

APPENDIX B

PLANT MATERIALS FOR BENEFICIAL USE SITES

B-1. General.

a. This appendix contains two tables of plant species recommended for planting on dredged material beneficial use sites. The upland plant species table (Table B-1) is 32 pages long and contains detailed information on propagation and planting of 359 native and cultivated species. These upland plants are suitable for habitat development (the listing was developed for that purpose), parks and recreational sites, livestock pastures, natural areas, rights-of-way, confined disposal dikes and levees, reservoir projects, landfill sites, strip mine reclamation, and other beneficial use sites in need of vegetative cover. The marsh plant species table (Table B-2) is 10 pages long and contains detailed information on propagation and planting of 105 individual species and groups of species suitable for use in marshes and habitat development wetland sites. No distinction has been made in salinity of pH tolerances or soil requirements of the plants. Both of these tables were taken from item 39, and that paper should be referred to for more specific information on these plant materials.

b. There are numerous Federal, state, and private sources of native plant materials, including the following:

U.S. Soil Conservation Service Plant Material Centers
U.S. Forest Service Tree Nurseries
U.S. Forest Service National Forests
State Agriculture Experiment Station at Land Grant Colleges in each state
State Forests
State Departments of Natural Resources
State Game and Fish Commissions
State Departments of Agriculture

Soil Conservation Service and Forest Service information and reports may be obtained by writing to the U.S. Department of Agriculture, Washington, DC 20250.

Table B-1
Selected Upland Plant Species for Habitat Development on Dredged Material Sites (Item 39)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods*	Temporary Storage Requirements**	Planting Periods*	Nature Range†	Nature Height	Growth Habits	Remarks
Grasses								
American beachgrass ^{1,2,3}	Transplants	Oct-Mar	In wet sand beds or in pots of sand	Feb-May	MA, NE, GL	To 5 ft	Perennial cool season grass with stiff stems, full sun	Tolerates saline con- ditions, beach and dune areas, excellent for sandy beach and dune areas
American dunegrass ^{1,3}	Transplants	Sep-Mar	In wet sand beds or in pots of sand	Mar-Jun	NE, RNW	To 5 ft	Strong, erect fast grow- ing, full sun	Prefers sand areas, good soil stabilizer
Bahia grass ^{1,3}	Seeds	Jul-Sep	Dry, cool area	Mar-Jun	SE, MA, FL, MS	To 6 in.	Summer perennial, creep- ing base with upright stems, full sun	Cultivated for pas- ture, good cover, wide range of soils
Barley ^{1,2,3}	Seeds	May-Jul	Dry, cool area	Oct-Nov	Entire U.S.	To 4 ft	Annual winter cover crop grass, full sun	Extensively culti- vated for cover and grain, requires good soil bed
Barnyard grass ^{1,3}	Seeds	Jun-Sep	Dry, cool area	May-Sep	Entire U.S. except FL	To 6 ft	Annual grass, arching heads, full sun	Prefers moist soils, cultivated for water- fowl food
Beach panic grass ¹	Transplants	Sep-Mar	In wet sand beds or pots of sand	Mar-Jun	MA, SE, FL, MS	To 4 ft	Perennial, few flowered, full sun	Prefers sandy soil
Beaked panic grass ¹	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	MA, SE, FL, MS, MRV, SP, HP	To 6 ft	Perennial, hardy, fast growing, full sun	Prefers moist sandy soil
Big bluestem ^{1,3}	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	Entire U.S. except PNW, CA	To 6 ft	Perennial, robust, tufted, dense sod, full sun	Important forage
Brome grass ^{1,3}	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	Entire U.S. except SE, FL, MS, SP	To 6 ft	Perennial, creeping rhiz- omes, erect stems, dense sod, full sun	Important forage
Bromesedge ¹	Seeds	Sep-Oct	Dry, cool area	May-Sep	Entire eastern U.S. and CA	To 3 ft	Perennial, dense culm, upright stems, full sun	Pest plant in pas- tures and crops, grows under moist soil conditions

(Continued)

- * Numbers given after species names indicate the following information:
- 1-Known to occur on dredged material.
- 2-Planted on dredged material sites.
- 3-Known to be available commercially or from state and Federal nurseries.

** Collection periods, storage requirements and planting periods are only for best propagules. Many of these species may be handled in other ways for other propagule types not portrayed in this table.

† SE = southeast; MS = midouth, SP = south plains; NP = north plains; NE = northeast, MA = mid Atlantic; PNW = Pacific northwest; SW = southwest;
FL = Florida; GL = Great Lakes; MRV = Mississippi River Valley; CA = California;

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods		Range	Mature Height	Growth Habits	Remarks
				Mar-Jul	SE, MA, MS, FL To 9 in.				
Browntop millet ³	Seeds	Sep-Nov	Dry, cool area	Mar-Jun	MA, SE, FL, MS To 6 ft	Summer annual, erect stems; good seed producer, full sun	Summer annual, erect stems; good seed producer, full sun	Stout summer annual, fast growing, spreading, full sun	Prefers wet soils, excellent waterfowl food, no soil preparation necessary in many cases
Bull paspalum ¹	Seeds	Jul-Oct	Dry, cold root	Mar-Jun	MA, SE, FL, MS To 6 ft	Stout summer annual, fast growing, spreading, full sun	Prefers moist soils, good seed producer	Erect dense, fast growing, full sun	Prefers moist soils
Bushy beardgrass ¹	Seeds	Aug-Oct	Dry, cool area	Apr-Jun	NE, MA, SE, FL, MS, SP, SW, CA To 6 ft	Perennial, fast growing, sterile, full sun	Perennial, fast growing, sterile, full sun	Vigorous new hybrid Bermuda, pasture use	
Calley Bermuda grass ³	Transplants, rootstock	Year-round	In soil beds	Mar-Jun	SE, MS, SP, FL To 6 in.	Perennial, fast growing, sterile, full sun	Perennial, fast growing, sterile, full sun	Planted extensively in southern pastures for grazing and hay, tolerates salt spray	
Coastal Bermuda grass ³	Transplants, rootstock	Year-round	In soil beds	Mar-Jun	SE, MA, FL, SP, MS To 6 in.	Perennial, fast growing, sterile, full sun	Perennial, fast growing, sterile, full sun	Planted extensively in southern pastures for grazing and hay, tolerates salt spray	
Common Bermuda grass ^{1,3}	Seeds	Jun-Sep	Dry, cool area	Apr-Jun	Entire U.S., except MW, PNW, NP, NE To 2-4 in.	Perennial, fast growing, abundant seeds, full sun	Perennial, fast growing, abundant seeds, full sun	Pasture crop, lawns, pest in cultivated areas, tolerates wide range of conditions	Pasture crop, lawns, pest in cultivated areas, tolerates wide range of conditions
Common reed ¹	Rootstock, rhizomes	Sep-Mar	In sand beds or pots of sand	Feb-Jun	GL, NE, MA, SE, FL, MS, SP To 12 ft	Perennial, fast growing persistent, full sun	Perennial, fast growing persistent, full sun	Perennial plant in many areas; not recommended for any use other than soil stabilization	Perennial plant in many areas; not recommended for any use other than soil stabilization
Corn ^{1,2,3}	Seeds	Jul-Oct	Dry, cool area	Mar-Jun	Entire U.S. Year-round (HS, FL) Apr-May (north) MA, SP SW	To 9-10 ft	Summer annual, upright heavy seed producer, full sun	Cultivated extensively for grain, silage, and human consumption	Cultivated extensively for grain, silage, and human consumption
Dallis grass ^{1,3}	Seeds	Jun-Sep	Dry, cool area	Year-round	SE, MS, FL, MA, SP SW	To 5 ft	Dense perennial, full sun	Cultivated pasture grass	Cultivated pasture grass
Deertongue ¹	Seeds	Aug-Oct	Dry, cool area	Oct-Nov; Mar-Apr	NE, MA, SE, HS, MP NP, MRV To 5 ft	Warm season, full sun, dense clumps	Warm season, full sun, dense clumps	Tolerates acid soils, seeds have strong dormancy	Tolerates acid soils, seeds have strong dormancy
European beachgrass ^{1,3}	Transplants	Oct-Mar	Hold in wet sand beds or in sand pots	Feb-May	PNW, CA To 5 ft	Perennial, cool season grass, rigid stems, full sun	Perennial, cool season grass, rigid stems, full sun	Tolerates saline conditions, excellent for sand beach and dune areas	Tolerates saline conditions, excellent for sand beach and dune areas

(Continued)
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Table B-1 (Continued)

<u>Species (Alphabetized by Common Name)</u>	<u>Best Propagule Type</u>	<u>Collection Periods</u>	<u>Temporary Storage Requirements</u>	<u>Planting Periods</u>	<u>Name</u>	<u>Nature Height</u>	<u>Growth Habits</u>	<u>Remarks</u>
<u>Grasses (Continued)</u>								
Fall panic grass ¹	Seeds	Sep-Nov	Dry cool area	Feb-Jun	Entire U.S., NP, PNW	To 3 ft	Coarse, summer annual, fast growing, good seed producer, full sun	Tolerates wide range of soil conditions including wet areas, considered crop pest plant
Foxtail millet ³	Seeds	Jun-Sep	Dry, cool area	Apr-Jul	Entire U.S. except MA, FL, SP	To 6 ft	Summer annual, upright, fast growth, full sun	Cultivated extensively for grain and silage, prefers moist soils
Goose grass ¹	Seeds	Jun-Sep	Dry, cool area	Apr-Jul	Entire U.S., except NP, PNW	To 6 in.	Small culmed perennial, heavy seed producer, full sun	Pest plant in culti- vated areas, grows in most soil conditions
Green bristlegrass ¹	Seeds	Jul-Oct	Dry, cool area	Apr-Jul	Entire U.S.	To 3 ft	Vigorous summer annual, clumped, full sun	Occurs in many soils, pest in crops, not palatable to browsers
Italian ryegrass ¹	Seeds	May-Jul	Dry, cool area	Oct-Nov	Eastern U.S., and SP, NP, PNW, CA	To 3 ft	Perennial in south, in north, hardy, forms dense root system, full sun	Cultivated for winter grazing, quick winter cover, and lawns
Japanese millet ³	Seeds	Jun-Sep	Dry, cool area	Apr-Sep	Entire U.S. except FL	To 5 ft	Tall heavy annual, abundant seeds, full sun	Occurs in all soils, grown for waterfowl and cattle feed, is salt tolerant to some extent
Johnson grass ^{1,3}	Seeds	Jul-Oct	Dry, cool area	Apr-Sep	Entire U.S., except NP, MA, PNW	To 5 ft	Hardy, fast growing, erect, strong seed pro- ducer, full sun	Planted for pastures and hay, pest plant in cultivated areas
Jungle rice ¹	Seeds	Jun-Sep	Dry, cool area	May-Sep	Entire U.S., except NP, PW	To 3-4 in.	Perennial, prostrate to erect, full sun	Good seed producer, prefers wet to moist soils
Large crabgrass ¹	Seeds	Jun-Sep	Dry, cool area	Apr-Sep	Entire U.S. except NP	To 1 ft	Creeping annual fast growing, full sun	Occurs in all soils, pest in cultivated areas, immune to herbicides
Little hairgrass ¹	Seeds	Jun-Aug	Dry, cool area	Apr-Jun	MA, PNW, CA	To 10 in.	Annual, tufted culms, full sun	Prefers sand, dry coastal soils
Oats ³	Seeds	May-Jun	Dry, cool area	Sep-Oct	Entire U.S.	To 3 ft	Cool season annual, gronomic cereal crop, full sun	Occurs in almost all soil conditions, needs well-prepared seed bed

Table 8-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagation Periods	Collection Type	Temporary Storage Requirements	Planting Periods		Range	Mature Height	Growth Habit	Remarks
				Mar-Sep	Entire U.S.				
Grasses (Continued) <i>Orchardgrass</i> ^{1,3}	Seeds	Jun-Aug	Dry, cool area	Mar-Jun	Eastern and mid-U.S.	To 4 ft	Clumped, perennial hardy, full sun to shade	Prefers well-drained soils and does well in many soils, cultivated for grazing, hay, and silage.	
<i>Panic grass</i> ¹	Seeds	Jun-Aug	Dry, cool area	Mar-Jun	Eastern and mid-U.S.	To 4 ft	Dense clumped perennial, strong rhizomes, full sun	Prefers moist sandy soil	
<i>Pearl millet</i> ³	Seeds	Sep-Oct	Dry, cool area	Mar-Jun	WA, SE, SP, SW	To 6 ft	Robust, summer annual, heavy seed producer, full sun	Cultivated for grain and silage, prefers moist soil but tolerates drought	
<i>Perennial ryegrass</i> ^{1,3}	Seeds	May-Jul	Dry, cool area	Sep-Nov	SE, MS, SP, FL	To 3 ft	Hardy, dense root system, full sun	Good winter cover, good winter wildlife food and cattle forage in the south	
<i>Prairie cordgrass</i> ^{1,2,3}	Seeds	Jul-Oct	Dry, cool area	Apr-Jun	Entire U.S. except SE, FL, MS, GA	To 9 ft	Tall perennial, full sun	Occurs in wet, coastal areas	
<i>Proso millet</i> ³	Seeds	Sep-Oct	Dry, cool area	Mar-Jun	WA, SP	To 4 ft	Summer annual, erect stems, full sun	Produces seeds in 6 months after planting, good food value, cultivated for grain	
<i>Quackgrass</i> ¹	Rootstock	Sep-Mar	In sand beds or pots of sand	Mar-Jun	Entire U.S.	To 4 ft	Perennial, long running root stock, hardy, full sun	Pest plant, exotic	
<i>Red fescue</i> ^{1,3}	Seeds	May-Aug (north)	Dry, cool area	Mar-May (north)	Entire U.S. except FL, SP, MS, SE	To 3 ft	Hardy robust creeping grass forms a dense sod, shade, to full sun	Cultivated extensively in mixed stands for pastures, lawns, and rights-of-ways	
<i>Redtop</i> ^{1,3}	Seeds	Aug-Oct	Dry, cool area	Apr-Jun	Entire U.S.	To 3 ft	Tall hardy, stoloniferous, full sun	Cultivated for silage, hay, and grazing	
<i>Red canary grass</i> ^{1,3}	Seeds	Jun-Aug	Dry, cool area	Mar-Jun	Entire U.S.	To 6 ft	Summer perennial, robust, fast growth, full sun	Prefers moist soil, but grows anywhere, cultivated on savage areas and for pastures, good seed producer	

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits		Remarks
							Perennials	Annuals	
Grazes (Continued)									
Rescue grass ^{1,3}	Seeds	Jul-Oct	Dry, cool area	Apr-Jun	SE, MA, CA, SW	To 3 ft	Robust, summer perennials, full sun	Cultivated in south as forage	
Rice cutgrass ¹	Seeds	Aug-Oct	Dry, cool area	Apr-Jul	Entire U.S.	To 4 ft	Dense culms, perennial, much branched, shade to full sun	Prefers moist and wet soils	
Rye ³	Seeds	May-Jul	Dry, cool area	Sep-Nov (south) Apr-May (north)	Entire U.S.	To 3 ft	Hardy cool season annual, high speed producer, full sun	Cultivated extensively for grain, cover, and green forage crops, especially in north	
Saltgrass ^{1,2,3}	Transplants, seeds	Sep-May Jul-Sep	In wet sand beds or in pots of sand	Mar-Jun	Entire U.S. in saline areas except PNW, CA	To 1 ft	Dense perennial, hardy, many rhizomes, good seed producer, full sun	Prefers moist, coastal areas, occurs in salt marshes and on sand dunes	
Saltmeadow cordgrass ^{1,2,3}	Transplants, seedlings	Year-round (south) Mar-Oct (north)	In wet sand beds or in sand pots	Feb-Jun	NE, MA, SE, FL, MS, SP	To 3 ft	Densely rooted, summer perennial, spreads best from tillers	Occurs in flooded saline areas to dry sand dunes, and is successfully planted on dredged material	
Sand dropseed ¹	Seeds	Sep-Oct	Dry, cool area	Apr-Jul	Entire U.S.	To 3 ft	Erect perennial, slow growing, full sun	Prefers sandy soils, grows on prairie areas	
Sea oats ^{1,2,3}	Transplants, seeds	Sep-Mar (trans) Aug-Oct (seeds)	In wet sand beds	Mar-Jun	MA, SE, FL MS	To 6 ft	Robust perennial, dense roots, full sun	Prefers sandy, coastal areas, excellent dune stabilizer, tolerates salt spray	
Seashore bluegrass ¹	Transplants	Sep-Mar	In wet sand beds or pots of sand	Mar-Jun	PNW, CA	To 1 ft	Creeping rhizome perennial with upright culms, full sun	Prefers coastal sand dunes	
Seashore paspalum ¹	Transplants	Sep-Mar	In wet sand beds or in sand pots	Sep-Jun	SE, FL, MS	To 1 ft	Dense perennial, fast growing, full sun	Tolerates flooding and salt spray, occurs on dredged material islands in dense stands	
Shoreline panic grass ¹	Seeds	Sep-Oct	Dry, cool area	Mar-May	NE, MA, FL, MS, SP	To 6 ft	Upright, coarse, perennial, fast growing, full sun	Prefers sandy beach soils, tolerates salt spray, occurs on dredged material islands	

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Period	Temporary Storage Requirements	Planting Periods	Range	Nature Height	Growth Habits	Remarks
<u>Grasses (Continued)</u>								
Sixweeks fescue ^{1,2}	Seeds	May-Jun	Dry, cool area	Mar-May	Entire U.S.	To 1 ft	Annual, fast seed producer, full sun or shade	Cultivated as forage and hay crops
Smooth crabgrass ¹	Seeds	Jun-Sep	Dry, cool area	Apr-Sep	Entire U.S. except SW	To 1 ft	Creeping, fast growing, annual, full sun	Occurs in many soil types, a pest in cultivated fields and gardens
Sorghum ³	Seeds	Jul-Oct	Dry, cool area	Apr-Sep	Entire U.S.	To 6 ft	Upright, summer annual, heavy seed producer, full sun	Cultivated extensively as grain and silage crop, tolerates wide range of soils
Sudan grass ³	Seeds	Jul-Oct	Dry, cool area	Apr-Jul	Entire U.S. except NP, NE, PNW	To 9 ft	Wandering, upright annual, hardy, fast growing, full sun	Cultivated for hay and silage, tolerates wide range of soils
Switchgrass ^{1,3}	Seeds	Jun-Sep	Dry, cool area	Apr-Sep	Entire U.S. except NP, PNW, CA	To 6 ft	Summer perennial, fast growing, hardy, full sun	Prefers moist soils, grows at water's edge, tolerant of salt spray
Tall fescue ^{1,2,3}	Seeds	Apr-Jun (south) May-Aug (north)	Dry, cool area	Oct-Nov (S) Mar-May (N)	Eastern U.S. except FL; MP, PNW	To 5 ft	Cool weather grass in south, summer grass in north, full sun	Cultivated for pasture
Texas millet	Seeds	Jul-Oct	Dry, cool area	Mar-Aug	MA, SE, FL, MS, SP	To 6 ft	Summer annual with spreading stems, full sun	Fast growing, considered crop weed, grows well on sand dunes
Timothy ^{1,2,3}	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	Entire U.S. except SP, FL, MS	To 3 ft	Summer perennial, fast growing, erect, full sun	Cultivated extensively in North America for hay
Torpedo grass ¹	Transplants	Sep-Mar	In wet soil beds or pots of sand	Sep-Jun	FL, MS, SP	To 4 in.	Stout perennials, many rhizomes, dense cover, full sun	Sea beaches, prefers sandy moist soils, tolerates salt spray
Vesey grass ¹	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	FL, SE, MA, MS, SP, CA	To 6 ft	Clumped, stout perennial, erect, hardy, full sun	Prefers moist soil, pasture grass, roadside cover
Virginia dropseed ¹	Seeds	Jun-Sep	Dry, cool area	Apr-Jun	MA, FL, MS	To 1 ft	Perennial, branching rhizomes, erect, culms, full sun	Occurs on sandy and muddy seashores, tolerates salt spray

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Table B-1 (Continued)

<u>Species</u> <u>(Alphabetized by Common Name)</u>	<u>Best Propagule</u> <u>Type</u>	<u>Collection</u> <u>Periods</u>	<u>Temporary Storage</u> <u>Requirements</u>	<u>Planting</u> <u>Periods</u>	<u>Range</u>	<u>Mature</u> <u>Height</u>	<u>Growth Habits</u>	<u>Remarks</u>
<u>Graasses (Continued)</u>								
Walter's millet ^{1,3}	Seeds	Jul-Sep	Dry, cool area	Apr-Sep	SP, MS, FL, SE, MA, NE, GA	To 9 ft	Stiff stems, abundant seeds, annual, full sun	Occurs in all soils, cultivated for waterfowl food, prefers wet soils
Wheat ³	Seeds	May-Jul	Dry, cool area	Oct-Nov (Winter) Mar-May (Spring)	Entire U.S.	To 3 ft	Winter annual, good seed producer, hardy, full sun	Cultivated extensively, tolerates cold, good cover and food crop
Wild rye ¹	Seeds	May-Jul	Dry, cool area	Sep-Jun	Entire U.S. except CA	To 4 ft	Perennial, tufted, erect culms, heavy seeds, full sun	Perfers moist soils, good seed producer, tolerates salt spray somewhat
Wooly panic grass ¹	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	MA, SE, FL, MS	To 2 ft	Perennial, clumped spreading shade and sun areas, grows in woods and open areas, occurs on sea coast	Perfers moist soils, grows in woods and open areas, occurs on sea coast
Yellow bristlegrass	Seeds	Jul-Oct	Dry, cool area	Apr-Jul	Entire U.S. except SH, CA	To 3 ft	Summer annual, good seed producer, full sun	Occurs in many soil conditions, pest in crops, not palatable to browsers
<u>Herbs</u>								
Alfalfa ³	Seeds (innoculated)	Jul-Sep	Dry, cool area	Aug-Sep or Feb-Apr	Entire U.S.	To 2 ft	Perennial, much-branched legume, full sun	Requires good seedbed preparation, occurs on moist soils, prefers rich, moist areas
Aisike clover	Seeds (innoculated)	Mar-Apr (south) Jun-Sep (north)	Dry, cool area	Nov-Feb (south) Mar-Jun (north)	Entire U.S.	To 2 ft	Perennial, ascending branches, full sun	Requires good seedbed preparation, occurs on moist soils, prefers rich, moist areas
Arrow-leaved teatumb ¹	Transplants, seeds	Jul-Sep	Dry, cool area	Mar-Jun	Eastern and mid-U.S.	To 2 ft	Viney, annual, weak stemmed, spiny, full sun	Perfers moist soils
Beach pea ¹	Seeds (innoculated)	May-Sep	Dry, cool area	Feb-Jun	Entire coastal U.S.	To 1 ft	Perennial, viney plant, hardy, full sun	Perfers sandy moist soils, occurs on coastal beaches dunes, and islands
Beach strawberry	Transplants	Sep-Mar	In sand beds or in pots of sand	Mar-Jun	PW, SW	To 8 in.	Perennial plants with runners, full sun to shade	Perfers moist sandy soils
Big filaree	Seeds	Apr-Jul	Dry, cool area	Sep-Nov	CA	To 8 in.	Winter annual, full sun	Pest plant, occurs in most well-drained soils

(Continued)

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Table B-1 (Continued)

<u>Species (Alphabetized by Common Name)</u>	<u>Best Propagule Type</u>	<u>Collection Periods</u>	<u>Temporary Storage Requirements</u>	<u>Planting Periods</u>	<u>Range</u>	<u>Mature Height</u>	<u>Growth Habits</u>	<u>Remarks</u>
<u>Herbs (Continued)</u>								
Bird's foot trefoil ¹	Seeds (innoculated)	Jun-Sep	Dry, cool area	Mar-Jun	NE, MA	To 2 ft	Long rooted perennial, full sun	Pest plant, occurs in most soils, common coasts
Bittersweet nightshade ¹	Seeds	May-Sep	Dry, cool area	Apr-May	NE, MA, NP	To 8 ft	Perennial, climbing stem, full sun to shade	Prefers moist soils and in woods, but grows in open areas
Black medic ^{1,3}	Seeds (innoculated)	Mar-Jun (south) Jun-Aug (north)	Dry, cool area	Nov-Feb Mar-Jun (north)	Entire U.S.	To 1 ft	Annual, shallow taproot, full sun	Prefers well-drained or dry soils, dormant in south in the summer
Black nightshade ¹	Seeds	Jul-Oct	Dry, cool area	Apr-Jun	Eastern U.S.	To 3 ft	Erect, annual, hairy, hardy, full sun	Pest in cultivated areas, occurs in most soils
Blackseed plantain ¹	Seeds	Jun-Sep	Dry, cool area	Apr-Jun	Eastern and mid U.S.	To 3 ft	Perennial, rootstock, stout, thick, erect, hardy, full sun or shade	Pest plant, occurs in woods, fields, and waste areas
Bottlebrush ¹	Seeds	May-Oct	Dry, cool area	Apr-Jun	Eastern U.S.	To 3 ft	Annual, many branched stem, full sun	Prefers well-drained open areas
Bracted plantain ¹	Seeds	Jun-Oct	Dry, cool area	Apr-Jun	Entire U.S. except MN, PNW, GA, SW	To 2 ft	Perennial, stout root- stock, erect, full sun	Prefers dry open areas
Broadleaf plantain ¹	Seeds	May-Sep	Dry, cool area	Apr-Jun	Entire U.S.	To 8 in.	Perennial, rootstock short, thick, erect, full sun	Occurs in most soils, in waste places
Buckthorn plantain ¹	Seeds	Apr-Nov	Dry, cool area	Mar-Jun	Eastern U.S.	To 1 ft	Perennial, pubescent, short rootstock, full sun	In fields and waste places
Bush lupine	Seeds	Jun-Sep	Dry, cool area soak in hot water before planting	Apr-Jun	PNW, CA	To 2 ft	Perennial, many branched, shrubby, full sun	In dry, open areas
Calandrinia	Seeds	Jul-Sep	Dry, cool area	Mar-Jun	CA	--	--	In dry scrub areas, sandy coastal beaches
Camphorweed ¹	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	MA, SE, FL, MS, SW, SP, NP	To 3 ft	Biennial, many branched many flowered, full sun	Prefers dry, sandy soils, sea beaches, occurs com- monly on dredged mate- rial islands
Chufa ^{1,2,3}	Tubers, seeds	Jul-Oct	Moist cold room (tubers) dry, cool area (seeds)	Mar-Jun	Entire U.S.	To 2 ft	Perennial sedge, robust, fast growing, numerous edible tubers, full sun	Prefers wet to moist soils, prime wildlife food, extremely prolific

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Table B-1 (Continued)

Species (Alphabetized by Common Name) Herbs (Continued)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
Coast deeretch	Seeds (Innoculated)	Jun-Sep	Dry, cool area	Apr-Jun	PNW, CA	To 2 ft	Perennial, long roots, slender stems, full sun	Prefers dry, well-drained soils
Common chickweed ¹	Seeds	Dec-Feb	Dry, cool area	Oct-Dec	Entire U.S.	To 2 ft	Weak, tufted annual, much branched, full sun	Pest plant in all agro-economic situations
Common filaree ¹	Seeds	Apr-Jul	Dry, cool area	Sep-Nov	NE, MA, SE, SP, GL, PNW, CA	To 6 in.	Winter annual, taproots, many branched, full sun	Pest plant, occurs in moist soils, prefers well-drained soils
Common lambquarters ¹	Seeds	Jul-Oct	Dry, cool area	Apr-Jun	Entire U.S.	To 4 ft	Annual erect, bushy common, shade to full sun	Pest plant, occurs in moist soils, occurs on dredged material islands
Common mullein ¹	Seeds	Jun-Sep	Dry, cool area	Apr-Jun	Entire U.S.	To 7 ft	Erect, stout, biennial, full sun	Pest plant, occurs in open well-drained areas
Common purplelane ¹	Seeds	Jun-Sep	Dry, cool area	Apr-Jun	Entire U.S.	To 6 in.	Annual, prostrate, free branching, deep roots, full sun	Prefers dry sandy areas
Common ragweed ¹	Seeds	Sep-Nov	Dry, cool area	Apr-Jun	Entire U.S.	To 2 ft	Annual, shallow roots, robust, common full sun	Pest plant, occurs in moist soils, tolerates salt spray, occurs on dredged material islands
Common spikerush ¹	Transplants, seeds	Apr-Sep	In sand beds (trans.) moist, cool area	Apr-Sep	Entire U.S.	To 2 ft	Perennial, upright, slender stems, full sun	Occurs in moist soils in interior areas
Common threesquare ¹	Transplants, seeds	Sep-Mar (trans.) Jul-Oct (seeds)	In sand beds (trans.) moist cool area	Mar-Jun	Entire U.S. except SW	To 6 ft	Perennial, upright, triangular stems, full sun	Occurs in moist soils in fresh and brackish areas, good wildlife food
Cow pea ¹	Seeds (Innoculated)	Jun-Sep	Dry, cool area	Mar-Sep	Entire U.S.	To 2 ft	Summer annual, viney, fast growing, good seed producer, full sun	Cultivated in most soils for human food, hay and forage, especially in the south
Crimson clover ³	Seeds (Innoculated)	Mar-Apr (south) Jun-Sep (north)	Dry, cool area	Dec-Feb (south) Mar-Jul (north)	Entire U.S.	To 2 ft	Strong perennial in south, annual in north, procumbent stems, fast growing	Cultivated on most soils for hay and grazing and on rights-of-ways
Crotton	Seeds	Aug-Oct	Dry, cool area	Apr-Jun	CA, SW	To 3 ft	Many branched, stout annual, robust, full sun	Occurs in waste areas and dry soils, pest plant

(continued)

Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
Herbs (Continued)								
Curly dock¹	Seeds	Apr-Jul	Dry, cool area	Apr-Jun	Entire U.S.	To 4 ft	Perennial, stout, deep tap root, erect, persistent, full sun	Pest plant, occurs in waste areas and crops and in moist soils
Deerweed	Seeds	Jun-Sep	Dry, cool area	Apr-Jun	CA	To 2 ft	Perennial, long tap roots, full sun	Occurs waste areas, dry soils
Dwarf spikerush¹	Transplants, seeds	Mar-Nov (trans) Jun-Sep (seeds)	In sand beds dry, cool area	Mar-Jun	Entire U.S. except SW	To 3 ft	Perennial, tiny stems, turf-like, full sun	Occurs in moist soils in fresh, brackish areas
Filaree	Seeds	Apr-Sep	Dry, cool area	Nov-May	PNW, CA	To 1 ft	Annual, tufted, ascending stems, full sun	Occurs in moist soils, waste places and fields, prefers well-drained areas
Flat pes^{1,3}	Seeds (Innucleated)	May-Sep	Dry, cool area	Feb-Jun	NE, MA, MPV, GL, PNW	To 2 ft	Perennial, viney plant, forms mats, full sun to shade	Occurs in moist soils, very slow growing
Flowering spurge¹	Seeds	Apr-Oct	Dry, cool area	Mar-Jun	Eastern and mid U.S.	To 3 ft	Perennial, long stout roots, erect, full sun	Prefers dry soils
Giant ragweed¹	Seeds	Jul-Oct	Dry, cool area	Apr-Jun	Entire U.S. except PNW, CA	To 15 ft	Annual, stout, erect, persistent, full sun	Pest plant, prefers soil, tolerates salt spray, common on coasts
Goosefoot¹	Seeds	Jun-Sep	Dry, cool area	Mar-Jun	Entire U.S.	To 3 ft	Annual, scrubby, erect, branched, full sun	Pest plant, occurs in moist soils, in waste places
Hairy vetch³	Seeds (Innucleated)	Mar-Apr (south) Apr-Jul (north)	Dry, cool area	Nov-Feb (south) Mar-May (north)	Entire U.S.	To 3 ft	Annual or biennial, viney, weak, stemmed, fast growing, full sun	Cultivated for forage, occurs in moist soils, excellent erosion control
Hardstem bulrush^{1,2}	Rhizomes, transplants	Jun-Sep	Dry, cool area	Mar-Jun	Entire U.S.	To 6 ft	Perennial, stout, sharp stem tips, persistent, full sun	Prefers moist soils, pest in low ground pastures, extremely hardy
Hemp sesbania¹	Seeds	Aug-Nov	Dry, cool area	Mar-Jun	SW, MA, SE, FL, MS, SP	To 12 ft	Annual legume, widely branched, robust, full sun	Occurs in moist soils, in soybean fields
Hop clover³	Seeds (Innucleated)	Jan-Mar (south) Mar-Jun (north)	Dry, cool area	Oct-Feb (south) Jan-Apr (north)	Entire U.S.	To 1 ft	Winter annual, low, forms carpet, procumbent, full sun	Occurs on poor dry soils, excellent nitrogen fixing legume, crowds out grasses

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
Herbs (Continued)								
Horse nettle ¹	Seeds	May-Sep	Remove pulpy coat dry, cool area	Apr-Jun	Eastern U.S. and SP	To 2 ft	Perennial, erect, spiny, branched, full sun	Occurs in moist dry soils, pest plant in agricultural situations
Horseweed ¹	Seeds	Jun-Nov	Dry, cool area	Apr-Jun	Entire U.S.	To 10 ft	Annual, stout, erect, fast growing, full sun	Pest plant, occurs on most soils, tolerates salt spray, common on dredged material islands
Japanese clover ³ (Innoculated)	Seeds	May-Sep	Dry, cool area	Feb-Apr	Entire U.S.	To 3 ft	Annual, erect, many branched, full sun	Cultivated for forage, and silage, excellent on poor, well-drained soils
Jerusalem artichoke	Seeds	Sep-Oct	Dry, cool area	Apr-Jun	Eastern U.S. mid-U.S.	To 12 ft	Perennial, fleshy, root- stock, tubers, stout, erect	Prefers moist soil, tubers are edible
Korean clover ¹	Seeds (Innoculated)	May-Sep	Dry, cool area	Feb-Apr	Entire U.S.	To 3 ft	Annual, erect, many branched, full sun	Cultivated for forage, hay, and silage, excel- lent on poor, well- drained soils
Ladino clover ³	Seeds (Innoculated)	Mar-Apr (south) Apr-Jul (north)	Dry, cool area	Nov-Jan (south) Feb-Mar (north)	Entire U.S.	To 3 ft	Perennial, fast growing, fleshy stems, creeping, full sun	Cultivated for forage, hay, and silage, excel- lent on poor, well- drained soils
Lady's thumb ¹	Seeds	Jun-Oct	Dry, cool area	Apr-Jun	Entire U.S.	To 2 ft	Annual, ascending stems, variable branching, full sun	Prefers moist soils. In waste places, pest plant in some areas
Lepechinia ³	Seeds (Innoculated)	May-Sep	Dry, cool area	Feb-May	Entire U.S.	To 2 ft	Perennial, shrubby, full sun	Cultivated for forage, hay, and silage, highway right-of-ways, well- drained soils
Lupine	Seeds	May-Sep	Dry, cool area soak with hot water prior to planting	Apr-Jun	PNW, CA, SW	To 2 ft	Perennial, shrubby, full sun	Prefers dry, sandy soils
Malva sphaeralcea ¹	Seeds	Apr-Sep	Dry, cool area	Feb-Apr	Entire U.S.	To 4 ft	Annual, much branched, spiny yellow flowers, full sun	Occurs in moist soils, waste and cultivated areas, pest plant
Mapleleaf goosefoot ¹	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	Entire U.S., except PNW, CA	To 8 ft	Annual, erect, bright green, branched, shade to full sun	Occurs in woods and thickets or in open, moist soil type
Marsh pea ¹	Seeds (Innoculated)	May-Sep	Dry, cool area	Feb-Jun	Entire U.S.	To 4 ft	Perennial, viney shrub, very persistent, full sun	Prefers moist areas

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Nature Height	Growth Habits	Remarks
Herbs (Continued)								
Marsh pepper ¹	Seeds	Jul-Sep	Dry, cool area	Mar-Jun	Entire U.S.	To 2 ft	Annual, erect, reddish green, may be branched full sun	Occurs in moist waste places, sometimes in standing water
Maximilian's sunflower	Seeds	Aug-Nov	Dry, cool area	Apr-Jul	MA, SE, MS SP, MP, NP PNW	To 6 ft	Upright, coarse, stout, annual, full sun	Occurs in most soils, attractive flowers
Mexican tea ¹	Transplants, seeds	Aug-Oct	Dry, cool area	Apr-Jun	Entire U.S.	To 3 ft	Annual in north, perennial in south, much branched, erect, full sun	Pest plant, occurs in most soils, in cultivated and waste areas
Musk filaree	Seeds	Feb-Jul	Dry, cool area	Nov-Apr	CA	To 2 ft	Winter annual, semirect, full sun	Prefers dry, well-drained soils
Narrowleaf vetch ^{1,3}	Seeds	Feb-Apr (south) Apr-Jun (north)	Dry, cool area	Oct-Dec (south) Feb-May (north)	Entire U.S.	To 3 ft	Perennial, viney, trailing, spreading, full sun	Cultivated for pastures, hay, and silage
Nodding smartweed ¹	Seeds	Jun-Sep	Dry, cool area	Mar-Jun	Entire U.S.	To 3 ft	Annual, much branched, nodes, swollen, good seed producer, full sun	Occurs in most soils and in waste and cultivated areas
Nutsedge ¹	Corms, seeds	Jun-Aug	Dry, cool area	Mar-Jun	NP, MP, SP, FL	To 2 ft	Perennial, hard oblong corms, ascending, full sun	Occurs in dry fields and on hills
Oiney threesquare ¹	Transplants, seeds	Sep-Mar	In sand beds or in sand pots	Apr-Jun	Entire U.S.	To 7 ft coastline	Perennial, upright, stems three-winged, full sun	Occurs in coastal and fresh moist areas, tolerates salinity
Orache ¹	Seeds	Aug-Oct	Dry, cool area	Apr-Jun	Entire U.S.	To 3 ft coastline	Annual, widely branched fruiting bracts, fleshy, full sun	Occurs in saltmeadows, along coasts, and inland areas
Partridge pea ^{1,3}	Seeds (innoculated)	Jul-Oct	Dry, cool areas, soak seeds in water before planting	Apr-Jun	Eastern U.S.	To 3 ft	Annual, widely branched, erect, spreading, full sun	In dry soils, common in south in cultivated fields and disturbed areas
Pennsylvania smartweed ¹	Seeds	Jul-Sep	Dry, cool area	Mar-Jun	Eastern and mid U.S.	To 4 ft	Annual, ascending, branched stems, full sun	Occurs on most soils, prefers moist soil, a sometimes pest plant
Pickleweed ¹	Seeds	May-Aug.	Dry, cool area	Apr-Jun	CA, PNW, NE, SW	To 3 ft	Perennial, stout stem, erect, unbranched, full sun	Prefers wet places

(Continued)

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Table B-1 (Continued)

<u>Species (Alphabetized by Common Name)</u>	<u>Best Propagule Type</u>	<u>Collection Periods</u>	<u>Temporary Storage Requirements</u>	<u>Planting Periods</u>	<u>Range</u>	<u>Mature Height</u>	<u>Growth Habits</u>	<u>Remarks</u>
Herbs (Continued)								
Pokeberry ¹	Seeds	Sep-Oct	Dry, cool area	Mar-Jun	Entire U.S. except NP, PW, MI, SW	To 9 ft	Robust perennial, with several purple stems, full sun to shade	Occurs in most soil types, and waste places
Prostrate knotweed ¹	Seeds	Jun-Oct	Dry, cool area	Apr-Jun	Entire U.S.	To 2 ft	Annual, prostrate or ascending stems, creeping full sun	Peat plant in many areas, occurs in most soils
Prostrate pigweed ¹	Seeds	Jun-Oct	Dry, cool area	Apr-Jun	NE, GL, MRV, NP	To 2 ft	Annual, many branched, prostrate, spreading, full sun	Prefers well-drained soils, occurs in waste areas, peat plant
Prostrate spurge ¹	Seeds	May-Sep	Dry, cool area	Mar-Jun	Entire U.S.	To 2 ft	Perennial, procumbent branches, stout at rootstock, full sun	Prefers well-drained soils
Purple nut sedge ¹	Tubers, seeds	Jul-Sep	Moist, cool area (tubers) dry, cool area (seeds)	Mar-Jul	Entire U.S.	To 2 ft	Perennial, extremely hardy and persistent, full sun	Peat plant in lawns, gardens, fields, pastures
Purple vetch ¹	Seeds (Innucleated)	Mar-May (south) May-Jul (north)	Dry, cool area	Nov-Feb	Entire U.S. (south) Mar-May (north)	To 3 ft	Perennial, viney, trailing, spreading; full sun	Cultivated for pastures, hay, and silage
Red clover ^{1,3}	Seeds (Innucleated)	Mar-Apr (south) Apr-Sep (north)	Dry, cool area	Jan-Mar (south) Mar-Jun (north)	Entire U.S. except MW	To 2 ft	Perennial, ascending stems, many branched, full sun	Cultivated as forage and hay crops, soil conservation areas
Redroot pigweed ¹	Seeds	Jun-Oct	Dry, cool area	Mar-Jun	Entire U.S.	To 3 ft	Coarse, summer annual, deep red taproot, very hardy, persistent, shade to full sun	Occurs on most soil types, peat plant in agronomic and feedlot situations
Reseeding soybean ³	Seeds	Sep-Nov	Dry, cool area	Mar-Jul	SE, MS	To 12 ft	Annual legume, viney stems, full sun	Cultivated as waterfowl food, occurs in most soils
River bulrush ¹	Rootstock	Sep-Apr	In sand beds or pots of sand	Apr-Jun	NE, MA, SE, CA	To 6 ft	Perennial, erect, widely spreading, seed head, full sun	Occurs in moist areas and interior U.S.
Saltmarsh bulrush ^{1,2}	Rootstock	Sep-Mar	In sand beds or pots of sand	Mar-Jun	MS, SP, CA, PW	To 6 ft	Perennial, spiny seed, triangular stems, full sun	Prefers marshes, occurs on dredged material islands
Saltwort ¹	Transplants	Sep-Mar	In sand beds or in pots of sand	Mar-Jun	NE, MA, SE, FL	To 2 ft	Annual, spiny, much branched, gray leaves, full sun	Prefers coastal moist areas, tolerates brackish soils

(Continued)

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Table B-1 (Continued)

(Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks	
Herbs (Continued)									
<i>Schweinitz's nut sedge</i> ¹	Seeds	Aug-Oct	Dry, cool area	Apr-Jun	NE, GL, MRV, NP, MP in salt marshes	To 3 ft	Perennial, thickened corms, slender stems, full sun	Prefers sandy soils, and moist areas	
<i>Sea blite</i> ¹	Seeds	Jul-Sep	Dry, cool area	Mar-Jun	Entire U.S.	To 3 ft	Annual, much branched, full sun	Prefers coastal moist areas, tolerates salt spray	
<i>Sea ox-eye</i> ³	Seeds, transplants	Jul-Sep (seeds) Sep-Mar (trans.)	Dry, cool area (seeds) B6B or potted (trans.)	Feb-May	Eastern and southern U.S. coasts	To 2 ft	Shrubby, fleshy, gray foliage, full sun	Occurs in sandy, coastal areas, tolerates salinity	
<i>Seashore lupine</i> ¹	Seeds	May-Sep	Dry, cool area, soak in water before planting	Mar-Jun	PNW, CA	To 2 ft	Perennial, scrubby, full sun	Prefers sandy beaches and marshes	
<i>Seaside dock</i> ¹	Seeds	Jul-Oct	Dry, cool area	Apr-Jun	Entire U.S. except SE, FL, MS	To 4 in.	Perennial, deep roots, erect, fast growing, full sun	Prefers moist sand areas, tolerates salt spray	
<i>Seaside goldenrod</i> ¹	Seeds	Aug-Dec	Dry, cool area	Apr-Jun	Eastern and southern U.S. coasts	To 8 ft	Perennial, stout, erect, very leafy, large flower, full sun	Occurs on coasts and dredged material islands	
<i>Seaside plantain</i> ¹	Transplants, seeds	Mar-Oct (trans) Jun-Sep (seeds)	In sand beds or pots, dry, cool area	Mar-Jun	Entire coastal U.S.	To 8 in.	Annual and perennial, fleshy rootstock and stems, full sun	Prefers salt marshes and seashores, tolerates salinity	
<i>Sericea lespediza</i> ³	Seeds	Sep-Dec	Dry, cool area	Mar-Jun	FL, RP, MA, SE, MRV, SP, MS	To 3 ft	Woody perennial, dense fine foliage, good seed production, full sun	Used on rights-of-ways, in pastures, hay fields, and conservation projects	
<i>Sheep sorrel</i> ¹	Seeds	May-Jun	Dry, cool area	Feb-Apr	Entire U.S.	To 1 ft	Perennial, basal rosette, full sun	Grows in infertile acid soils, will die in fertile soils	
<i>Showy tick-trefoil</i> ¹	Seeds (innoculated)	Jul-Sep	Dry, cool area	Apr-Jun	Eastern U.S.	To 5 ft	Perennial, erect, much branched, pubescent, shade or sun	Prefers rich soils, grows in woods or open areas	
<i>Silverleaf croton</i> ¹	Seeds	Aug-Oct	Dry, cool area	Apr-Jun	FL, SE, MS	To 3 ft	Annual, many branched, silver leaves, full sun	Occurs in coastal soils, tolerates salt spray, tolerates drought	
<i>Southern bulrush</i> ¹	Rootstock	Sep-Mar	In sand beds or pots of sand	Mar-Jun	SE, MS, FL, CA	To 12 ft	Perennial, triangular stems, upright, droopy spikelets, full sun	Occurs in coastal moist areas, tolerates brackish soils	

(Continued)

* Balled and burlapped.

Table B-1 (Continued)

(Alphabetized by Common Name) Herbs (Continued)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
Southern ragweed ¹	Seeds	Jul-Oct	Dry, cool area	Apr-Jun	SE, MS, SP	To 3 ft	Annual, hirsute, many branched, full sun	Occurs in dry upland soils, pest plant, occurs in waste areas
Soybean ^{1,2,3}	Seeds (innoculated)	Sep-Oct	Dry, cool area	Apr-Jul	Entire U.S.	To 2 ft	Annual, fast growing, high seed production, full sun	Cultivated extensively for beans, excellent wildlife food
Spotted burclover	Seeds (innoculated)	Feb-Apr (south) Apr-Jul (north)	Dry, cool area	Nov-Jan (south) Feb-May (north)	Entire U.S.	To 2 ft	Annual, spreading, stout, spiny seeds, full sun	In poor, dry soils
Spotted spurge ¹	Seeds	Jun-Nov	Dry, cool area	Apr-Jul	Entire U.S.	To 1 ft	Annual, branched stem, prostrate, spreading, full sun	Prefers dry soils
Squarestem epikerush	Transplants, seeds	Apr-Jul (trans.) Jun-Aug (seeds)	In sand beds or pots (trans.), dry, cool area (seeds)	Mar-Jul	Entire U.S.	To 3 ft	Perennial, slender stems, square stems, full sun	Prefers moist areas, occurs on coasts in fresh water
Sunflower ¹	Seeds	Jul-Oct	Dry, cool area	Apr-Jun	Eastern and mid U.S.	To 12 ft	Perennial, fleshy roots, creeping rootstock, branching, full sun	Prefers moist areas, stems often purple, showy flowers
Tansey mustard ¹	Seeds	May-Jul	Dry, cool area	Mar-May	Entire U.S. except SW	To 2 ft	Annual, erect, branched, slender ascending branches, full sun	Prefers dry soils
Tropic croton ¹	Seeds	Aug-Oct	Dry, cool area	Apr-Jun	SE, FL, MS, SP, MA, MRV	To 6 ft	Annual, rough, hardy, full sun	Pest in pasture areas, occurs in moist soils
Tumble-weed ¹	Seeds	Jun-Sep	Dry, cool area	Mar-Jun	Entire U.S.	To 3 ft	Annual, pale green, erect, bushy branched	Occurs in moist soils, prefers dry
Virginia pepperweed ¹	Seeds	May-Nov	Dry, cool area	Mar-Jun	Entire U.S. except CA, PNW	To 2 ft	Many branched, hardy, full sun	In dry soils, pest plant in fields, on many dredged material islands
Western ragweed ¹	Seeds	Sep-Nov	Dry, cool area	Apr-Jun	MW, CA, SW, NE, GL, NP, MP, SP	To 6 ft	Perennial, creeping rootstock, hardy, full sun	Prefers well-drained soils, a pest plant
White clover ^{1,2,3}	Seeds (innoculated)	Mar-May (south) May-Sep (north)	Dry, cool area	Jan-Mar (south) Mar-Jun (north)	Entire U.S. except MW	To 1 ft	Shallow rooted perennial with creeping branches, full sun	Cultivated as pasture and hay crops, occurs on moist soils

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements		Planting Periods	Range	Mature Height	Growth Habits	Remarks
			Periods	Requirements					
Herbs (Continued)									
White sweetclover ¹	Seeds (Innoculated)	Apr-May (south) Jun-Nov (north)	Dry, cool area	Nov-Feb (south) Mar-May (north)	Eastern U.S.	To 10 ft	Annual, erect or ascending, branching, full sun	Roadsides, pastures, lawns, occurs in moist soils	
Wild bean ¹	Seeds (Innoculated)	Sep-Oct	Dry, cool area	Mar-Jun	Eastern and mid-U.S.	To 9 ft	Summer annual legume, viney, full sun	Occurs on beaches, tolerates salt spray	
Wild buckwheat ¹	Seeds	Jun-Nov	Dry, cool area	Mar-Jun	Entire U.S.	To 3 ft	Annual, viney plant, rapid growth, full sun	Occurs in most soils, a pest plant in crops	
Wild sensitive pea	Seeds (Innoculated)	Jun-Nov	Dry, cool area	Mar-Jun	Entire U.S.	To 1 ft	Annual, erect, branching, full sun	Prefers dry soil	
Wild strawberry	Seeds, transplants	Mar-May (south) May-Jul (north)	In sand beds (trans.) dry, cool area (seeds)	Sep-Feb	Eastern and mid U.S.	To 4 in.	Perennial, stout, slender stalks, shade or sun	Prefers dry, rich soil, edible berries	
Wooly croton ^{1,3}	Seeds	Aug-Oct	Dry, cool area	Apr-Jun	MA, SE, MS, SP, MP, MRV	To 7 ft	Robust, branching annual, good seed production, full sun	Pest in pastures, grows in most soils, prefers sandy areas	
Wooly Indianwheat ¹	Seeds	May-Aug	Dry, cool area	Mar-Jun	NW, SP, NF, MP	To 1 ft	Annual, ascending leaves, slender stems, full sun	Prefers dry plains and prairies, other dry areas	
Yellow starthistle ¹	Seeds	Jul-Sep	Dry, cool area	Apr-Jun	NE, MA, MRV, NW, CA	To 2 ft	Annual, branched, winged stems, full sun	Pest plant in cultivated areas	
Yellow sweetclover ¹	Seeds (Innoculated)	May-Jun (south) Jul-Nov (north)	Dry, cool area	Nov-Feb (south) Apr-Jun (north)	Eastern U.S.	To 1 ft	Annual, erect or ascending, branching, full sun	Occurs in waste areas and fields, most soils	
Vines									
American bittersweet	Seeds	Sep-Nov	Dry, cool area	Mar-Jun	NE, MA, SP, SW, GL, MRV	To over 24 ft	Twining, woody vine, ascending trees or trailing on ground	Prefers rich, moist soil	
Bamboo vine	Tuber, seeds	Sep-Mar (tubers) Jun-Sep (seeds)	In soil beds, dry, cool area	Feb-Jun	MA, SE, FL, MS, SP	Long trailing stems	Tuber rootstocks, stout, hardy, evergreen, spines, shade	Prefers moist areas in woods and thickets	
Beach morning glory ¹	Stems, seeds	Sep-Apr	In sand beds, dry, cool area	Mar-Jun	Eastern U.S. and SP	To 12 ft	Perennial, twining, large roots	Prefers sandy beaches and dunes	

(Continued)

Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
Vines (Continued)								
Common greenbrier ¹	Seeds	May-Aug	Dry, cool area	Mar-Jun	Eastern and mid-U.S.	Long trailing stems	Woody, four-angled shoots, spiny, shade to sun	Prefers moist areas in woods and thickets, occurs in dry areas
Crossvine	Seeds	May-Aug	Dry, cool area	Mar-Jun	SE, MS, FL, MRV	To 60 ft	Woody, cross visible in cross section, shade or sun	Prefers moist woods, occurs in moist open areas
Fox grape ¹	Seeds	Aug-Sep	Remove pulpy coat dry, cool area	Mar-Jun	MA, NE, MRV	To 90 ft	Climbing, large stem, shade	Prefers thickets, native stock for cultivated grape hybrids
Fringed catbrier ¹	Tuber, seeds	Sep-Mar (tubers) Apr-Jul (seeds)	In soil beds (tubers) dry, cool area (seeds)	Apr-Jun	Eastern and mid-U.S.	Long trailing stems	Woody, four-angled, large tubers, spiny leaves and stems, shade or sun	Prefers thickets, moist areas, occurs in dry habitats
Frost grape ¹	Transplants	Jun-Oct	Remove pulpy coat dry, cool area	Mar-Jun	NE, MA, SE, MW	Long trailing stems	Climbing, pubescent, thin shining leaves, shade or sun	Prefers moist rocky areas, occurs in open moist areas
Japanese honeysuckle ¹	Rootstock, transplants	Jun-Sep	Dry, cool area	Feb-Jun	Entire U.S.	Long climbing stems	Pubescent, fragrant, persistent, shade or sun	Pest plant in unkept areas, excellent forage plant
Kudzu ³	Rootstock, transplants	Sep-Mar	In soil beds or pots of soil	Feb-Jun	Entire U.S.	Long climbing stems	Hairy, three-foliate leaves, sun or shade	Pest plant in unkept areas, excellent cover vine, ornamental
Lanceleaf greenbrier	Seeds	Apr-Aug	Dry, cool areas	Mar-Jun	SE, FL, SP, MS	Long trailing stems	Woody, slender stems, no tubers or spines, shade or sun	Prefer dry thickets
Muscadine grape ^{1,3}	Seeds, transplants	Aug-Oct	Remove pulpy coat dry, cool areas	Mar-Jun	SE, MA, FL, SP, MP, MS	Long trailing stems	Woody, slender stems, large leaves, shade or sun	Prefers moist sand soil in thickets, occurs in silt and clay in open
Peppervine ¹	Seeds	Sep-Oct	Dry, cool area	Mar-Jun	Entire U.S.	Long climbing stems	Numerous tendrils, aerial roots, fast growing, dense cover, sun or shade	Prefers wood and thickets, dry soil, but occurs in open areas
Sawbrier	Seeds	Sep-Mar (trans.) Jun-Aug (seeds)	In soil beds (trans.) dry, cool area (seeds)	Mar-May	Eastern U.S. and SP	Long trailing stems	Deep, tuberous rootstock, stout spines, shade or sun	Prefers dry sandy soil, also called sassafrilla
Summer grape ¹	Seeds	Sep-Oct	Remove pulpy coat, dry cool area	Mar-Jun	SE, MS, FL	Long trailing vine	Evergreen, coarse stemmed, persistent, sun or shade	Prefers dry soil in woods, it occurs in open

(Continued)

Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
Vines (Continued)								
Supplejack ¹	Seeds, transplants	May-Aug	Dry, cool area	Mar-Jun	ME, SE, FL, SP	High climbing stems	Shrub, rough, stout leaves and stems	Prefers moist woods, but occurs in open areas
Virginia creeper ¹	Seeds	Aug-Oct	Remove pulpy coat dry, cool areas	Mar-Jun	NE, MA, HRV, MS, SP, MP, NP	Large leaves, bark loose and shreddy, tendrils, shade or sun	Prefers dry soils in thickets, occurs in the open	
Wild bamboo ¹	Seeds	Oct-Nov	Remove pulpy coat dry, cool area	Mar-Jun	SE, MS, FL	Long trailing vine	Evergreen, coarse stemmed, persistent, sun or shade	Forms low thickets in the open or wood areas
Shrubs and Small Trees								
American elderberry ¹	Transplants, seeds	Sep-Mar Jul-Sep	In nursery, dry cool place	Feb-Jun	Eastern and mid-U.S.	To 30 ft	Deciduous, many stemmed, large flowers, full sun	Prefers moist soils, but occurs over wide soil ranges
American hornbeam	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	Eastern and mid-U.S.	To 30 ft	Deciduous, round crown, partial or full shade	Prefers dry soils, often is understory in open woods
American plum ¹	Transplants, seeds	Sep-Mar Jul-Sep (seeds)	B&B or potted in nursery, dry, cool place	Feb-Jun	Eastern and mid-U.S.	To 30 ft	Deciduous, spreading crown, full to partial sun	Prefers moist soils, occurs in dense thickets, edible fruit
Arrowwood viburnum	Transplants	Sep-Mar	B&B or potted in nursery	Feb-May	MS, SE	To 9 ft	Deciduous, shrubby, large flowers, partial sun	Prefers moist soils, common as understory
Autumn olive ^{1,2,3}	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	MA, SE, MS, FL, SP	To 15 ft	Evergreen in south, decidu- ous in north, full sun, shrub, full to partial sun	Prefers dry soils, drought resistant, very hardy
Bayberry ¹	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	NE, MA	To 9 ft	Evergreen, very dense, full sun, shrub	Prefers sandy soils, occurs in coastal areas, common on dredged mate- rial, important habitat plant
Beach plum ¹	Transplants, seeds	Oct-Mar	B&B or potted in nursery	Feb-May	MA, NE	To 6 ft	Deciduous, low growing, many branched, full sun	Prefers sandy, coastal soils, edible fruit
Bearberry	Transplants, seedlings	Sep-Mar	B&B or potted in nursery, cleaned and stratified (seeds)	Feb-Jun	NE, MA, GL, HRV, NP, MW, CA, PNW	To 8 in. Evergreen, spreading shrubby, slow growth, shade to full sun	Occurs in dry, sandy, and rocky soils	
Beautyberry ¹	Transplants, seeds	Sep-Mar	B&B or potted in nursery	Feb-Jun	SE, MS, FL, MA	To 8 ft	Deciduous, shrubby abundant fruit, full sun to partial shade	Grows in variety of soil conditions, does best as understory plant

(Continued)

Table B-1 (Continued)

<u>Species (Alphabetized by Common Name)</u>	<u>Best Propagule Type</u>	<u>Collection Periods</u>	<u>Temporary Storage Requirements</u>	<u>Planting Periods</u>	<u>Mature Height</u>	<u>Growth Habits</u>	<u>Remarks</u>
<u>Shrubs and Small Trees</u>							
<u>(Continued)</u>							
<i>Bicolor lespedeza</i>	Transplants	Sep-Nov Mar-Jun	B&B or potted in nursery	Mar-Jun	MA, SE, FL, SP	To 9 ft	Tolerates poor soils and drought conditions, prefers well-drained, dry areas
<i>Black raspberry</i> ¹	Transplants	Sep-Mar	Potted in nursery or soil bed	Feb-Jun	NE, MA, SE, SP, MP	To 12 ft	Deciduous, spiny, glaucous, roots from stem tips, full sun
<i>Blue brush</i>	Seeds	Jun-Aug	Dry, cool area	Feb-Jun	PNW, CA	To 3 ft	Deciduous, shrubby, shade to sun
<i>Blue elderberry</i>	Seeds	Jul-Oct	Cleaned and stratified seeds	Feb-Jun	SW, CA, PNW	To 25 ft	Deciduous, many stemmed, showy flowers, full sun
<i>Brazilian pepper tree</i> ¹	Cuttings, transplants	Oct-Apr	In rooting medium (cuttings), B&B or potted (trans.)	Oct-Jun	FL	To 30 ft	Evergreen, many branched, tropical, showy flowers, full sun
<i>Brewer saltbush</i>	Seeds	Jun-Sep	Dry, cool area	Feb-Jun	CA, SW	To 2 ft	Shrubby, dense, full sun soil, also known as sage brush
<i>Buffaloberry</i> ¹	Seeds	Jul-Sep	Cleaned and stratified	Mar-Jun	NE, MA, GL, NP, SW	To 8 ft	Deciduous, shrubby, shade to sun
<i>Bush lupine</i>	Seeds	Jul-Sep	Dry, cool area	Mar-Jun	PNW, CA	To 2 ft	Perennial, shrubby, many seed pods, full sun to part shade
<i>California blackberry</i> ¹	Seeds, transplants	Sep-Apr (trans.) Jun-Jul (seeds)	B&B or potted in nursery (trans.) cleaned and stratified (seeds)	Feb-May	PNW, CA	To 3 ft	Perennial, woody, many branched, arching, full sun
<i>California buckthorn</i>	Transplants	Sep-Mar	B&B or potted in nursery	Feb-May	PNW, CA	To 6 ft	Deciduous, shrubby, thorny, full sun
<i>Canadian serviceberry</i> ¹	Seeds, transplants	Sep-Apr (trans.) May-Jun (seeds)	B&B or potted in nursery (trans.) cleaned and stratified (seeds)	Mar-Jun	SE, NE, MA	To 21 ft	Deciduous, upright, shrubby, pubescent young twigs, full to partial sun
							Prefers moist areas, occurs in most soils

(Continued)

Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Mature Height	Growth Habits	Remarks
<u>Shrubs and Small Trees</u>							
<u>(Continued)</u>							
Carolina ash	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	MA, SE, FL, To 45 ft MP, MS, SP	Deciduous, pubescent, five to seven leaflets, shade or sun	Occurs in moist or wet soils, in woods or in open areas
Carolina rose ¹	Hips, cuttings	Jul-Oct (hips) Apr-Oct (cuttings)	Cleaned and stratified (hips), in rooting medium (cuttings)	Feb-Jun	Eastern and mid U.S.	Deciduous, thorny, arching, fast growing, full sun	Occurs in most soils, well-drained to dry, open areas
Cascara buckthorn ¹	Seeds	Jul-Sep	Cleaned and stratified	Apr-Jun	PNW, CA	Deciduous, shrubby, shade to full sun	Occurs in moist soils, open areas or in woods
Cherry laurel ^{1,3}	Transplants, cuttings	Sep-Mar	B&B or potted in nursery	Mar-Jun	SE, MS, MA	Evergreen, shrubby, ascending branches, full sun to partial shade	Occurs in most soils, cultivated as an ornamental
Chickasaw plum ¹	Seeds	Jun-Jul	Cleaned and stratified	Feb-May	SE, MS, MA SP	Deciduous, shrubby, thorny, large fruit, full sun	Perennial, thickets, occurs in most dry and well- drained soils
Common buckthorn	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	SE, FL, MS, SP	Deciduous, shrub or tree, few seeds, shade or sun	Prefers moist soils, in open or edges of woods
Common chokecherry ¹	Seeds	Aug-Sep	Cleaned and stratified	Mar-Jun	MS, MRV, GL, MP, MW, SW, PNW, CA	Deciduous, shrubby under- ground stems, forms thickets, shade or sun	Occurs in most soils including sand dunes and rocky areas
Common deerberry	Transplants, seeds	Sep-Mar (trans.) Apr-Jun (seeds)	B&B or potted, cleaned and stratified	Feb-May	Eastern U.S.	Deciduous, much branched, irregular, shade or sun	Occurs in dry soils in woody, thickets, and edges of woods
Common juniper ¹	Seeds, seedlings	Sep-Mar (seedlings) Sep-Nov (seeds)	B&B or potted in nursery, stratified at 5°C	Mar-Jun	GL, HS, SE	To 12 ft Spreading, narrowleaf evergreen shrub, full sun	Used as an ornamental shrub over a large range, quite hardy, tolerates alkaline soils
Common sweetleaf	Transplants	Sep-Mar	B&B or potted in nursery	Feb-May	MA, SE, MS	To 9 ft Deciduous, large waxy leaves, sweet taste, shade or sun	Occurs in woody areas and thickets, mostly in shade, sometimes in open areas
Crabapple ¹	Transplants, seeds	Sep-Mar (trans.) May-Jul (seeds)	B&B or potted (trans.) cleaned and stratified (seeds)	Feb-May	MA, SE, FA, MS	To 21 ft Deciduous, thorny, bitter fruit, showy flowers, full sun	Occurs in most dry soils, in open thickets

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name) <u>Shrubs and Small Trees</u>	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
<u>(Continued)</u>								
Dahoon ¹	Transplants	Oct-Mar	B&B or potted in nursery	Feb-May	SE, FL, MS	To 25 ft	Evergreen, thorny, slow growing, full sun	Prefers sandy moist areas, in woods or open, in coastal areas
Downy serviceberry	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	SE, MS	To 45 ft	Deciduous, large leaves, pubescent, shade or sun	Prefers dry soils in woods or open areas
Eastern hop hornbeam ¹	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	NE, GL, MP, SP, MRV, SE, MA, FL, MS	To 10 m	Deciduous, hardwood, leaves yellow-green, shade or sun	Prefers dry soils, in woods or in open areas
Elderberry ¹	Seeds	Jun-Aug	Cleaned and stratified	Feb-Jun	ME, PNH, CA, SW	To 7 m	Deciduous, large seedheads, few branches	Occurs in dry soils
Elderberry ¹	Seeds	Jun-Aug	Cleaned and stratified	Feb-Jun	PNW, CA	To 7 m	Deciduous, shrubby	Occurs in dry soils
Evergreen blackberry ¹	Seeds	Jun-Jul	Cleaned and replanted	Aug-Sep	Eastern U.S.	To 4 m	Stout, deciduous, arching branches, persistent	Pest plant in pastures, cultivated for fruit
Firethorn ³	Seeds, transplants	Sep-Jan (seeds) Sep-Mar (trans.)	Cleaned and stratified (seeds), B&B or potted	Feb-May	MA, SE, SP, FL, MS	To 4 m	Evergreen, irregular, hard, showy flowers and fruit, full sun	Occurs in moist soils, grows well in wet or dry areas, cultivated as ornamental
Flowering dogwood ¹	Transplants	Oct-Feb	B&B or potted in nursery	Feb-Apr	Eastern U.S. and SP	To 15 m	Deciduous, bushy crown, showy flowers, shade or sun	Occurs in dry soils, cultivated as ornamental, in woods or in open areas
Galberry ¹	Transplants	Oct-Mar	B&B or potted in nursery	Feb-May	NE, MA, SE, FL, MS	To 2 m	Evergreen, shrubby, dotted underside of leaves, shade or sun	Prefers sandy soil, occurs on coasts
Gray dogwood ¹	Transplants	Sep-Mar	B&B or potted in nursery	Feb-May	Eastern and mid-U.S.	To 2 m	Dense deciduous, shrubby, gray bark, shade or sun	Prefers moist soils, occurs in thickets, woods, open areas
Ground blueberry ¹	Seeds	May-Jun	Cleaned and stratified	Jan-Mar	SE, MS, MA	To 2 m	Evergreen, pubescent, few branches, shade or sun	Prefers moist areas, in woods or in open areas
Groundsel tree ¹	Seeds, transplants	Sep-Nov	B&B or potted (trans.)	Jan-May	SE, MA, MS, SP, NE	To 3.5 m	Many branched, deciduous, shrubby, full sun	Prefers moist areas, occurs on sea coasts, tolerates salinity

(Continued)

Table B-1 (Continued)

Species (Alphabetized by Common Name) Shrubs and Small Trees	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Mature Height	Growth Habits	Remarks
(Continued)							
Halberd-leaved willow ^{1,3}	Transplants	Sep-Mar	B&B or potted	Feb-Jun	Entire U.S.	To 10 m full sun	Many branched, deciduous, Cultivated as ornamental
Hibiscus ¹	Seeds, transplants	Sep-Mar (trans.) Jun-Aug (seeds)	B&B or potted (trans.) dry, cool area (seeds)	Feb-Jun	NE, SE, MA, FL, MS, SP	To 2.3 m erect, large seed pods, full sun	Prefers moist soils, tolerates some salinity, occurs on coasts and inland
Highbush blueberry ^{1,3}	Seeds, cuttings	Jan-Feb (trans.) Jun-Aug (seeds)	Cooled, cleaned, and planted (seeds) layered in rooting medium (trans.)	Feb-Jun	NE, SE, MA, FL, MS	To 4 m many branched, shade to full sun	Deciduous, erect, hardy, Occurs in moist soils
Hollyleaf cherry	Seeds, transplants	Jul-Sep	Cleaned and stratified	Nov-May	CA	To 8 m like leaves, full sun	Evergreen, serrated holly-like leaves, full sun
Honey mesquite ¹	Seeds	Aug-Sep	Dry, cool area	Feb-May	SP, SW	To 14 m irregular crown, full sun	Deciduous, shrubby, thorny, Prefers dry, sandy, or loam soils, pest plant in western pastures
Hooker's willow ¹	Cuttings	Year-round	Layered in rooting medium	Feb-Jun	PNW, CA	To 10 m deciduous, shrubby pubescent, full sun	Prefers moist areas, tolerates shifting sand and flooding
Japanese lespedeza	Seeds, inoculated	May-Sep	Dry, cool area	Feb-Jun	Entire U.S.	To 1 m full sun	Shrubby, woody perennial, Cultivated for grazing
Low blueberry	Seeds	Jun-Jul	Cleaned and stratified	Oct-May	SE, MA, MS	To 0.6 m stout, shade or sun	Shrubby, erect, rhizomatous, Prefers dry areas, thickets or woods
Mapleleaf viburnum	Seeds	Jul-Oct	Cleaned and stratified	Feb-May	SE, MS, MA	To 3 ft shape leaf, shade or sun	Deciduous, shrubby, maple Thickets or open areas
Marsh elder ¹	Transplants	Oct-Apr	B&B or potted in nursery	Feb-May	NE, MA, SE, FL, MS, SP	To 12 ft serrated leaves, full sun	Deciduous, many branched, prefers sandy, moist areas, occurs on coastal islands, dunes, and marshes
Mountain blackberry	Seeds, rootstock	Jun-Jul (seeds) Year-round (rootstock)	Cleaned and re-planted (seeds), in soil beds (root stock)	Sep-Nov (seeds) Feb-May (rootstock)	NE, MA, GL, MRV	To 10 ft robust, prolific fruiting, full sun, spiny	Deciduous, hardy, very robust, prolific fruiting, Pest plant in pastures, occurs and thrives almost anywhere
Multiflora rose ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	Entire U.S. except NP	To 12 ft showy flowers, full sun	Deciduous, arching, thorny, Pest plant in unkept pastures and fields, cultivated for wind-breaks and cover

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
Shrubs and Small Trees								
(Continued)								
Myrtle oak	Transplants	Oct-Mar	B&B or potted in nursery	Oct-Mar	FL	To 45 ft	Evergreen, leathery, full sun	Prefers sandy coastal soils, tolerates salt spray
Northern bayberry ¹	Transplants	Oct-Mar	B&B or potted in nursery	Feb-Jun	NE, MA	To 45 ft	Evergreen, pubescent, dense, dark green, full sun	Prefers sandy coastal soils, tolerates salt spray
Oleander ^{1,2,3}	Transplants	Oct-Mar	B&B or potted in nursery	Feb-Apr	SW, FL, MS	To 30 ft	Evergreen, dense, upright stems, showy flowers, full sun	Prefers dry sand soils, tolerates salt spray and drought, not freeze tolerant
Pacific bayberry	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	PNW, CA	To 27 ft	Evergreen, shrubby, dense foliage, full sun	Prefers sand sites, occurs in coastal areas, tolerates salt spray
Pacific dogwood ¹	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	PNW, CA	To 9 ft	Deciduous, shrubby, erect, bushy, full sun and shade	Prefers well-drained areas
Pacific wax myrtle	Transplants	Oct-Feb	B&B or potted in nursery	Feb-May	PNW, CA, coasts	To 35 ft	Evergreen, thick shrubs, ascending branches, full sun	Prefers moist areas, occurs in marshes, gullies, sand dunes, islands
Pacific willow ¹	Cuttings, transplants	Year-round (cut.) Sep-Mar (trans.)	In rooting medium (cut.), B&B or in pots (trans.)	Feb-May	PNW, CA	To 12 ft	Deciduous, shrubby, fast growing, full sun	Prefers moist areas
Poison ivy ¹	Transplants	Sep-Mar	B&B or in pots in nursery	Feb-Jun	Entire U.S.	To 15 ft	Deciduous, fast growing, full sun	Prefers moist areas, vine form not recommended for planting
Possomhaw ^{1,3}	Seeds	Sep-Dec	Cleaned and stratified	Mar-Jun	CL, SP, MP, HRY, SE, MS, MA, FL	To 30 ft	Deciduous, red berries, very showy, shade or sun	Prefers moist areas, cultivated as ornamental
Possomhaw viburnum	Seeds	Aug-Oct	Cleaned and stratified	Mar-Jun	SE, MS, MA, FL	To 25 ft	Deciduous, large leaves, shade or sun	Occurs in moist soils, in woods or in open
Purple osier willow	Transplants, cuttings	Sep-Mar	In rooting medium, or potted	Mar-Jun	MA, HRY, NE	To 12 ft	Deciduous, purple stems, slender, full sun	Cultivated as an ornamental, prefers moist places, used in bank stabilization

(Continued)

Table B-1 (Continued)

Species (Alphabetized by Common Name) <u>Shrubs and Small Trees</u>	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits		Remarks
							NE, NP, GL	To 24 ft	
<u>(Continued)</u>									
Pussy willow ³	Transplants, cuttings	Sep-Mar	B&B or potted in nursery	Mar-Jun	NE, NP, GL	To 24 ft	Deciduous, shrubby, full sun		Prefers moist soils, widely used as an ornamental
Quail brush	Seeds	Jul-Oct	Dry, cool area	Mar-May	SW	To 3 ft	Deciduous, shrubby, pale green, full sun		Prefers dry, sandy soils tolerates salinity
Red alder ¹	Transplants, cuttings	Year-round (cut.) Sep-Mar (trans.)	In rooting medium (cut.) B&B or in pots (trans.)	Feb-May	PNW, CA	To 45 ft	Deciduous, shrubby, upright branched, full sun		Occurs on most soils, on cutover forest land, beaches, streams
Red buckeye	Transplants, seeds	Aug-Oct (seeds) Sep-Mar (trans.)	Stratified (seeds), B&B or in pots	Feb-May	SE, MS, SP	To 24 ft	Deciduous, shrubby, shade or sun		Large fruit is inedible, occurs in most soils
Red osier dogwood ^{1,3}	Cuttings, transplants	Aug-Apr (cut.) Sep-Apr (trans.)	In rooting medium B&B or potted	Apr-Jun	NE, MRV, GL, NP, SW, PNW, MW	To 8 ft	Deciduous, shrubby stoloniferous, full to partial sun		Occurs in moist soils, prefers moist poorly drained areas
Riverflat hawthorn	Seeds	Apr-Jun	Cleaned and stratified	Mar-May	SE, MA, MS	To 15 ft	Deciduous, leathery, thorny, shade or sun		Prefers dry soils, in woods or in open, red fruit
Rough-leaved dogwood ¹	Transplants	Sep-Mar	B&B or potted	Feb-May	SE, MA, MS, SP, NP, MP	To 15 ft	Deciduous, showy flowers, fast growing, sun or shade		Prefers moist areas, occurs in most soils
Russian olive ^{1,2,3}	Seeds, transplants	Sep-Oct (seeds) Sep-Mar (trans.)	Cleaned and stratified (seeds), B&B or potted (trans.)	Mar-Jun	Entire U.S.	To 21 ft	Evergreen, shrubby, spiny irregular crown, full sun		Occurs in most soils, cultivated for wind break, roadside, ornamental
Rusty blackhaw	Seeds	Jul-Oct	Cleaned and stratified	Feb-Apr	SE, MS, MA, FL	To 9 ft	Deciduous, leathery, shiny green, shade		Prefers dry areas, in woods, but occurs in thickets and open areas
Salal ^{1,3}	Transplants, root stock	Sep-Mar	B&B or potted in nursery	Feb-Jun	PNW, CA	To 6 ft	Evergreen, dark shiny leaves, shade		Prefers moist areas, cultivated for florist industry
Salmonberry ¹	Seeds	Jun-Aug	Cleaned and in dry cool area	Mar-Jun	PNW	To 15 ft	Deciduous, branching, leafy, shrubby, showy flowers, large fruit, shade		Occurs in moist areas, in woods and thickets

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Beech Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
Shrubs and Small Trees								
(Continued)								
Saltbush¹	Seeds	Jul-Oct	Dry, cool area	Feb-May	SW	To 3 ft	Deciduous, shrubby, pale green, full sun	Prefers dry, sandy soils, tolerates drought and salinity
Saltcedar^{1,3}	Transplants	Oct-Mar	B&B or potted in nursery	Feb-May	MA, SW, SP, MS, FL	To 15 ft	Evergreen, small foliage, irregular crown, full sun	Prefers dry, sandy soils, tolerates drought and salinity
Sandbar willow^{1,3}	Transplants cuttings	Sep-Mar	B&B or potted in nursery	Mar-Jun	NE, NW, GL, MP, SP, MW	To 27 ft	Deciduous, shrubby, dense, full sun	Prefers moist soils, riverbanks
Sand blackberry¹	Seeds	May-Jul	Cleaned and stratified	Feb-Jun	MA, SE, FL	To 3 ft	Deciduous, arching, erect, spiny, robust, full sun	Prefers dry, sandy areas
Sand pine^{1,2,3}	Transplants, seedlings	Oct-Mar	B&B or potted in nursery	Feb-May	FL, MS	To 10 ft	Narrowleaf evergreen, shrubby, full sun	Grows in poor soils, tolerates droughts, sandy conditions, occurs on coasts
Sawtooth oak^{1,2,3}	Transplants	Sep-Mar	B&B or potted in nursery	Feb-May	SE, HS, PL, SP	To 30 ft	Deciduous, irregular growth, full sun	Cultivated for wildlife food, occurs on moist soils
Scotch broom^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Feb-May	PNW	To 7 ft	Evergreen showy flowers, dense growth, full sun	Fast plant in some areas, cultivated as ornamental elsewhere
Sharp-toothed blackberry¹	Rootstock, seeds	Year-round (root.) (root.) (Jun-Jul) (seeds)	In soil beds (root.) cleaned and stratified (seeds)	Sept-Nov (seeds) Feb-May (rootstock)	SE, ME, FL, MS, NW	To 6 ft	Deciduous, hardy, very robust, prolific fruiting, full sun, spiny	Fast plant in pastures, occurs and thrives almost anywhere
Shifting sumac¹	Seeds, rootstock	Sep-Nov Sep-Mar	Cleaned and stratified (seeds), in soil beds (rootstock)	Feb-Jun	Eastern and mid-U.S.	To 12 ft	Deciduous, little branching, lateral spreading roots, forms thickets, full sun	Occurs in moist soils, in open areas
Shore pine^{1,3}	Transplants, cuttings	Sep-Mar	B&B or potted in nursery	Feb-May	PNW, CA	To 36 ft	Narrowleaf evergreen, spreading, full sun	Coastal dunes plant, very hardy, can be grown from seeds
Shrub verbena^{1,3}	Seeds, transplants	May-Sep (seeds) Sep-Mar (trans.)	Dry, cool area (seeds) B&B or potted (trans.)	Jan-Apr	FL, SE, MS, SP	To 3 ft	Deciduous, tropical, showy flowers, full sun	Cultivated as ornamental, prefers moist, sandy soils
Silky dogwood¹	Transplants	Sep-Mar	B&B or potted	Feb-Jun	Eastern and mid-U.S.	To 10 ft	Deciduous, purplish stems, full sun	Prefers moist soils, in woods and in open areas

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits		Remarks
Shrubs and Small Trees									
<u>(Continued)</u>									
Silky willow ¹	Transplants, cuttings	Year-round (cut.) Sep-Mar (trans.)	In rooting medium, B&B or potted (trans.)	Mar-Jun	NE, MA, GI, MRV	To 12 ft	Deciduous, purplish stems, pubescent, full sun		Prefers wet to moist soils, in open areas
Sitka alder ¹	Transplants, cuttings	Year-round (cut.) Sep-Mar (trans.)	In rooting medium, B&B or potted (trans.)	Feb-May	PNW	To 30 ft	Deciduous, shrubby, multi- stemmed, full sun		Prefers moist soils, in open areas
Smooth sumac ¹	Seeds	Sep-Feb	Cleaned and stratified	Feb-Jun	Entire U.S.	To 6 ft	Deciduous, shrubby, few branches, form thickets from roots, full sun		Occurs in most soils, in open areas
Southern bayberry ¹	Transplants	Sep-Mar	B&B or potted	Feb-May	SE, MA, FL, MS, SP	To 15 ft	Evergreen, dense, upright branches, full sun		Prefers moist, sandy areas, occurs on sea- coasts and islands
Southern dewberry ¹	Seeds, transplants	Apr-May (seeds)	Cleaned and stratified (seeds), B&B or potted (trans.)	Jan-Mar	SE, MS, FL	To 3 ft	Deciduous, persistent, large fruit, full sun		Occurs in most soils, excellent wildlife food
Sparkleberry	Seeds	May-Jul	Cleaned and stratified	Jan-May	SE, MA, SP, MS	To 30 ft	Deciduous in north, ever- green in south, sprawling shrubby, shade or full sun		Occurs in dry soils, in woods or open thickets
Squaw huckleberry	Seeds	May-Jun	Cleaned and stratified	Feb-Jun	Eastern and mid-U.S.	To 15 ft	Deciduous, leathery, shrubby shade or sun		Occurs in dry woods or open thickets, edges of woods
Staghorn sumac ¹	Seeds	Oct-Dec	Cleaned and stratified	Feb-May	Eastern and mid-U.S.	To 12 ft	Deciduous, few branches, showy fruit, full sun		Forms thicket, occurs in dry soils
Summer sweet	Seeds	Sep-Nov	Cleaned and stratified	Feb-May	SE, MS	To 5 ft	Deciduous, ascending stems, pubescent, shade or sun		Occurs in most soils, in woods and open areas, cultivated as ornamental
Swamp privet ¹	Transplants	Sep-Mar	B&B or potted	Feb-May	SE, MS	To 24 ft	Deciduous, many branches, shrubby, shade or sun		Prefers moist, bottom- land type soils (silt, clay)
Swamp rose ¹	Transplants	Sep-Mar	B&B or potted	Feb-Jun	MA, SE, MS	To 3 ft	Deciduous, arching branches, full sun		Prefers moist soils

(Continued)

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Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements		Planting Periods	Range	Mature Height	Growth Habits	Remarks
			Requirements	Periods					
Shrubs and Small Trees									
<u>(Continued)</u>									
Tartarian honeysuckle ¹	Transplants, cuttings	Year-round (cut.) Sep-Mar (trans.)	In rooting medium, B&B or potted	Feb-May	NE, MA, MS, SP, HRV	To 15 ft	Deciduous, rusty, pubes- cent, shade or sun		Occurs in moist soils, in woods or in open areas
Tagh alder ¹			B&B, potted or in soil beds	Feb-Jun	Entire U.S.	To 6 ft	Deciduous, showy flowers, full sun	Cultivated as ornamental shrub	
Texas huisache ¹	Seeds	Aug-Oct	Dry, cool area	Jan-Apr	SP, HS, SW	To 15 ft	Deciduous, large seed pods, full sun	Prefers dry, sandy soils, tolerates drought and salinity	
Thorny eleagnus ^{1,3}	Transplants, cuttings	Sep-Apr	B&B or potted in nursery	Mar-Jun	Entire U.S.	To 12 ft	Evergreen, robust, thorny, spreading, arching, full sun	Cultivated as ornamen- tal, tolerates poor soil and salt spray	
Toothache tree ¹	Transplants	Sep-Mar	B&B or potted in nursery	Feb-May	SE, FL, MS, SP	To 36 ft	Deciduous, fast growing, spiny, full or partial sun	Prefers well-drained soils, occurs on dredged material in Texas and North Carolina	
Turkey oak ¹	Transplants, cuttings	Sep-Mar	B&B or potted in nursery	Feb-May	SE, MA, FL	To 30 ft	Deciduous, large leathery leaves, full sun	Prefers sandy coastal areas	
Wax myrtle ^{1,3}	Transplants	Oct-Mar	B&B or potted in nursery	Mar-Jun	SE, FL, MS, MA, SP	To 10 ft	Evergreen, dense, shrubby, ascending branches, full sun	Prefers moist areas, does well on poor, sandy coastal sites	
Western blackberry ¹	Transplants	Sep-Mar	B&B or potted	Feb-Jun	PNW, CA	To 3 ft	Arching, deciduous, full sun	Occurs in dry soils, pest plant in pastures	
Western chokecherry	Seeds	Aug-Sep	Cleaned and stratified	Feb-May	CA, PNW	To 24 ft	Deciduous, bushy, full sun	Prefers moist areas, does well on poor, sandy coastal sites	
Western dogwood	Transplants	Sep-Mar	B&B or potted	Feb-May	PNW, CA	To 15 ft	Deciduous, irregular branches, shade or sun	Occurs in moist soils, in woods or in open areas	
Western huckleberry	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	PNW, CA	To 8 ft	Evergreen, erect, slow growth, shade to sun	Occurs in dry woods	
Wild apple ¹	Seeds, transplants	Aug-Oct (seeds) Sep-Mar (trans.)	Cleaned and stratified B&B or potted	Feb-May	Entire U.S.	To 21 ft	Deciduous, thorny, showy flowers, large fruit, full sun	Occurs in most soils, parent stock of all commercial apple trees	
Wild black currant ¹	Transplants	Sep-Mar	B&B or potted	Feb-Jun	Northern U.S.	To 3 ft	Deciduous, arching erect branches	Occurs in most soils	

(Continued)

Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods		Mature Height	Growth Habits	Remarks
				Range	Period			
Shrubs and Small Trees								
<u>(Continued)</u>								
Wild cherry ¹	Seeds	Aug-Sep	Cleaned and stratified	Feb-Jun	PNW, CA, SW	To 30 ft	Deciduous, bitter fruit, full sun	Occurs in most soils
Wild indigo ¹	Seeds, transplants	Sep-Oct	Dry, cool area (seeds) B&B or potted (trans.)	Jan-Mar	SP, MS, SE	To 3 ft	Deciduous, tumbles, seed-pods rattle, full sun	Occurs in dry soils, prefers sand or silt, tolerant of salt spray
Wild rose ^{1,3}	Transplants, cuttings	Sep-Mar	B&B or potted in nursery (trans.) in rooting medium (cuttings)	Feb-Jun	MA, SB, MS, SP, FL	To 15 ft	Deciduous, arching branches, thorns, profuse flowers, full sun	Prefers moist soils, fast growing, tolerant of wide range of soil conditions
Wingscale	Seeds	Nov-Dec	Dry, cool place	Jan-May	MW, SW, CA	To 8 ft	Evergreen, shrubby, much branched, full sun	Tolerates drought and wide range of soil conditions, prefers dry sandy soil
Winterberry ³	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	SE, NS	To 15 ft	Deciduous, arching, rounded crown, full sun or shade	Wide range of soil conditions, prefers moist soils
Witch hazel	Transplants	Sep-Mar	B&B or potted in nursery	Feb-May	NE, MA, SE, MS, NP, GL, MRV	To 30 ft	Deciduous, shrubby, partial sun to full shade	Prefers moist soils
Yaupon ^{1,3}	Transplants	Oct-Mar	B&B or potted in nursery	Jan-Apr	SE, MA, MS, SP, PL	To 18 ft	Evergreen, forms dense thickets, has ornamental dwarf form, full sun	Prefers sandy soils, grows on coast, tolerates salt spray
Yellow paloverde ³	Transplants	Oct-Mar	B&B or potted in nursery	Jan-Apr	SW, CA	To 21 ft	Deciduous, legume, shrubby, full sun	Tolerates extreme drought and some salinity, prefers sandy soil
Large Trees								
American beech ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	NE, MA, SE, MS, GL, MRV, SP	To 90 ft	Deciduous, with shallow root system, full sun	Beats in moist conditions, poorly drained soils
American sycamore ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	NE, MA, SE, MS, SP, MP, NP, GL, MRV	To 90 ft	Deciduous, wide spreading crown, full sun	Beats in moist soils, but grows under a variety of conditions
Australian pine ^{1,3}	Transplants	Oct-Feb	B&B or potted in nursery	Dec-Apr	FL, CA	To 135 ft	Narrowleaf evergreen, drooping branches, full sun	Grows well in sandy soils, exotic naturalized in U.S.

(Continued)

(Sheet 28 of 32)

Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Mature Height	Growth Habits	Remarks
<u>LARGE TREES</u>							
<u>(Continued)</u>							
Black cherry ^{1,3}	Transplants	Aug-Oct	B&B or potted in nursery	Mar-Jun	NE, MA, SE, FL, MS, SP, MP, NP, GL	Deciduous, upright crown, full sun	Can be grown from seed, wood highly prized for furniture
Black cottonwood ^{1,3}	Transplants, cuttings	Sep-Mar	B&B or potted in nursery (trans.) layered in rooting medium (cuttings)	Mar-Jun	PNW, SW, CA	Deciduous, fast growing, large, full sun	Used for paper products, prefers moist soils, used for windbreaks and shade
Black gum ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	NE, MA, SE, FL, MS, SP, MP, NP, MRV, GL	Deciduous, upright crown, slow growing, full sun	Prefers moist soil
Black locust ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	MS, MA, MP	To 80 ft	Tolerates drought and poor soil conditions, a legume
Black walnut ^{1,3}	Seeds, seedlings	Sep-Nov (seeds) Sep-Mar (seedlings)	Stratified (seeds), B&B or potted (trans.)	Mar-Jun	MA, SE, MS, SP, NP, MRV	To 75 ft	Deciduous, fragrant flowers, spiny, full sun
Black willow ¹	Transplants, cuttings	Oct-Mar	B&B or potted in nursery (trans.) layered in rooting medium	Feb-Jul	SE, MS, MA, SP, FL	To 90 ft	Deciduous, edible, upright crown, sun to shade
Cow oak ³	Seeds, transplants	Sep-Nov (seeds) Oct-Mar (trans.)	Stratified at 5°C, B&B or potted in nursery	Mar-Jun	MA, SE, FL, MS, SP	To 72 ft	Deciduous, shrubby, full sun to part shade
Eastern cottonwood ^{1,3}	Transplants, cuttings	Sep-Mar	B&B or potted in nursery (trans.) layered in rooting medium (cut.)	Mar-Jun	MA, SE, GL, MRV, NP, MP, SP, MS	To 90 ft	Deciduous, very fast growing, full sun
Eastern red cedar ^{1,3}	Transplants, seeds	Sep-Mar (trans.) Sep-Nov (seeds)	B&B, potted in nursery (trans.), stratified at 5°C (seeds)	Feb-Jun	SE, MS, SP, MRV	To 36 ft	Narrowleaf evergreen, drought tolerant, full sun
Eastern white pine ³	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	NE, GL, MA	To 90 ft	Narrowleaf evergreen, pyramidal crown, full sun

(Continued)

Table B-1 (Continued)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits		Remarks
<u>Large Trees</u>									
<u>(Continued)</u>									
Green ash ¹	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	Eastern and mid U.S.	To 72 ft	Deciduous, full or partial shade		Prefers moist soils, tolerates poor soil conditions
Hackberry ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	SE, MS, SP, MRV, MP	To 90 ft	Deciduous, large spreading crown, full sun		Tolerates alkaline and sandy soils
Honeylocust ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	SE, MA, GL, MRV, SP, MP, MS	To 72 ft	Deciduous legume, spiny, full or partial sun		Prefers moist fertile soils
Laurel oak ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Jan-Mar	SE, SP, MS	To 90 ft	Flat topped crown, broadleaf evergreen, full sun		Prefers moist soils, occurs on coasts
Live oak ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Jan-May	SE, SP, MS, MA	To 45 ft	Evergreen, large spreading crown, full sun		Prefers sandy moist soils, and occurs on coasts, tolerates salt spray
Loblolly pine ^{1,3}	Transplants, seedlings	Sep-Mar	B&B or potted in nursery	Feb-Jun	SE, SP, MS, MA	To 65 ft	Narrowleaf evergreen, large crown, full sun		Coastal and interior plant, on sandy and silty soils (poorly drained)
Longleaf pine ^{1,3}	Transplants, seedlings	Sep-Mar	B&B or potted in nursery	Feb-May	MA, SE, MS, FL, SP	To 110 ft	Narrowleaf evergreen, tall open crown, full sun		Prefers sandy conditions, but occurs in other soils, occurs on coasts
Hockernut hickory ³	Transplants, seedlings	Sep-Mar	B&B or potted in nursery	Feb-May	NE, MA, SE, FL, MS, MRV, SP, MP	To 75 ft	Deciduous, arching branches, full or partial sun		Prefers drier soils, edible nuts, hardy, common
Paper mulberry	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	Eastern U.S.	To 45 ft	Deciduous, arching branches, full or partial sun		Exotic, naturalized in U.S., fast growing, forms thickets
Peachleaf willow ¹	Transplants, cuttings	Sep-Mar	B&B or potted in nursery (trans.), layered in rooting medium (cuttings)	Mar-Jun	GL, NP, MP, MW	To 55 ft	Deciduous, drooping branches, full sun		Prefers moist soils, grows on dredged marsh islands
Pecan ³	Transplants, seedlings	Sep-Mar	B&B or potted in nursery	Feb-May	SE, MS, SP, MP	To 130 ft	Deciduous, irregular crown, full sun		Prefers moist soils, but brows in wide range of soil conditions, edible nuts

(Continued)

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Table B-1 (Continued)

<u>Species (Alphabetized by Common Name)</u>	<u>Best Propagule Collection Periods</u>	<u>Temporary Storage Requirements</u>	<u>Planting Periods</u>	<u>Mature Height</u>	<u>Growth Habits</u>	<u>Remarks</u>
<u>LARGE TREES</u>						
<u>(Continued)</u>						
Persimmon ¹	Rootstock	Sep-Mar	In soil beds in nursery	Feb-Jun	MA, SE, FL, To 55 ft MS, SP, MP, MRV	Prefers moist, rich soils, but tolerates wide range of soil conditions, edible fruit
Pignut hickory	Transplants, seedlings	Sep-Mar	B&B or potted in nursery	Feb-May	NE, MA, SE, To 70 ft FL, MS, MRV, SP, MP	Prefers drier soils than other hickories
Redbay ¹	Transplants	Oct-Mar	B&B or potted in nursery	Feb-May	MA, FL, SE, To 55 ft MS, SP	Often occurs in dense woods, prefers moist soils
Red maple ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	Entire eastern U.S.	Prefers moist soils, widely used as an ornamental
Red mulberry ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	Entire eastern U.S.	Prefers moist, fertile soils, edible fruit
River birch ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	MA, SE, MS, To 75 ft SP, MP, MRV	Prefers moist soils, irregular multi-stemmed, full or partial sun
Sassafras ^{1,3}	Transplants	Oct-Mar	B&B or potted in nursery	Feb-May	NE, MA, SE, To 80 ft MS, SP, MP, NP, GL, MRV	Prefers upland soils but occurs over wide range of soil conditions, forms dense thicket
Slash pine ^{1,3}	Transplants, seedlings	Oct-Mar	B&B or potted in nursery	Feb-May	SE, FL, MS To 90 ft	Grows rapidly, commercial forest tree, occurs on coast
Southern red oak ³	Transplants, seedlings	Oct-Mar	B&B or potted in nursery	Feb-May	MA, SE, MS, To 75 ft SP	Prefers poor upland soil, used as an ornamental
Sugarberry ^{1,3}	Transplants	Oct-Mar	B&B or potted in nursery	Mar-Jun	SE, FL, MS, To 36 ft SP, MP	Prefers alkaline, well-drained soils
Sugar maple ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Mar-Jun	GA, NE, MRV, NP, MP, MA	Prefers moist soils, used for wood, furniture, as an ornamental, and for syrup

(Continued)

Table B-1 (Concluded)

Species (Alphabetized by Common Name)	Best Propagule Type	Collection Periods	Temporary Storage Requirements	Planting Periods	Range	Mature Height	Growth Habits	Remarks
<u>Large Trees</u>								
<u>Sweetbay</u> ¹	Transplants	Oct-Mar	B&B or potted in nursery	Feb-May	MA, SF, FL, To 55 ft MS	Evergreen, shrub in north, tree in south, full sun to partial shade		Prefers moist soils, deciduous in north
<u>Sweetgum</u> ¹	Transplants, seedlings	Sep-Mar	B&B or potted in nursery	Feb-Jun	MA, SE, FL, To 110 ft MS, SP, MRV	Deciduous, spreading crown, fast growing, full sun		Prefers well-drained soil, tolerates many soil conditions, used for furniture
<u>Tulip poplar</u> ^{1,3}	Transplants	Sep-Mar	B&B or potted in nursery	Feb-Jun	NE, MA, SE, To 140 ft MS, MRV, GL	Deciduous, fast growing, full sun		Prefers moist soil
<u>Water oak</u> ^{1,3}	Transplants, seedlings	Oct-Mar	B&B or potted in nursery	Feb-May	SE, MA, FL, To 65 ft MS, SP	Deciduous, rounded crown, full sun		Prefers moist soil, fast growing, produces abundant, small, bitter acorns
<u>White ash</u> ^{1,3}	Transplants	Sep-Mar	B&B or potted nursery	Mar-Jun	Eastern and To 72 ft mid-U.S.	Deciduous, upright crown, full sun		Prefers upland well-drained areas, fast growing
<u>White oak</u> ³	Transplants, seedlings	Sep-March	B&B or potted in nursery	Feb-June	NE, MA, SE, To 90 ft MS, GL, MRV, SP, MP, NP	Deciduous, spreading rounded crown, full sun		Tolerates wide range of soil and climatic conditions, edible acorns
<u>White poplar</u> ³	Transplants, cuttings	Sept-March	B&B or potted in nursery	Feb-June	Entire U.S. To 72 ft	Deciduous, multi-trunked, full sun		Fast growing, exotic naturalized over much of U.S.

Table B-2
Recommended Propagules and Techniques for Selected Marsh Species (Item 39)

Species	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
Alkali bulrush	Transplants, tubers	Dig plants; divide; replant on site at same depth, or pot for holding in nursery or greenhouse.	Seeds frequently eaten by waterfowl and other birds; used for soil stabilization; prefers fine-textured soils. Fresh/brackish.
Arrow arum ²	Transplants, seeds	Dig plants; separate; replant at same depth on the site or pot for holding. Gather seeds when mature; store in fresh water at 33-37°F; broadcast on site and rake into soil.	Primarily a good soil stabilizer, although seeds are infrequently eaten by waterfowl, and muskrat use it for lodge material. Potential pest plant. Fresh water.
Beak rush ²	Seeds	Gather seeds when mature (July to September); store dry at 41°F; broadcast on site and rake into soil.	Seeds eaten primarily by waterfowl. Fresh water.
Beggar's ticks ²	Seeds	Gather seeds when mature (July to September); store in fresh water at 41°F; broadcast on site and rake into soil.	Good food source for songbirds, game birds, and chicks. Potential pest plant. Fresh water.
Big cordgrass	Transplants, seedlings	Dig young plants from natural stands; separate; replant on site at same depth or pot for holding. Germinate seeds and grow seedling until ready for planting (three to six months).	Excellent soil stabilizer in low, brackish marshes. Salinity prevents this species from competing with smooth cordgrass. Seeds eaten by many birds; rodents eat young, tender foliage. Potential pest plant. Fresh/brackish.
Bigelow's glasswort ²	Cuttings, rootstock	Collect two to six inches cuttings of top shoots and broadcast in wet area on the site. If cuttings must be stored, they must remain moist. Dig rootstock; replant on site at same depth.	Low tidal area soil stabilizer away from shorelines. Tolerates fairly high salinities. Easily propagated. Poor source of wildlife foods. Occasionally used by nesting colonial seabirds. Brackish/saline.
Black mangrove ²	Seed, seedlings	Collect seed pods when mature (summer and fall); plant whole pod upright in soil with stem end up and out of the soil. Dig seedlings from natural stand or grow from seed pods.	Excellent soil stabilizer in south Florida. Frequently occurs on dredged material islands and is used by colonial nesting wading bird species. Tolerates to 40 ppt salinity. Saline.
Black needlerush ²	Transplants	Dig clumps; divide into sections with a cutting device; replant on site at same depth or pot for holding.	Good high marsh soil stabilizer. Will not tolerate extended inundation and naturally occurs on tidal creek banks and high spots in the marsh. Seeds eaten by birds and small animals. Fresh/brackish.
Bladderworts	Cutting ³	Collect quantities of cuttings in buckets of water by scooping plants out of natural stands (in water); transfer to standing water on site.	Good waterfowl food source, especially for dabbling ducks. Potential pest plant in reservoirs. Fresh water.

(Continued)

¹ Transplants include plugs, sprigs, groups of individuals, very large seedlings, and large whole plants.

² Known to occur on dredged material.

³ Commercially available

Table B-2 (Continued)

<u>Species</u>	<u>Recommended Propagules</u>	<u>General Collection, Handling, and Planting Techniques</u>	<u>Remarks</u>
Broadleaf arrowhead²	Transplants	Dig clumps; separate individuals; replant on site or pot for holding.	Good waterfowl food source; good cover for wildlife; muskrat food. Fresh water.
Bulrushes²	Transplants, tubers	Dig plants; divide; replant on site or pot for holding. Dig tubers; separate; cut off top shoots to six inches if present; replant on site or pot for holding.	Excellent waterfowl and songbird food (seeds); foliage eaten by muskrats; used for cover, breeding, and nesting by many species. Fresh/brackish.
Burreed²	Transplants	Dig plants; divide; replant on site or pot for holding.	Seeds infrequent source of wildlife food. Fresh/brackish.
Buttercups	Cuttings	Collect quantities of cuttings in buckets of water by scooping plants out of natural stand (in water); transfer to standing water on site.	Good waterfowl food source. Potential pest plant. In reservoirs. Fresh water.
Buttonbush²	Transplants, seeds	Dig small plants (large seedlings); transplant to site or pot for holding. Collect seeds in August-September; store seeds in fresh water at 41°F.	Seeds good source of food for waterfowl and other birds, insects, beavers, and muskrats. Provides cover and nesting habitat for birds. Fresh water.
Chufa^{2,3}	Tubers	Dig tubers when mature (July-Sept.); separate from other plant material; store moist but not wet at 41°F; broadcast on site and rake into soil. Tubers are very small and may be treated as seeds.	Excellent food source for waterfowl, turkeys, deer, wild boar, songbirds; highly productive plants may produce hundreds of tubers per plant. Seeds, tubers, foliage all relished. Fresh water.
Common reed²	Transplants, rootstock	Dig plants; divide; replant on site or pot for holding. Dig rootstock; separate into sections with at least one growth point; plant on site. Fresh/brackish.	Used for nesting by songbirds, marsh birds, and waterbirds. Stabilizes soil; rapid growth with tall rank form. Definite pest plant on disposal sites.
Common threesquare²	Transplants, tubers	Dig plants, divide, replant on site at same depth or pot for holding. Dig tubers; divide; cut off top shoots if present; replant on site.	Good source of food for waterfowl, muskrats, and nutria. Used for soil stabilization. Fresh/brackish.
Delta duckpotato^{2,3}	Transplants	Dig plants, separate individuals; replant on site at same depth or pot for holding.	Excellent waterfowl food source; good soil stabilizer; only grows well on fine-textured soils. Fresh water.
Dock²	Seeds	Collect seeds when mature (May to July); store dry at room temperature or less; plant broadcast on site and rake into soil.	Good food source for songbirds (seeds). Hardy species that is good soil stabilizer. Fresh water.
Dotted smartweed²	Seeds, cuttings	Collect seeds; store dry at room temperature or less; broadcast on site and rake into soil. Take cuttings from natural stand; broadcast on wet area on site (not standing water).	Good soil stabilizer; good cover of ducklings; seeds eaten by waterfowl, muskrats, and deer. Foliage not palatable to herbivores. Fresh water.

(Continued)

(Sheet 2 of 10)

Table B-2 (Continued)

Species	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
Duckpotato ²	Transplants	Dig plants; separate individuals; replant on site or pot for holding.	Excellent food source for waterfowl. Fresh water.
Duckweeds ²	Whole plants	Collect buckets of plant from natural stand in water; place whole plant in standing permanent water on site.	Excellent food source for waterfowl, especially wood ducks. Good cover. In deep south can be pest plant in standing water in reservoirs. Fresh water.
Kelgrass ²	Transplants	Dig clumps with coring devices; replant in shallow seawater with a minimum of current and wave action.	Good soil stabilizer in bay bottoms; food source for diving ducks; provides cover for marine organisms. Saline.
European glasswort ²	Cuttings, rootstock	Take two to six inch cuttings from top shoots; broadcast on wet area of site. Dig rootstock; divide into clumps; replant on site at same depth.	Used primarily for soil stabilization but not for shorelines. Poor wildlife food use; occasionally used by nesting colonial seabirds. Brackish/saline.
Fimbristylis ²	Transplants, seeds	Dig plants; separate individuals; replant on site at same depth or pot for holding. Collect seeds when mature (July-Sept.); store dry; broadcast on site and rake into soil.	Fair food source for songbirds and occasionally for waterfowl. Fresh/brackish.
Foxtail grasses ²	Sprigs, seeds	Dig young plants; replant as sprigs on site at same depth or pot for holding as transplants. Collect seeds when mature (June-Oct., depending upon species); store dry at 41°F; broadcast on site.	Good source of food for most birds, browsers and grazers, rodents. Cover for many wildlife species. Fresh water.
Frankenia	Transplants	Dig plants; separate individuals; replant on site at same depth or pot for holding.	Soil stabilizer; poor source of food but some use as cover by wildlife. Fresh/brackish.
Frog bit ²	Seeds	Collect seeds when mature (July-Sept.); store dry at room temperatures or less; broadcast on site and rake into soil. Dig plants; divide; replant on site or pot for holding.	Good seed source for songbirds; cover for small animals and birds; some use for stabilization. Fresh water.
Giant reed ²	Seeds, transplants	Collect seeds when mature; store dry at room temperatures or less; broadcast on site and rake into soil. Dig plants; divide; replant on site or pot for holding.	Hardy plant; good seed source for wildlife; used for soil stabilization. Fresh water.
Groundsel tree ²	Seedlings	Dig seedlings in natural stands; at least 12-18 inches is minimum height for best survival; replant on site at same depth or pot for holding.	Excellent cover and nesting/breeding species; used frequently by colonial nesting wading birds on dredged material islands. Poor food source. Fresh/brackish.
Hardstem bulrush ²	Transplants, tubers	Dig plants; divide; replant on site or pot for holding. Dig tubers; divide from other plant material; cut off top shoots to six inches if present; plant on site at same depth.	Excellent seed source for birds; hardy species; used by muskrats and for soil stabilization. Fresh water.

(Continued)

(Sheet 3 of 10)

Table B-2 (Continued)

Species	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
Horned pondweed	Cuttings, rootstock	Gather plant material from standing water; place on site in permanent standing water areas. Dig rootstock from shallow water areas where possible; plant intact on site.	Fair food source for waterfowl, especially dabbling ducks; good sediment stabilizer. Fresh water.
Horsetail ²	Transplants	Dig plants; separate individuals; replant on site or pot for holding.	Poor food source; only use is soil stabilization. Fresh water.
Japanese millet ^{2,3}	Seeds	Buy seeds from commercial seed source.	Excellent upland and marsh bird food; relished by waterfowl; eaten by turkeys, raccoons and other small animals; deer; Used in game management as food plot source. Fresh water.
Lady's thumb ²	Cuttings, seeds	Take cuttings two to six inches from top shoots; broadcast on wet area of site; rake into soil. Collect seeds when mature; store in fresh water; broadcast on site and rake into soil.	Excellent source of food for waterfowl and upland game and songbirds. Fresh water.
Lizard's tail ²	Transplants, seeds	Dig plants; separate individuals; replant on site or pot for holding. Collect seeds when mature (June-Aug); store in fresh water; broadcast on site and rake into soil.	Fair food source; used for soil stabilization in intermittent ponded areas. Fresh water.
Lobelia	Transplants	Dig plants; separate individuals; replant on site or pot for holding.	Fair food source; possibly used for soil stabilization. Fresh water.
Lotus	Seeds, rootstock	Collect seeds when mature (Aug-Oct); remove from pods; store in fresh water at 41°; broadcast in shallow water on site. Dig rootstock when water is very low (late summer, fall); plant in shallow water on site.	Fair food source for waterfowl; relished by wild boars (boots); excellent cover for ducklings; potential pest plant in standing water and shallow reservoirs. Fresh water.
Lynghye's sedge ²	Transplants, seeds	Dig plants; separate individuals; replant on site or pot for holding. Collect seeds when mature (July-Sept); store dry at room temperature; broadcast on site.	Good food source for waterfowl and other birds; good cover for many species. Fresh water.
Manna grass ² (<i>G. acutiflora</i>)	Seeds, sprigs	Collect seeds when mature; store dry at room temperature or less; broadcast on site. Dig young plants for sprigs; replant on site or pot for holding as transplants.	Excellent seed source for many bird species; foliage eaten by small and large animals; good cover. Fresh water.
Manna grass ² (<i>G. fluitans</i>)	Seeds, sprigs	Same procedures as above.	Excellent seed source for many bird species and other wildlife. Good cover. Grows in wetter areas than above species. Fresh water.

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(Continued)

Table B-2 (Continued)

Species	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
Marsh elder ²	Seedlings	Dig seedlings in natural stands near parent plants; separate individuals; replant on site or pot for holding. Seedlings should be 12 inches tall minimum.	Excellent cover species for birds and small animals; used by colonial nesting wading birds for nesting substrate. Potential pest plant. Fresh/brackish.
Marsh hibiscus ²	Seeds, transplants	Collect seeds when mature (Aug-Oct); store dry at 41°F; plant on site at least two to three inches deep. Dig plants, replant on site or pot for holding.	Good cover for birds, sunning turtles; grows on banks of streams and ponds, in ditches; good soil stabilizer. Fresh water.
Marsh pepper ²	Cuttings, rootstock	Take 2-6 in. cuttings from top shoots; broadcast on wet area of site; rake into soil. Dig rootstock; divide into sections; plant in wet areas of site.	Excellent seed source for waterfowl and other birds; foliage bitter to browsers; good cover and soil stabilizer. Fresh water.
Marsh smartweed ²	Cuttings, seeds	Cuttings: same as above. Collect seeds when mature (June-Sept); store or plant immediately on site; rake in soil.	Excellent seed source for upland and waterfowl birds; good cover for many wildlife species. Not palatable to herbivores. Fresh water.
Mud plantain ²	Cuttings	Take two to six inch sections from top shoots; replant in mud and wet areas on site, taking care to bury portions of cuttings in soil.	Good soil stabilizer in intermittent ponds and streams. Fresh water.
Nodding smartweed ²	Seeds	Collect seeds when mature (June-Sept); store in fresh water at 41°F; broadcast on site; rake into soil.	Abundant seed source for upland and waterfowl birds; grows in drier soils than most smartweeds. Potential pest plant. Not palatable to herbivores. Fresh water.
Nutsedges ²	Tubers, rootstock	Dig tubers in late summer and fall; divide; plant on site or pot for using as transplants. Dig rootstock; divide into sections; plant on site, same depth.	Excellent food source for most wildlife, especially chufa and red-rooted sedge. Some species are commercially available; potential pest plant in agro-economic areas. Fresh water.
Olney's threesquare ²	Transplants, tubers	Dig plants; separate individuals; plant on site or pot for holding. Dig tubers; separate; plant on site at same depth.	Excellent food source for waterfowl, muskrats, nutria, small animals. Good soil stabilizer. Fresh water.
Orache ²	Seeds	Collect seeds when mature; store dry at room temperature or less. Broadcast on site; rake into soil.	Good source of seeds for birds and rodents; good soil stabilizer. Fresh/brackish.
Pacific cordgrass ²	Transplants, springs	Dig young plants from edge of marsh; plant at same depth immediately as sprigs, or grow in pots and transplant into site as larger plants. Growing from seeds not recommended as seeds have very low viability rate.	Only low marsh soil stabilizer on west coast that tolerates both high salinities and strong tidal action. Good soil stabilizer; good cover; very slow growth. Saline.

(Continued)

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Table B-2 (Continued)

Species	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
Red mangrove ²	Seeds, seedlings	Collect seed pods when mature; plant whole pod upright in soil with stem end up and out of the soil. Dig seedlings from natural stand or grow from seed pods.	Excellent soil stabilizer in south Florida. Frequently occurs on dredged material islands and used by colonial nesting wading birds for nesting. Saline.
Reed canary grass ^{2,3}	Seeds	Buy seeds from commercial seed source.	Excellent soil stabilizer; seeds good wildlife food source; used to dewater and filter wastewater.
Reed grass ²	Seeds, sprigs	Collect seeds when mature (July-Sept); store dry at 41°F; broadcast on site. Dig young plants to use for sprigs; separate individuals; plant on site or pot for growing as transplants.	Excellent seed source for birds; grazed heavily by mammals and rodents. Good soil stabilizer. Fresh water.
Reed manna grass ²	Seeds, sprigs	Same procedures as above.	Same value as shown above. Fresh water.
Rice cutgrass ²	Seeds, sprigs	Collect seeds when mature (May-July); store in fresh water at 41°F; broadcast on site and rake into soil (in wet areas). Dig young plants; separate individuals; plant on site at same depth in wet areas.	Good seed and foliage food source for many wildlife species, especially waterfowl and marsh birds. Good soil stabilizer of banks. Fresh water.
River bulrush ²	Transplants, rootstock	Dig rootstock, divide into sections; plant at same depth on site. Dig plants; separate individuals; transplant to site or pot for holding.	Used frequently by nesting waterfowl and marsh birds; seeds good food source for many wildlife species. Good soil stabilizer. Fresh water.
Rushes ²	Transplants, rootstock	Dig plants; separate individuals; transplant to site or pot for holding. Dig rootstock; divide into sections; plant at same depth on site. Collect seeds when mature (July-Oct); store in fresh water at 41°F; broadcast on site; rake into soil.	This group of plant species excellent for waterfowl, small animal, other birds' food; used as nesting substrate by waterfowl and marsh birds; good soil stabilizers; hardy plants. Fresh water.
Saltgrass ²	Sprigs, rhizomes	Dig young plants; divide into sections; plant on site or pot for holding. Dig roots; divide rhizomes into small sections; plant on site; rake into soil.	Excellent soil stabilizer; grows well in high brackish marshes; used as lodge material by muskrats; seeds fair food source, but foliage poor source. Brackish/saline.
Saltmarsh aster ²	Seeds	Collect seeds when mature (July-Sept); store dry at room temperature or less; broadcast on site; rake into soil.	Good soil stabilizer in high coastal marshes.
Saltmarsh bulrush ²	Transplants, tubers	Dig plants; divide; plant on site at same depth or pot for holding; dig tubers; separate tubers; cut off top shoots if present; plant on site at same depth.	Excellent food source for waterfowl and muskrats, nutria, other small animals. Good cover; good soil stabilizer; used by muskrats for lodge material. Brackish.

(Concluded)

(Sheet 6 of 10)

Table B-2 (Continued)

Species	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
Saltmarsh cattail ²	Transplants, rootstock	Dig plants; separate individuals; plant on site at same depth. Dig roots; separate; cut off top shoots if present; plant on site.	Good soil stabilizer. Occurs in ditches, intermittent ponds, primarily on coasts. Low food value; fair cover. Fresh/brackish.
Saltmarsh jaumea ²	Transplants	Dig plants, separate individuals; plant on site at same depth or pot for holding.	Fair soil stabilizer on west coast in high brackish marshes. Brackish/saline.
Saltmeadow cordgrass ²	Transplants, sprigs	Dig plants; divide into clumps; plant on site at same depth or pot for holding. Dig young plants; separate; plant on site at same depth.	Excellent soil stabilizer in brackish marshes; also used in dune stabilization on Atlantic coast. Seed production often poor; low food value; some cover value. Brackish.
Saw grass ²	Sprigs, seeds	Dig young plants; separate individuals; plant on site or pot for holding. Collect seeds when mature (July-Sept); store in fresh water at 41°F; broadcast on site; rake into soil.	Species very site specific; occurs only in Florida and in isolated spots along the gulf coast. Will not tolerate high nutrient levels. Good soil stabilizer; good cover; seeds eaten by some wildlife. Fresh water.
Sea lavender ² (<i>L. carolinianum</i>)	Seeds	Collect seeds when mature (July-Aug); store dry at 41°F; broadcast on site; rake into soil.	Fair soil stabilizer; cover. Low food value. Some nesting substrate value. Fresh/brackish.
Sea lavender ² (<i>L. vulgaris</i>)	Seeds	Same procedures as above.	Same values as above. Fresh/brackish.
Sea ox-eye ²	Transplants, seeds	Dig plants; separate individuals; plant on site at same depth or pot for holding. Collect seed heads when mature (July-Oct); store seeds in fresh water at 41°F; plant on site; rake into soil.	Excellent soil stabilizer; grows in high marshes and on shores. Low food value; some cover and nesting value. Brackish.
Sea purslane ²	Seeds	Collect seeds when mature; store dry at room temperature or less; plant on site; rake into soil.	Fair soil stabilization value; low food value; some seed value as food. Some cover use. Fresh/brackish.
Seaside arrowgrass ²	Transplants	Dig plants; divide into individuals or clumps; plant on site at same depth or pot for holding.	Excellent soil stabilizer in brackish tidal marshes in Pacific northwest; some cover value; low food value. Fresh water.
Sedges ²	Transplants, seeds	Dig plants; separate into clumps or individuals; plant on site or pot for holding. Collect seeds when mature (June-Sept); store dry at 41°F; broadcast on site; rake into soil.	This group of species far-ranging and widely varied. Usually excellent seed value for wildlife; also good cover. Prolific plants. Fresh water.
Shoal grass ²	Transplants	Dig plugs with coring device in water at low tide; plant at site immediately at same depth.	Propagules must be stabilized to prevent tidal scour. Good cover value for marine organisms; good sediment stabilizer. Saline.

(Concluded)

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Table B-2 (Continued)

Species ²	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
Slough grass ²	Transplants, seeds	Dig plants; divide into clumps or individuals; plant at same depth on site or pot for holding. Collect seeds when mature (July-Sep); store in fresh water at 41°F; broadcast on wet site area.	Good food value for waterfowl and other seed-eating birds; foliage eaten by small animals. Good soil stabilizer. Fresh water.
Slough sedge ²	Transplants, seeds	Dig plants; separate into clumps; plant on site at same depth or pot for holding; collect seeds when mature (July-Oct); store in fresh water at 41°F; broadcast on wet site; rake into soil if necessary.	Excellent wildlife seed source; foliage also eaten. Good soil stabilizer. Fresh water.
Smartweed ²	Cuttings, seeds	Take two to six inch cuttings from top shoots; broadcast on site; rake into soil taking care to cover parts of cuttings (site should be wet). Collect seeds, store in fresh water or dry depending on species; broadcast on site; rake into soil.	Excellent group of plants for wildlife value; seeds readily consumed by waterfowl and many other birds and small animals. Good soil stabilizers. Not palatable to herbivores.
Smooth cordgrass ^{2,3}	Sprigs, transplants	DIG young plants, separate individuals; plant as sprigs on site or pot to hold as transplant. DIG transplants from natural marsh or grow from seeds; plant on site taking care to cover all roots.	Best soil stabilizer of low salt marshes on east and Gulf coasts. Used extensively for stabilization and marsh creation projects. Good cover value; Good food value. Tolerant of tidal inundation for long periods. Sensitive.
Soft rush ²	Transplants	DIG clumps; divide into sections with cutting device; plant on site at same depth or pot for holding.	Persistent high marsh species; good cover value. Some seed value, but foliage inedible. Known pest in pastoral areas. Fresh water.
Softstem bulrush ²	Rhizomes, transplants	DIG roots; divide rhizomes leaving at least one growth point on each; plant on site one to three inches deep. DIG plants; divide into sections; plant on site or pot for holding.	Excellent soil stabilizer of fresh water coastal and interior marshes. Good seed value for wildlife. Used as cover and nesting material by waterfowl and other wildlife. Fresh water.
Southern bulrush	Rhizomes, transplants	Same procedures as above.	Same values as above, except that this species does not occur as extensively as softstem bulrush, and grows much larger and robust. Fresh water.
Southern cutgrass ²	Seeds, sprigs	Collect seeds when mature (May-July); store in fresh water at 41°F; broadcast on wet site, rake into soil if necessary.	Excellent seed value for waterfowl and other birds; foliage eaten by small animals and grazers when tender and young. Good soil stabilizer. Fresh water.
Southern smartweed ²	Cuttings, seeds	Take two to six inch cuttings from top shoots; broadcast in wet area on site; rake or place cuttings into soil. Collect seeds when mature (July-Oct); store in fresh water at 41°F; broadcast on site; rake into soil.	Excellent food source for waterfowl and marsh birds. Prolific growth habit; forms dense tall stands. Good cover value. Not palatable to herbivores. Fresh water.

(Continued)

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Table B-2 (Continued)

Species	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
<i>Spatterdock</i> ²	Transplants	Dig plants; separate individuals; plant on site at same depth or pot for holding.	Good waterfowl food; good soil stabilizer. Fresh water.
<i>Spikerushes</i> ²	Transplants	Dig plants; divide into clumps; plant on site at same depth or pot for holding.	Excellent soil stabilizer; fair waterfowl food. Fresh water.
<i>Spirodella</i> ²	Whole plants	Scoop buckets of plants from standing water; transfer to standing water on site.	Good waterfowl food, especially wood ducks.
<i>Sprangletop</i> ²	Seeds, sprigs	Collect seeds when mature (summer, fall); store dry at room temperature or less; broadcast on site; rake into soil. Dig young plants; plant on site as sprigs.	Excellent seed source for wildlife; good soil stabilizer; used for cover. Fresh water.
<i>Sweet flag</i>	Transplants	Dig plants; divide individuals; plant on site in high marsh at same depth.	Good soil stabilizer; fair wildlife value; potential pest plant. Fresh water.
<i>Tufted hairgrass</i> ²	Transplants, sprigs	Dig plants; divide individuals; plant on site or pot for holding. Dig young plants; plant as sprigs on site.	Excellent low marsh species for Pacific northwest; prolific growth; good cover and fair food/wildlife value. Good soil stabilizer. Fresh/brackish.
<i>Turtle grass</i> ²	Transplants	Dig clumps with coring device from water at low tide; take care to be sure that at least one growth point is in each clump or it will not reproduce; plant on site in the water.	Excellent cover and wildlife value; good cover for marine organisms. Species susceptible to environmental changes by man; rare in some areas. Saline.
<i>Walter's millet</i> ^{2,3}	Seeds	Buy from commercial seed source.	Excellent food value for waterfowl and other wildlife such as raccoons, turkey, deer, muskrats. Good temporary soil stabilizer. Fresh water.
<i>Water hemp</i> ²	Seeds	Collect seeds when mature; store in fresh water at 41°F; broadcast in wet area on site; rake into soil if necessary.	Good seed source for wildlife; fair soil stabilizer. Fresh water.
<i>Water hyssop</i>	Cuttings, sprigs	Take two to six inch cuttings from top shoots; plant in mud on site. Dig young plants; divide; plant on site in wet area.	Good soil stabilizer; fair wildlife food. Fresh water.
<i>Water lilies</i> ^{2,3}	Rootstock	Dig rootstock in late summer and fall when water levels are low; transplant to shallow water on site.	Good cover for ducklings; some food value. Excellent sediment stabilizer; potential pest. Fresh water.
<i>Watermilfoils</i>	Cuttings	Gather containers of plant segments from standing water on site.	Excellent dabbling duck food; good cover. Potential pest plant in standing water and reservoirs. Fresh water.
<i>Water nymphs</i>	Cuttings	Same procedures as above.	Same value as above. Fresh water.

(Continued)

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Table B-2 (Concluded)

Species	Recommended Propagules	General Collection, Handling, and Planting Techniques	Remarks
Water plantain ²	Transplants	Dig plants; divide individuals; plant on site at same depth.	Good food source for wildlife; fair soil stabilizer. Fresh water.
Water shield	Rootstock	Dig roots in shallow water in late summer and fall; transfer to standing shallow water on site.	Good cover value, good sediment stabilizer. Fresh water.
Water smartweed ²	Cuttings, seeds	Take two to six inch cuttings from top shoots; plant on site in wet area taking care to bury part of cutting. Collect seeds when mature (July-Sept); store in fresh water at 41°F; broadcast on wet site.	Excellent waterfowl food; good cover. Excellent sediment and soil stabilizer. Fresh water.
Water willow	Transplants	Dig plants; divide individuals; plant on site at same depth.	Fair soil stabilizer; low wildlife value. Fresh water.
White mangrove ²	Seeds, seedlings	Collect seeds when mature; plant immediately on site. Dig seedlings from natural stand; plant on site.	Excellent soil stabilizer; good cover; low food value; used by nesting birds. Saline.
Widgeongrass ²	Cuttings	Remove buckets of segments of plants from standing water; transfer to standing water on site.	Excellent waterfowl food; grown by waterfowl managers for attracting waterfowl. Brackish.
Wild celery	Whole Plants	Remove whole plants from standing water; transfer to standing water on site.	Excellent cover value; harbors many invertebrates fed on by wildlife. Shaded out aquatic plants; pest in Florida and deep south in isolated locations. Fresh water.
Wild rice ²	Sprigs, seeds	Dig young plants, divide individuals; plant in shallow water on site. Collect seeds when mature; plant on wet site.	Low tolerance for pollution; must have fine-textured soils in slow-moving water. Excellent wildlife food, good soil stabilizer. Fresh water.
Willows ²	Cuttings	Take four to twelve inch cuttings from dormant trees (winter months, early spring); plant cuttings on site with butt end two thirds in soil.	Excellent soil stabilizer of stream and pond banks. Good cover and food value for songbirds. Very fast growing, potential pest plant. Fresh water.
Wolfberries	Whole plants	Remove buckets of plants from standing water; transfer to standing water on site.	Excellent waterfowl food; good cover value. Fresh water.
Yellow flag	Transplants, rhizomes	Dig plants; divide individuals; plant in high marsh on site. Dig rhizomes; divide keeping one growth point on each rhizome; plant shallowly on site.	Good soil stabilizer, low wildlife value: showy flowers. Fresh water.

Sources of information used in the preparation of this table came from unpublished data by the author (Iandini) and the following references: Adams (1963), Barbour and Davis (1970), Britton and Brown (1970), Brockman (1968), Broome et al. (1973), Burkharter et al. (1974), Chabreck (1970), Correll and Johnston (1970), Duncan (1974), Eyles and Robertson (1965), Fassett (1960), Harris and Marshall (1960), Hitchcock (1950), Hotchkiss (1967), Hotchkiss (1970), Kadlec and Wentz (1974), Long and Lakela (1971), Marrin et al. (1951), Mason (1969), Palmarino (1972), Radford et al. (1968), Salyer (1949), Seneca (1972), and Woodhouse et al. (1972).

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