

## Populus deltoides - (Salix amygdaloides) / Salix exigua Woodland

COMMON NAME	Cottonwood-(Peach leaved willow)/Sandbar willow Woodland
SYNONYM	Floodplain Woodland
TNC SYSTEM	Terrestrial
PHYSIOGNOMIC CLASS	Woodland
PHYSIOGNOMIC SUBCLASS	Deciduous woodland
PHYSIOGNOMIC GROUP	Cold-deciduous woodland
FORMATION	Temporarily flooded cold-deciduous woodland
ALLIANCE	<i>Populus deltoides</i> Temporarily Flooded Woodland Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

### RANGE

*Populus deltoides*-(*Salix amygdaloides*)/*Salix exigua* Woodlands are found in Manitoba, North Dakota, South Dakota, central and western Nebraska, western Kansas, eastern Colorado, Oklahoma, Texas, and New Mexico.

### *Scotts Bluff National Monument*

This community is on the first floodplain terrace on the south side on the North Platte River. A few stands have developed near the irrigation canal north of Scotts Bluff.

### ENVIRONMENTAL DESCRIPTION

#### *Globally*

This community is found along the banks of streams and rivers. It develops on newly deposited alluvium. The soils are predominantly sand, although silt, clay, or loam may be present. Soils are poorly developed. The water table fluctuates with the level of the river or stream.

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This community occurs on level ground and on gently sloping ground at the base of low north-facing slopes. The soil is silty.

USFWS WETLAND SYSTEM Palustrine

### MOST ABUNDANT SPECIES

#### *Globally*

<u>Strata</u>	<u>Species</u>
Tree canopy	<i>Populus deltoides</i> , <i>Salix amygdaloides</i>
Short shrub	<i>Salix exigua</i>
Herbaceous	<i>Equisetum</i> spp.

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<u>Strata</u>	<u>Species</u>
Tree canopy	<i>Fraxinus pennsylvanica</i> , <i>Populus deltoides</i> , <i>Salix amygdaloides</i>
Short shrub	<i>Rhus aromatica</i> , <i>Symphoricarpos occidentalis</i>
Herbaceous	<i>Agropyron</i> spp., <i>Cirsium arvense</i> , <i>Phalaris arundinacea</i>

DIAGNOSTIC SPECIES

*Globally*

*Populus deltoides*, *Salix exigua*

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*Fraxinus pennsylvanica*, *Populus deltoides*, *Salix amygdaloides*

VEGETATION DESCRIPTION

*Globally*

This woodland community has closely spaced shrubs and small trees. The canopy is not complete and significant light reaches the ground. *Populus deltoides* and *Salix amygdaloides* reach 6-12 meters in this community. *S. amygdaloides* is absent to common in examples of this community. *Fraxinus pennsylvanica* may be present, especially on the landward side of this community. *Salix exigua* is usually more abundant along the streamside margins of this community and where the canopy of taller trees is most open. This shrub grows to 2-5 meters tall. Other shrubs that can be found are *Salix irrorata* and *Toxicodendron rydbergii*. The herbaceous layer is often sparse and its composition is affected by local seed sources. *Cenchrus longispinus*, *Elymus canadensis*, *Equisetum* spp., and *Polygonatum lapathifolium* are frequently in the herbaceous layer.

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Old alluvial plains are frequently dominated by dense stands of *Acer negundo* and *Fraxinus pennsylvanica*. The woods in the sandy soils of the level, primary terraces are more open and are dominated by *F. pennsylvanica*, *Populus deltoides* and *Salix amygdaloides*. Shrubs are usually present in the open woods. Predominant among these is *Symphoricarpos occidentalis*. Lesser amounts of *Prunus virginiana*, *Rhus aromatica*, and *Ribes aureum* var. *villosum* can be found. *Pascopyrum smithii* and *Phalaris arundinacea* often dominate the herbaceous layer of the open woods. Invasive exotics, such as *Bromus* spp., *Cirsium arvense*, and *Cynoglossum officinale*, are common.

OTHER NOTEWORTHY SPECIES Information not available.

CONSERVATION RANK G2G3

RANK JUSTIFICATION

This community was naturally restricted to riparian areas that were prone to periodic flooding. Dams, flood control activities, and withdrawal of water for irrigation have reduced the creation of new areas for establishment of *Populus deltoides*-(*Salix amygdaloides*)/*Salix exigua* Woodlands.

COMMENTS

Flooding and scouring by sand and ice are common in most examples of this community. During floods, erosion and deposition of material may occur. Drought stress affects shallow-rooted plants when the water table drops. This community is a seral community and requires the creation of new sandbars, mudflats, and other barren stretches for its continued existence. Bellah and Hulbert (1974) found that this community existed for only about 20 years before succession altered the forest to another community. Johnson (1994)

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believed that alteration of the hydrology of the Platte River in Nebraska has reduced the frequency of flooding. Thus, early successional communities such as this one were not being re-established as quickly as they were being replaced by later seral communities.

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This community could possibly be split into two woodland types, *Acer negundo-Fraxinus pennsylvanica* Woodland and *Populus deltoides-(Salix amygdaloides)/Salix exigua* Woodland. The distinction between these two types is not always clear. Further sampling would be needed to clarify this.

The stands found near the irrigation canal north of Scotts Bluff rely on water from the canal for their existence.

REFERENCES

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Burgess, R. L., W. C. Johnson, and W. R. Keammerer. 1973. Vegetation of the Missouri River Floodplain in North Dakota. Report to the Office of Water Resources Research, US Department of the Interior, OWRR Project number A-022-NDAK. 162 pp.

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