

Salt Tolerance Value Ranges for Selected Reclamation and Forage Species

K. Lair, unpublished data adapted and compiled from literature reviews on salinity tolerance – see selected references citations below

Ratings represent upper limits of plant survival. Productivity and vigor of plants may be initially affected at lesser salinity values – typically 40-50% of the highest survival rating.

Very high (>12 mmhos cm⁻¹)

Grasses

<i>Agropyron</i> spp.	Crested wheatgrass
<i>Cynodon dactylon</i>	Bermuda grass
<i>Distichlis spicata</i>	Inland saltgrass
<i>Elymus canadensis</i>	Canada wildrye
<i>Elymus macrourus</i>	Thickspike wheatgrass
<i>Elymus trachycaulus</i>	Slender wheatgrass
<i>Festuca arundinacea</i>	Tall fescue
<i>Leymus angustus</i>	Altai wildrye
<i>Leymus triticoides</i>	Beardless wildrye
<i>Muhlenbergia asperifolia</i>	Alkali muhly
<i>Pascopyrum smithii</i>	Western wheatgrass
<i>Pseudoroegneria spicata</i> X <i>Elymus repens</i>	Hybrid (RS) wheatgrass
<i>Puccinellia nuttalliana</i>	Nuttall's alkaligrass
<i>Spartina gracilis</i>	Alkali cordgrass
<i>Sporobolus airoides</i>	Alkali sacaton
<i>Thinopyrum ponticum</i>	Tall wheatgrass
<i>Triglochin maritima</i>	Arrowgrass

Forbs

<i>Haplopappus acradenius</i>	Alkali goldenbush
<i>Heliotropium curassavicum</i>	Salt heliotrope
<i>Salicornia</i> spp.	Glasswort
<i>Suaeda</i> spp.	Seepweed
<i>Trifolium fragiferum</i>	Strawberry clover

Shrubs

<i>Allenrolfia occidentalis</i>	Iodinebush
<i>Atriplex canescens</i>	Fourwing saltbush
<i>Atriplex confertifolia</i>	Shadscale
<i>Atriplex corrugata</i>	Mat saltbush
<i>Atriplex gardneri</i>	Gardner saltbush
<i>Atriplex lentiformis</i>	Quailbush
<i>Atriplex nuttallii</i>	Nuttall's saltbush
<i>Atriplex polycarpa</i>	Desert saltbush
<i>Sarcobatus vermiculatus</i>	Greasewood

High (8-12 mmhos cm⁻¹)

Grasses

<i>Alopecurus arundinaceus</i>	Creeping foxtail
<i>Bromus commutatus</i>	Meadow brome grass
<i>Bromus inermis</i>	Smooth brome grass
<i>Bromus marginatus</i>	Mountain brome grass
<i>Dactylis glomerata</i>	Orchard grass
<i>Elytrigia intermedia</i>	Intermediate wheat grass
<i>Elytrigia intermedia trichophora</i>	Pubescent wheat grass
<i>Lolium perenne</i>	Perennial ryegrass
<i>Panicum obtusum</i>	Vine mesquite
<i>Paspalum dilitatum</i>	Dallis grass
<i>Paspalum distichum</i>	Knot grass
<i>Psathyrostachys juncea</i>	Russian wildrye
<i>Sporobolus wrightii</i>	Giant sacaton

Forbs

<i>Astragalus cicer</i>	Cicer milkvetch
<i>Atriplex patula</i>	Spearleaf fathen
<i>Kochia americana</i>	Green molly
<i>Lotus corniculatus</i>	Birdsfoot trefoil
<i>Machaeranthera</i> spp.	Woody aster
<i>Medicago sativa</i>	Alfalfa
<i>Melilotus officianalis</i>	Yellow sweetclover
<i>Melilotus alba</i>	White sweetclover
<i>Stanleya pinnata</i>	Prince's plume

Shrubs

(<i>Baccharis</i> spp.)	Seep willow
(<i>Chilopsis linearis</i>)	Desert willow
(<i>Frankenia</i> spp.)	Alkali heath
(<i>Isocoma heterophylla</i>)	Rayless goldenrod
(<i>Pluchea sericea</i>)	Arrowweed
(<i>Prosopis pubescens</i>)	Screwbean mesquite

Moderate (4-8 mmhos cm⁻¹)

Grasses

<i>Achnatherum hymenoides</i>	Indian ricegrass
<i>Alopecurus pratensis</i>	Meadow foxtail
<i>Bothriochloa barbinodes</i>	Cane bluestem
<i>Bouteloua</i> spp.	Gramma grasses
<i>Danthonia</i> spp.	Oatgrass
<i>Leymus racemosus</i>	Mammoth wildrye
<i>Panicum virgatum</i>	Switchgrass
<i>Pleuraphis jamesii</i>	Galleta grass
<i>Pleuraphis rigida</i>	Big Galleta
<i>Stipa, Achnatherum, Nassella,</i> <i>and Hesperostipa</i> spp.	Needlegrasses

Forbs

<i>Oenothera</i> spp.	Evening primrose
<i>Sanguisorba minor</i>	Small burnet
<i>Shepherdia canadensis</i>	Buffaloberry
<i>Sphaeralcea</i> spp.	Globemallow
<i>Trifolium</i> spp.	Clover

Shrubs

<i>Artemisia tridentata tridentata</i>	Basin big sagebrush
<i>Chrysothamnus</i> spp.	Rabbitbrush
<i>Ephedra</i> spp.	Mormon tea
<i>Fallugia paradoxa</i>	Apache plume
<i>Krascheninnikovia lanata</i>	Winterfat
<i>Larrea</i> spp.	Creosotebush
<i>Lycium</i> spp.	Wolfberry
<i>Prosopis</i> spp.	Mesquite
<i>Purshia</i> spp.	Bitterbrush
<i>Rhus</i> spp.	Sumac
<i>Symphoricarpos</i> spp.	Snowberry
<i>Tetradymia spinosa</i>	Horsebrush

Mild or light (<4 mmhos cm⁻¹)

Soil salinity values less than 4 mmhos cm⁻¹ are typically considered to exhibit little or no impact on survival or productivity of most commonly used, native reclamation plant species.

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