# Appendixes

Appendix A

# Examples of Federal Agency Databases Containing Biological Information

## Methodology

Many Federal agencies maintain databases containing biological data. A survey was conducted between June and December 1985 to determine the approximate number, scope, and coverage of these databases. The survey began with an examination of information from existing database inventories (20,38,61,62,64,71), followed by telephone calls to determine the status of previously published surveys. These calls led to identification of other contacts and databases. This approach had a built-in bias toward databases known to a wide audience. Therefore, more databases of national or regional coverage were identified than were databases of local, sub-State, or State coverage. No attempt was made to develop a comprehensive listing of Federal databases. The following list provides examples of the kind of biological data collected on-site by the major Federal agencies responsible for biological resources. The list probably represents less than 20 percent of the databases containing biological information currently maintained by Federal agencies.

The geographic coverage of each database is described. National databases include data consolidated from sources throughout the United States. Regional databases include data consolidated from sources within a region, such as the Pacific Northwest States, State and sub-State databases contain data from one statewide area, such as Tennessee, or from a location within the State, such as one national park. Databases are geographically categorized on the basis of where the data are located. For example, if the data are available at a specific sub-State location where the data were collected (e.g., a BLM Resource Area], the database is considered a sub-State database, regardless of whether the data are available from a number of unique locations across a broader geographic area.

The taxonomic coverage of each database also is described. The categories used for taxa are the class level for animals and the kingdom level for plants. The inclusion of data on trees within a database is noted.

Users of each database are identified in broad categories. The primary Federal agency using the ciata is listed first. Use by other Federal agencies or States is also noted. The "others" category includes private users, such as universities, individual researchers or interested persons, conservation or other organizations, and county officials or agencies.

If a primary contact person or office has been identified for the database, it is included.

References mentioned with the databases can be found in a list at the end of this appendix.

A summary table of this appendix can be found in chapter 3, pages 21 through 23.

Federal agencies that collect biological data but are not described in this appendix[1] include:

- U.S. Department of Agriculture, Agriculture Research Service;
- U.S. Department of the Interior, Bureau of Indian Affairs;
- U.S. Department of the Interior, Bureau of Reclamation;
- U.S. Department of Energy—Ecological Experimental Area Program:
- Environmental Protection Agency;
- National Science Foundation—Long Term Ecological Research Program; and
- Smithsonian Institution.

## Existing Biological Databases

### Summary of the U.S. Department of the Interior

The U.S. Department of the Interior has no central source for biological databases. The agencies considered here include: the National Park Service, Bureau of Land Management, Fish and Wildlife Service, and U.S. Geological Survey. The National Park Service recently compiled a list of microcomputer applications in agency programs *(61);* the list provided a starting point for this survey. In addition, a recent issue of *Park Science* discussed microcomputer applications in the natural resources division. Examples from each of these sources are included. The Fish and Wildlife Service's Office of Information Transfer is completing an inventory of FWS databases (35). Currently, no such inventory or clearinghouse of databases ex-

[1]Time constraints preclude the so rvey of many databases maintained by agencies so( h as these

ists within the agency. Bureau of Land Management and U.S. Geological Survey databases were identified, in part, in the review of a recent inventory of databases prepared by a working group of the Interagency Agreement Relating to Classifications and Inventories of Natural Resources (20).

### National Park Service (NPS)

1. **National Park Flora (NPFLORA)**
   **Content:** A listing of all vegetation within each of the National Parks, including species names, taxonomic characteristics, and status from State and Federal lists of sensitive, threatened, or endangered species.
   *Purpose:* Designed as a reference and management tool.
   *Geographic coverage:* National—national park lands.
   *Taxonomic coverage:* Vegetation within the National Park Service lands.
   *Status:* Ongoing data entry as information becomes available from specific park areas. Currently available on computer for all Class I Air Quality classification sites administered by the National Park Service. Class II sites are being entered.
   *Users:* Park managers and interpretation specialists, other Federal agencies, States, others.
   Contact: Gary Waggoner, Science Section, Denver Service Center, Denver, CO.
   *References:* (60,66)

**z. The Nationwide Rivers Inventory**
   *Content:* Approximately 61,700 river and stream miles in 1,524 segments in the coterminous' United States (2 percent of total U.S. river mileage) with data on surface flow, cultural development, and cursory fish and wildlife information.
   *Purpose:* To determine potential candidates for the wild and scenic rivers system for river segments greater than 25 miles in length (or less than 25 river miles if outstanding values were known),
   *Geographic coverage:* National—3,250,000 river and stream miles in the coterminous United States.
   *Taxonomic coverage:* Broad categories of fish and wildlife. No species-specific studies conducted,
   *Status:* Report issued in January 1982, No updates planned.
   *Users:* NPS planners, Congress, States, other Federal agencies, others.
   *Contact:* Bernie Collins, Division of Rivers, Washington, DC.
   Ecological data can be found in the regional offices for the river segments of each region.
   *Reference:* (11).

3. **National Natural Landmarks Program Data Base**
   *Content:* The inventories completed under the National Landmarks Program for 33 ecological units in the United States. Data vary between studies as does the amount of field research,
   *Purpose:* Surveys generally provide a very coarse filter for identifying ecologically significant areas that could be future candidates for landmark designation.
   *Geographic coverage:* National—all physiographic provinces of the United States.
   *Taxonomic coverage:* Varies by inventory but generally includes all economically or ecologically important plant and animal species.
   *Status: 33* surveys complete and published. Inventories in report form and titles computerized.
   *Users:* NPS, States, others.
   *Contact:* Arthur Stewart, Division of Interagency Resources, Washington, DC.
   *Reference:* (52).

4, **Endangered Species Data Base**
   *Content:* Systemwide endangered species database to collate information from all national park units on federally designated threatened and endangered species,
   *Purpose:* To provide nationwide data on threatened and endangered species.
   *Geographic coverage:* National–all NPS lands.
   *Taxonomic coverage:* Federally listed threatened or endangered plants and animals.
   *Status:* Planning and internal review stage. Currently, southeast region has species list in notebook; midwest and northwest regions have contract with FWS to identify species; and southwest region has list of species and occurrences on a word processor.
   Users: To be determined, depending on design of system,
   *Contact:* Nick Churin, Division of Biological Services, Washington, DC.
   *Reference:* (10).

5. **Coastal Barriers Inventory**
   *Content:* Information on the location, physical and natural characteristics, ownership and administrators, and protected status of coastal barrier islands.

*Purpose:* Used to determine potential additions or deletions of units from the National Coastal Barrier Resources System,
*Geographic coverage:* National—coastal areas.
*Taxonomic coverage:* Unknown.
*Status:* System is on a computer and is updated regularly.
*Users:* NPS, Fish and Wildlife Service, U.S. Geological Survey, States, others.
*Contact:* Audrey Dixon, Science Support Staff, Division of Natural Resources, Washington, DC.
*Reference:* (23).

6 **COMMON**
*Content:* Summary: type information on park adminstration, acreage, natural and cultural features, and planning documents.
*Purpose:* To provide NPS staff with easy access to park-by-park information.
*Geographic coverage:* National—all park system units.
*Taxonomic coverage:* Unknown.
*Status:* An initial phase of COMMON is entered in a computer.
*Users:* NPS staff, could be available to other agencies and private organizations or individuals.
*Contact:* Ann Frondorf, Natural Resources Operations Support Staff, Washington, DC.
*Reference:* (23].

7. **North Atlantic Region Resource Data**
*Content:* Data on vegetation and soils and on air and water quality for NPS lands in the region.
*Purpose:* Used in research projects as baseline information and also for analysis of changes in vegetation over time, either naturally or as a result of air and water quality changes. One goal of the system is to network all national park offices into regional databases.
*Geographic coverage:* Regional—units of National Park Service region.
*Taxonomic coverage:* Vegetation.
*Status:* Ongoing data-entry from research and management programs. At least four units are linked into the system. Data digitized for mapping.
*Users:* NPS staff.
*Contact:* Office of Scientific Studies, North Atlantic Region, Boston, MA.
*Reference:* (21).

8. **Wild and Scenic Rivers Program**
*Content:* Designated wild and scenic rivers were inventoried for cultural, ecological, geological, historical, and recreational value.
*Purpose:* For inclusion in the Environmental Impact Statements for each river segment designated.
*Geographic coverage:* Sub-State—60 percent river segments congressionally designated as wild and scenic rivers.
*Taxonomic coverage:* Varies according to the river segment but generally includes fisheries and vegetation.
*Status:* Reports are no longer being written due to manpower and funding constraints. Data no longer being collected.
*Users;* NPS, other Federal agencies, States, Congress, others.
*Contact:* John Huebert, Division of Rivers, Washington, DC.
*Reference:* (64).

9. **Biosphere Reserve System Data Files**
*Content:* Six reserves have attempted to collate all environmental information into volumes from disparate sources.
*Purpose:* For research and public interest use.
*Geographic coverage:* Sub-State—Smoky Mountains, Glacier, Organ Pipe, Isle Royale, Olympic, and Big Bend National Parks.
*Taxonomic coverage:* Varies depending on reserve but all reserves have basic information on flora and vertebrates.
*Status:* Smoky Mountains and Glacier manuals are published. Organ Pipe, Isle Royale, Olympic, and Big Bend are awaiting publication. Efforts to collate information from other reserves have not occurred.
*Users:* NPS, States, others.
*Contact:* Bill Gregg, Man and the Biosphere Program / NPS office, Washington, DC.
*Reference:* (27).

10. **Bear Information System**
*Content:* Records of all sightings, and management actions for trapped or radio-tagged bears.
*Purpose:* For writing reports on bear activities and developing management options.
*Geographic coverage:* Sub-State—Yellowstone National Park, Montana and Wyoming.
*Taxonomic coverage:* Black and grizzly bear.
*Status:* Data input ongoing on microcomputer system.
*Users:* NPS employees.
*Contact:* Elfrida Kaminski, ADP Coordinator, Yellowstone National Park, WY.
*Reference.'* (61).

11. **Ground Cover System**
**Content:** Data on vegetation plots.
*Purpose:* To determine aspects such as species diversity of each plot and to print species lists from each plot.
*Geographic coverage:* Sub-State—Yellowstone National Park, Montana and Wyoming.
*Taxonomic coverage:* Plants.
*Status:* Data-entry ongoing on microcomputer system.
*Users:* NPS research scientists and naturalists.
*Contact:* Elfrida Kaminski, ADP Coordinator, Yellowstone National Park, WY.
*Reference:* (61).

12. **Vegetation Data Base, Great Smoky Mountains**
*Content:* Information on plant species within the national park and surrounding areas. Data Include name, life history, habitat, distribution, status, and air quality or other potential impact information. One unique aspect of the data is information on the ethnobiology of a plant in southern Appalachian culture.
*Purpose;* To manage information on the diverse flora, allow easy update of the plant checklist, and facilitate planning efforts with accessible data on plant distribution and ecology.
*Geographic coverage:* Sub-State–Great Smoky Mountain National Park, Tennessee and North Carolina.
*Taxonomic coverage:* Plants.
*Status:* Update and maintenance of the system is ongoing,
*Users:* NPS personnel, others.
*Contact;* Peter White, Uplands Field Research Laboratory, Great Smoky Mountains National Park, Gatlinburg, TN.
*Reference:* (69).

13. **Channel Islands Information System**
*Content:* Extensive information on approximately 2,000 species occurring in the national park. Data include species name, abundance, distribution, reproductive biology, population age and sex compositions, and growth rates.
*Purpose:* To manage and analyze population dynamics data. Database also used in interpretation programs and developing reports,
*Geographic coverage:* Sub-State—Channel Island National Park, California,
*Taxonomic coverage;* Mammals, fish, birds, invertebrates, plants.
*Status:* Ongoing data-entry and update as data are generated from research efforts.
*Users:* NPS research staff and park managers,
*Contact;* Gary Davis, Research Science Staff, Channel Islands National Park, CA,
*Reference:* (14).

### Bureau of Land Management (BLM)

1 **Range Site Inventory (RSI)**
*Content:* Information on plant species composition, plant production estimates, and mapping of range communities.
*Purpose:* Data are used to establish livestock stocking rates and as a baseline for range monitoring studies.
*Geographic coverage;* Regional—Western States, BLM lands.
*Taxonomic coverage:* Range plants.
*Status:* Developing computer program to combine SVIM and RSI data, scheduled for availability in 1986. Approximately 50 percent of BLM land inventoried using SVIM or RSI. Data available from State offices,
*Users:* BLM, other Federal agencies, others.
*Contact:* Rangeland Resources Division personnel in State BLM offices.
*References:* (20,31).

2. **Soil Vegetation Inventory Method (SVIM)**
*Content:* Data on range vegetation under BLM jurisdiction, including species composition, cover, height, and measures of productivity, Data were generated by range allotment.
*Purpose;* Currently none.
*Geographic coverage:* Regional–BLM lands.
*Taxonomic coverage:* Range vegetation, some timber.
*Status:* System archived and unavailable. Some data will be entered into new range system along with RSI data,
*Users:* Currently none.
*Contact:* Bob Waggoner, Division of Resource Systems, Denver Service Center, Denver, CO.
*Reference:* **(67).**

3. **Integrated Habitat Inventory Classification System (IHICS)**
*Content:* Combined information from districts and resources areas on wildlife habitat sites, standard habitat features (strata), and special habitat features, Inventory data is collected on standardized forms for inclusion into IHICS. Methods documented in BLM Manual Section 6602.

Purpose: To evaluate and delineate vegetation types known to be associated with specific wildlife species, for wildlife planning and management.

*Geographic coverage:* Regional—IHICS coverage of districts and resource areas is varied. Coverage includes some information on most of the districts in Nevada, New Mexico, and Arizona. Some has been done in Idaho and Alaska and other Western States. The agency proposes to include all Western State districts within the system.

*Taxonomic coverage:* Coverage of organisms varies considerably by district. Arizona has included extensive information on "nongame" species of wildlife, including breeding birds, amphibians, and reptiles. Other districts only include information on large game mammal populations and/or upland game birds. Thus far, no effort has been made to include all wildlife populations on BLM lands within the database.

*Status:* Ongoing effort by district offices and Denver Service Center. No anticipated completion date,

*Users:* BLM, States, others.

*Contact:* Larry Peterson, Denver Service Center, Denver, CO.

*References: (20,41).*

4. **Riparian/Aquatic Information Data Summary (RAIDS)**

*Content:* BLM-wide summary system for all riparian and aquatic resource information (plant species composition, structure of the plant community, animal species present or associated with existing vegetation) from district offices and resource areas for storage and retrieval using a standardized system.

*Purpose:* BLM-wide tracking system of riparian and aquatic habitat information for land planning and management. Riparian inventories are conducted in conjunction with other resource studies.

*Geographic coverage:* Regional—some districts already have collected data on riparian and aquatic resources for inclusion into the RAIDS. Others would be required to inventory resource areas to collect the information for each district,

*Taxonomic coverage:* Both aquatic plant and fisheries and animal taxa will be represented.

*Status:* Implemented and included in the BLM Manual Section 6602.

*Users;* BLM, other Federal agencies, States, others.

*Contact:* Larry Peterson or Paul Cuplin, Denver Service Center, Denver, CO.

*References:* (20,41).

5. **Wild Horses and Burros Inventories**

*Content:* Wild horse and burro distribution (herd area), population sizes and population structures.

*Purpose:* To assist in management and administration,

*Geographic coverage:* Regional—eight Western States where horses and burros congregate.

*Taxonomic coverage:* Mammals—horses and burros.

*Status:* BLM in process of computerizing data in central system with information on applicants for adoption program and administrative information on the horses and burros from round-up to disposition.

*Users:* BLM, others (animal protection organizations).

*Contact:* Division of Wild Horses and Burros, Washington, DC.

*References:* (20,48).

6. **Extensive Forest Inventory**

*Content:* Aerial survey with field verification of timber sites.

*Purpose:* To determine timber type, whether land commercial or noncommercial timber, and to outline boundaries of timbered areas,

*Geographic coverage:* State—Western States, timbered areas on BLM lands.

*Taxonomic coverage:* Timber, vegetation.

*Status:* All timbered areas have been inventoried with this method. Data stored in State and district office files, some on computers, some on maps,

*Users:* BLM, Forest Service, States, others (private timber companies).

*Contact:* Forestry Division personnel, State BLM offices.

*Reference:* (39).

7. **Forest Operations Inventory**

*Content:* Inventory of the forest base identified by Extensive Forest Inventory as capable of sustaining timber production.

*Purpose:* Serves as basis for delineating various forest practices on a specific forest,

*Geographic coverage:* State—Western States, BLM forested areas,

*Taxonmnic coverage:* Timber, vegetation.
*Status:* Ongoing, most sites are currently evaluated. Data stored in State and district offices, some on computers, some on maps.
*Users:* BLM, States, other Federal agencies, others (private timber companies).
*Contact:* Forestry Division personnel, State BLM offices,
*References:* (20,39),

8. **Timber Production Capability Classification (TPCC)**
*Content:* Detailed forest management information on specific sites down to 10 acres in size. Data includes production capabilities and soil and environmental conditions at the site.
*Purpose:* The database provides the detailed planning information needed to determine how much to cut and where.
*Geographic coverage:* State—Western States, most of the BLM forested areas.
*Taxonomic coverage:* Timber, vegetation.
*Status:* Ongoing effort as planning information is needed. Data stored in files in State and district offices, some computerized, some on maps.
*Users:* BLM planning and forestry staff, other Federal agencies, States, others (timber companies).
*Contact:* Forestry Division personnel, State BLM offices.
*References:* (20,39).

9. **Intensive Forest Survey Inventories (STORMS)**
*Content:* Records kept from field data cards on reforestation efforts, stocking efforts, species stocked, and history of reforestation in an area.
*Purpose:* To combine reforestation and operation inventory data into one computer-based system.
*Geographic coverage:* State—Western States, BLM forested areas.
*Taxonomic coverage:* Timber.
*Status:* Ongoing data-collection effort. Data computerized in integrated system.
*Users:* BLM, States, timber companies, other Federal agencies.
Contact: Forestry Division personnel, State BLM offices.
*References:* (20,39).

10. **Wilderness Inventory**
*Content:* Inventory covers units of BLM lands identified as having wilderness potential. In-depth studies are underway to determine resources, resource conflicts from uses of land, and wilderness values.
*Purpose:* Data used in EISS and maintained in files in resource area offices.
*Geographic coverage:* Sub-State—lo Western States.
*Taxonomic coverage:* Varies depending on area, generally vegetation, timber, and some fish and wildlife.
*Status:* Narratives of each unit published by each State office. Inventory efforts are ongoing as part of planning process.
*Users:* BLM, private organizations.
*Contact:* Recreation specialists in resource area offices in 10 Western States.
*References:* (20,70).

11, **Fire Management Data**
*Content:* Vegetation response and resource changes from wildfires and prescribed burning. Surveys assess postfire vegetation, soil condition, species change.
*Purpose:* Some studies conducted to obtain data on successional changes after controlled burn.
*Geographic coverage:* Sub-State—13 Western States, BLM lands.
*Taxonomic coverage;* Vegetation, timber,
*Status:* Data collection ongoing. Data in unpublished, localized files.
*Users:* BLM, other Federal agencies, States, others (researchers),
*Contact:* Fire Management Officers, BLM resource area offices.
*Reference: (5).*

*12,* **Threatened and Endangered Species Data Bases**
*Content:* Two separate databases maintained by field offices, one for actual observations of threatened and endangered plants and the other for actual observations of threatened and endangered animals. Because the data is very site-specific, it is generally unavailable to the public, in accordance with BLM responsibilities to protect the species.
*Purpose:* To provide biologists and managers with easily retrievable data on the known presence and status of threatened and endangered species.
*Geographic coverage:* Sub-State—data maintained at field offices.
*Taxonomic coverage:* Plants, animals, and fish taxa; some data files have more detail than others.

*Status:* Standard database and input forms developed and implemented in BLM Manual Section 6602.
Users: BLM biologists and managers, other cooperating agencies.
*Contact:* Wildlife biologists in individual field offices where implemented.
*Reference:* (40],

### U.S. Fish and Wildlife Service (FWS)

1. **Winter Waterfowl Survey**
*Content:* Data generated from annual survey (in January) by aerial and field counts at known concentration areas, Some random survey data for black ducks.
*Purpose:* Results are used to monitor changes in the distribution and status of populations, particularly those with inaccessible breeding grounds.
*Geographic coverage:* National—all flyways, southern New England south to Florida, Gulf Coast States, California, some Midwest States.
*Taxonomic coverage:* Waterfowl.
*Status:* Data recorded and computerized at Migratory Bird Management Office.
*Users:* FWS, States, others (researchers, flyway councils).
*Contact:* Robert Blohm, Office of Migratory Bird Management, Patuxent Research Center, Laurel, MD.
*Reference:* (20).

2. **North American Breeding Bird Survey**
*Content:* Information from around 2000 roadside counts each year throughout North America, Data covers distribution and abundance of some 500 bird species.
*Purpose:* To track species distribution and abundance.
*Geographic coverage:* National—includes transects throughout North America.
*Taxonomic coverage:* Birds.
*Status:* Maintained on computer files by Patuxent Research Center.
*Users:* States, other Federal agencies, others (conservation organizations, researchers).
*Contact:* Sam Droege, Office of Migratory Bird Management, Patuxent Research Center, Laurel, MD.
*Reference:* **(53).**

3. **Mourning Dove Call—Count Survey**
*Content:* Data collected from 20 stops along 900 randomly selected routes. This is a cooperative Federal and State effort.
*Purpose:* To develop population index for hunting season and regional trend data on mourning doves.
*Geographic coverage:* National.
*Taxonomic coverage:* Birds, one species.
*Status:* Annual survey in the spring, conducted since 1968, data computerized at Migratory Bird Management Office.
*Users:* FWS, States, researchers.
*Contact:* David Dolton, Office of Migratory Bird Management, Patuxent Research Center, Laurel, MD.
*References:* (20,53).

4. **River Reach Fisheries Data Base**
*Content:* Survey of 1,300 stream reaches for National Fisheries Survey, a 3-volume document published in 1984. Data include species present, legal status of the species, abundance (mostly qualititative), use of stream reach by the fishery, months of use, and factors affecting survival. This is the only national survey of fisheries completed in the lower 48 States.
*Purpose;* Survey provided baseline fishery information. Data support water quality policies within EPA and as reference for fisheries nationally.
*Geographic coverage:* National—lower 48 States (except Rhode Island which was omitted when using random numbers table).
*Taxonomic coverage:* Fish.
*Status:* Tapes of data available from EPA Monitoring and Data Support Division. Raw survey forms on file at FWS Western Energy Land Use Team Office. Data partially synthesized and published. No foreseeable plan to update data.
*Users:* EPA, FWS, other Federal agencies, others,
*Contact:* Lee Ischinger, Office of Biological Services, Wetland Ecology Group, Ft. Collins, CO.
*Reference:* (30].

5. **Wildlife Refuge Management Information System**
*Content:* Umbrella system for all refuge administrative and resource information. Resource information on forms in each of the refuges will be included in system. Resource data varies depending on the charter of the refuge.

*Purpose:* System will provide computer links between refuges, regional offices, and the Washington office.
*Geographic coverage:* National—all refuges, biological information on some.
*Taxonomic coverage:* Variable, but will include vegetation, birds, mammals, fish.
*Status:* Still in the developmental stages. System will be put up over lo-year period. Pilot project will be underway with Boston regional office and five refuges in fiscal year 1986. Final goal is network linking the 400 refuges,
*Users:* FWS Refuge program.
*Contact:* Bill Brimberg, Division of Refuge Management, Washington, DC.
*Reference:* **(7).**

**6. National Wetlands Inventory**
**Content:** Data on wetland distribution in the United States with aerial and ground surveys. Products include detailed mapping of wetland areas of special concern and statistical study of aerial photos.
*Purpose:* To determine wetland acreage and wetland trends by type of wetland.
*Geographic coverage:* National—includes Alaska and Hawaii.
*Taxonoznic coverage:* Ecological areas, wetlands.
*Status;* Ongoing project, approximately 40 percent complete for contiguous States and 10 percent complete for Alaska, Hawaii inventory completed. Work is progressing at 5 percent per year for lower 48 States and 2 percent per year for Alaska.
*Users:* FWS, other Federal agencies, States, private organizations, others.
*Contact:* Bill Wilen, Coordinator, National Wetlands Inventory, Washington, DC.
*References:* (13,54).

7. **Wetland Plant Species Data Base**
*Content:* Information on habitat type, indicator status, FWS region of occurrence, and selected botanical references for wetland plant species found in the United States. Data are compiled from reference works, and independent verification of whether a plant indicates a wetland is made by experts of each plant,
*Purpose:* To assist biologists in wetland delineation.
*Geographic coverage:* National—all 50 States and Caribbean territories and trusts.
*Taxonomic coverage:* Plants.
*Status:* 4,000 plant species of 5,400 species known to be associated with wetlands have been entered into computer system. Proposed completion date in 1986.
*Users:* FWS, other Federal agencies, States, others.
*Contact:* Porter (Buck) Reed, Division of Biological Services, Wetlands Ecology Group, St. Petersburg, FL.
*References: (43,64).*

8. **Wetland Plant List Data Base**
*Content:* Compliment of plant species data (above) by providing on-line index of plant species scientific name, common name, synonyms, geographic locators, and indicator status.
*Purpose:* List may help biologists with rapid wetland delineations based on species presence,
*Geographic coverage:* National.
*Taxonomic coverage:* Wetland plants.
*Status:* In development stages, may be available in 1986.
*Users:* FWS biologists, other Federal agencies.
*Contact:* Porter (Buck) Reed, Division of Biological Services, Wetlands Ecology Group, St. Petersburg, FL.
*Reference: (43).*

**9, Endangered Species Information System (ESIS)**
*Content:* Biological, ecological, and distributional information available on each federally listed threatened and endangered species that occur within the United States or its territories.
*Purpose:* System will provide a centralized source for data on listed species, and will assist in consultation, permit review, planning coordination and recovery.
*Geographic coverage:* Will be nationwide.
*Taxonomic coverage:* Plants, birds, mammals, reptiles, amphibians.
*Status:* Initial development complete. Twenty-five species are in prototype database. Data collection on currently listed species is nearing completion. Projected date for system availability is 1987 to 1988.
*Users:* FWS, other Federal agencies, States, others (initially through FWS regional offices).
*Contact:* Bill Gill, Office of Endangered Species, Ballston, VA.
*Reference: (24,26).*

**10, Candidate Species List**

*Content:* Published list of species of invertebrates, plants, and vertebrates that are or were considered formal candidates for listing as a threatened or endangered species, Candidates are considered in three categories: 1) enough data is available to initiate the listing process; 2) more data on species are needed for consideration for listing; and 3) species is presumed extinct, name given is invalid, or species was subject to formal review and found to not be endangered,

*Purpose:* In-house list for identification of candidate species and tracking their current status,

*Geographic coverage:* National.

*Taxonornic coverage:* All species.

*Status:* Plant list and vertebrate list updated and published in Federal Register in 1985. Invertebrate list is being updated currently; last published in 1982.

*Users:* FWS, other Federal agencies, State agencies, others (conservation organizations).

*Contact:* LaVerne Smith, Office of Endangered Species, Ballston, VA,

*Reference:* (15,50).

11 **Habitat Suitability Index (HSI) Models**

*Content:* The HSI models contain brief literature reviews of species-habitat requirements, and identify habitat factors important in limiting species distribution and occurrence. The models include a method of rating habitat values based on habitat variables.

*Purpose:* For use in inventory, impact assessment, and fish and wildlife planning activities,

*Geographic coverage:* National.

*Taxonomic coverage:* Selected vertebrates and invertebrates,

*Status:* Reports are published for 125 species, with additional species being added each year,

*Users:* FWS, States, other Federal agencies, others.

*Contact:* Team Leader, Western Energy and Land Use Team, Ft. Collins, CO, for publications.

*Reference: (46,59),*

*12,* **Fish and Wildlife Reference Service**

Content: Documents reports (and other technical material) from the Federal Aid in Fish and Wildlife Restoration Programs (Dingell-Johnson and Pittman-Robertson Acts), the Anadromous Fish Conservation Program, the Endangered Species Grants Program, the Cooperative Fishery and Wildlife Research Units, and State fish and wildlife agencies. The database also documents published papers, technical publications, theses, and species materials, such as endangered species recovery plans.

*Purpose:* To provide an easily searchable database that documents a significant amount of FWS and related agency fish and wildlife research results,

*Geographic coverage:* National.

*Taxonomic coverage;* All fish and wildlife species and some plant species in habitat studies; i.e., essentially all biota,

*Status:* The system is a searchable file (file 957) on the dialog system. This database is updated several times annually and it contains citations back to the 1950s. The system provides copies (paper or microfiche) on request for publications identified through on-line searching,

*Users:* Anyone with access to dialog and with permission of the FWS.

*Contact:* Ell-Piret Multer, Columbia National Fisheries Research Laboratory, Columbia, MO.

*References: (58),*

*13.* **Waterfowl Breeding Ground Surveys**

*Content:* Aerial and ground survey of waterfowl nesting areas in May and July to estimate the size of breeding populations of 10 species and to estimate production, respectively. Water areas also mapped and counted. Specific information on breeding adults, brood success, and habitat change recorded.

*Purpose:* To set annual harvest regulations.

*Geographic coverage:* Regional—focused on the Northern States and prairie pothole region.

*Taxonomic coverage:* Waterfowl.

*Status:* Annual effort. Data computerized and maintained by Migratory Bird Management office,

*Users:* FWS, States, other Federal agencies, others (private organizations, flyway councils).

*Contact:* Robert Blohm, Office of Migratory Bird Management, Patuxent Research Center, Laurel, MD,

*References: (53,64).*

14 **Woodcock Singing Ground Survey**

*Content:* Data collected from 20 stops along 1,000 survey routes.

*Purpose:* To develop an index of population size for the annual woodcock harvest and to determine regional population trends.
*Geographic coverage:* Regional—Northern States, Eastern Canada Provinces.
*Taxonornic coverage:* Birds—one species.
*Status:* Yearly survey in the spring, data computerized at Migratory Bird Management Office.
*Users:* FWS, States, others (researchers).
*Contact:* John Tautin, Office of Migratory Bird Management, Patuxent Research Center, Laurel, MD.
*References:* (20,53).

**15. Sandhill Crane Surveys**

*Content:* Annual survey of each of the recognized sandhill crane population. The midcontinent population is systematically surveyed aerially along the Platte River in the fall. Casual ground surveys also occur, and information on the population from North Dakota is available from the Bureau of Reclamation,

*The eastern population of greater sandhill cranes are surveyed on the ground in midfall in northwestern Indiana.*

*The Rocky Mountain population is surveyed on the ground in the winter in the Rio Grande Valley. In 1985, a spring survey was conducted in a Colorado valley.*

*The Imperial Valley (California) population is surveyed on the ground during the winter.*

*The Central Valley (California) population is surveyed on the ground in the winter.*

*The Pacific Flyway lesser sandhill crane population is surveyed on the ground in the Central Valley in California during the winter,*

*The federally endangered Mississippi population of greater sandhill cranes is surveyed each winter in the bottomland hardwood areas of Mississippi.*

*Purpose:* To determine population size and monitor trends in population. For some populations, data is used to set harvest limits.
*Geographic coverage:* Regional—Nebraska, Indiana, New Mexico, Texas, California, Mississippi, and vicinities.
*Taxonomic coverage:* Birds.
*Status:* Data contained in files within the States or on the refuges where the survey occurred. Office of Migratory Bird Management provides an unpublished report with raw and synthesized information each year. Data also summarized during International Crane workshop series held periodically (most recent workshop was March 1985 in Nebraska).
*Users:* FWS, Bureau of Reclamation, States, others (Audubon Society).
*Contact:* Harvey Miller, Office of Migratory Bird Management, Golden, CO.
*Reference: (34).*

*16.* **Great Lakes Commercial Catch Data Base**

*Content:* Data collection since the early 1920s on commercial fish catches in the Great Lakes from data forms submitted by States. Data include species caught, location information (lake, State), month of take, and total catch in pounds and dollar value.
*Purpose:* Data used for economic forecasting and to provide information on fish population levels.
*Geographic coverage:* Regional—Great Lakes.
*Taxonomic coverage:* Fish of commercial interest.
*Status:* Data collected and synthesized annually, computerized since 1971. Data summarized and sent to National Marine Fisheries Service for statistical analysis.
*Users:* National Marine Fisheries Service, States, others (Great Lakes Fish Commission).
*Contact:* Tony Frank, Great Lakes Fishery Laboratory, Ann Arbor, MI.
*Reference: (22).*

*17.* **Great Lakes Research Fishery Data Base**

*Content:* Data generated on Great Lakes fish population through spring and fall surveys at more or less fixed locations around the Great Lakes. Information include species, size, length frequency by species, and population distribution for commercial and forage species.
*Purpose:* To monitor fish populations.
*Geographic coverage:* Regional—Great Lakes.
*Taxonomic coverage:* Fish.
*Status:* Data gathered annually on targeted fish species and computerized. Data are published in annual reports and scientific papers.
*Users:* FWS laboratory personnel.
*Contact:* Will Hartmann, Great Lakes Fishery Laboratory, Ann Arbor, MI.
*Reference: (22).*

*18.* **FISHNET**

*Content:* Information collected on anadromous fisheries in the Columbia River Basin. Data are collected at specific locations and can be

aggregated into stem segments, by subbasin, or compiled for the entire basin. Data include total fish production, total basin runs, available habitat, and spawning information.

*Purpose:* For fishery resource management and impact mitigation.

*Geographic coverage:* Regional–Columbia River Basin (Montana, Idaho, Washington, Oregon, Canada).

Taxononic *coverage:* Anadromous fish.

*Status:* Data no longer being entered into system, since April 1985. Data included are only for chinook salmon to date. Restart for data-entry may occur during fiscal year 1986. Approximately 1,500 sets of information included, providing some data for about 1,000 stem segments.

*Users:* FWS Fishery Management personnel.

*Contact:* Wally Steuke, Office of Fisheries Management, Region 1, Portland, OR.

*Reference: (51).*

19. **Coastal and Marine Bird Data Base**

*Content:* Data consisted of migratory species within the continental United States [waterfowl, shorebirds, sea birds, and migratory birds) listed by region, State and various ecological units. Database provided some information on population estimates, feeding, breeding, and seasonal habitat requirements.

*Purpose:* To develop habitat management guidelines.

*Geographic coverage:* Regional—coastal areas.

*Taxonomic coverage:* Birds.

*Status:* Trial project; not continued.

*Users:* Currently none.

*References: [49,64),*

20. **Coastal Area Characterization Studies**

*Content:* Information on distribution, habitat association, population trends or relative abundance, and legal or protective status of selected flora and fauna in coastal areas. Data generated from literature and local, site-specific field files maintained by FWS or researchers.

*Purpose:* To identify areas where special management considerations are needed,

*Geographic coverage:* Regional—coastal and estuarine areas, Almost all of the Pacific and Gulf Coasts, about *50* percent of the Atlantic Coast (Maine, and South Carolina to Florida).

*Taxonomic coverage:* Birds, amphibians, reptiles, mammals, plants.

*Status:* Studies completed and published. No more work will be done on this project.

*Users:* FWS, other Federal agencies, States, others.

*Contact:* Harold Rienstra, Information Transfer Specialist, National Coastal Ecosystems Team, Slidell, LA, for publications.

*References: (44,64).*

21. **Coastal Ecological Inventory**

*Content:* Coastal resources of the Pacific, Atlantic and Gulf coasts. Information includes land-use designations, all important fish and wildlife species and their habitats, fish and wildlife species in need of special protection, and species use of specific coastal areas.

*Purpose:* Identify areas for management considerations for fish and wildlife.

*Geographic coverage:* Regional—Pacific, Atlantic, and Gulf coasts.

*Taxonomic coverage:* General habitat information for species of concern.

*Status:* Maps and narrative completed.

*Users:* FWS, other Federal agencies, States, others.

*Contact:* Harold Rienstra, Information Transfer Specialist, National Coastal Ecosystems Team, Slidell, LA, for publications.

*References; (44,64).*

*22,* **Coastal and Estuarine Species Profiles**

*Content:* Detailed information of selected coastal and estuarine species. Data includes food habits, distribution, habitat, and breeding information.

*Purpose:* To assist species planning and management in coastal areas,

*Geographic coverage:* Regional—coastal and estuarine areas.

*Taxonomic coverage:* Selected vertebrates and invertebrates,

*Status: 30* profiles completed, 50 more in some stage of preparation.

*Users;* FWS, States, other Federal agencies, others.

*Contact:* Team Leader, National Coastal Ecosystems Laboratory, Slidell, LA,

*Reference: (44).*

23. **Marine and Waterbird Colony Data**

*Content:* Colony nesting bird data collected and synthesized in 5-year cycles for the Atlantic, Gulf, and Pacific coasts. Data include species occurrence, relative abundance of species within the colony, and location information.

*Purpose:* To monitor bird populations,
*Geographic coverage:* Regional—coastal areas.
*Taxonoznic coverage:* Birds,
*Status:* Data are published in reports and some are available on computers at the regional offices. Atlantic survey done in 1975 to 1976 and never updated. Gulf coast was updated in the early 1980s. Pacific coast and Alaska data not updated since the 1970s.
*Users:* FWS, States,
*Contact:* Team Leader, Coastal Ecology Research Laboratory, Slidell, LA, for publications.
*Reference:* **(49),**

24, **T&E Species Sightings Data, Montana and Wyoming**
**Content:** Incidental sightings of endangered species in Wyoming and Montana: bald eagles, peregrine falcons, and grey wolves, Data include species, location, and any additional information available from confirmed sightings by field personnel or other people. Some data from midwinter bald eagle survey.
*Purpose:* Data used as baseline to evaluate potential impacts of proposed projects in Montana and Wyoming.
*Geographic Coverage:* Regional—Montana and Wyoming, and sometimes Idaho.
*Taxonomic Coverage:* Birds, mammals.
*Status:* Data entry sporadic and continuing,
*Users:* FWS personnel.
*Contact:* Wayne Brewster, Endangered Species Staff, Helena, MT.
*Reference: (12).*

25. **Plant Information Network**
*Content:* Data on species of interest and benefit to wildlife that could be used in surface mine reclamation. Species from Colorado, Wyoming, North Dakota, Utah, and New Mexico were included in system with information on value to wildlife, native county of origin, wildlife food or livestock grazing value, and water requirements,
*Purpose:* Data developed between 1977 and 1979 as a reference manual for people working with surface mine reclamation.
*Geographic coverage:* Regional–Western States.
*Taxonomic coverage:* Plants.
*Status:* System dismantled in 1982. Data available on tapes from FWS Western Energy Land Use Team in Ft. Collins, CO. Data published as FWS/OBS-83/36.
*Users:* FWS, other Federal agencies.
*Contact:* Lee Ischinger, Western Energy and Land Use Team, Office of Biological Services, Ft. Collins, CO,
*Reference: (30).*

26. **RAPTOR**
*Content:* Information on distribution, abundance, location, status, and species is collected for raptor nests within Utah, Colorado, Wyoming, and Montana, Species included are golden eagles, bald eagles, redtail hawks, ferruginous hawks, prairie falcons, and others. The system includes between 5,000 and 7,000 records of nest sitings and some habitat information where the nest was found.
*Purpose:* Data not used continuously but provide baseline information on raptor presence for project impact analysis, particularly surface mining operations.
*Geographic coverage:* Regional—Intermountain West; southeast Utah, West Colorado, parts of Montana and Wyoming.
*Taxonomic coverage;* Birds.
*Status:* System regularly updated at field offices. Regional database updated a few times each year.
*Users:* FWS, States.
*Contact:* George Bowen, Habitat Resources, Region 6, Denver, CO.
*Reference: (6).*

*27.* **Terrestrial Species Database**
*Content:* Information on bird species diversity relative to habitat type and habitat features for Powder River Basin area. Habitat maps were devised to correlate bird species diversity to habitat type.
*Purpose:* Data serve as a methodology model for regional rapid assessment of habitat quality values.
*Geographic coverage:* Regional–portions of Montana and Wyoming; Powder River Basin
*Taxonomic coverage:* Birds.
*Status:* Data generated during 1978 and 1979 Has not been updated. Data published a scientific paper and in files.
*Users:* Currently none.
*Contact;* Duane Asherin, Western Energy and Land Use Team, Office of Biological Serv ices, Ft. Collins, CO.
*Reference:* (4).

**U.S. Geological Survey**

1. **Land Use/Land Cover Data and Maps**
*Content:* Digital data on land use and land cow for development of 1:250,000 and 1:100,00

scale maps. Land categories include wetlands, barrenlands, rangelands, forest lands, tundra, etc., delineated down to a minimum map unit of 10 acres.
*Purpose:* To provide reference maps for land cover.
*Geographic coverage:* National.
*Taxonomic coverage:* Vegetation.
*Status:* Maps cover approximately 90 percent of the United States, with index of available maps updated each year.
*Users:* Federal agencies, States, others.
*Contact:* National Cartographic Information Center for maps or magnetic tapes of digital data; Midcontinent Mapping Center for maps from Midwest States; Rocky Mountain Mapping Center for maps of Rocky Mountain States; and Western Mapping Center for maps in Pacific States.
*Reference:* **(72).**

**Coastal Ecological Inventory**
*Content:* Maps include major land-use designation, important fish and wildlife species and their habitats, and locates plant and animal species in need of special attention.
*Purpose:* Maps (1:250,000 scale) compliment coastal manuals created by FWS.
*Geographic coverage:* Regional—Pacific, Atlantic, and Gulf coasts.
*Taxonomic coverage:* Plants and animals.
*Status:* Maps completed.
*Users:* Federal agencies, States, others.
*Contact:* National Cartographic Information Center, Reston, VA.
*Reference:* **(20).**

## Summary of the U.S. Department of Agriculture

Similar to the Department of the Interior, the Department of Agriculture has no single source or clearinghouse for biological information. Two agencies in the Department of Agriculture were surveyed: the Soil Conservation Service and the Forest Service. The inventories of natural resource databases prepared for the Interagency Agreement Relating to Classifications and Inventories of Natural Resources (20) provided a starting point for database identification. In addition, a recent Forest Service effort to identify databases within the agency provided additional information about this agency (8),

### Soil Conservation Service (SCS)

1. **National Resources Inventories**
*Content:* Inventories of land use and land cover, including data on vegetation, pasture and rangeland condition, riparian habitats, and fish and wildlife habitats. Data collected from permanent sample points by SCS local and State personnel. Resolution of data accurate to the State level and to the multi-county level (major land resource area) in 1977 and 1982, respectively.
*Purpose:* To monitor changes in land use and land cover, identify areas for resource conservation priorities, and other purposes,
*Geographic coverage:* National—generally non-Federal lands.
*Taxonomic coverage:* Vegetation, extrapolation about wildlife from habitat information.
*Status: 1982* survey data collected, final analysis of the data occurring now.
*Users:* National trend data available to any party. Data used by other Federal agencies, States, others (individuals and conservation groups),
*Contact:* Gary Norstrom, Resources Inventory Division, Washington, DC.
*Reference: (20,37).*

2. **National Forest-Soil Data Base**
*Content:* Information on forest tree species in relation to soil series and soil series to windbreak species, Data collected by SCS personnel in field studies.
*Purpose;* Central clearinghouse of windbreak information and source of easily retrievable data for conservation work and report generation.
*Geographic Coverage:* National—non-Federal lands.
*Taxonomic coverage;* Vegetation, trees and shrubs.
*Status:* Data entered and updated as they become available from field studies.
*Users: SCS* biologists and conservationists, other Federal agencies, States, others.
*Contact:* James McClinton, South National Technical Center, Fort Worth, TX.
*Reference: (55),*

3. **National Range Database**
*Content:* Data from range management plans and range site inventories prepared by SCS personnel, Data includes vegetation cover by

species and species abundance and potential forage production,
*Purpose:* Reference service for range conservation inventories completed and planning tool for range management.
*Geographic coverage:* National—majority of data from private lands in Southeast States and most western range States.
*Taxonomic coverage:* Range plants.
*Status:* Database in development stages. System may be accessible by the end of 1986 and will be updated approximately three to four times annually.
*Users: SCS,* other Federal agencies, others.
*Contact:* Clifford Carter, Ecological Sciences Section, South National Technical Center, Ft. Worth, TX.
*References:* ***(9,47).***

4. ***New*** **England Animal Species Data Base**
Content: Information on the distribution, habitat, feeding, and nesting substrates for about 300 terrestrial vertebrates. Data include species name, habitat type, feeding substrate, nesting substrate, and special habitat needs, if any. It has the capability for generating feeding matrices and species list by county or by State.
*Purpose:* To assess baseline resources in project impact assessment.
*Geographic coverage:* Regional–New England States.
*Taxonomic coverage:* Mammals, birds, amphibians, and reptiles,
*Status:* Data in quasi-draft form, not necessarily an authoritative source,
*Users: SCS* project staff and State biologists,
*Contact:* Alan Anman, New England Water Resources Planning Staff, Durham, NH.
*Reference: (3).*

### U.S. Forest Service (USFS)

Each of the nine Forest Service Regions maintain data files on fish and/or wildlife species and their habitats. These are known as Wildlife (and Fish) Habitat Relationships (WHR) Programs. Included in the listing for this agency are examples of the WHR Programs.

1. **Forest Inventory and Analysis**
*Content:* Inventories of forest land in the continental United States, excluding Forest Service and BLM lands. Data collected from USFS personnel with some intergovernmental support. Data are aggregated by Society of American Foresters forest-cover types.
*Purpose:* To monitor forest lands.
*Geographic coverage:* National—forest lands not managed by BLM or USFS.
*Taxonomic coverage:* Vegetation—timber and some other forest data.
*Status:* Ongoing—Data updated on lo-year cycle with some States inventoried each year. Data are automated and available at regional level.
*Users:* USFS for trend analysis, other Federal agencies, State agencies.
*Contact:* James T. Bones, Forest Resources Economics Research Staff, Washington, DC.
*References: (20,63).*

2. **Range Analysis**
*Content:* Continuous inventory of range condition on all national forest rangelands, including data on existing and potential vegetation. Data tabulated and available on maps at 1 inch:1 mile scale.
*Purpose:* To monitor range condition on national forest lands.
*Geographic coverage:* National—national forest rangelands.
*Taxonomic coverage:* Vegetation.
*Status:* Ongoing inventory procedure, data used for FSRAMIS.
*Users:* Forest Service.
*Contact:* Range Resources Staff, Rosslyn, VA.
*Reference: (47).*

3. **FSRAMIS**
*Content:* Permittee, number of animal unit months and animals, vegetation inventory, site production for each range allotment. Data on range plants generated using Range Analysis method. FSRAMIS also will include Wild Horse and Burro Territorial Plans; allotments designed similar to livestock allotments for horse and burro herds.
*Purpose:* To track allotment information.
*Geographic coverage:* National—national forest lands with livestock allotments.
*Taxonomic coverage:* Range plants.
*Status:* In development stage. Region 1 has system almost complete, regions 2 and 4 only partially completed. System will be available at each regional office and be coded by allotment.
*Users:* National forest staff.
*Contact;* Range Resources Staff, Rosslyn, VA.
*Reference: (47).*

4. **RPA Range Data**
**Content:** Data on all rangelands in the United States coordinated by the Forest Service from forest plans, from 'BLM grazing Environmental Impact Statements, and from SCS in their National Resources Inventories data. Data are aggregated at ecosystem level. Data are 75 to 80 percent accurate at the ecosystem level.
*Purpose: To* prepare summaries of range condition, trends, productivity, and potential.
*Geographic coverage:* National—all rangelands.
*Taxorromic coverage:* Range vegetation.
*Status:* Ongoing effort, with data currently being updated for the 1989 assessment.
*Users:* Federal agencies, States, others.
*Contact:* Linda Joyce, Resource Specialist, Rocky Mountain Forest and Range Experiment Station, Ft. Collins, CO.
*Reference: (47).*

5. **Research Natural Areas**
*Content:* Continuing inventory for existing and proposed Research Natural Areas, Data include timber and range vegetation types,
*Purpose:* To determine whether areas proposed for RNA status contain vegetation types not represented in the RNA system,
*Geographic coverage:* National—Forest Service RNAs in 33 States and Puerto Rico.
*Taxonornic coverage:* Vegetation.
*Status;* Continuous data-entry and system update. Data file maintained by The Nature Conservancy.
*Users:* USFS, others.
*Contact:* Russell Burns, Timber Management Research Staff, Rosslyn, VA.
*Reference:* ***(zo).***

6. **Resource Planning Act (RPA) Wildlife Data**
*Content:* Data include terrestrial and aquatic vertebrates listed **by** Forest Service Region, State, national forest, and generally by ecosystem, vegetation type, and seral stage, Data cover habitat associations and detail population estimates for consumptive-use species.
*Purpose;* Information used to identify trends in the wildlife and fish portion of the RPA assessment.
*Geographic coverage:* National—all forests, ranges, and croplands in the 1989 assessment.
*Taxonomic coverage:* !'vlammals, birds, amphibians, reptiles, and fish.
*Status:* Data currently being updated for 1989 assessment, Joint Forest Service RPA and Soil Conservation Service RCA assessment in 1989.
*Users:* USFS, SCS, other Federal agencies, States, others.
*Contact:* Thomas Hoekstra, Rocky Mountain Forest and Range Experiment Station, Forest Service, Ft. Collins, CO.
David Chalk, West National Technical Center, Soil Conservation Service, Portland, OR.
*Reference: (29).*

7, **RUN WILD**
*Content:* Data on terrestrial vertebrates and fish by county and national forest. Data include habitat association and information on legal and protected status of the species,
*Purpose:* To assist fish and wildlife management planning and impact analysis.
*Geographic coverage;* Arizona and New Mexico.
*Taxonomic coverage:* Mammals, birds, reptiles, amphibians, fish—approximatel, 1,000 species.
*Status:* Updated approximately annually. Information available on microfiche, in publications, and in computer programs,
*Users:* USFS, other Federal agencies, States, others.
*Contact:* Rick Wadleigh, Wildlife Unit, Southwestern Region, Albuquerque, NM.
*Reference: (65),*

8. **WILDHAB**
*Content;* Data on amphibians, reptiles, birds, mammals, and fishes by county, State, and national forest. Data includes habitat association, special habitat features, relative abundance, reproductive potential and performance, food habits, and legal or protective status.
*Purpose:* To assist fish and wildlife management planning and impact analysis.
*Geographic coverage:* Regional—Oregon, Washington, and northern California.
*Taxonomic coverage:* Mammals, birds, reptiles, amphibians, fish.
*Status:* Updated periodically as data become available. Data available in publications and through computer system in Ft. Collins, CO.
*Users:* USFS, State, others—system difficult to access,
*Contact:* Dick Holthausen, Fish and Wildlife Staff, Pacific Northwest Region, Portland, OR.
*Reference: (68)*

**9. Roadless Area Review and Evaluation (RARE) Phase II**

**Content:** Comprehensive inventory of national forest roadless and undeveloped areas, Data on land cover (vegetation) and wildlife species within these areas are very general. Data coded by location and physiographic region. (NOTE: Data from National Forest Management Plans generally more accurate than RARE data file,)

*Purpose:* To identify areas with potential wilderness designations.

*Geographic coverage:* Regional—national forest roadless areas.

*Taxonomic coverage:* Vegetation cursory wildlife information.

*Status;* Data still computerized but generally outdated with limited reliability. System completed in 1979 with sporadic updates and revisions.

*Users:* USFS, infrequently.

*Contact:* Land Management Planning Staff within each regional office.

*Reference; (33).*

10. **Inventory Database for Timber Management Planning**

*Content:* Data on timber resources for each of the national forests. Data updated about every 10 years and stored at each forest,

*Purpose:* To support USFS planning efforts.

*Geographic coverage:* Sub-State—national forest lands.

*Taxonomic coverage:* Vegetation—timber.

*Status:* Ongoing data collection on site-specific basis.

*Users:* USFS Planners at forest, regional, and national levels, States, others (conservation groups).

*Contact:* Forest Service planning staff on each national forest.

*Reference: (20).*

11. **Fuels Inventory**

*Content;* Site-specific inventories of fuelwood in national forests are completed on the local level. Inventories are conducted on an as-needed basis, and no consistent inventory procedures are used.

*Purpose:* To determine fire hazards and treatment needs, and for annual reports on acres treated to reduce fuel build-up.

*Geographic coverage:* Sub-State—site-specific areas in national forests.

*Taxonomic coverage:* Vegetation.

*Status:* Ongoing data collection on each forest as needed.

*Users:* Forest managers to determine timber treatments.

*Contact:* Forest Management Staff in each national forest.

*Reference: (20)*$_0$

12. **Timber Stand Analysis and Silviculture Prescription**

*Content:* Stand-specific inventories of timber supply and condition on approximately 5 million acres of forest land each year,

*Purpose:* To assist in national forest planning and monitor silviculture operations.

*Geographic coverage:* Sub-State—commercial forest stand on national forests.

*Taxonomic coverage:* Vegetation.

*Status:* Continuous inventory collection at the forest level, Some data are automated and others are available in map form.

*Users;* Forest managers, States.

*Contact:* Forest Management Staff on each national forest.

*Reference: (20).*

13. **California Wildlife Habitat Relationships (WHR) Programs**

*Content:* Data on species of amphibians, reptiles, birds, mammals by county and national forest. Species included are resident or common migrants to State, Data include habitat association, special habitat features, legal or protective status and general food, cover and reproduction needs. Habitat classification systems differ between zones. Data presented as species note (one-page summary), species distribution map, and species/habitat matrix. Data published and available in computerized form by zone. The four California zones are listed below,

*Purpose:* To assist fish and wildlife management planning and impact analysis.

*Reference: (28,32).*

a) Western Sierra WHR Program

*Geographic coverage:* Sub-State—selected national forests in California.

*Taxonomic coverage:* Birds, mammals, amphibians, and reptiles.

*Status:* System available through Ft. Collins, CO, and in published form. Data not updated since 1980.

*Users:* Forest Service, other Federal agencies, States, others.

*Contact:* William Laudenslayer, Wildlife Staff, Tahoe National Forest, Nevada City, CA.

b) North Coast Cascades WHR Program
*Geographic coverage:* Sub-State—-northwestern California National Forests,
*Taxonomic coverage:* Mammals, birds, amphibians, and reptiles,
*Status:* Data compiled, published, and computerized in 1980 and 1981. Data not updated since publication, Data also available on microcomputer (32).
*Users:* Forest Service, other Federal agencies, States, others.
*Contact:* William Laudenslayer, Wildlife Staff, Tahoe National Forest, Nevada City, CA.

c) North East Interior WHR Program
*Geographic coverage:* Sub-State—interior national forests from Lassen into Great Basin,
*Taxonomic coverage:* Mammals, birds, amphibians, and reptiles.
*Status:* Data published and computerized from 1980 through 1982. No updates have been made.
*Users:* Forest Service, other Federal agencies, States, others,
*Contact:* William Laudenslayer, Wildlife Staff, Tahoe National Forest, Nevada City, CA.

d) Southern California WHR Program
*Geographic coverage:* Sub-Sta~e—selected national forests in southern California.
*Taxonomic coverage:* Mammals, birds, amphibians, and reptiles,
*Status:* Publication in draft stage. Maps and computerization not completed. In this zone, habitat matrices will be designed differently from other California zones. The system will not have species notes.
*Users:* Forest Service, other Federal agencies, States, others.
*Contact:* William Laudenslayer, Wildlife Staff, Tahoe National Forest, Nevada City, CA,

### Summary of the U.S. Department of Commerce, National Oceangraphic and Atmospheric Administration

NOAA maintains a series of data centers within the Administration: the National Environmental Data Referral Service (NEDRES) and the National Ocean Data Center are examples. Data available from these centers include biological inventories from a variety of sources within the Administration. The following list provides examples of the kinds of data available within three different services within NOAA: the Office of Oceanography and Marine Assessment of the National Ocean Office; the National Marine Fisheries Service; and the National Oceanographic Data Center within the National Environmental Satellite, Data and Information Service.

### Office of Oceanography and Marine Assessment, National Ocean Service

**1. Marine Living Resource Database**
*Content:* Data collected and mapped on approximately 100 vertebrates and selected invertebrates found in the Exclusive Economic Zone (EEZ), Species include marine mammals, some coastal birds, fish of economic or sport value or forage value for economic species and invertebrates of economic value. Data on each species include location as juveniles and adults, qualitative information on concentration within a given area, and digitized locational data for mapping. Database also contains information on pollution discharges in coastal counties and population and economic data by coastal county.
*Purpose:* To monitor marine resources relative to human activities in EEZ.
*Geographic coverage:* Regional—coastal areas.
*Taxonomic coverage:* Mammals, birds, fish, invertebrates.
*Status:* East coast file completed in 1978 and 1979 and has not been updated. Gulf coast data compiled between 1980 and 1983 and has not been updated. Pacific data compilation just getting started, Arctic Alaska data compilation began in 1980 and is just finishing,
*Users:* Other Federal agencies, NOAA, States.
*Contact:* Tim Goodspeed, Strategic Assessment Branch, Ocean Assessment Division, Rockville, MD,
*References; (17,25).*

*2.* **National Estuarine Inventory**
*Content:* Estuarine areas throughout the coterminous United States, Much of the data cover physical parameters of estuarine areas but biological data and land use are included,
*Purpose:* Data are designed to assist in assessment of resource uses in coastal and estuarine systems. A goal of the system is to evaluate and identify marine and estuarine resource development strategies that result in maximum public benefit and minimum environmental damage,

*Geographic coverage:* Regional—coastal and estuarine areas.
*Taxonomic coverage:* Vegetation.
*Status:* Atlas in draft form with final product expected in early 1986. The database is being developed.
*Users:* NOAA, Federal agencies, States, others.
*Contact:* Strategic Assessment Branch, Ocean Assessments Division, Rockville, MD.
*Reference: (56).*

**National Marine Fisheries Service (NMFS)**

The NMFS Annual Report for 1983 to 1984 on marine mammals details 19 studies conducted on marine mammals within the four NMFS regions. Two of the inventories discussed in the Annual Report are presented here. Additionally, the National Marine Fisheries Service maintains four regional fisheries research and management centers and associated labs: The North Atlantic in Woods Hole, MA; the South Atlantic in Miami, FL; the Pacific Southwest in La Jolla, CA; and the Northwest and Alaska in Seattle, WA. Each Center maintains data files for biological resources under their jurisdiction. Included here are examples of biological databases from the Northwest and Alaska Fisheries Center.

1. **Fisheries of the United States**
*Content:* Information on commercial catch or landings by U.S. fishermen and foreign fishing vessels within the U.S. Fishery Conservation Zone.
*Purpose:* To monitor harvests and trends in fishing industry.
*Geographic coverage:* Regional—indexes of landings within the Fishery Conservation Zone.
*Taxonomic coverage:* Finfish and shellfish of economic or commercial importance.
*Status:* Data summarized in annual reports along with numerous statistics about the fishing industry and markets. The most recent report includes preliminary information for 1984, Raw data are stored in the Fisheries Statistics Office of NMFS.
*Users:* NOAA, States, others.
*Contact:* Commercial Fisheries Statistics Office, Washington, DC.
*Reference: (19).*

2 **Marine Recreational Fishery Statistics Survey**
*Content:* Data on recreational fisheries caught in marine waters. Surveys are summarized in reports that include estimates of number and weight of fish caught as well as species information collected from telephone interviews and field surveys.
*Purpose:* To monitor fishery harvests.
*Geographic coverage:* Regional—marine waters along the Atlantic, Gulf, and Pacific coast.
*Taxcmomic coverage:* Finfish of recreational importance.
*Status:* Most recent report covers fish catches and species from 1981 and 1982. Reports compiled on a time-allowed basis.
*Users:* NOAA, States.
*Contact:* Recreational Fisheries Statistics Office, Washington, DC.
*Reference: (18).*

3. **Bowhead Whale Census**
*Content:* Information on populations and location of bowhead whales in the Pacific.
*Purpose:* To develop population estimates of bowheads in the Pacific. Data used to establish takes and harvestable populations.
*Geographic coverage:* Regional—Pacific marine areas.
*Taxonomic coverage:* Bowhead whales, single species.
*Status:* Census of whale populations is ongoing.
*Users:* NMFS, Congress, others.
*Contact:* National Marine Mammal Laboratory, Settle, WA.
*Reference: (57).*

4. **Icthyoplankton Survey Database**
*Content:* Data on icthyoplankton resources from grid of stations visited approximately quarterly each year. Data collected by Soviet research vessels as well as NMFS vessels, under cooperative agreements. Approximately 200 species are surveyed.
*Purpose:* To estimate spawning biomass of commercially important fish species.
*Geographic coverage:* Regional—Pacific Ocean areas.
*Taxonomic coverage:* Fish—icthyoplankton.
*Status:* Data collection ongoing annually. From California to Washington, data have been generated and computerized for past years. Data from Alaska area available since around 1973, Data from the Bering Sea available since around 1975.
*Users:* NMFS staff.
*Contact:* Arthur Kendall, Resource Ecology and Fisheries Management Section, Alaska and Northwest Fisheries Center, Seattle, WA.
*Reference:* (16).

**5. RACE Ground Fish Database**

**Content:** Wide series of monitoring and special study inventories of biological resources within their jurisdiction, Monitoring surveys are done every 3 years in the eastern Bering Sea, Aleutian area, Gulf of Alaska, and along the Pacific coast from northern California to northern Washington. Data generated from trawling efforts, acoustic or "semi-pelagic" surveys, trapping surveys and intensive, sight specific studies (e. g., on sea mounts in Gulf of Alaska). Data grouped taxonomically and sorted by location, inventory effort, and taxa.

*Purpose:* Data create time series of change in abundance, species distribution, and age structure.

*Geographic coterage:* Regional–northwest coast of coterminous United States.

Taxonornic *co~erage:* **2,400** species and species' groups of fish, aquatic vertebrates and invertebrates.

*Status:* System computerized and interactive, Data updated continuously.

*Users:* NMFS, States, Fisheries Commissions (e.g., International Pacific Halibut Commission), private researchers.

Contact: Susan Picquelle, Data Manager, Resource Assessment and Conservation Engineering Center, Alaska and Northwest Fisheries Center, Seattle, WA.

*teferences.'* **[2,42).**

***6.*** **Northern Fur Seal Study**

**Content:** Information includes the age of fur seals harvested, the number of adult males on the rookeries and hauling grounds and number of pups and older seals that die on the rookeries and adjacent beaches. Behavioral studies also are ongoing,

*Purpose:* Studies are ongoing on potential causes of decline of northern fur seal population levels.

*Geographic coverage:* Sub-State—Pribilof Islands, mainly St, Paul and St, George.

*Taxonomic coverage:* Northern fur seal, single species data.

*Status:* Studies on behavior, breeding, and take of the northern fur seal are ongoing.

*Users.'* NOAA, States, others.

*Contact:* National Marine Mammal Laboratory, Seattle, WA.

*Reference:* **(57).**

## National Environmental Satellite, Data and Information Service

1. **National Oceanographic Data Center (NODC)**

*Content:* NODC provides a clearinghouse for physical, chemical, and biological data collected both by U.S. agencies within and outside of NOAA and data collected under international agreement. Examples of the biological data files available through NODC are listed below.

*Users:* Available to anyone; fees charged to recover operating costs.

*Contact:* NODC User Services Branch, Washington, DC.

*Reference: (36),*

a) File 002, Benthic Macrofauna

*Content:* Raw data on number of individuals and mass of organisms of macrofauna.

*Purpose:* To provide baseline information on population densities and distribution,

*Geographic coverage;* Sub-State—Mid-Atlantic and U.S. Gulf coast.

*Taxonomic coverage:* Bottom dwelling macrofauna.

*Status:* Data collected from 1975 to 1979.

b) File 009, Marine Bacteria

*Content:* Data from studies of water column and bottom in numbers per unit volume.

*Purpose:* To identify density and location of organisms.

*Geographic coverage:* Sub-State—U.S. Gulf coast.

*Taxonomic coverage:* Heterotrophic, hydrocarbonoclastic, or halophilic bacteria.

*Status:* Data collected from 1975 to 1979.

c) File 028, Phytoplankton

*Content:* Data collected on abundance, distribution, and productivity.

*Purpose:* To identify primary production in marine areas.

*Geographic coverage:* Sub-State—coastal Alaska, Puget Sound, and U.S. Gulf of Mexico.

*Taxonomic coverage:* Vegetation-phytoplankton.

*Status;* Data collected from 1960 to present.

d] File 030, Intertidal Organisms and Habitats

*Content:* Data on species abundance and distribution of organisms,

*Purpose:* To provide baseline information.

*Geographic coverage:* Sub-State—coastal Alaska.

*Taxonomic coverage:* Vegetation and aquatic animals.

*Status:* Data collected from 1974 to 1980.

e) File 033, Marine Bird Sighting, Ship / Aircraft Census

*Content:* Sightings recorded from more or less fixed transect routes.
*Purpose:* To identify population density and distribution.
Geographic *coverage:* Sub-State—coastal Alaska and North Pacific.
*Taxonomic Coverage:* Birds.
*Status:* Data collected from 1975 to 1982.

f) File 034, Marine Bird Sighting, Land Census
*Content:* Recorded sightings along fixed transects.
*Purpose;* To establish population densities, distribution, and breeding locales.
*Geographic coverage:* Sub-State—coastal Alaska.
*Taxonomic coverage:* Birds.
*Status:* Data collected from 1975 to 1980.

g) File 100, Intertidal/Subtidal Organisms and Habitats
*Content:* Population data on species with some data on individuals, such as age, sex, and measurements.
*Purpose:* To establish population densities and distributions by species.
*Geographic coverage:* Sub-State–Puget Sound.
*Taxonomic coverage:* Aquatic animals, vegetation.
*Status:* Data collected from 1974 to 1979.

h) File 123, Fish/Shellfish Surveys
*Content:* Data from mid-water and bottom tow catches on weight, volume, and number per unit volume by total catch and by species.
*Purpose:* To establish density and distribution measures.
*Geographic coverage:* Sub-State—coastal Alaska, Puget Sound, U.S. Gulf coast.
*Taxonomic coverage:* Aquatic animals–mostly commercially important fish and shellfish species.
*Status:* Data collected from 1975 to present.

i) File 124, Zooplankton
*Content:* Data from studies of marine populations and ecosystems.
*Purpose:* To establish population abundances, distributions, and productivities.
*Geographic coverage:* Sub-State—coastal Alaska, Puget Sound, and U.S. Gulf coast.
Taxonomic coverage: Aquatic animals,
*Status:* Data collected from 1975 to present.

j) File 127, Marine Animal Sighting and Census
*Content:* Data from individual, random sightings and from sightings during systematic surveys of populations and individuals.
*Purpose:* To identify population densities, distributions, activities, migratory routes, and breeding locales.
*Taxonomic coverage:* Aquatic organisms, mammals.
*Status:* Data collected from 1981 to 1982.

k) File 132, Benthic Organisms
*Content:* Data from point sampling, photographic surveys, etc., along the ocean floor.
*Purpose:* To identify abundance, distribution, and biomass of populations.
*Geographic coverage:* Sub-State—coastal Alaska, and U.S. Gulf of Mexico.
*Taxonomic coverage:* Aquatic animals, vegetation.
*Status:* Data collected from 1971 to present.

## Miscellaneous Federal Agencies

### Department of Defense

Department of Defense agencies inventory resources on military installations that are sufficient size for natural resource management applications. These inventories are embodied in resource management plans. For example, the Marine Corps has natural resource plans for 10 of its installations. These plans cover endangered species and general fish and wildlife, and 6 of the 10 installations also have timber management plans (1). Likewise, the U.S. Air Force has 131 current natural resource management plans in 44 States or U.S. territories.

All military installations maintain some form of data on threatened or endangered species that reside or migrate through the installations. In addition, the U.S. Army Corps of Engineers collects baseline biological information on projects and activities under its jurisdiction. Although the Corps of Engineers is not considered a principal source of biological data, an example of the kind of data they manage is provided below.

**Army Corps of Engineers (COE)**

1. **Benthic Resources Assessment Project**
*Content:* Technique for analyzing bottom sediments for food resources that could be available for fish. Data generation is currently underway in four COE districts.
Purpose: Based on food availability, determinations are made on capability of area to sustain fish populations.
*Geographic coverage:* Regional—Chesapeake Bay, Mississippi Sound, others.
*Taxonomic coverage:* Benthic invertebrates.
*Status:* Pilot project stage. Results from initial surveys will be published in fiscal year 1986.
*Users:* COE Districts.

Contact: Project Manager, Waterway Experiment Station, Vicksburg, MS.
*Reference: (45).*

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