

## FLORISTIC DATA FOR 96 PALUSTRINE EMERGENT WETLANDS IN PORTLAND, OREGON

### SUPPLEMENTARY DATA FOR:

Teresa K. Magee<sup>1</sup>, Ted L. Ernst<sup>1</sup>, Mary E. Kentula<sup>2</sup>, and Kathleen A. Dwire<sup>1,3</sup>. 1999. Floristic Comparison of Freshwater Wetlands in an Urbanizing Environment. *Wetlands* 19(3): 517-534.

**Abstract:** We evaluated the floristic condition of freshwater palustrine wetlands dominated by wet meadow, emergent marsh, aquatic vegetation, or open water within the rapidly urbanizing area of Portland, Oregon, by (1) characterizing plant species richness (presence/absence) and composition of naturally occurring wetlands (NOWs) and mitigation wetlands (MWs), and (2) identifying relationships between floristic characteristics and variables describing land use, site conditions, and mitigation activities. Data were collected on 45 NOWs and 51 MWs. Overall species richness was high (365 plant taxa), but more than 50% of the species present on both NOWs and MWs were introduced. Only 14 species occurred on more than half the sites and nine of these were invasive nonindigenous species. The mean number of native species per site did not differ between land use categories (ANOVA,  $p=0.6031$ ), however, wetlands surrounded by agricultural and commercial/industrial/transportation corridor uses had more introduced species per site than wetlands surrounded by undeveloped land ( $p \leq 0.05$ ). Although overlapping in floristic composition, NOWs and MWs had significantly different (MRPP,  $p < 0.0001$ ) species assemblages that were identified using TWINSPAN. MRPP analyses for all sites showed that watershed, land use, HGM class, percent cover of water and MW age were significantly related to the floristic composition of the study wetlands. Canonical correspondence analyses further revealed that the primary gradient for species distribution in NOWs was related to moisture; the secondary gradient was related to land use. The primary gradient also described a strong relationship between percent cover of water and HGM class. For MWs, the primary gradient was related to watershed location and surrounding land use; the secondary gradient was related to percent cover of water and MW age. Most MWs (44 out of 51 sites) were depressions in various settings, so while HGM class separates NOWs from MWs, it does little to distinguish MW assemblages. Our results show wetlands in the urbanizing study area are floristically degraded. Further, current wetland management practices are replacing natural marsh and wet meadow systems with ponds, resulting in changes in the composition of plant species assemblages.

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**SUPPLEMENTARY DATA.** Ecological status of taxa found in study sites in the Portland, Oregon metropolitan area and the number of naturally occurring wetlands (NOW) or mitigation wetlands (MW) on which they occur. Species are listed as native, introduced, or unknown origin<sup>§</sup>. Each species was assigned to an United States Fish and Wildlife Service Wetland Indicator Category (IND): OBL = obligate wetland, FACW = facultative wetland, FAC = facultative, FACU = facultative upland, UPL = obligate upland, NI = no-indicator, UNK = absent from the indicator list (Reed 1988, 1993). Species that were identified in the literature and through field observation as invasive<sup>†</sup> are indicated by a star (\*); superscript numbers indicate sources for invasive designation. Trees and shrubs of horticultural origin found only on MWs are indicated by a diamond (◆). Nomenclature based on BONAP (1996); Synonyms from regional floras (Hitchcock and Cronquist. 1973 or Hickman 1993) are included in parentheses.

Native Species <sup>§</sup>	NOW	MW	IND
<i>Agrostis exarata</i> Trin.	7	6	FACW
<i>Alisma plantago-aquatica</i> L.	8	11	OBL
<i>Alnus rubra</i> Bong.	4	19	FAC
<i>Alopecurus aequalis</i> Sobol.	4	3	OBL
<i>Alopecurus geniculatus</i> L.	6	7	OBL
<i>Amaranthus albus</i> L.	1	0	FACU
<i>Amelanchier alnifolia</i> (Nutt.) Nutt ex M. Roen.	0	1	FACU
<i>Argentina egedii</i> Rydb. subsp. <i>egedii</i> ( <i>Potentilla pacifica</i> Howell)	0	2	OBL
<i>Asclepias speciosa</i> Torr.	1	0	FAC
<i>Aster subspicatus</i> Nees	5	3	FACW
<i>Athyrium filix-femina</i> (L.) Roth	4	1	FAC
<i>Azolla filiculoides</i> Lam.	0	1	OBL
<i>Azolla mexicana</i> Schlecht & Cham. ex C. Presl.	1	0	OBL
<i>Azolla</i> sp. Lam.	0	2	OBL
<i>Beckmannia syzigachne</i> (Steud.) Fernald	2	1	OBL
<i>Bidens cernua</i> L.	0	1	FACW
<i>Bidens frondosa</i> L.	4	11	FACW
<i>Boisduvalia densiflora</i> (Lindl.) S. Watson	0	1	FACW
<i>Callitriche palustre</i> L. ( <i>Callitriche verna</i> L.)	1	4	OBL
<i>Callitriche</i> sp. L.	1	1	OBL
<i>Cardamine occidentalis</i> (S. Watson) ex B.L. Rob Howell	0	1	FACW
<i>Carex amplifolia</i> W. Boott	1	0	FACW
<i>Carex athrostachya</i> Olney	4	0	FACW
<i>Carex cusickii</i> Mack. ex Piper & Beattie	1	1	OBL
<i>Carex densa</i> (L.H. Bailey) L.H. Bailey	10	14	OBL
<i>Carex deweyana</i> Schwein.	1	3	FACU
<i>Carex feta</i> L.H. Bailey	1	4	FACW
<i>Carex laeviculmis</i> Meinsh.	1	0	FACW
<i>Carex lanuginosa</i> Michx.	1	1	OBL
<i>Carex leporina</i> L.	1	1	FACW
<i>Carex obnupta</i> L.H. Bailey	4	7	OBL
<i>Carex pachystachya</i> Cham. ex Steud.	4	7	FAC
<i>Carex scoparia</i> Schkuhr ex Wild.	2	3	FACW

Native Species <sup>§</sup>	NOW	MW	IND
<i>Carex stipata</i> Muhl. ex Wild.	18	31	OBL
<i>Carex tumulicola</i> Mack.	0	2	FACU
<i>Carex unilateralis</i> Mack.	8	3	FACW
<i>Carex utriculata</i> W. Boott	0	1	OBL
<i>Carex vulpinoidea</i> Michx.	2	1	OBL
<i>Carex</i> sp. L.	6	12	FACW
<i>Anagallis minima</i> (L.) E.H.L. Krause ( <i>Centunculus minimus</i> L.)	2	3	FACW
<i>Cerastium nutans</i> Raf.	1	0	FACU
<i>Ceratophyllum demersum</i> L.	1	3	OBL
<i>Cirsium hallii</i> (A. Gray) M.E. Jones	11	17	UNK
<i>Conyza canadensis</i> (L.) Cronquist	0	1	FACU
<i>Cornus sericea</i> L. subsp. <i>sericea</i> ( <i>Cornus stolonifera</i> Michx.)	7	19	FACW
<i>Corylus cornuta</i> R.S. Marsh.	6	1	FACU
<i>Crataegus columbiana</i> Howell	0	2	UNK
<i>Crataegus douglasii</i> Lindl.	7	5	FAC
<i>Danthonia californica</i> Bol.	0	1	FACU
<i>Deschampsia cespitosa</i> (L.) P. Beauv.	1	1	FACW
<i>Deschampsia danthonioides</i> (Trin.) Munro	1	0	FACW
<i>Deschampsia elongata</i> (Hook.) Munro	0	1	FACW
<i>Elatine triandra</i> Schkuhr	1	0	OBL
<i>Eleocharis acicularis</i> (L.) Roem.& Schult.	3	1	OBL
<i>Eleocharis ovata</i> (Roth) Roem.& Schult.	10	30	OBL
<i>Eleocharis palustris</i> (L.) Roem.& Schult.	10	23	OBL
<i>Eleocharis</i> sp. R. Br.	1	5	FACW
<i>Elodea canadensis</i> Michx.	3	9	OBL
<i>Epilobium angustifolium</i> L.	1	0	FACU
<i>Epilobium brachycarpum</i> C. Presl. ( <i>Epilobium paniculatum</i> Nutt.)	1 1	4 4	 FACU
<i>Epilobium ciliatum</i> Raf. subsp. <i>watsonii</i> (Barbey) Hach. & P.H. Raven ( <i>Epilobium watsonii</i> Barbey)	20	26	FACW
* <i>Equisetum arvense</i> L. <sup>6,7</sup>	17	27	FAC
<i>Equisetum hyemale</i> L.	2	1	FACW
<i>Equisetum palustre</i> L.	4	5	FACW
* <i>Equisetum telmateia</i> Ehrh. <sup>6,7</sup>	11	10	FACW
<i>Equisetum</i> sp. L.	1	2	FAC
<i>Euthamia occidentalis</i> Nutt. ( <i>Solidago occidentalis</i> (Nutt.) T. & G.)	0	1	FACW
<i>Festuca occidentalis</i> Hook.	0	1	FACU
<i>Fragaria vesca</i> L.	0	1	UPL
<i>Frangula purshiana</i> (D.C.) Cooper ( <i>Rhamnus purshiana</i> DC.)	1	0	FAC
<i>Fraxinus latifolia</i> Benth.	14	13	FACW

Native Species <sup>§</sup>	NOW	MW	IND
<i>Galium aparine</i> L.	14	12	FACU
<i>Galium trifidum</i> L.	4	1	FACW
<i>Gayophytum diffusum</i> Torr. & A. Gray	1	0	UPL
<i>Geum macrophyllum</i> Willd.	1	2	FACW
<i>Glyceria borealis</i> (Nash) Batch.	2	4	OBL
<i>Glyceria elata</i> (Nash ex Rydb.) M.E. Jones	3	7	FACW
<i>Glyceria grandis</i> S. Watson	2	0	OBL
<i>Glyceria leptostachya</i> Buckley	3	6	OBL
<i>Glyceria occidentalis</i> (Piper) S.C. Nelson	3	4	OBL
<i>Gnaphalium palustre</i> Nutt.	5	4	FAC
<i>Gnaphalium purpurea</i> (L.) Cabrera ( <i>Gnaphalium purpureum</i> L.)	0	1	NI
<i>Gratiola neglecta</i> Torr.	1	1	OBL
<i>Hordeum brachyantherum</i> Nevski	2	1	FACW
<i>Hydrocotyle ranunculoides</i> L. f.	0	3	OBL
<i>Hypericum anagalloides</i> Chamb.& Schltldl. ( <i>Hypericum formosum</i> H.B.K.)	1	0	OBL
<i>Impatiens capensis</i> Meerb.	5	4	FACW
<i>Impatiens noli-tangere</i> L.	0	1	FACW
<i>Juncus acuminatus</i> Michx.	3	9	OBL
<i>Juncus articulatus</i> L.	2	1	OBL
<i>Juncus balticus</i> Willd.	0	1	FACW
<i>Juncus bufonius</i> L.	8	21	FACW
* <i>Juncus effusus</i> L. <sup>7,8</sup>	27	48	FACW
<i>Juncus ensifolius</i> Wikstr.	6	18	FACW
<i>Juncus oxymersis</i> Englem.	1	2	FACW
<i>Juncus patens</i> E. Mey.	4	7	FACW
<i>Juncus tenuis</i> Willd.	11	23	FACW
<i>Juncus</i> sp. L.	1	6	FACW
<i>Leersia oryzoides</i> (L.) Sw.	2	14	OBL
<i>Lemna minor</i> L.	18	36	OBL
<i>Lotus micranthus</i> Benth.	0	1	UPL
<i>Lotus unifoliolatus</i> (Hook.) Benth. var. <i>unifoliolatus</i> ( <i>Lotus purshiana</i> (Benth.) Clements and Clements)	1	2	FACU
<i>Ludwigia palustris</i> (L.) Elliot	10	15	OBL
<i>Lupinus polyphyllus</i> Lindl.	1	1	FAC
<i>Lycopus americanus</i> Muhl. ex W.P.C. Barton	0	1	OBL
<i>Lycopus uniflorus</i> Michx.	1	0	OBL
<i>Lythrum hyssopifolia</i> L.	0	1	OBL
<i>Lysichiton americanus</i> Hultén & E.P. St. John ( <i>Lysichiton americanum</i> Hultén & St. John)	2	1	OBL
<i>Madia gracilis</i> (Sm.) D.D. Keck & J.C. Classen ex Applegate	0	1	UPL
<i>Madia minima</i> (Gray) D.D. Keck	0	1	UPL
<i>Madia sativa</i> Molina	2	0	UPL

Native Species <sup>§</sup>	NOW	MW	IND
<i>Madia</i> sp. Molina	1	1	UPL
<i>Mentha arvensis</i> L.	1	1	FACW
<i>Mimulus guttatus</i> DC.	1	1	OBL
<i>Mimulus moschatus</i> Douglas ex Lindl.	0	1	FACW
<i>Montia dichotoma</i> (Nutt.) Howell	1	0	FAC
<i>Myosotis laxa</i> Lehm.	11	8	OBL
<i>Navarretia intertexta</i> (Benth.) Hook.	1	0	FACW
<i>Oemleria cerasiformis</i> (Torr. & A. Gray ex Hook. & Arn.) J.W. Landon	0	1	FACU
<i>Oenanthe sarmentosa</i> C. Presl. ex DC.	4	4	OBL
<i>Osmorhiza</i> sp. Raf.	1	1	UNK
<i>Panicum capillare</i> L.	2	0	FACU
<i>Plagiobothrys scouleri</i> (Hook. & Arn.) I.M. Johnst.	1	0	FACW
<i>Polygonum amphibium</i> L.	2	3	OBL
<i>Polygonum amphibium</i> L. var. <i>emersum</i> Michx. ( <i>Polygonum coccineum</i> Muhl.)	3	2	OBL
<i>Polygonum hydropiperoides</i> Michx.	7	4	OBL
<i>Polygonum lapathifolium</i> L.	1	4	FACW
<i>Polygonum minimum</i> S. Watson	0	1	UPL
<i>Polygonum punctatum</i> Elliot	2	0	OBL
<i>Polygonum</i> sp. L.	1	2	FACW
<i>Polystichum munitum</i> (Kaulf.) C. Presl.	0	3	FACU
<i>Populus balsamifera</i> L. subsp. <i>trichocarpa</i> (Torr. & A. Gray ex Hook.) Brayshaw ( <i>Populus trichocarpa</i> T. & G.)	3	9	FAC
<i>Potamogeton filiformis</i> Pers.	1	2	OBL
<i>Potamogeton foliosus</i> Raf.	4	13	OBL
<i>Potamogeton pectinatus</i> L.	1	5	OBL
<i>Potamogeton pusillus</i> L.	0	2	OBL
<i>Potamogeton pusillus</i> L. var. <i>tenuissimus</i> Mert. & W.D.J. Koch ( <i>Potamogeton berchtoldii</i> Fieb.)	1	2	OBL
<i>Potentilla gracilis</i> Dougl. ex Hook. var. <i>gracilis</i>	1	0	FAC
<i>Prunus virginiana</i> L.	0	1	FACU
<i>Pseudotsuga menziesii</i> (Mirb.) Franco	0	1	FACU
<i>Pteridium aquilinum</i> (L.) Kuhn.	0	1	FACU
<i>Ranunculus abortivus</i> L.	1	0	FACW
<i>Ranunculus aquatilis</i> L.	1	0	OBL
<i>Ranunculus flammula</i> L.	1	0	FACW
<i>Ranunculus glaberrimus</i> Hook.	1	1	FAC
<i>Ranunculus occidentalis</i> Nutt. var. <i>occidentalis</i>	1	0	FAC
<i>Ranunculus sceleratus</i> L.	1	3	OBL
<i>Ribes sanguineum</i> Pursh	0	1	UNK
<i>Rorippa curvisiliqua</i> (Hook.) Besser ex Britton	4	7	OBL
<i>Rorippa islandica</i> (Oeder) Borbás	1	1	OBL
<i>Rosa gymnocarpa</i> Nutt.	1	0	FACU

Native Species <sup>§</sup>	NOW	MW	IND
<i>Rosa nutkana</i> C. Presl.	1	2	FAC
<i>Rosa pisocarpa</i> A. Gray	11	9	FAC
<i>Rumex salicifolius</i> Weinm.	0	1	FACW
<i>Sagittaria latifolia</i> Willd.	1	3	OBL
<i>Salix fluviatilis</i> Nutt.	0	3	OBL
<i>Salix geyeriana</i> Andersson	0	1	FACW
<i>Salix lasiolepis</i> Benth.	0	1	FACW
<i>Salix lucida</i> Muhl. subsp. <i>lasiandra</i> (Benth.) E. Murray ( <i>Salix lasiandra</i> Benth.)	7	22	FACW
<i>Salix hookeriana</i> Barratt ex Hook ( <i>Salix piperi</i> Bebb)	4	14	FACW
<i>Salix eriocephala</i> Michx. ( <i>Salix rigida</i> Muhl.)	2	4	OBL
<i>Salix scouleriana</i> Barratt ex Hook	0	2	FAC
<i>Salix sessilifolia</i> Nutt.	3	1	FACW
<i>Salix sitchensis</i> Sanson ex Bong.	7	19	FACW
<i>Salix</i> sp. L.	4	6	FACW
<i>Sanicula bipinnatifida</i> Dougl. ex Hook	0	1	UPL
<i>Scirpus americanus</i> Pers.	0	2	OBL
<i>Scirpus fluviatilis</i> (Torr.) A. Gray	0	2	OBL
<i>Scirpus microcarpus</i> J. Presl. & C. Presl.	14	20	OBL
<i>Scirpus tabernaemontani</i> C.C. Gmel. ( <i>Scirpus validus</i> Vahl)	2	11	OBL
<i>Sidalcea campestris</i> Greene	0	1	NI
<i>Solidago canadensis</i> L.	0	1	FACU
<i>Sparganium angustifolium</i> Michx. ( <i>Sparganium emersum</i> Rehmman)	1	2	OBL
<i>Sparganium eurycarpum</i> Engelm. ex A. Gray	1	4	OBL
<i>Sparganium</i> sp. L.	0	3	OBL
<i>Spiraea douglasii</i> Hook.	11	13	FACW
<i>Spirodela polyrrhiza</i> (L.) Schleid.	2	7	OBL
<i>Stachys ciliata</i> Epling ( <i>Stachys cooleyae</i> Heller)	2	2	FACW
<i>Stachys mexicana</i> Benth.	1	0	FACW
<i>Stachys palustris</i> L. subsp. <i>pilosa</i> (Nutt.) Epling ( <i>Stachys rigida</i> Nutt.)	0	1	FACW
<i>Stellaria crassifolia</i> Ehrh.	1	0	FACW
<i>Stellaria longifolia</i> Muhl. ex Willd.	1	0	FACW
<i>Symphoricarpos albus</i> (L.) S.F. Blake	4	3	FACU
<i>Tellima grandiflora</i> (Pursh) Douglas ex Lindl.	1	0	FACU
<i>Thuja plicata</i> Donn. ex D. Don	0	1	FAC
<i>Tolmiea menziesii</i> (Pursh) Torr. & A. Gray	0	1	FAC
<i>Torreyochloa pallida</i> (Torr.) G.L. Church var. <i>pauciflora</i> (J. Presl.) J.I. Davis ( <i>Puccinellia pauciflora</i> (Presl.) Munz)	1	0	OBL

Native Species <sup>§</sup>	NOW	MW	IND
* <i>Typha latifolia</i> L. <sup>1, 8</sup>	14	33	OBL
<i>Veronica americana</i> Schwein. ex Benth.	17	37	OBL
<i>Veronica peregrina</i> L.	1	1	OBL
<i>Veronica scutellata</i> L.	2	0	OBL
<i>Wolffia brasiliensis</i> Wedd. ( <i>Wolffia punctata</i> Griseb).	1	0	OBL
Introduced Species <sup>§</sup>	NOW	MW	IND
* <i>Agrostis capillaris</i> <sup>1, 3</sup> ( <i>Agrostis tenuis</i> Sibth.)	17	36	FAC
* <i>Agrostis gigantea</i> <sup>1, 3</sup> Roth ( <i>Agrostis alba</i> L.)	24	38	FACW
<i>Aira caryophyllea</i> L.	0	2	UPL
<i>Allium vineale</i> L.	1	0	NI
* <i>Alopecurus pratensis</i> L. <sup>1, 7</sup>	22	25	FACW
<i>Anagallis arvensis</i> L.	0	2	FAC
<i>Anthemis cotula</i> L.	4	0	FACU
<i>Anthoxanthum odoratum</i> L.	1	4	FACU
◆ <i>Betula</i> sp. L.	0	3	UNK
<i>Bromus commutatus</i> Schard.	3	4	UPL
<i>Bromus hordeaceus</i> L. subsp. <i>hordeaceus</i> ( <i>Bromus mollis</i> L.)	3	7	UPL
◆ <i>Buddleja davidii</i> Franch.	0	1	FAC
<i>Callitriche stagnalis</i> Scop.	18	24	OBL
* <i>Calystegia sepium</i> (L.) R.Br. subsp. <i>sepium</i> <sup>2, 3, 9</sup> ( <i>Convolvulus sepium</i> L.)	4	4	FAC
<i>Centaurium erythraea</i> Rafn ( <i>Centaurium umbellatum</i> Gilib.)	4	8	FAC
<i>Cerastium glomeratum</i> Thuill. ( <i>Cerastium viscosum</i> L.)	1	0	UPL
<i>Cerastium fontanum</i> subsp. <i>vulgare</i> (Hartman) Greuter & Brudet ( <i>Cerastium vulgatum</i> L.)	0	1	FACU
<i>Chenopodium album</i> L.	0	1	FAC
<i>Chenopodium ambrosioides</i> L.	1	0	FAC
* <i>Leucanthemum vulgare</i> Lam. <sup>3, 4, 5</sup> ( <i>Chrysanthemum leucanthemum</i> L.)	5	11	FAC
<i>Cichorium intybus</i> L.	1	1	UPL
* <i>Cirsium arvense</i> (L.) Scop. <sup>3, 5, 6</sup>	5	12	FACU
* <i>Cirsium vulgare</i> (Savi) Ten. <sup>3, 5, 6, 9</sup>	15	17	FACU
* <i>Conium maculatum</i> L. <sup>1, 3, 6</sup>	1	2	FAC
* <i>Convolvulus arvensis</i> L. <sup>1, 3, 6, 9</sup>	3	0	UNK
<i>Convolvulus</i> sp. L.	1	0	UNK
<i>Crataegus monogyna</i> Jacq.	2	4	FACU

Introduced Species <sup>§</sup>	NOW	MW	IND
◆ <i>Crataegus phaenopyrum</i> (L.f.) Medik.	0	1	FAC
<i>Crataegus</i> sp. L.	0	4	UNK
<i>Crepis setosa</i> Haller f.	1	1	UPL
<i>Cynosurus cristatus</i> L.	0	2	UPL
* <i>Cytisus scoparius</i> (L.) Link <sup>1,3,4,6,9</sup>	0	2	UPL
<i>Dactylis glomerata</i> L.	1	4	FACU
* <i>Daucus carota</i> L. <sup>1,2,4,5,9</sup>	10	20	FAC
<i>Digitaria sanguinalis</i> (L.) Scop.	1	0	FACU
* <i>Dipsacus fullonum</i> L. subsp. <i>sylvestris</i> (Huds.) Clapham <sup>1,3,7,9</sup> ( <i>Dipsacus sylvestris</i> Huds.)	5	15	FAC
<i>Echinochloa crus-galli</i> (L.) P. Beauv.	4	2	FACW
* <i>Egeria densa</i> Planch. <sup>4,5,7</sup> ( <i>Eloдея densa</i> (Planch.) Casp.)	1	0	OBL
◆ <i>Elaeagnus commutata</i> Bernh. ex Rydb.	0	1	UPL
* <i>Elytrigia repens</i> (L.) Desv. ex B.D. Jacks var. <i>repens</i> <sup>1,6</sup> ( <i>Agropyron repens</i> (L.) Beauv.)	16	11	FACU
<i>Elymus caninus</i> L. ( <i>Agropyron caninum</i> (L.) Beauv.)	0	1	FAC
* <i>Festuca arundinacea</i> Schreb. <sup>5,7</sup>	20	34	FAC
<i>Galium parisiense</i> L.	1	1	UPL
<i>Geranium dissectum</i> L.	14	15	UPL
<i>Geranium molle</i> L.	1	2	UPL
<i>Geranium</i> sp. L.	1	0	UPL
<i>Gnaphalium uliginosum</i> L.	3	1	FAC
* <i>Hedera helix</i> L. <sup>3,5</sup>	0	1	UPL
* <i>Holcus lanatus</i> L. <sup>1,2,7</sup>	29	40	FAC
<i>Holcus mollis</i> L.	10	10	FAC
<i>Hordeum marinum</i> Huds. subsp. <i>gussonianum</i> (Perl.) Thell. ( <i>Hordeum geniculatum</i> All.)	0	1	NI
* <i>Hypericum perforatum</i> L. <sup>1,4,6</sup>	3	5	UPL
<i>Hypochaeris radicata</i> L.	8	13	UPL
◆ <i>Ilex</i> sp. L.	0	3	UPL
* <i>Iris pseudacorus</i> L. <sup>7</sup>	1	6	OBL
<i>Lactuca serriola</i> L.	1	2	FACU
<i>Lactuca</i> sp. L.	0	2	UNK
<i>Lapsana communis</i> L.	0	4	UPL
<i>Lathyrus</i> sp. L.	0	1	UPL
<i>Leontodon hirtus</i> L. ( <i>Leontodon nudicaulis</i> (L.) Merat)	5	16	UPL
* <i>Leucanthemum vulgare</i> Lam. <sup>3,4,5</sup> ( <i>Chrysanthemum leucanthemum</i> L.)	5	11	FAC
<i>Lolium perenne</i> L. subsp. <i>multiflorum</i> Lam. ( <i>Lolium multiflorum</i> Lam.)	10	14	UNK
<i>Lolium perenne</i> L.	8	10	FACU
<i>Lolium</i> sp. L.	0	1	UNK



Introduced Species <sup>§</sup>	NOW	MW	IND
* <i>Lotus corniculatus</i> L. <sup>3</sup>	9	24	FAC
<i>Lysimachia nummularia</i> L.	6	0	FACW
* <i>Lythrum salicaria</i> L. <sup>3, 5, 6, 7, 9</sup>	3	1	FACW
<i>Melissa officinalis</i> L.	0	1	UPL
* <i>Mentha pulegium</i> L. <sup>7</sup>	1	1	OBL
<i>Mentha X rotundifolia</i> (L.) Huds.	0	1	NI
<i>Mentha spicata</i> L.	1	1	OBL
<i>Mycelis muralis</i> (L.) Dumort. ( <i>Lactuca muralis</i> L.)	1	0	FAC
<i>Myosotis discolor</i> Pers.	2	0	FACW
<i>Myosotis stricta</i> Link ex Roemer & J.A. Schutles ( <i>Myosotis micrantha</i> Pall.)	1	0	UPL
* <i>Myriophyllum spicatum</i> L. <sup>4, 5, 6, 7</sup>	0	1	OBL
<i>Nymphaea odorata</i> Aiton	0	1	OBL
* <i>Parentucellia viscosa</i> (L.) Caruel. <sup>2, 3, 7</sup>	3	17	FAC
* <i>Phalaris arundinacea</i> L. <sup>3, 7, 8, 9</sup>	45	44	FACW
<i>Phleum pratense</i> L.	9	14	FAC
<i>Plantago lanceolata</i> L.	6	9	FAC
<i>Plantago major</i> L.	9	20	FACU
<i>Plantago</i> sp. L.	3	4	FACU
<i>Poa annua</i> L.	2	1	FAC
<i>Poa palustris</i> L.	9	20	FAC
<i>Poa pratensis</i> L.	3	5	FACU
<i>Poa trivialis</i> L.	9	8	FACW
<i>Polygonum aviculare</i> L.	0	1	FACW
<i>Polygonum hydropiper</i> L.	2	1	OBL
<i>Polygonum persicaria</i> L.	8	6	FACW
* <i>Polygonum polystachyum</i> Wallich ex Meisn. <sup>6</sup>	0	1	FAC
<i>Potamogeton crispus</i> L.	1	3	OBL
<i>Prunella vulgaris</i> L. subsp. <i>vulgaris</i> .	5	0	FACU
◆ <i>Quercus palustris</i>	0	1	UPL
◆ <i>Quercus rubra</i>	0	1	UPL
◆ <i>Quercus</i> sp. L.	1	1	UPL
* <i>Ranunculus repens</i> L. <sup>1, 3, 7, 9</sup>	21	27	FACW
<i>Raphanus raphanistrum</i> L.	0	1	UPL
<i>Raphanus sativus</i> L.	1	0	UPL
<i>Rorippa nasturtium-aquaticum</i> (L.) Hayek	1	1	OBL
<i>Rosa canina</i> L.	0	1	UPL
<i>Rosa eglanteria</i> L.	7	6	FACW
* <i>Rubus discolor</i> Weihe & Ness <sup>1, 3, 8</sup>	28	32	FACU
* <i>Rubus laciniatus</i> Willd. <sup>1, 3, 8</sup>	1	1	FACU
<i>Rubus</i> sp. L.	10	10	UNK
<i>Rumex acetosella</i> L.	3	4	FACU
<i>Rumex conglomeratus</i> Murray	10	7	FACW

Introduced Species <sup>§</sup>	NOW	MW	IND
<i>Rumex crispus</i> L.	17	24	FACW
<i>Sagina apetala</i> Ard.	1	0	NI
◆ <i>Salix babylonica</i> L.	1	2	FAC
* <i>Senecio jacobaea</i> L. <sup>3, 6, 9</sup>	4	13	FACU
<i>Senecio vulgaris</i> L.	1	1	FACU
* <i>Solanum dulcamara</i> L. <sup>1, 2, 3, 8, 9</sup>	23	25	FAC
<i>Sonchus asper</i> (L.) Hill.	2	3	FAC
<i>Sonchus oleraceus</i> L.	1	0	UPL
<i>Sonchus</i> sp. L.	6	8	UNK
<i>Spergularia rubra</i> (L.) J. Presl & C. Presl.	2	0	FAC
<i>Symphytum officinale</i> L.	0	1	UNK
<i>Tanacetum vulgare</i> L.	1	4	NI
* <i>Taraxacum officinale</i> Weber <sup>3, 5, 9</sup>	10	18	FACU
* <i>Trifolium dubium</i> Sibth. <sup>1, 3</sup>	6	12	UPL
<i>Trifolium hybridum</i> L.	3	5	FAC
<i>Trifolium pratense</i> L.	5	25	FACU
* <i>Trifolium repens</i> L. <sup>1, 3</sup>	10	31	FAC
<i>Trifolium</i> sp. L.	1	4	FACU
<i>Typha angustifolia</i> L.	0	3	OBL
<i>Urtica dioica</i> L.	3	1	FAC
<i>Vallisneria americana</i> Michx.	2	2	OBL
<i>Verbascum blattaria</i> L.	1	1	UPL
<i>Verbascum</i> sp. L.	0	1	UPL
<i>Veronica serpyllifolia</i> L.	1	1	FAC
<i>Veronica</i> sp. L.	1	0	FAC
<i>Vicia cracca</i> L.	4	3	UNK
<i>Vicia hirsuta</i> (L.) Gray	2	3	UPL
* <i>Vicia sativa</i> L. <sup>1, 3</sup>	8	14	UPL
<i>Vicia tetrasperma</i> (L.) Schreb.	17	25	UPL
<i>Vicia villosa</i> Roth	0	1	UPL
<i>Vicia</i> sp. L.	2	1	UPL
<i>Vulpia bromoides</i> (L.) Gray	2	2	FACU
<i>Vulpia myuros</i> (L.) C.C. Gmel.	1	6	FAC

Taxa of Unknown Introduced/Native Status	NOW	MW	IND
<i>Agrostis</i> sp. L.	3	5	UNK
Algae	10	32	OBL
<i>Alopecurus</i> sp. L.	2	0	UNK
<i>Bidens</i> sp. L.	0	1	UNK
<i>Bromus</i> sp. L.	2	0	UNK
Bryophytes	18	28	UNK

Taxa of Unknown Introduced/Native Status	NOW	MW	IND
<i>Chara</i> sp. Valliant	2	1	OBL
<i>Cirsium</i> sp. Mill.	8	5	UNK
<i>Cyperus</i> sp. L.	0	1	UNK
<i>Festuca rubra</i> L.	1	10	FAC
<i>Festuca</i> sp. L.	1	2	UNK
Fungi	1	3	UNK
<i>Galium</i> sp. L.	1	0	UNK
<i>Hordeum</i> sp. L.	0	1	UNK
Lichen	1	1	UNK
<i>Lindernia dubium</i> (L.) Pennell	2	0	OBL
<i>Lupinus</i> sp. L.	0	1	UNK
<i>Mentha</i> sp. L.	1	1	UNK
<i>Myosotis</i> sp. L.	0	1	UNK
<i>Poa</i> sp. L.	7	10	UNK
Poaceae	11	12	UNK
<i>Potamogeton</i> sp. L.	1	2	OBL
<i>Prunus</i> sp. L.	0	2	UNK
<i>Ranunculus</i> sp. L.	5	3	UNK
<i>Ribes</i> sp. L.	1	0	UNK
<i>Rosa</i> sp. L.	0	1	UNK
<i>Rumex</i> sp. L.	5	7	UNK
UNKNOWN TREE	0	1	UNK
UNKNOWN FORB	18	18	UNK
UNKNOWN GRAMINOID	1	1	UNK
UNKNOWN SHRUB	0	3	UNK

<sup>§</sup>Determination of native/introduced status for vascular taxa was based on Hitchcock & Cronquist (1973), with the exception of *Phalaris arundinacea* and *Festuca rubra*. *Phalaris arundinacea* has historically been considered to have some native genotypes, however, currently much of its extent on the landscape is believed to be represented by aggressively spreading cultivars introduced for forage and erosion control (Guard 1995, Naglich 1994). In the study area, *Festuca rubra* is represented by a complex of native and introduced varieties (personal communication Barbara Wilson, Oregon State University) so, here, its native/introduced status is listed as unknown. For taxa identified only to genus, native or introduced status was usually listed as unknown. However, if a particular specimen could be identified to one of a small group of species known to be either introduced or native, it was assigned the appropriate status.

<sup>†</sup>Plant species characterized as invasive or noxious weeds were identified using information from local floras, and noxious weed lists or floras describing widespread introduced species: <sup>1</sup>Hitchcock & Cronquist (1973), <sup>2</sup>Hawkes et al. (1989), <sup>3</sup>Taylor (1990), <sup>4</sup>Washington State Department of Agriculture (1992), <sup>5</sup>U.S. Congress, Office of Technology Assessment (1993), <sup>6</sup>Oregon State Department of Agriculture (1994), <sup>7</sup>Guard (1995), <sup>8</sup>Houck (1996) and <sup>9</sup>Whitson et al. (1996).

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