

# Appendix A, B

## Woody Plant Characteristics



(Drawing by G. Bentrup)

**Appendix A -Description of Native Shrubs and Trees For Riparian Areas  
in the Intermountain West (after Bentrup and Hoag, 1998)**

| Species  | Size/Form             | Elevation Range <sup>1</sup> | Root Type                  | Rooting Ability from cuttings | Availability In Field <sup>2</sup> | Use in Riparian Zone <sup>3</sup> |
|--|-----------------------|------------------------------|----------------------------|-------------------------------|------------------------------------|-----------------------------------|
| <i>Acer negundo</i><br>Boxelder                              | Med. Tree             | Low - Mid.                   | Moderately Spreading       | Poor                          | Common                             | 4                                 |
| <i>Alnus rubra</i><br>Red alder                              | Med. Tree             | Mid. - High                  | Shallow Spreading          | Poor                          | Fairly Common                      | 3,4                               |
| <i>Alnus sinuata</i><br>Sitka alder                          | Sm.-Med. Tree         | Mid. - High                  | Shallow Spreading          | Poor                          | Fairly Common                      | 2,3                               |
| <i>Alnus incana</i> spp. <i>tenuifolia</i><br>Thinleaf alder | Sm.-Med. Tree         | Mid. - High                  | Shallow Spreading          | Poor                          | Common                             | 2,3                               |
| <i>Betula occidentalis</i><br>Water birch                    | Lg. Shrub to Sm. Tree | Mid. - High                  | Shallow to Deep Spreading  | Poor                          | Fairly Common                      | 2,3                               |
| <i>Cornus sericea</i><br>Redosier dogwood                    | Med. Shrub            | Mid.                         | Shallow                    | *Moderate                     | Fairly Common                      | 2,3,4                             |
| <i>Crataegus douglasii</i><br>Black/Douglas hawthorn         | Sm. Tree              | Low - Mid.                   | Shallow to Deep Spreading  | Poor                          | Fairly Common                      | 3,4                               |
| <i>Elaeagnus commutata</i><br>Silverberry                    | Med. Shrub            | Low - Mid.                   | Shallow to Deep Spreading  | V. Good                       | Very Common                        | 3,4                               |
| <i>Pentaphylloides floribunda</i><br>Shrubby cinquefoil      | Sm. Shrub             | Low - Mid.                   | Shallow to Deep Spreading  | Poor                          | Very Common                        | 3,4                               |
| <i>Philadelphus lewisii</i><br>Mockorange                    | Sm. - Med. Shrub      | Low-Mid.                     | Spreading Fibrous          | Poor                          | Common                             | 3,4                               |
| <i>Populus angustifolia</i><br>Narrowleaf cottonwood         | Lg. Tree              | Mid.                         | Shallow                    | Very Good                     | Very Common                        | 4                                 |
| <i>Populus fremontii</i><br>Fremont cottonwood               | Lg. Tree              | Low - Mid.                   | Shallow Fibrous            | Very Good                     | Fairly Common                      | 4                                 |
| <i>Populus tremuloides</i><br>Quaking aspen                  | Med. Tree             | Mid. - High                  | Shallow                    | Poor                          | Very Common                        | 4                                 |
| <i>Populus trichocarpa</i><br>Black cottonwood               | Lg. Tree              | Low - Mid.                   | Shallow Fibrous            | Very Good                     | Very Common                        | 4                                 |
| <i>Prunus virginiana</i><br>Chokecherry                      | Med. - Lg. Shrub      | Low - Mid.                   | Rhizomatous                | Good from root cuttings       | Common                             | 4                                 |
| <i>Rhus trilobata</i><br>Skunkbush sumac                     | Med. - Lg. Shrub      | Low - Mid.                   | Deep Spreading Rhizomatous | Poor                          | Fairly Common                      | 4                                 |
| <i>Ribes aureum</i><br>Golden current                        | Sm. - Med. Shrub      | Low - Mid.                   | Spreading                  | Good (in greenhouse)          | Common                             | 3                                 |
| <i>Ribes cereum</i><br>Wax/Squaw current                     | Sm. - Med. Shrub      | Mid. - High                  | Spreading                  | Fair                          | Common                             | 3,4                               |
| <i>Rosa woodsii</i><br>Wood's rose                           | Sm. - Med. Shrub      | Low - Mid.                   | Shallow to Deep            | Good (in greenhouse)          | Very Common                        | 2,3,4                             |
| <i>Sambucus coerulea</i><br>Blue elderberry                  | Sm. Tree              | Mid.                         | Rhizomatous                | Poor                          | Fairly Common                      | 4                                 |
| <i>Sambucus racemosa</i><br>Red elderberry                   | Med. Shrub            | Mid. - High                  | Spreading                  | Poor                          | Fairly Common                      | 4                                 |
| <i>Shepherdia argentea</i><br>Silver buffaloberry            | Lg. Shrub             | Low - Mid.                   | Rhizomatous                | Poor                          | Fairly Common                      | 4                                 |
| <i>Symphoricarpos albus</i><br>Common Snowberry              | Sm. Shrub             | Low - Mid.                   | Spreading                  | V. Good                       | Very Common                        | 3,4                               |

**Footnotes:**

U = Unknown

1. Elevation Range

Low 2000-4500  
Middle 4500-7000  
High 7000-10000

2. Availability in the field

-refers to natural occurrences in the region. Ranking is from least to greatest.

3. Riparian Zones

1- Toe zone  
2- Bank zone  
3- Overbank zone  
4- Transitional zone  
5- Upland zone

4. Commercial Availability:

Refers to availability of species in the nursery trade.

5. Deposition Tolerance:

Regrowth following shallow coverage by soil.

| Commercial Availability <sup>4</sup> | Deposition Tolerance <sup>5</sup> | Flooding Tolerance <sup>6</sup> | Drought Tolerance <sup>7</sup> | Salinity Tolerance <sup>8</sup> | Wildlife Value/Misc. Notes  | Plant Ind. Status <sup>9</sup> |
|--------------------------------------|-----------------------------------|---------------------------------|--------------------------------|---------------------------------|---|--------------------------------|
|                                      |                                   |                                 |                                |                                 |   |                                |
| Yes                                  | High                              | High                            | High                           | Med.                            |   | FAC                            |
| Yes                                  | Med.                              | Med.                            | Low                            | Low                             | Big game browse<br>upland bird food                                       | FAC                            |
| Yes                                  | Med.                              | Med.                            | Low                            | Low                             | Big game browse<br>upland bird food                                       | FACW                           |
| Yes                                  | Med.                              | Med.                            | Low                            | Low                             | Big game browse<br>upland bird food                                       | FACW                           |
| Yes                                  | Med.                              | Med.                            | Low                            | Low                             | Big game browse   | FACW                           |
| Yes                                  | Low                               | High                            | Med.                           | Low                             | Big game browse, small mammal food<br>food, upland bird food.             | FACW                           |
| Yes                                  | Med.                              | Low                             | High                           | Low                             | Browse for many species<br>and cover                                      | FAC,U                          |
| Yes                                  | High                              | High                            | Med.                           | Med.                            | Big game browse   | FAC                            |
| Yes                                  | U                                 | U                               | High                           | U                               | Big game browse   | FACW<br>FAC                    |
| Yes                                  | U                                 | U                               | U                              | U                               | Big game browse   | FACU,U                         |
| Yes                                  | Med.                              | Med.                            | High                           | Med.                            | Big game browse   | FACW                           |
| Yes                                  | Med.                              | Med.                            | Med.                           | Med.                            | Big game browse   | FACW                           |
| Yes                                  | Low                               | Low                             | Med.                           | Med.                            | Big game browse   | FAC<br>FACU                    |
| Yes                                  | Med.                              | Med.                            | Med.                           | U                               | Big game browse   | FACW                           |
| Yes                                  | Low                               | Low                             | Low-Med.                       | Low-Med.                        | Birds and small mammals eat fruits  | FACU                           |
| Yes                                  | High                              | Med.-High                       | Med.-High                      | Med.                            | Birds and small mammals eat fruits<br>Can not tolerate long-term flooding | FACU,U                         |
| Yes                                  | U                                 | U                               | U                              | U                               | Birds and small mammals eat fruits  | FAC<br>FACW                    |
| Yes                                  | U                                 | U                               | U                              | U                               | Birds and small mammals eat fruits  | FACU,U                         |
| Yes                                  | U                                 | Low                             | Low-High                       | Low                             | Rosehips eaten by many species  | FACU                           |
| Yes                                  | Med.                              | Med.                            | Med.                           | Low                             | Fruits are important for birds  | FAC                            |
| Yes                                  | Med.                              | Med.                            | Med.                           | Low                             | Big game browse<br>Fruits eaten by birds and small mammals                | FACU<br>FACU                   |
| Yes                                  | U                                 | U                               | U                              | Low                             | Fruits eaten by birds and small mammals                                   | FACU                           |
| Yes                                  | Med.                              | Med.                            | Med.                           | Low                             | Fruits eaten by birds and small mammals                                   | FACU                           |

6. Flooding Tolerance:

High- tolerates 10-30+ days  
 Medium- tolerates 6-10 days  
 Low- tolerates 1-5 days or less

7. Drought Tolerance:

Resistance to drought relative to native sites.

8. Salinity Tolerance:

Resistance to salinity  
 relative to native  
 vegetation on  
 similar sites.

9. Plant Indicator Status:

OBL- Obligate  
 FACW- Facultative Wet  
 FAC- Facultative  
 FACU- Facultative Upland  
 Upland- Upland

| <b>Appendix B -Description of Native Shrubs and Trees For Riparian Areas of the Intermountain West (after Bentrup and Hoag, 1998)</b> |                  |                                    |                  |                                      |  |   |
|---|------------------|------------------------------------|------------------|--------------------------------------|--|---|
| <b>Species</b>  | <b>Size/Form</b> | <b>Elevation Range<sup>1</sup></b> | <b>Root Type</b> | <b>Rooting Ability from cuttings</b> | <b>Availability In Field<sup>2</sup></b> | <b>Use in Riparian Zone<sup>3</sup></b> |
| <i>Salix alba</i><br>White/Golden willow  | Med. - Lg. Tree  | Low - Mid.                         | Shallow to Deep  | Good                                 | Common                                   | 4                                       |
| <i>Salix amygdaloides</i><br>Peachleaf willow   | Sm Tree          | Low                                | Fibrous          | Very Good                            | Common                                   | 4                                       |
| <i>Salix bebbiana</i><br>Bebb's willow  | Lg. Shrub        | Low to Mid.                        | Shallow to Deep  | Good                                 | Common                                   | 4                                       |
| <i>Salix boothii</i><br>Booth willow  | Med. Shrub       | Mid.                               | Shallow to Deep  | Moderate                             | Very Common                              | 2,3                                     |
| <i>Salix drummondiana</i><br>Drummond willow  | Sm - Med. Shrub  | Mid. - High                        | Shallow to Deep  | Good                                 | Common                                   | 2,3                                     |
| <i>Salix exigua</i><br>Coyote willow  | Med. Shrub       | Low - Mid.                         | Rhizomatous      | Very Good                            | Very Common                              | 2,3,4                                   |
| <i>Salix geyeriana</i><br>Geyer willow  | Med., Shrub      | Mid.                               | Shallow to Deep  | Good                                 | Very Common                              | 2,3                                     |
| <i>Salix lasiandra</i><br>Pacific willow  | Sm Tree          | Low - Mid.                         | Shallow to Deep  | Good                                 | Common                                   | 4                                       |
| <i>Salix lemmonii</i><br>Lemmon willow  | Sm - Med. Shrub  | Mid. - High                        | Shallow to Deep  | Good                                 | Fairly Common                            | 2,3                                     |
| <i>Salix lutea</i><br>Yellow willow   | Med. - Lg. Shrub | Low                                | Shallow to Deep  | Good                                 | Very Common                              | 2,3                                     |
| <i>Salix nigra</i><br>Black Willow  | Lg. Tree         | Low - Med.                         | Shallow to Deep  | Good                                 | Fairly Common                            | 4                                       |
| <i>Salix planifolia</i><br>Planeleaf willow   | Sm Shrub         | Mid. - High                        | Shallow to Deep  | Moderate                             | Fairly Common                            | 2,3                                     |
| <i>Salix prolixa</i><br>Mackenzie willow  | Sm Tree          | Low - Med.                         | Shallow to Deep  | Good                                 | Fairly Common                            | 3                                       |
| <i>Salix scouleriana</i><br>Scouler willow  | Lg. Shrub        | Low - Mid.                         | Shallow to Deep  | Need to treat with hormone           | Fairly Common                            | 5 (upland willow)                       |
| <i>Salix sitchensis</i><br>Sitka willow   | Sm - Med. Tree   | Low - Med.                         | Shallow to Deep  | Moderate                             | Common                                   | 3                                       |
| <b>Footnotes:</b>   |                  |                                    |                  |                                      |  |   |
| U = Unknown   |                  | 3. Riparian Zones                  |                  | 4. Commercial Availability:          |  |   |
|   |                  | 1- Toe zone                        |                  | Refers to availability of species    |  |   |
| 1. Elevation Range  |                  | 2- Bank zone                       |                  | in the nursery trade.                |  |   |
| Low 2000-4500   |                  | 3- Overbank zone                   |                  |                                      |  |   |
| Middle 4500-7000  |                  | 4- Transitional zone               |                  | 5. Deposition Tolerance:             |  |   |
| High 7000-10000   |                  | 5- Upland zone                     |                  | Regrowth following shallow           |  |   |
|   |                  | 6- Unknown                         |                  | coverage by soil.                    |  |   |
| 2. Availability in the field  |                  |                                    |                  |                                      |  |   |
| -refers to natural occurrences  |                  |                                    |                  |                                      |  |   |
| in the region.  |                  |                                    |                  |                                      |  |   |
| Ranking is from least to greatest.  |                  |                                    |                  |                                      |  |   |

| Commerical Availability <sup>4</sup> | Deposition Tolerance <sup>5</sup> | Flooding Tolerance <sup>6</sup> | Drought Tolerance <sup>7</sup> | Salinity Tolerance <sup>8</sup> | Wildlife Value Misc. Notes  | Plant Ind. Status <sup>9</sup> |
|--------------------------------------|-----------------------------------|---------------------------------|--------------------------------|---------------------------------|---|--------------------------------|
|                                      |                                   |                                 |                                |                                 |   |                                |
| Yes                                  | High                              | High                            | Med.                           | Low-Med                         | Willows are good browse and provide excellent cover for many species. | FACW                           |
| Yes-limited                          | High                              | High                            | Low                            | Med.                            | Willows are good browse and provide excellent cover for many species. | FACW                           |
| Yes-limited                          | High                              | High                            | Low - Med.                     | Low                             | Willows are good browse and provide excellent cover for many species. | FACW                           |
| Yes-limited                          | High                              | Med. - High                     | Low - Med                      | Low                             | Willows are good browse and provide excellent cover for many species. | FACW                           |
| Yes-limited                          | High                              | Med. - High                     | Low - Med                      | Low                             | Willows are good browse and provide excellent cover for many species. | FACW                           |
| Yes                                  | High                              | Med. - High                     | Low - Med.                     | Low                             | Willows are good browse and provide excellent cover for many species. | OBL                            |
| Yes-limited                          | High                              | Med. - High                     | Low - Med                      | Low                             | Willows are good browse and provide excellent cover for many species. | OBL                            |
| Yes                                  | High                              | Med. - High                     | Low - Med                      | Low                             | Willows are good browse and provide excellent cover for many species. | FACW                           |
| No                                   | High                              | Med. - High                     | Low - Med                      | Low                             | Willows are good browse and provide excellent cover for many species. | FACW                           |
| Yes-limited                          | Med.                              | Med. - High                     | Low - Med.                     | Med.                            | Willows are good browse and provide excellent cover for many species. | FACW<br>OBL                    |
| Yes                                  | Med.                              | Med. - High                     | Low - Med.                     | Low-Med                         | Willows are good browse and provide excellent cover for many species. | FACW<br>OBL                    |
| No                                   | High                              | Med. - High                     | Low - Med.                     | Low                             | Willows are good browse and provide excellent cover for many species. | OBL                            |
| Yes-Limited                          | High                              | Med. - High                     | Low - Med.                     | Low                             | Willows are good browse and provide excellent cover for many species. | OBL                            |
| Yes                                  | High                              | Med. - High                     | Low - Med.                     | High                            | Willows are good browse and provide excellent cover for many species. | FACU<br>FAC                    |
| Yes-Limited                          | High                              | Med. - High                     | Low - Med.                     | Low                             | Willows are good browse and provide excellent cover for many species. | FACW                           |

8. Salinity Tolerance:  
Resistance to salinity relative to native vegetation on similar sites.

9. Plant Indicator Statis:  
Based on occurance in wetland  
OBL- Obligate  
FACW- Facultative Wet  
FAC- Facultative  
FACU- Faculatative Upland  
Upland- Upland

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