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NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: 1988 - SOUTH DAKOTA

Enclosed is the National List of Plant Species That Occur In Wetlands: 1988 - South Dakota. This list replaces the version issued in 1986. Use this new list to determine the indicator status of plants for making FSA wetland determinations.

This list will be revised periodically to reflect current information on plants.

The 1986 Wetland Plant List that was issued with the previous versions of the FSA Manual, should no longer be used.

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Enclosure

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National List of Plant Species
That Occur in Wetlands: 1988
South Dakota

by

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U.S. Fish and Wildlife Service
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Soil Conservation Service

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DEDICATION

The National List of Plant Species That Occur in Wetlands: 1988 is respectfully dedicated to Neil Hotchkiss and Francis M. Uhler, who made this work possible by their contributions to wetland botany and ecology.

ACKNOWLEDGEMENTS

The development of the National List of Plant Species That Occur in Wetlands: 1988 (National List) has been the result of the collective efforts of a large number of dedicated biologists. Special recognition and thanks are extended to the many people who contributed to the successful completion of this project. The National Wetlands Inventory, especially John Montanari and Bill Wilen, provided the funding and administrative support necessary for the development of the National List and coordination of the review effort.

The other Federal agencies, especially Bill Sipple, John Meagher, and Dave Davis of the Environmental Protection Agency, Bob Pierce, Dick Macomber, and Dana Sanders of the Corps of Engineers, and Billy Teels and Carl Thomas of the Soil Conservation Service, provided much needed funding to aid development of the Annotated National Wetland Plant Species Data Base and technical support through their agency biologists' participation in the review effort.

Special recognition and appreciation is extended to Dr. Lewis Cowardin who conceived the need for the National List, supervised the compilation of the initial draft list, and provided invaluable advice and direction during the initial phase of the project.

The contribution of the authors of the almost 300 regional and State floras and regional wetland manuals used in compiling the Annotated National Wetland Plant Species Data Base is gratefully acknowledged.

The development of the National List was greatly facilitated by the dedicated staff who contributed over 50 man years to compile the Annotated National Wetland Plant Species Data Base. This data base provided a solid information base from which the National List was derived. This staff included Karen E. Amidei, James G. Armstrong, Sheryl A. Brenner, Steven I. Candileri, Mark A. Charneski, Diana Fry, Thomas B. Gunter, Lillian A. Gustafson, Iris A. Kendall, Mary E. Klee, Annie L. Kosvanec, David R. Lindsey, Stephen Mortellaro, Kent A. Moyer, Laura E. Pittman, Donald R. Richardson, Richard N. Rowse, Angela F. Salem, Deana Ulmer, Sheri A. Ulrich, Sandra M. Upchurch, Diane Wallace, Debora L. Wegner, August M. Wooten and Kevin R. Youngberg. This landmark effort to collect much of the taxonomic and ecological information about wetland plants into a textual computer data base was a protracted and extremely tedious task. It was truly a pleasure to work with such a productive and conscientious group.

A special debt is owed to the regional ecologists who so generously gave of their time and experience in reviewing the lists. Their review helped to refine the information presented for many species in the botanical manuals and in many cases provided the only and often best description of the ecology of

many plant species. The National List would not be as accurate and complete if it were not for the enormous amount of review so generously provided by the regional reviewers.

State distributions and common names provided for most species by John Kartesz from unpublished data bases have allowed the production of accurate State lists and common name assignments for almost all species. The high quality and completeness of the National List is in large part due to the data provided by John Kartesz from the Biota of North America Program.

The composition and pleasing format of the lists is largely due to the computer skills of Jill Muhlenbruck and Greg Auble of the National Ecology Research Center.

The contributions of the many National and regional review panel members is gratefully acknowledged. These biologists represented their agencies in a technically competent and thoroughly professional manner. The strength of the Regional lists and Indicator assignments is largely due to the diverse background of the review panel members and a firm desire by all to make the process work. The unswerving resolve and determination displayed by all the review panels to complete each phase of the task during the marathon regional review panel meetings was truly inspiring. Well over 200 weeks of staff time was contributed by the review panel members.

It has been a pleasure to coordinate this effort and to work so closely with so many dedicated and professional biologists. The credit and recognition for the completion of this task applies equally to all who contributed so much. As compiler, I must necessarily take the responsibility for any shortcomings in the current list and especially any errors of omission or commission in the data presented. The extensive use of the National List has made the entire effort professionally satisfying for all who have contributed.

INTRODUCTION

The National List of Plant Species That Occur in Wetlands: 1988 (National List) represents the combined efforts of many biologists over the last decade to define the wetland flora of the United States. The National List has undergone a number of revisions resulting from intensive review by regional ecologists. National, regional and State lists are being distributed to provide users with the most current information. We welcome and encourage modification and improvement of the National List. Refinement of the National List will occur continually, reflecting increased knowledge in Indicator assignments, taxonomy, and geographic distribution. We anticipate that further refinement of the National List will lead to additional infra-specific and subregional Indicator assignments. Review documents and procedures are included with the National List to aid and encourage additional review.

The U.S. Fish and Wildlife Service initially developed the National List in order to provide an appendix to the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979) to assist in the field identification of wetlands. Plant species that occur in wetlands as used in the National List are defined as species that have demonstrated an ability (presumably because of morphological and/or physiological adaptations and/or reproductive strategies) to achieve maturity and reproduce in an environment where all or portions of the soil within the root zone become, periodically or continuously, saturated or inundated during the growing season (adapted from Huffman 1981). The development of the National List changed significantly when a cooperative review effort was established by the major Federal agencies involved in wetland identification and management. The utility of the National List goes far beyond a simple catalog of wetland plants. The Fish and Wildlife Service, in cooperation with North Carolina State University, has produced a weighted average procedure for using the wetland Indicator assignments of individual species to assist in determining the probability that a community is a wetland (Wentworth and Johnson 1986). This procedure is used by the Soil Conservation Service to aid in the determination of wetlands included under the conservation provisions of the Food Security Act of 1985. The Fish and Wildlife Service, Army Corps of Engineers, Environmental Protection Agency, and Soil Conservation Service use the National List to aid in identifying wetlands falling under their various wetland program responsibilities.

DEVELOPMENT OF THE CURRENT LIST

The Fish and Wildlife Service recognized that accessory lists of hydrophytes (plant species that occur in wetlands) and hydric soils would need to be developed to apply accurately and consistently the wetland classification system in the field. The scientific names of the plant species included in the major wetland plant lists and manuals were collected and merged into a single computerized list with those species on the National List of Scientific Plant Names (U.S. Department of Agriculture 1971) that had emergent, floating, or submergent life forms. This initial list of 1,626 species, completed in March 1976, was obviously incomplete, and was especially deficient in plant species from the western United States, Alaska, the Caribbean and Hawaii. Dr. Donovan Correll, Fairchild Tropical Garden, Miami, Florida, reviewed this initial list in 1977 and suggested many additional species for inclusion. Dr. Correll's additions were combined with the initial list, and a draft list of 4,235 species was developed in 1977. This draft list, although plagued by problems of plant nomenclature and synonymy, was remarkably complete, considering the small amount of time which had been spent on its development.

Review and refinement of this draft list has continued since 1977. Initial tasks were to maintain and improve computer storage and retrieval of the draft list information, align the listed species with a national taxonomic treatment, and subdivide the species according to their fidelity to wetlands. The importance of the development of an accurate National List of Plant Species That Occur in Wetlands to the Federal community and the need to substantiate the occurrence of these plant species in wetlands from the botanical literature led the Fish and Wildlife Service to begin development of the Annotated National Wetland Plant Species Data Base. This textual data base documents the taxonomy, distribution, and ecology of each species based on a synthesis of almost 300 National and regional wetland plant and botanical manuals representing the major State and regional floras. Computer storage of the Annotated National Wetland Plant Species Data Base allowed for the efficient maintenance of the initial National List and creation of early draft regional subdivisions of the National List. Data collection for the Annotated National Wetland Plant Species Data Base for all plant species was completed in 1987, but incorporation of this information into a single data base on the National Wetlands Inventory minicomputer remains to be accomplished. The data base has been subdivided into three smaller interim data bases and is stored on a IBM microcomputer. Information on the data base and preliminary species listings or data reports from the Annotated National Wetland Plant Species Data Base can be obtained from the National Wetlands Inventory, St. Petersburg, Florida.

The Soil Conservation Service, through a contract to the Smithsonian Institution, produced a revised National List of Scientific Plant Names in 1982 (U.S. Department of Agriculture 1982.) This national treatment provided a standard nomenclature for the National List of Plant Species That Occur in Wetlands, supplied a listing of synonyms linked to the accepted names, and updated the regional distribution of each species. The Soil Conservation Service list was selected as the taxonomic standard in order to facilitate the eventual correlation of the National List of Plant Species That Occur in Wetlands with the Hydric Soils of the United States (U.S. Department of Agriculture 1987). Copies of the National List of Scientific Plant Names (1982) are available from the State offices of the Soil Conservation Service.

A wetland fidelity rating system was created during the initial development of the Annotated National Wetland Plant Species Data Base. Early coding of verbatim habitat from the botanical manuals for a wide variety of plant species indicated that an obvious separation of obligate (restricted to wetlands) and facultative (not restricted to wetlands) species could be made. Further refinement led to subdivision of the facultative category into three subcategories, with a range of percent occurrences in wetland versus nonwetland applied to each subcategory to enhance user understanding and consistent application.

The ecological information obtained from the botanical manuals during data collection for the development of the Annotated National Wetland Plant Species Data Base led to the identification and addition to the National List of many additional species for which at least one manual reported the species occurring in an obvious wetland site. The National List had increased as a result of this process to 5,244 species in 1982, 6,042 species in 1986, and presently is comprised of 6,728 plant species.

REVIEW PANELS AND REVIEW PROCESS

The desire of the Federal agencies involved in wetland identification and delineation for a Federal list of plant species that occur in wetlands led to the suggestion by the Fish and Wildlife Service that a review process be established similar to that developed to review the Hydric Soils of the United States (U.S. Department of Agriculture 1987). In early 1983, the Fish and Wildlife Service formally requested that the Army Corps of Engineers, Environmental Protection Agency, and Soil Conservation Service participate cooperatively in an interagency review and development of a National List of Plant Species That Occur in Wetlands. Each agency nominated staff wetland ecologists with a strong background in wetland botany to a National Interagency Review Panel. Two organizational meetings were held in the summer of 1983, and the responsibilities and goals of the National and Regional Interagency Review Panels and the structure of the review process were determined. The four Federal agencies

also nominated staff wetland ecologists to represent them on each of the Regional Review Panels. Selection and appointment of the Regional Interagency Review Panel representatives was completed by each agency by the spring of 1984. All four agencies have been represented on most Review Panels, with some change in agency representatives occurring through the years.

Initial organizational meetings for all the conterminous United States Regional Interagency Review Panels were held in 1984. The regional review process was discussed and review materials were developed. Potential reviewers, principally field botanists and ecologists associated with state and Federal agencies and universities were identified for each region, and the responsibility for contacting the potential regional reviewers was partitioned among the Review Panel members. Regional reviewers were contacted during the summer and fall of 1984 to determine if they could review the list and return their review comments by the winter of 1984-85. Regional reviewers were sent the most current copy of the regional list (dated September 1982) during the summer and fall of 1984. The Regional review lists contained, for many species, a tentative Indicator assignment developed from the data collected for the Annotated National Wetland Plant Species Data Base. All the Regional Review Panels met during the spring of 1985 to consider the review provided by the regional ecologists. A total of 142 ecologists and botanists from across the country initially reviewed the 1982 lists. The number of reviewers varied from 10 to 30 per region. Regional reviewers assigned a wetland Indicator to as many species as possible, based upon their field experience, using Cowardin et al. (1979) for the definition of a wetland. The Regional Interagency Review Panels examined the Indicator assignments suggested by each reviewer and any additional supporting documentation which reviewers provided. Each of the Regional Review Panel members independently synthesized the review received and developed a regional Indicator assignment for each species based upon all the regional review and information gathered about the species. The tentative Indicator assignment developed from the Annotated National Wetland Plant Species Data Base often was regarded as the equivalent of a Regional reviewer's assignment and was given the same status or weight in Review Panel deliberations. The Regional Review Panel collectively considered Indicator assignments for each species made by each agency panel member and, with each agency having one vote, attempted to achieve unanimous agreement on a Regional Indicator assignment. The plus (+) and minus (-) designations, specifying respectively a higher or lower portion of a particular Indicator frequency, were used by some Review Panels as a means of achieving interagency agreement. The number of reviewers for each species varied considerably, and each reviewer was generally given the same weight by a Review Panel. The number of reviewers commenting on individual species varied, depending on the distribution of the species across the region. Particular species ranged from 20 review comments to only a single review, and in some cases received no review. Species which received a wide range of suggested Indicators were occasionally difficult to

synthesize and blend into a single Indicator status. These species were given an NA (no agreement) assignment if the Review Panel could not reach a unanimous decision. Nonreviewed species were assigned an NI (no indicator) assignment if the Review Panel had little or no information on which to base an Indicator status.

The National Review Panel met in July 1985 to review the progress which had been made, to examine the Indicator assignments for consistency across regions, and to develop a procedure for the assignment of an Indicator to as many unassigned species as possible. National, regional, and State lists of plant species that occur in wetlands were produced in the spring of 1986, and were distributed widely.

The Regional Review Panels met during the summer and fall of 1985 to apply an Indicator assignment to as many remaining unassigned species as possible. The Review Panels principally relied on additional review received from former and new reviewers, the habitat information recorded in the Annotated National Wetland Plant Species Data Base, or examination of the habitat given in selected regional manuals if the Species Data Base information was not available, to assign a regional Indicator status. An asterisk (*) was assigned by the Regional Review Panels to Indicators derived from limited ecological information. The asterisk reflected a tentative assignment made with less confidence and data than the other Indicator assignments. For those asterisked species, usually no review was received from regional ecologists. A question mark (?) following a National Indicator denoted a tentative Indicator assignment assigned by the compiler and not confirmed by Regional Interagency Review Panel concurrence.

The National Review Panel reexamined the review process and current list in 1986 and directed the Regional Panels to complete the review of the regional lists. The Regional Review Panels met during the spring and summer of 1987 to complete the initial assignment of as many unassigned species remaining on the regional lists as possible. The Review Panels also considered species suggested for addition by reviewers. Additional Regional Indicator assignments and changes to previous assignments were made based on new review received from reviewers, ecological information from the Annotated National Wetland Plant Species Data Base or information from botanical manuals.

The task of the Regional Interagency Review Panels was to interpret and synthesize reviewer's comments and the range of habitat descriptions given for each species by the various authors of the botanical manuals into a single wetland Indicator category for their region. There was an overwhelming similarity of independent Indicator assignments made by both the reviewers based on their field experience, and the Regional Review Panel members, based on the habitat expressed in the botanical literature. This repeatability of Indicator assignments derived from a variety of ways by ecologists with a wide variety of

backgrounds confirmed that the Indicators were both reproducible and defensible. The Regional Review Panels were able to assign, with the highest degree of confidence, Indicators to those species which had been reviewed by a number of Regional reviewers and also had a large literature base. The comparability of the Indicator designations is also demonstrated by the large number of species (6,114 species, 91% of the species assigned an Indicator) that were assigned only a single Indicator or a narrow range of Indicators by the independently-functioning Regional Review Panels. An analysis of the National Indicator range shows that 483 species (7%) were assigned an NI (no indicator), and 675 species (10%) have a question mark following the Indicator. The question mark signifies a tentative assignment. An analysis of the Regional Indicators for all regions shows that an * was added to 729 Regional Indicators and an NA was assigned to 28 species. The National List of Plant Species That Occur in Wetlands: 1988 represents our progress to date and is provided both for current use and as a base for future revisions.

COMPOSITION OF THE LISTS

The National, regional, and State lists are reported in a variety of formats. All of the lists are initially arranged alphabetically by scientific name followed by a second list, also alphabetical by scientific name, of those species with infra-specific (subspecies, variety, or form) Indicator assignments. A third list, alphabetic by scientific name, provides a list of synonyms related to the equivalent accepted name shown in the alphabetical scientific name list. The State lists also contain a fourth compilation, following the synonymy report, of the species found in each State, alphabetized by common name and subdivided into 8 separate lists by life form (trees, shrubs, vines, forbs, grasses, grasslikes [sedges and rushes], ferns and allies, and aquatics).

Nomenclature and distribution follow the National List of Scientific Plant Names (1982) except as modified by State distribution data from an unpublished plant species geographic data base (Kartesz).

Epiphytic (e.g., mistletoes and some orchids) and nonrooted species (e.g., dodder) were excluded from the National List because their roots were respectively either never exposed to ground-level soil conditions or were not in existence during all or part of the plant's life span. The current National List contains only vascular plants, but a companion list of Bryophytes (mosses and liverworts) that occur in wetlands is being developed to further define the wetland flora of the United States. The Algae have also been excluded from the current list.

Listings of the members of the National and appropriate Regional Interagency Review Panels and the regional reviewers are included at the end of each list.

Not all categories listed below are displayed in each National, regional, or State report. The National alphabetical scientific name list is reported by SCI-NAME, NAT-IND, R1IND, R2IND, R3IND, R4IND, R5IND, R6IND, R7IND, R8IND, R9IND, R0IND, RAIND, RCIND, RHIND, and REGION. The National trinomial list is reported by SCI-NAME, TRINOM, R1IND, R2IND, R3IND, R4IND, R5IND, R6IND, R7IND, R8IND, R9IND, R0IND, RAIND, RCIND, RHIND, and REGION. The National, regional and State synonym lists are reported by SYNONYMY, SCI-NAME, AUTHOR, and REGION. The regional and State alphabetical scientific name lists are reported by SCI-NAME, AUTHOR, COMMON-NAME, R_IND, NAT-IND, and HABIT. The regional and State trinomial lists are reported by SCI-NAME, AUTHOR, TRINOM, R_IND, NAT-IND, and HABIT. The State alphabetical common-name lists are reported within life forms (HABIT) by COMMON-NAME, R_IND, NAT-IND, SYMBOL, SCI-NAME, and HABIT.

The information in these lists is presented in the following categories. A brief definition of the categories reported in the various lists is given below:

SCI-NAME. (Scientific Name)

The genus and species applied to the taxon by the National List of Scientific Plant Names (1982).

SYMBOL.

Symbol assigned in the National List of Scientific Plant Names (1982), consisting of the first two letters of the genus name and the first two letters of the specific epithet, with additional numbers added in numeric sequence to the four-letter symbol to break ties. Tentative plant symbols for species not in the National List of Scientific Plant Names (1982) have been created by taking the first two letters of the genus and specific epithet, adding a numeric tie breaker, if necessary, and ending with a question mark. All species have a unique symbol.

AUTHOR.

The author of the scientific name as cited by the National List of Scientific Plant Names (1982).

SYNONYMY.

Alternate scientific names applied to the species by major regional or State floras.

TRINOM. (Trinomial)

Varieties, subspecies, or forms which differ in Indicator assignment from the species.

NAT-IND. (National Range Of Indicators)

The National Indicators reflect the range of estimated probabilities (expressed as a frequency of occurrence) of a species occurring in wetland versus nonwetland across the entire distribution of the species. A frequency, for example, of 67%-99% (Facultative Wetland) means that 67%-99% of sample plots containing the species randomly selected across the range of the species would be wetland. A question mark (?) following an Indicator denotes a tentative assignment based on the botanical literature and not confirmed by regional review. When two indicators are given, they reflect the range from the lowest to the highest frequency of occurrence in wetlands across the regions in which the species is found. A positive (+) or negative (-) sign was used with the Facultative Indicator categories to more specifically define the regional frequency of occurrence in wetlands. The positive sign indicates a frequency toward the higher end of the category (more frequently found in wetlands), and a negative sign indicates a frequency toward the lower end of the category (less frequently found in wetlands).

INDICATOR CATEGORIES:

Obligate Wetland (OBL). Occur almost always (estimated probability >99%) under natural conditions in wetlands.

Facultative Wetland (FACW). Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in nonwetlands.

Facultative (FAC). Equally likely to occur in wetlands or nonwetlands (estimated probability 34%-66%).

Facultative Upland (FACU). Usually occur in nonwetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).

Obligate Upland (UPL). Occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in nonwetlands in the region specified. If a species does not occur in wetlands in any region, it is not on the National List.

R_IND. (Regional Indicator)

The estimated probability (likelihood) of a species occurring in wetlands versus nonwetlands in the region. Regional Indicators reflect the unanimous agreement of the Regional Interagency Review Panel. If a regional panel was not able to reach a unanimous decision on a species, NA (no agreement) was recorded in the regional indicator (R_IND) field. An NI (no indicator) was recorded for those species for which insufficient information was available to determine an indicator status. A nonoccurrence (NO) designation indicates that the species does not occur in that region. An asterisk (*) following a regional Indicator identifies tentative assignments based on limited information from which to determine the indicator status. In the listings for the States divided into two regions (Montana, Wyoming, and Colorado), both regional Indicators are reported.

REGION.

The distribution of the species expressed by the regional codes used in the National List of Scientific Plant Names (1982). These code numbers are displayed on the map on page 17 (Figure 1).

| <u>REGION CODE</u> | <u>REGION</u> | <u>STATE(S) IN REGION</u> |
|--------------------|----------------|--|
| 1 | Northeast | ME, NH, VT, MA, CT, RI, WV, KY, NY, PA, NJ, MD, DE, VA, OH |
| 2 | Southeast | NC, SC, GA, FL, TN, AL, MS, LA, AR |
| 3 | North Central | MO, IA, MN, MI, WI, IL, IN |
| 4 | North Plains | ND, SD, MT(Eastern), WY(Eastern) |
| 5 | Central Plains | NE, KS, CO(Eastern) |
| 6 | South Plains | TX, OK |
| 7 | Southwest | AZ, NM |
| 8 | Intermountain | NV, UT, CO(Western) |
| 9 | Northwest | WA, OR, ID, MT(Western), WY(Western) |
| 0 | California | CA |
| A | Alaska | AK |
| C | Caribbean | PR(Puerto Rico), VI(U.S. Virgin Isls.), CZ(Canal Zone), SQ(Swan Isls.) |
| H | Hawaii | HI(Hawaiian Isls.), AQ(American Samoa), GU(Guam), IQ(U.S. Misc. Pacific Isls.), MQ(Midway Isls.), TQ(Trust territories of the Pacific Isls.), WQ(Wake Isl.), YQ(Ryukyu Isls. Southern) |

COMMON-NAME.

A popular name applied to the species. Common name selection generally follows Common Names for North American Plants (Kartesz and Thieret in press), but some common names follow the current common name list maintained by the Soil Conservation Service.

HABIT.

The plant characteristics and life forms assigned to each species in the National List of Scientific Plant Names (1982) and by the Soil Conservation Service. Family names are listed alphabetically under specific life forms restricted to these families.

| <u>SYMBOL</u> | <u>CHARACTERISTIC OR LIFE FORM</u> | <u>SYMBOL</u> | <u>CHARACTERISTIC OR LIFE FORM</u> |
|---------------|--|---------------|--|
| A | = Annual | G | = Grass |
| B | = Biennial | | POACEAE |
| C | = Clubmoss | GL | = Grasslike |
| | LYCOPODIACEAE | | CYPERACEAE |
| | SELAGINELLACEAE | | JUNCACEAE |
| E | = Emergent | H | = Partly woody |
| @ | = Epiphytic | HS | = Half shrub |
| F | = Forb | H2 | = Horsetail |
| / | = Floating | | EQUISETACEAE |
| F3 | = Fern | I | = Introduced |
| | ADIANTACEAE | N | = Native |
| | ASPENIACEAE | P | = Perennial |
| | BLECHNACEAE | + | = Parasitic |
| | CYATHEACEAE | F3 | = Pepperwort |
| | DAVALLIACEAE | | MARSILEACEAE |
| | DENNSTAEDTIACEAE | Q | = Quillwort |
| | DRYOPTERIDACEAE | | ISOETACEAE |
| | GLEICHENIACEAE | S | = Shrub |
| | GRAMMITIDACEAE | - | = Saprophytic |
| | HYMENOPHYLLACEAE | Z | = Submerged |
| | LOMARIOPSIDACEAE | S | = Succulent |
| | MARATTIACEAE | T | = Tree |
| | OPHIOGLOSSACEAE | V | = Herbaceous Vine |
| | OSMUNDACEAE | W | = Waterfern |
| | PARKERIACEAE | | AZOLLACEAE |
| | POLYPODIACEAE | | SALVINIACEAE |
| | PSILOTACEAE | WV | = Woody vine |
| | PTERIDACEAE | | |
| | SCHIZAEACEAE | | |

The HABIT symbols are combined to describe the life form of the species (e.g., ANG means annual native grass, IT means introduced tree).

DIGITAL DATA BASE AVAILABILITY.

The National List of Plant Species That Occur in Wetlands is maintained in a data base on an IBM-compatible microcomputer. This data base was created to track and document the decisions made by the Regional Interagency Review Panels and to facilitate generation of National, regional and State reports. The data base is organized into 26 fixed-length and 3 variable-length fields and contains information on plant taxonomy, geography, and wetland Indicator status. Regional subdivisions of the data base will be available from the National Wetlands Inventory by midsummer 1988 in ASCII format on 5 1/4 inch floppy disks. The Regional subdivisions will be contained on from two to seven floppy disks, depending on the number of species found in each region. An announcement of the ordering procedures will be distributed widely when the data base is available in digital form.

A complete list of fieldnames for the data base containing LIST88 are given below with their width and type.

Fieldnames for LIST88

| | Type | Width | Title |
|-----|-----------|-------|-------------|
| 1. | NUMERIC | 5 | ITEM# |
| 2. | CHARACTER | 8 | SYMBOL |
| 3. | NUMERIC | 3 | FNUM |
| 4. | CHARACTER | 19 | FNAME |
| 5. | CHARACTER | 35 | SCI-NAME |
| 6. | CHARACTER | 55 | AUTHOR |
| 7. | CHARACTER | 70 | TRINOM |
| 8. | CHARACTER | 45 | COMMON-NAME |
| 9. | CHARACTER | 10 | HABIT |
| 10. | CHARACTER | 15 | NAT-IND |
| 11. | CHARACTER | 6 | R1IND |
| 12. | CHARACTER | 6 | R2IND |
| 13. | CHARACTER | 6 | R3IND |
| 14. | CHARACTER | 6 | R4IND |
| 15. | CHARACTER | 6 | R5IND |
| 16. | CHARACTER | 6 | R6IND |
| 17. | CHARACTER | 6 | R7IND |
| 18. | CHARACTER | 6 | R8IND |
| 19. | CHARACTER | 6 | R9IND |
| 20. | CHARACTER | 6 | R0IND |
| 21. | CHARACTER | 6 | RAIND |
| 22. | CHARACTER | 6 | RCIND |
| 23. | CHARACTER | 6 | RHIND |
| 24. | CHARACTER | 25 | REGION |
| 25. | CHARACTER | 5 | DATE |
| 26. | CHARACTER | 4 | FLAG |
| 27. | VARIABLE | | STATE |
| 28. | VARIABLE | | INDICATOR+ |
| 29. | VARIABLE | | SYNONYMY |

A definition of fields contained in the data base but not used in the National, regional or State hard copy reports is given below.

ITEM#. (Item Number)

A number assigned to the species record.

FNUM. (Family Number)

The family number assigned to the species in the National List of Scientific Plant Names (1982).

FNAME. (Family Name)

A family name assigned to the species. Family names follow A Synonymized Checklist of the Vascular Flora of the United States, Canada, and Greenland (Kartesz and Kartesz 1980).

DATE.

The year/month the record was entered or revised.

FLAG.

Plant classification subdivisions.

| | |
|---|---------------|
| P | Pteridophytes |
| G | Gymnosperms |
| A | Angiosperms |
| | M Monocots |
| | D Dicots |

INDICATOR+.

The additional Indicators, including drawdown assignments (DRA) and anticipated future subregional Indicator assignments. The drawdown Indicator (DRA) was applied to species (often pioneer) which characteristically invade the drier stages of wetlands (such as mud flats).

LITERATURE CITED

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish Wildl. Serv. FWS/OBS-79/31. 103 pp.
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- Kartesz, J.T. Unpublished plant species geographic data base. Biota of North America program. North Carolina Botanical Garden, Chapel Hill, NC.
- Kartesz, J.T. and J. Thieret. In press. Common names for North American plants.
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- U.S. Department of Agriculture. 1971. National list of scientific plant names. U.S. Soil Conservation Service, Lincoln, NE. 281 pp.
- U.S. Department of Agriculture. 1982. National list of scientific plant names. Vol. 1, List of plant names; Vol. 2, Synonymy. U.S. Soil Conservation Service, SCS-TP-159, Washington, D.C. Vol. 1-416pp., Vol. 2-438pp.
- U.S. Department of Agriculture. 1987. Hydric soils of the United States. Soil Conservation Service, Washington, D.C.
- Wentworth, T.R., and G.P. Johnson. 1986. Use of vegetation for the designation of wetlands. U.S. Fish Wildl. Serv., Washington D.C. 107 pp.

REVIEW PROCEDURE.

The procedure for adding, deleting, or changing the Indicator status of plant species on the National List is given below.

We welcome improvement of the National List and encourage the submission of Indicator changes to misclassified, unclassified, or unlisted species. We also encourage any additional suggestions for changes to any of the data contained in the National List, especially improved information on distribution and additional synonyms, or for improvement of the format of data presentation.

If certain species should be removed, added, or remain on the National List with a revised indicator status, gather the information to support your recommendation and submit it on the enclosed review sheet to:

Porter B. Reed, Jr.
National Wetlands Inventory
U.S. Fish & Wildlife Service
Monroe Building - Suite 101
9720 Executive Center Drive
St. Petersburg, FL 33702-2440

Proposed changes and supporting information will be presented to the appropriate Regional Review Panel for consideration. The National Review Panel will review all regional Indicator assignments for consistency and accuracy and serve as the final arbitrator for the Regional Review Panels.

The National List will be updated as changes to the current list are made, and revised editions will be printed as needed. Improvement of the National List is dependent on a strong review by knowledgeable botanists and ecologists from across the country. We sincerely appreciate your help in completing this task.

INSTRUCTIONS FOR COMPLETING THE
REVIEW SHEET FOR PLANT SPECIES THAT OCCUR IN WETLANDS

Reviewer: Your name

Address: Mailing address and phone number of reviewer

Species Symbol: The symbol given in the National List of Scientific Plant Names (1982)

Scientific Name: Genus, species, and any additional infra-specific designations as well as the author's name.

Geographic area covered by reviewer: The area of your fieldwork and experience from which your review is derived. Be as specific as possible with the regional wetland plant list area.

Action: Check appropriate line.

Indicator: Complete appropriate lines. Deleted species will not have a recommended Indicator. Added species will not have a current Indicator.

Review Comments:

This is the primary section for explaining the rationale for any regional or subregional changes, deletions, or additions to the list. Information on the specific habitats, microsites, or soils that the species occurs in should be provided. Use the back of the page if additional space is needed.

Site specific information supporting review comments:

This section is for the description of the specific community (or communities) in which the species is found and which support your review comments. Use additional sheets for more community descriptions - staple all sheets for each species together. The soils and hydrology sections are optional, but it will be very useful if you can enter this information. Provide as much information as possible on the composition of the plant communities, soils, and hydrology that contain the species of concern. Include, where possible, community composition, soils, and hydrology data on other sites, drier or wetter, that the species also occurs in which help support your suggested Indicator status. Include site-specific information with the locations well specified to identify the field sites where information has been gathered. Present quantitative data to support your change in a form that can be readily reviewed. If possible, enter the soil series and water regime as described in Cowardin et al. (1979).

REVIEW SHEET FOR PLANT SPECIES
THAT OCCUR IN WETLANDS

Reviewer _____ Address _____
Species symbol _____
Scientific name _____
Geographic area covered by reviewer _____

| <u>Action</u> | <u>Indicator</u> |
|-------------------------|-------------------|
| ___ Addition | |
| ___ Change of Indicator | Current _____ |
| ___ Deletion | Recommended _____ |

REVIEW COMMENTS.

Including physiographic setting and additional data sources - cite specific reference(s), other than standard botanical texts, if used.

Site-specific information supporting review comments.

Community composition and dominants:

Overstory

Shrub

Herbaceous

Soil

Hydrology

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(* - Former Panel Members)

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