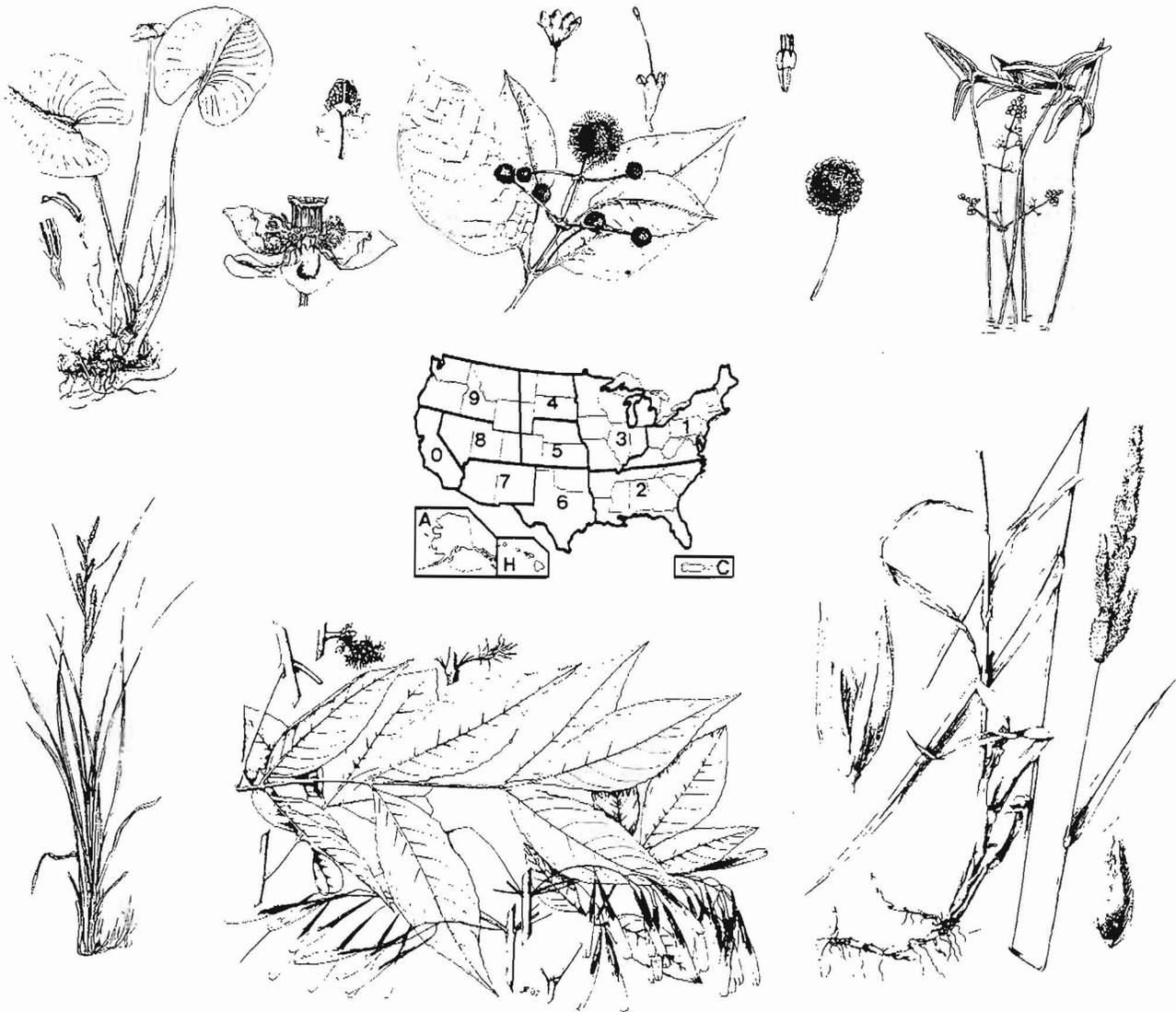


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REGIONAL LISTS OF PLANT SPECIES THAT OCCUR IN WETLANDS: DATA BASE USER'S GUIDE



Fish and Wildlife Service

In Cooperation with the National and
Regional Interagency Review Panels

U.S. Department of the Interior



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REGIONAL LISTS OF PLANT SPECIES THAT OCCUR
IN WETLANDS: DATA BASE USER'S GUIDE

by

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

Gregor T. Auble
Jill E. Muhlenbruck
U.S. Fish and Wildlife Service
National Ecology Research Center
Creekside One Building
2627 Redwing Road
Fort Collins, CO 80526-2899

and

Karen M. Mancini
TGS Technology, Inc.
P.O. Box 9076
Fort Collins, CO 80525-0800

U.S. Department of the Interior
Fish and Wildlife Service
Research and Development
Washington, DC 20240

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The Data Base List of Plant Species that Occur in Wetlands (LIST) is 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 William Wilen, provided the funding and administrative support necessary for the development of LIST and coordination of the review effort.

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The contribution of the authors of the almost 300 regional and State floras and regional wetland manuals used in compiling the Data Base is gratefully acknowledged. 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 in the botanical manuals and in many cases provided the only and often best description of the ecology of many plant species. State distributions and common names provided by John Kartesz from unpublished data bases allowed the production of accurate State lists and common name assignments for almost all species. The high quality and completeness of LIST is in large part due to the data provided by John Kartesz from the Biota of North America Program.

We especially thank the dedicated staff who compiled the LIST Data Base, including 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.

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INTRODUCTION

The Data Base List of Plant Species that Occur in Wetlands (LIST) currently contains records for 6,728 plant species. Each record provides information on nomenclature, plant characteristics and lifeforms, distribution, and frequency of occurrence in wetlands.

The List of Plant Species that Occur in Wetlands, developed to supplement the U.S. Fish and Wildlife Service's Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979), underwent an intensive review by field botanists across the country. This review was coordinated by national and regional interagency wetland plant list review panels composed of representatives from the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Soil Conservation Service, and the Environmental Protection Agency. Initial and updated versions of the Data Base List of Plant Species that Occur in Wetlands are available in hardcopy (Reed 1986, 1988). Regional lists are available as U.S. Fish and Wildlife Service Biological Report Series 88(26.1-26.13). State lists are available as National Ecology Research Center Report Series 88(18.01-18.50). The computerized data base tracks and documents indicator assignments made by regional interagency review panels and facilitates generation of reports.

This user's guide describes the format and contents of the LIST Data Base. The Data Base is available on 5-¼" floppy disks in ASCII format for use with a data base management system on an IBM PC/XT/AT compatible computer. The LIST Data Base was developed using the QUICKTEXT Data Base Management System (Osborn and Strong 1984). Use of QUICKTEXT with the LIST Data Base is strongly recommended. Instructions for loading LIST into QUICKTEXT are included in this user's guide. Other data base management systems capable of handling variable length fields can be used by individuals familiar with these software packages.

LIST distribution disks are available for 13 regions (Table 1). QUICKTEXT (course QT100--Data Base Management Techniques) and regional subsets of the LIST Data Base (distributed as self-tutorial courses, Table 1) are available through the Office of Conference Services, Colorado State University:

Henrietta Cullinane
Colorado State University
Office of Conference Services
Rockwell Hall
Fort Collins, CO 80523-0001

(303) 491-7767

Table 1. Regional subdivisions of the LIST Data Base.

Region (code)	State(s) in region	Number of plant species	CSU course order number
Northeast (1)	ME, NH, VT, MA, CT, RI, WV, KY, NY, PA, NJ, MD, DE, VA, OH	2,869	WE 101.1
Southeast (2)	NC, SC, GA, FL, TN, AL, MS, LA, AR	3,326	WE 101.2
North Central (3)	MO, IA, MN, MI, WI, IL, IN	2,357	WE 101.3
North Plains (4)	ND, SD, MT (Eastern), WY (Eastern)	1,200	WE 101.4
Central Plains (5)	NE, KS, CO (Eastern)	1,523	WE 101.5
South Plains (6)	TX, OK	2,256	WE 101.6
Southwest (7)	AZ, NM	1,429	WE 101.7
Intermountain (8)	NV, UT, CO (Western)	1,629	WE 101.8
Northwest (9)	WA, OR, ID, MT (Western), WY (Western)	2,073	WE 101.9
California (0)	CA	1,933	WE 101.10
Alaska (A)	AK	1,037	WE 101.11
Caribbean (C)	PR (Puerto Rico), VI (U.S. Virgin Islands), CZ (Canal Zone), SQ (Swan Islands)	895	WE 101.12
Hawaii (H)	HI (Hawaiian Islands) and Pacific Trust Territories	1,043	WE 101.13

Questions concerning structure and content of the LIST Data Base should be directed to:

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

(813) 893-3867 or FTS 826-3867

DATA BASE FORMAT

Each record in the LIST Data Base contains values for 25 fields (Table 2). Some fields may contain multiple values for a given record. Multiple values are separated by commas. Each line is limited to 70 characters. Letters in fields are all upper case. Multiple line fields terminate with a line containing "\$" in the first position. A line containing "\$\$" in the first and second position designates the end of last field and the end of the record (Table 3). Note that if a field is blank, the name of the field appears in the record (e.g., Field 6 in Table 3).

DESCRIPTION OF FIELDS

SYMBOL

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

FNUM

Family number assigned to the species in the NLSPN.

FNAME

Family name assigned to the species.

Table 2. Fields in the LIST Data Base.

Field	Name	Possible multiple entries	Length (limit)
1	SYMBOL	No	Single line
2	FNUM	No	Single line
3	FNAME	No	Single line
4	SCI-NAME	No	Single line
5	AUTHOR	No	Single line
6	TRINOM	Yes	Single line
7	COMMON-NAME	Yes	Single line
8	HABIT	No	Single line
9	NAT-IND	Yes	Single line
10	R1IND	No	Single line
11	R2IND	No	Single line
12	R3IND	No	Single line
13	R4IND	No	Single line
14	R5IND	No	Single line
15	R6IND	No	Single line
16	R7IND	No	Single line
17	R8IND	No	Single line
18	R9IND	No	Single line
19	ROIND	No	Single line
20	RAIND	No	Single line
21	RCIND	No	Single line
22	RHIND	No	Single line
23	REGION	Yes	Single line
24	STATE	Yes	Multiple lines
25	SYNONYMY	Yes	Multiple lines

SCI-NAME

Genus and species applied to the taxon in the NLSPN.

AUTHOR

Author of the scientific name as cited by the NLSPN.

Table 3. A sample record in the LIST Data Base and corresponding field numbers.

Field	Sample
1	DISP
2	036
3	POACEAE
4	DISTICHLIS SPICATA
5	(L.) GREENE
6	TRINOM
7	SALTGRASS
8	PNG
9	FACW, FACW+
10	FACW+
11	FACW+
12	FACW
13	FACW
14	FACW
15	FACW+
16	FACW
17	FACW+
18	FACW
19	FACW
20	NO
21	NR
22	NO
23	1,2,3,4,5,6,7,8,9,0,C
24	FL, TX, CA, OR, LA, MS, AL, GA, SC, NC, VA, MD, DE, NJ, ME, MA, RI, CT, MO, WA, ID, MT, WY, NV, UT, AZ, NM, OK, CO, KS, NE, SD, ND, MN, IA, BQ, AR, NY, IL
	\$
25	DISTICHLIS STRICTA
	\$\$

TRINOM

Varieties or subspecies that differ in indicator assignment from the species.

COMMON-NAME

Popular name applied to the species.

HABIT

Plant characteristics and life form assigned to each species in the NLSPN.

"HABIT" symbols used by the NLSPN:

A	= Annual	N	= Native
B	= Biennial	P	= Perennial
C	= Clubmoss	+	= Parasitic
E	= Emergent	P3	= Pepperwort
@	= Epiphytic	Q	= Quillwort
F	= Forb	S	= Shrub
/	= Floating	-	= Saprophytic
F3	= Fern	Z	= Submerged
G	= Grass	\$	= Succulent
GL	= Grasslike	T	= Tree
H	= Partly woody	V	= Herbaceous vine
HS	= Half shrub	W	= Water fern
H2	= Horsetail	WV	= Woody vine
I	= Introduced		

HABIT symbols are combined to describe the species (e.g., ANG means annual native grass, PIT means perennial introduced tree).

NAT-IND

Frequency of occurrence in wetlands versus nonwetlands 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 the indicator denotes a tentative assignment based upon 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 (-) symbol is used with the Facultative Indicator categories to define the regional frequency of occurrence in wetlands more specifically. A 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).

Obligate (OBL)

Always found in wetlands under natural (not planted) conditions (frequency greater than 99%), but may persist in nonwetlands if planted there by man or in wetlands that have been drained, filled, or otherwise transformed into nonwetlands.

Facultative Wetland (FACW)

Usually found in wetlands (67%-99% frequency), but occasionally found in nonwetlands.

Facultative (FAC)

Sometimes found in wetlands (34%-66% frequency), but also occurs in nonwetlands.

Facultative Upland (FACU)

Seldom found in wetlands (1%-33% frequency) and usually occurs in nonwetlands.

Nonwetland (UPL)

May occur in wetlands in another region, but not found (<1% frequency) in wetlands in the region specified. If a species does not occur in wetlands in any region, it is not on the list.

R_IND

These 13 fields (e.g., R4IND for Region 4) list the frequency of occurrence in wetlands versus nonwetlands for each region (Table 4). 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 that have not received any regional review. A NO designates that the species does not occur in a particular region.

REGION

Distribution of the species expressed by the regional codes used in the NLSPN (Table 4).

STATE

Distribution by State and possession (using Table 4 two-letter codes) determined from regional or State botanical manual range descriptions.

SYNONYMY

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

Table 4. Regional codes used in the LIST Data Base.

Code	Region	States or possessions
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	BQ(U.S. Miscellaneous Caribbean Islands), PR(Puerto Rico),SQ(Swan Islands),CZ(Canal Zone), VI(U.S. Virgin Islands)
H	Hawaii	HI,AQ(American Samoa),GU(Guam),JQ(Johnston Atoll),MQ(Midway Islands),YQ(Ryukyu Islands Southern),TQ(Trust Territories of the Pacific Islands),IQ(U.S. Miscellaneous Pacific Islands),WQ(Wake Island)

GENERAL INSTALLATION

The LIST Data Base distribution is for an IBM PC/XT/AT compatible machine running the equivalent of MS-DOS 2.0 or higher. A 360-kbyte, 5-¼" floppy disk drive is required. Storage requirements to operate an entire regional data set vary from 2 to 5.2 megabytes.

Assuming that installation will be done by reading the distribution disks in the "A:" drive and installing the Data Base into a LIST subdirectory on the "C:" drive, and that the prompt is in the current drive and directory and that the user begins in the root, follow the steps below. (Type the underlined commands.)

1. Insert the Distribution Disk into drive A
2. Make "C:\\" the current drive and directory
3. C:\>MD LIST + hit carriage return (CR)

4. C:\>CD LIST (CR)
5. C:\LIST>COPY A:*.* C:\LIST (CR)

To expand the compressed file, complete the following steps:

6. C:\LIST>REG# (CR)
7. C:\LIST>ERASE REG#.EXE (CR)

(See Table 1 for Region Code; # = number or letter in parenthesis, e.g., Northeast Region = REG1. See Table 3 for a sample record of the structure produced by this operation.)

CREATING A QUICKTEXT DATA BASE

After completing the general installation procedures above, follow the instructions below.

Insert the QUICKTEXT Header Disk in Drive A and type the underlined commands.

1. C:\LIST>COPY A:\REG#HEAD C:\LIST (CR)
2. C:\LIST>COPY C:\LIST\REG#HEAD+REG# LIST (CR)
3. C:\LIST>ERASE REG#HEAD (CR)
4. C:\LIST>ERASE REG# (CR)

Assuming QUICKTEXT resides in C:\QT, you will need to change to that directory.

5. C:\LIST>CD C:\QT (CR)
6. C:\QT>QT (CR)

When prompted for the desired data base to be opened, respond with:

7. HELP (CR)

When prompted for the desired directory pathname to change the current directory to, respond with:

8. C:\QT (CR)

A QUICKTEXT menu will appear on the screen. You are now in the HELP data base.

Now you need to run an expansion from the HELP data base to change defaults.

9. Enter a 2 for REBUILD (CR)
10. Enter an 8 for Variable File Expansion (CR)
11. Enter a 4 for 80 MEGABYTES (CR)

Now you are ready to create your QUICKTEXT Data Base.

12. Select a 1 for CREATE (CR)
13. Select a 2 for an ASCII disk file containing output from the MANAGE commands FORMAT and EXPORT or REPORT
14. When prompted for disk file that has MANAGE data to be converted, type LIST (CR)
15. When prompted for directory pathname that this file is on, type C:\LIST (CR)
16. When prompted for directory pathname to place REG# on, type C:\LIST (CR)
17. When the QUICKTEXT menu reappears, select a 44 for Bye, then a YES for Do you really want to return to MS-DOS? (CR)

Creation of the LIST QUICKTEXT Data Base is now complete.

The file named LIST in the C:\LIST directory can now be deleted. To do this complete steps 18 and 19.

18. C:\QT>CD C:\LIST (CR)
19. C:/LIST>ERASE LIST (CR)

To reenter the newly created data base:

20. C:\LIST>CD C:\QT (CR)
21. C:/QT>QT (CR)

When prompted for the desired data base to be opened, respond with:

22. REG# (CR)

When prompted for the desired directory pathname to change the current directory to, respond with:

23. C:\LIST (CR)

The QUICKTEXT menu will appear.

For future access purposes:

The name of the data base is: REG#
The name of the directory pathname is: C:\LIST

If you would like to change the name of the data base, see your MS-DOS users manual for instructions. The user's manual that accompanies the QUICKTEXT program includes instructions on how to select report, order, etc., records from the data base.

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