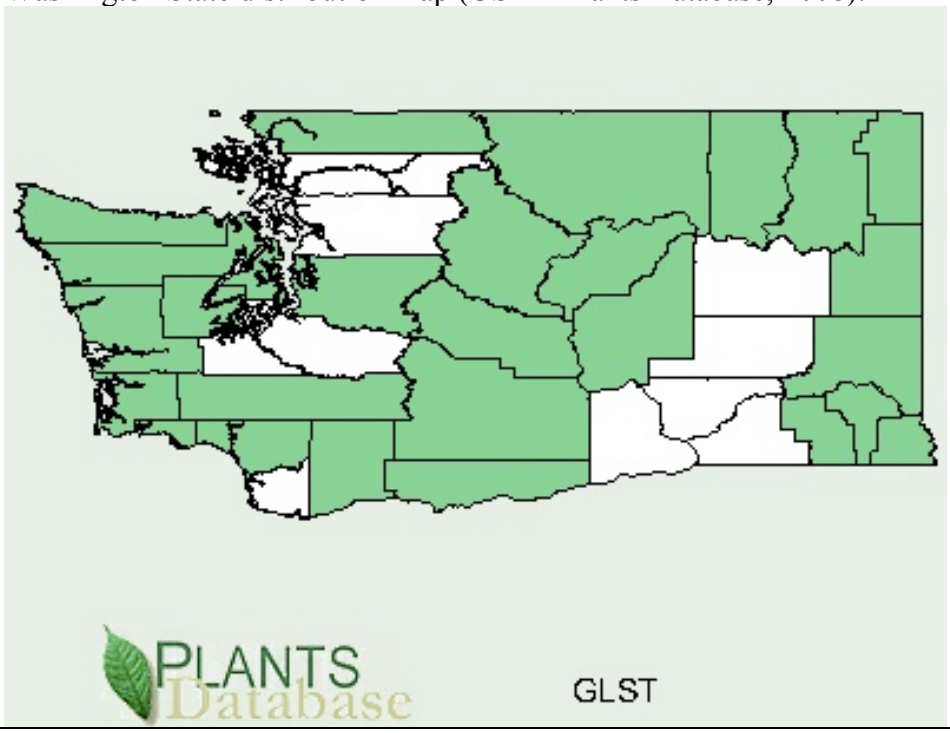
Plant Propagation Protocol for *Glyceria striata*
ESRM 412 – Native Plant Production
Spring 2008

TAXONOMY	
Family Names	
Family Scientific Name:	Poaceae
Family Common Name:	Grass family
Scientific Names	
Genus:	*Glyceria*
Species:	*striata*
Species Authority:	(Lam.) Hitchc.
Common Synonym(s):	*Glyceria elata* (Nash ex Rydb.) M.E. Jones* *Glyceria nervata* (Willd.) Trin. *Glyceria striata* (Lam.) Hitchc. ssp. *stricta* (Scribn.) Hulten *Glyceria striata* (Lam.) Hitchc. var. *stricta* (Scribn.) Fernald *Panicularia nervata* (Willd.) Kuntze *Panicularia striata* (Lam.) Hitchc. **Glyceria elata* and *Glyceria striata* are often treated as a single species. Recent research by Whipple et al (2007) shows that the species have different chloroplast genotypes, supporting their recognition as distinct taxa. Information provided by the USDA Plants Database (2008) does not include this finding. Similarly, USDA NRCS Plant Materials Center lists *G. elata* and *G. striata* as being classified as the same species (Darris, 2006).
Common Name(s):	Fowl manna grass Fowl meadow grass

Species Code:	GLST
GENERAL INFORMATION	
Geographical range:	National distribution map (USDA Plants Database, 2008):  Washington State distribution map (USDA Plants Database, 2008): 

Ecological distribution:	Moist meadows, bogs, freshwater wetlands, streamside, and along lakeshores (Klinkenberg, 2007) (Grasses of Iowa, 2008).
Climate and elevation range	Lowland to sub-alpine zones, climate varies (no specific information provided) (Klinkenbeg, 2007)
Plant characteristics;	Perennial grass, rhizomatous, 30 to 80 cm in height. Leaves sheathing, usually closed for most of the stem, 2-5 mm wide, minutely rough. Inflorescence 7 – 20 cm long, slender and usually drooping. Spikelets have 4 – 7 flowers and egg shaped glumes. Lemmas prominently 7 nerved, 2 mm long (Klinkenberg, 2007) (Hitchcock and Cronquist, 1976).
PROPAGATION DETAILS	
Propagation Goal:	Plants
Propagation Method:	Seed
Product Type:	Container
Time to Grow:	No information found.
Propagule Collection (how, when, etc):	Seed collection, completed in late June when achenes turn brown and release readily (Grinnell College, 2004).
Propagule Processing/Propagule Characteristics:	No seed cleaning is necessary. Seeds are best stored in a dry location (Grinnell College, 2004).
Pre-Planting Propagule Treatments:	Seed dormancy is physiological (Baskin, 2003). Cold, moist stratification is recommended (Grinnel College, 2004). Research in Kentucky suggests 150 days of cold stratification (Baskin, 2003). USDA Plants Database (2008) lists the plant has having no cold stratification requirements.
Growing Area Preparation / Annual Practices for Perennial Crops:	Sow seed in pots standing in 3 – 5 cm of water. Surface sow seeds (Plants for a Future, 2008). No information given on soil medium.
Establishment Phase:	Seeds germinate at alternating temperatures of 19 C and 15 C (Baskin, 2003).
Length of Establishment Phase:	3 weeks (Plants for a Future, 2008)
Active Growth Phase:	No information found.
Length of Active Growth Phase:	No information found.
Hardening Phase:	No information found.
Length of Hardening Phase:	No information found.
Harvesting, Storage and Shipping:	No information found.
Length of Storage:	No information found.
Guidelines for Outplanting /	Survival is listed as excellent (Grinnell College, 2004).

Performance on Typical Sites:	
Other Comments:	No collection restrictions, not invasive (Klinkenberg, 2007)
INFORMATION SOURCES	
References:	Baskin, Carol C. 2003. Propagation protocol for production of container Glyceria striata (Lam.) A.S. Hitchc . plants; University of Kentucky, Lexington, Kentucky. Native Plant Network. Accessed 23 May 2008 at: http://www.nativeplantnetwork. Darris, Dale. 2006. USDA NRCS Plant Fact Sheet: Tall Mannagrass *Glyceria elata* (Nash ex Rydb.) M.E. Jones. USDA Plant Materials Center, Corvallis, OR. Grinnell College. 2004. Guides to Collecting and Germinating Seeds in Iowa. Accessed 23 May 2008 at: http://web.grinnell.edu/individuals/mottll/Species/Glyceria%20striata.htm Grasses of Iowa, Iowa State University. Accessed 23 May 2008 at: http://www.eeob.iastate.edu/research/iowagrasses/speciespages/GlyceStria/GlyceStria.html Hitchock, C.L. and A. Cronquist. 1976. *Flora of the Pacific Northwest*. University of Washington Press, Seattle, WA Klinkenberg, Brian. 2007. E-Flora BC: Electronic Atlas of the Plants of British Columbia. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver. Accessed 26 May 2008 at: www.eflora.bc.ca Plants for A Future. Accessed 26 may 2008 at: http://www.pfaf.org/database/plants.php?Glyceria+striata USDA Plants Database. Accessed 23 May 2008 at: http://plants.usda.gov/java/profile?symbol=GLST Whipple, I., Barkworth, M., and Bushman B. 2007. Molecular Insights into the Taxonomy of *Glyceria Striata* (Poaceae: Meliceae) in North America. *American Journal of Botany*, 94: 551 – 557.
Other Sources Consulted:	Association of Official Seed Analysts. *Suggested purity and/or germination testing methods for species without AOSA rules testing producedures*. Accessed 27 May 2008 at: http://www.aosaseed.com/reference.htm Deno, N.C. *Seed germination theory and practice.* State College, PA

	Kruckeberg, Arthur R. 1982. *Gardening with Native Plants of the Pacific Northwest*. University of Washington Press, Seattle, WA. Lady Bird Johnson Wildflower Center. "Native Plant Database". Accessed 27 May 2008, http://www.wildflower.org Leigh, Michael. 1996. *Grow your own native landscape: A guide to identifying propagating and landscaping with western Washington native plants*. Native Plant Salvage Project, WSU Ex Washington Native Plants Washington State University Cooperative Extension, Thurston County. Northwest Native Plant Landscape Guide, King County Website, accessed 27 May 2008, http://dnr.metrokc.gov/wlr/pi/go-native Nature Serve Explorer. Access 26 May 2008 at: http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Glyceria+striata Pettinger, A. And B. Costanzo. 2002. *Native Plants in the Coastal Garden*. Whitecap, North Vancouver, BC. Robson, K.A., Richter, A., Filbert, M. 2008. *Encyclopedia of Northwest Native Plants for Gardens and Landscapes.* Timber Press, Portland, OR. Rose, R., Chachulski, C., Hasse, D. 1998. *Propagation of Pacific Northwest Native Plants*. Oregon Sate University Press, Corvallis, OR. University of Washington Burke Museum Herbarium. "WTU Image Collection: Plants of Washington". Accessed 23 May 2008, http://biology.burke.washington.edu/herbarium/imagecollection.php Washington State University Extension. "Native Plants: Identifying, Propagating, and Landscaping". Accessed 26 May 2008, http://gardening.wsu.edu/NWnative/
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