

Plant Propagation Protocol for *Carex macrocephala*
 ESRM 412 – Native Plant Production

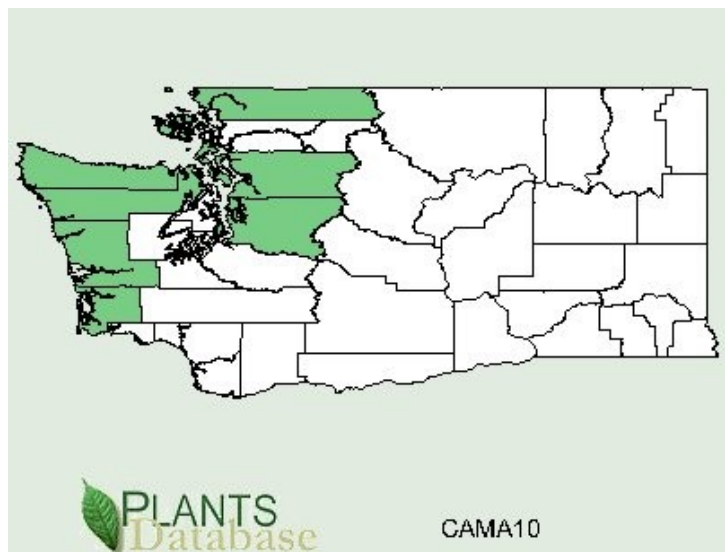


TAXONOMY	
Family Names	
Family Scientific Name:	Cyperaceae
Family Common Name:	sedge
Scientific Names	
Genus:	Carex
Species:	macrocephala
Species Authority:	Willd. ex Spreng
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s) (include full scientific names (e.g., <i>Elymus glaucus</i> Buckley), including variety or subspecies information)	CAMAM6 <i>Carex macrocephala</i> var. <i>macrocephala</i> CAMAB2 <i>Carex macrocephala</i> var. <i>bracteata</i> T. Holm
Common Name(s):	largehead sedge, large headed sedge, big-head sedge, big-headed sedge, dune sedge
Species Code (as per USDA Plants database):	CAMA10
GENERAL INFORMATION	

Geographical range (distribution maps for North America and Washington state)



<http://plants.usda.gov/java/profile?symbol=CAMA10>



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Three populations have been recently documented in New Jersey. (Wootton 2007)

Ecological distribution (ecosystems it occurs in, etc):

Sandy beaches and dunes along coasts, sounds, bays, and inlets. (www.efloras.org)

Climate and elevation range

Maritime climates at or near sea level.(E-Flora BC)

Local habitat and abundance; may include commonly associated species

Carex kobomugi in New Jersey.(Wootton 2007)
Elymus mollis and the invasive species *Cytisus scoparius* (Hanna)

Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late

Early successional in sand, salt tolerant. (Kumler 1969)
Forms clonal patches through vegetative reproduction. (Standley)

successional)	
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)	Graminoid: low growing sedge characterized by extremely large showy seed head. (Wootton 2007)
PROPAGATION DETAILS	
Ecotype (this is meant primarily for experimentally derived protocols, and is a description of where the seed that was tested came from):	No information
Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules):	No information
Propagation Method (Options: Seed or Vegetative):	No information
Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown hybrids, and/or Propagules (seeds, cuttings, poles, etc.))	No information
Stock Type:	No information
Time to Grow (from seeding until plants are ready to be outplanted):	No information
Target Specifications (size or characteristics of target plants to be produced):	No information
Propagule Collection (how, when, etc):	No information
Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc):	No information
Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	No information
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	No information
Establishment Phase (from seeding to germination):	No information
Length of Establishment Phase:	No information
Active Growth Phase (from germination until plants are no longer actively growing):	No information
Length of Active Growth Phase:	No information
Hardening Phase (from end of active	No information

growth phase to end of growing season; primarily related to the development of cold-hardiness and preparation for winter):	
Length of Hardening Phase:	No information
Harvesting, Storage and Shipping (of seedlings):	No information
Length of Storage (of seedlings, between nursery and outplanting):	No information
Guidelines for Outplanting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	No information
Other Comments (including collection restrictions or guidelines, if available):	In a 1969 research project, researchers were not able to germinate seed of <i>Carex macrocephala</i> in the laboratory or greenhouse. Unsuccessful treatments included soaking seed in various solutions such as 1%, 2%, and 3% hydrogen peroxide, 1% thiourea, and 1% cysteine. (Kumler 1969)

INFORMATION SOURCES

References (full citations):	<p>“PLANTS Profile” <i>Carex macrocephala</i> Willde. Ex Spreng largehead sedge http://plants.usda.gov/java/profile?symbol=CAMA10 (Accessed 17 May 2011)</p> <p>“Flora of North America” <i>Carex macrocephala</i> http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242357313 (Accessed 17 May 2011)</p> <p>Wootton, L.S. 2007. First observation of <i>Carex macrocephala</i> on the Atlantic coast of North America. <i>Journal of the Torrey Botanical Society</i> 134(1): 126-134</p> <p>“E-Flora BC: Electronic Atlas of the Plants of British Columbia” <i>Carex macrocephala</i> Willde. Ex Spreng largehead sedge http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Carex%20macrocephala (Accessed 17 May 2011)</p> <p>Hanna D. A. “Restoration Case Study of Selected Habitats at Iona Beach Regional Park” http://www.geog.ubc.ca/richmond/city/iona_case_study</p>
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	<p>_9HLK.pdf (Accessed 17 May 2011)</p> <p>Kumler M. L. "Plant Succession on the Sand Dunes of the Oregon Coast" <i>Ecology</i> Vol. 50, No. 4 (Jul., 1969), pp. 695-704.</p> <p>Standley L. A. "Paradioecy and Gender Ratios in <i>Carex macrocephala</i> (Cyperaceae)" <i>American Midland Naturalist</i> Vol. 113, No. 2 (Apr., 1985), pp. 283-286</p>
Other Sources Consulted (but that contained no pertinent information) (full citations):	<p>King MG, Horning ME, Roalson EH. "Range persistence during the last glacial maximum: <i>Carex macrocephala</i> was not restricted to glacial refugia" <i>Mol Ecol.</i> 2009 Oct;18(20):4256-69. Epub 2009 Sep 15.</p> <p>Bertin R.I. "Sex allocation in <i>Carex</i> (Cyperaceae): effects of light, water, and nutrients" <i>Canadian Journal of Botany</i>, 2007, 85:377-384, 10.1139/B07-034</p>
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Date Protocol Created or Updated (MM/DD/YY):	05/17/11

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<http://www.nativeplantnetwork.org/network/SampleBlankForm.asp>