOSYSTEM	
[-]	ALL SUBCATEGORIES
[A]	GENERAL
[B]	GENERAL ECOSYSTEM PROCESSES
[C]	FIRE
[D]	NUTRIENT/MINERAL CYCLING
[E]	ENERGY TRANSFER
[F]	GAS EXCHANGE
[G]	OTHER PROCESSES
[H]	OTHER ECOSYSTEM STUDIES
[X]	RETURN

Selecting "I" for Resource Category

"I" leads the user to the following subcategories for Anthropogenic menu:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBCATEGORIES FOR ANTHROPOGENIC	
	[ - ] ALL
	[A] GENERAL
	[B] ADJACENT LANDS
	[C] ARCHAEOLOGIC
	[D] BOUNDARY
	[E] HISTORICAL/CULTURAL
	[F] LEGISLATIVE POLICY
	[G] NATIVE CULTURES
	[H] NPS MANAGEMENT
	[I] VISITOR USE
	[J] OTHER
	[X] RETURN

Selecting "-" through "F" for Anthropogenic Subcategory

"-" will select all records on Anthropogenic related topics. "A" will select all general records on Anthropogenic related topics. "B" will select records related to adjacent lands. "C" will select records related to archaeological related topics. "D" will select records related to boundary. "E" will select records related to historical and cultural topics. "F" will lead the user to the following menu for legislation and policy related materials:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

LEGISLATION/POLICY MENU	
	[A] GENERAL
	[B] NPS-SPECIFIC
	[C] PARK-SPECIFIC
	[D] OTHER
	[X] RETURN

Selecting "A" through "X" for Legislation/Policy Subcategory

"A" will select general records related to legislation and policy. "B" will select records related to National Park Service legislation and policy. "C" will select records related other than NPS legislation and policy. "X", as always, returns the user to the previous menu (Subcategories for Anthropogenic).

Selecting "G" through "H" for Anthropogenic Subcategory

"G" will select records related to native cultures. "H" will lead the user to the following menu for NPS Management:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

NPS MANAGEMENT MENU	
[A]	PLANNING DOCUMENTS
[B]	EA'S, EIS'S, ETC.
[C]	ADMINISTRATIVE HISTORY
[D]	LEGISLATIVE HISTORY
[E]	IPM PROGRAM
[F]	OTHER
[X]	RETURN

Selecting "A" through "X" of the NPS Management Menu

"A" will select all planning documents. "B" will select EA's, EIS's and related documents. "C" will select records related to Administrative History. "D" will select records related to Legislative History. "E" will select records related to the IPM Program. "F" will select records related NPS Management not in the more specific categories "A" through "E". "X", as always, returns the user to the previous menu (Subcategories for Anthropogenic).

Selecting "I" for Anthropogenic Subcategory

"I" will lead the user to the following Visitor Use menu:

## NATIONAL PARK RESOURCE DATABASE SYSTEM

VISITOR USE MENU	
[A]	IMPACT DATA
[B]	USE PATTERNS
[C]	VISITOR SURVEYS
[D]	OTHER
[X]	RETURN

Selecting "A" through "X" of the Visitor Use Menu

"A" will select all records related to impact data. "B" will select records related to Visitor Use Patterns. "C" will select records related to Visitor Surveys. "D" will select records related to Visitor Use not in the more specific categories "A" through "C". "X", as always, returns the user to the previous menu (Subcategories for Anthropogenic).

Selecting "J" and "X" for Anthropogenic Subcategory

"J" will select records related to Anthropogenic but not included in the more specific subcategories listed above. "X", as always, returns the user to the previous menu (Resource Category menu).

Selecting "X" for Resource Category

This option, as always, returns the user to the previous menu (Search menu).

Selecting "B" of the Search menu

"B" will lead the user to the watershed selection menu. Below is an example from the version customized for Olympic National Park:

```

OLYMPIC NATIONAL PARK RESOURCE DATABASE SYSTEM

WATERSHED SELECTION

N ALL WEST  N ALL EAST

N BOGACHIEL  N DOSEWALLIPS
N CALAWAH           N DUCKABUSH
N HOKO-OZETTE      N ELWHA
N LYRE             N GREYWOLF
N MAIN FORK HOH    N HAMMA HAMMA
N OCEAN CREEKS     N MORSE CREEK
N QUEETS           N SKOKOMISH
N QUINAULT  N STRAITS CREEKS
N SOLEDUCK  N SOUTH FORK HOH

PLACE A Y BEFORE ALL WATERSHEDS TO INCLUDE IN SEARCH
PRESS PAGEDOWN TO ACCEPT SCREEN

```

The user can select records from the database based upon the watersheds the records are related to. By placing a "Y" before any combination of watersheds in the menu, those records related to any of the selected watersheds are selected from the database. The user has the option of selecting all east or all west watersheds on the first line, after this, each watershed can be selected or deselected individually.

Selecting "C" of the Search menu

"C" will lead the user to the subdistrict selection menu. Below is an example from the version customized for Olympic National Park:

## OLYMPIC NATIONAL PARK RESOURCE DATABASE SYSTEM

SUBDISTRICT SELECTION	
<u>N</u>	ELWHA
<u>N</u>	HOH
<u>N</u>	HOODSPORT
<u>N</u>	HURRICANE
<u>N</u>	LAKE CRESCENT
<u>N</u>	KALALOCH AND QUEETS
<u>N</u>	MORA
<u>N</u>	OZETTE
<u>N</u>	QUINAULT

PLACE A Y BEFORE ALL SUBDISTRICTS TO INCLUDE IN SEARCH  
PRESS PAGEDOWN TO ACCEPT SCREEN

The user can select records from the database based upon the subdistricts the records are related to. By placing a "Y" before any combination of subdistricts in the menu, those records related to any of the selected subdistricts are selected from the database.

#### Selecting "D" of the Search menu

The user can also select records from the database by specifying a combination of up to three keywords. The keyword search selects records from the database which have any of the specified keywords in either the title or a special keyword field. To perform a search where the selected records have all of the specified keywords rather than any of them, use the cumulative feature of the search system. For example, to search for all records having the keyword "bear" and the keyword "hibernation" associated with them, first perform a search on the keyword "bear" then, search again on the keyword "hibernation". The resulting records selected by both these searches will have both keywords associated with them.

The use of keywords for bibliographic searches such as those used by this system is an art. Some tips that might increase the user's efficiency in using keyword searches follow. Try to search for more general topics first, for example, if searching for records on chipmunks, start by trying "rodent". If a large number of records are found by that search, then narrow the topic somewhat. Note also, that the word "rodent" was used rather than "rodents". It is good practice to search using singular forms or words. For words which have unique plural forms, it is useful to search for the root or part of the root word. (search for "butterfl" to find both "butterfly" and "butterflies").

#### Selecting "E" of the Search menu

The user can also select records from the database by specifying an author name. The user can search for part of the name if the complete name or the spelling is unknown.

Selecting "F" of the Search menu

"F" leads the user to the following Biotic Zone Selection Menu. Below is an example from the version customized for Olympic National Park:

## OLYMPIC NATIONAL PARK RESOURCE DATABASE SYSTEM

BIOTIC ZONE SELECTION	
<u>N</u> ALPINE	<u>N</u> COASTAL FOREST
<u>N</u> SUBALPINE	<u>N</u> BEACH
<u>N</u> MONTANE	<u>N</u> INTERTIDAL
<u>N</u> LOWLAND FOREST	<u>N</u> OFFSHORE
<u>N</u> AQUATIC	<u>N</u> ISLANDS
(FRESHWATER)	

PLACE A Y BEFORE ALL BIOTIC ZONES TO INCLUDE IN SEARCH  
PRESS PAGEDOWN TO ACCEPT SCREEN

The user can select records from the database based upon the biotic zones the records are related to. By placing a "Y" before any combination of biotic zones in the menu, those records related to any of the selected biotic zones are selected from the database.

Selecting "G" of the Search menu

"G" leads the user to the following Management Concern Selection Menu. Below is an example from the version customized for Olympic National Park:

## OLYMPIC NATIONAL PARK RESOURCE DATABASE SYSTEM

MANAGEMENT CONCERN SELECTION		
<u>N</u> ENDEMIC	<u>N</u> EXOTIC	<u>N</u> HARVESTED
<u>N</u> MIGRATORY	<u>N</u> ARCHEO.	<u>N</u> PALEO.
<u>N</u> CONTAMINATED/POLLUTED	<u>N</u> HEALTH/SAFETY	
PLACE A Y BEFORE ALL BIOTIC ZONES TO INCLUDE IN SEARCH PRESS PAGEDOWN TO ACCEPT SELECTIONS		
<ul style="list-style-type: none"> <li>- FEDERAL STATUS</li> <li>- STATE STATUS</li> <li>- PARK STATUS</li> </ul>		
USE (E)NDANGERED, (T)HREATENED, (S)ENSITIVE, (R)ARE		

The user can select records from the database based upon specific management concerns. By placing a "Y" before any combination of management concerns in the menu, those records related to any of the selected management concerns are selected from the database. The federal, state and park status fields allow the user to select records related to organisms with classifications of endangered, threatened, sensitive or rare.

Selecting "H", "I" or "J" of the Search menu

"H" will bring the user to a screen which asks for a Service-Wide Issue number (these numbers are found in the guidelines for the resource management plans and are broken down into natural and cultural issues). The records associated with that SWI number are selected. "I" will bring the user to a screen which asks for a Resource Management Plan Statement number (see the resource management plan for the individual park for these numbers). The records associated with that statement number are selected. "J" will bring the user to a screen where records can be selected based on whether the record represents a scientific study and/or whether the record represents a published item (refereed journal, thesis or dissertation).

Selecting "K" of the Search menu

"K" leads the user to the following Output Menu:





## NATIONAL PARK RESOURCE DATABASE SYSTEM

SUMMARY MATRIX SELECTION
[A] ALL RECORDS
[B] STUDIES ONLY
[C] PUBLISHED STUDIES ONLY
[D] PUBLISHED STUDIES ONLY (PRIMARY CAT)
[X] RETURN

From this menu the user chooses the type of summary matrix needed. All the summary matrices summarize the currently selected records in the database by resource category and subcategory and by biotic zones. The totals shown refer to the number of classifications that match the criteria. Because many records are classified in a couple different ways, the total will often be larger than the number of records in the database. The different options in the Summary Matrix Selection Menu refer to how 'strict' the program will be in what records it uses for the summary.

Selecting "A" of the Summary Matrix Selection Menu

The first option "A", uses all currently selected records (from the last searches performed or all records in the database if no searches have been done during this session).

Below is an example from the version customized for Olympic National Park:

## SUMMARY MATRIX FOR ALL RECORDS IN INVENTORY DATABASE

PAGE 1

RESOURCE CATEGORY resource subcategory	PARK			BIOTIC ZONE										TOTAL
	WIDE	OS	IS	IN	BE	AQ	CF	LF	MO	SA	AL	--		
ALL STUDIES	49	145	126	82	196	182	162	407	261	323	223	1232	2157	
ATMOSPHERIC/METEOROLOGIC	2	2	2	2	2	8	3	26	12	21	8	83	129	
General	0	0	0	0	0	0	0	1	0	1	0	2	4	
Processes	0	0	0	0	0	0	0	0	0	0	0	0	0	
Climate/Weather	0	0	0	0	0	0	0	3	0	3	3	17	25	
Wet deposition	1	1	1	1	1	5	2	17	10	9	2	33	54	
Dry deposition	0	0	0	0	0	0	0	2	1	1	0	11	14	
Temperature	0	0	0	0	0	1	0	1	0	1	0	1	4	
Wind	0	0	0	0	0	0	0	0	0	0	0	2	2	
Microclimate	0	0	0	0	0	0	0	1	0	5	2	0	7	
Other	0	0	0	0	0	1	0	0	0	0	0	1	2	
Air	0	0	0	0	0	-	0	0	0	0	0	0	0	
Visibility	1	1	1	1	1	-	1	1	1	1	1	7	8	
Purity	0	0	0	0	0	-	0	0	0	0	0	8	8	
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	
GEOLOGIC	7	23	24	16	29	7	19	22	20	29	33	99	183	
General	2	3	3	4	4	2	5	4	5	7	6	17	28	
Geologic processes	1	5	5	4	9	1	2	2	3	3	1	4	16	
Minerals	1	2	1	1	1	1	2	3	2	2	2	8	11	
Rock types	1	3	3	1	3	1	2	3	3	3	2	5	10	
Formations	0	1	1	1	3	0	3	1	0	0	0	7	12	
Landforms/features	1	8	10	3	8	1	4	2	2	7	18	51	86	
Soil/Sediments	1	1	1	2	1	1	1	5	4	6	3	5	16	
Fossils	0	0	0	0	0	0	0	2	1	1	1	2	4	
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	

Selecting "B" through "D" of the Summary Matrix Selection Menu

The second option "B" uses only those records which have been classified as actual scientific studies. This is based on the database field "Study\_type" and those entries which are classified as research, inventories, or monitoring efforts are included in this summary. The output is just like the previous example using the "A" option with fewer records 'making the cut'.

The "C" option is even more strict. Only those classified as studies as above are included. In addition, they have to have been published in a refereed journal or be a PhD dissertation or M.S. thesis. This information is found in the database field "Distribu" (for distribution).

The most restrictive summary matrix is generated by choosing option "D". In addition to the previous criteria, all of which are necessary, only the first of the resource categories/subcategories are used. This eliminates the possibility of the duplication which occurs when a



Selecting "C" or "Q" from the Main menu

There are two additional options on the main menu, "C" initiates the backup routine and "E" exits the system. The backup routine gives on-screen instructions for backing up the system to diskette. This diskette could be used to reinstall the system in the event of a hard disk failure. It would be good practice to keep two of these diskettes and alternate their use each time the system is backed up. The backup procedure should be run after significant amounts of new information have been entered into the system. The quit option (Q) exits the system.

## NRDS DEMONSTRATION PROGRAM INSTALLATION INSTRUCTIONS

The goal of the installation procedure is to create a subdirectory (\NRDS) which contains the search program and the sample resource database (which is from Olympic National Park). Installing the program (step 1) automatically creates this subdirectory and copies the program and the sample database into it.

1. Place the NRDS systems disk in either drive a: or b:. Type install <source drive> <target drive>. For example, if you desire to install from a: to c: type install a: c:. You can install from either a: or b: to either c: or d: (if you have two hard disks). This step creates the NRDS subdirectory and copies the search programs and then the sample database onto it. The installation program will give you any other instructions that you need.
2. After running the installation procedure, the NRDS system will begin automatically. Refer to the NRDS manual for details on how to operate the NRDS system.
3. Once NRDS is installed, it can be restarted by going to the drive and directory on which NRDS was installed and executing the program file. For example, type c: and press the enter key (this makes c: the current drive). Then type cd\nrds and press the enter key (this changes the current directory to c:\nrds). Next type nrds and press the enter key (this begins the NRDS program).
4. If you want to remove the NRDS system from your hard disk, there is a utility on disk # 1 called remove. Simply insert disk #1 into either a: or b:, make that drive current, and type remove c: (to remove the system from c:) or remove d: (to remove the system from d:).

Please contact Gerald Wright at the University of Idaho CPSU (208) 885-7990 or Roger Hoffman at Olympic National Park (206) 452-4501 x 223 if you have any questions regarding this software.

