

# Native Grasses and Sedges for Stormwater Projects

Stormwater control measures (SCM) are structures that treat and manage water that runs off parking lots, roof tops, and other impermeable surfaces during and after a rain event. Green stormwater infrastructure measures like bioretention cells and stormwater wetlands use plants, soils, and natural systems to slow and collect runoff, filter out pollutants, and increase water infiltration.

Grasses and grass-like plants are ideal for these measures! Their bunching habit and extensive root systems boost their ecological value by slowing stormwater, reducing erosion, and sequestering carbon. A few years ago, Hoffman Nursery and others worked with North Carolina's stormwater program to add new plants, including grasses and grass-like plants to the NC Stormwater Design Manual. We've compiled the plants from the manual that we grow, as well as a few others we recommend for bioretention cells and stormwater wetlands, into a chart to help the selection process.

## What's in the chart:

### Grasses, Sedges, and Rushes for Bioretention Cells

Plants used in **bioretention cells** must be able to withstand widely varying soil moisture conditions. Conditions in bioretention cells can be very dry for long time periods, punctuated with periods of temporary submergence.

Bioretention facilities in the Piedmont and mountains tend to become wetter over time; coastal bioretention facilities tend to be very dry. The plants used should be species adapted to stresses associated with wet and dry conditions. Native grasses in a mulched cell are an excellent option for bioretention cell plantings because of their hardiness, deeper roots and aesthetic value.

### Grasses, Sedges, and Rushes for NC Stormwater Wetlands

The **shallow water zone** includes all areas that are inundated by the normal pool to a depth up to 9 inches. This zone does become drier during periods of drought. Shallow water zones, such as littoral shelves should be vegetated with emergent plants capable of growing in alternating dry and inundation and provide some of the best treatment zones in the wetland.

The **temporary inundation zone** stabilizes the slopes and optimizes pollutant removal during storm events. The temporary inundation zone should be planted with vegetation that can withstand irregular inundation and occasional drought.

We've also included climate zone, maximum plant height, exposure, and moisture information in the chart as well as plants that support wildlife (🦋) and pollinators (🐝). Grasses and sedges are often overlooked when it comes to pollinators and wildlife. Many of the native species we grow provide food and nesting material for butterflies and native bees. They also support other forms of wildlife like birds and small mammals by providing cover and a food source.



# Native Grasses & Sedges for Stormwater Chart

Plant Name	Stormwater Wetlands		Bioretention Cells	Zone	Height	Supports Wildlife and/or Pollinators	Exposure				Moisture			
	Shallow Water Zone	Temporary Inundation Zone					Shade	Part shade	Part sun	Sun	Dry	Average	Moist	Wet
<i>Andropogon glomeratus</i> *		✓	✓	5-9	6'	 								
<i>Carex amphibola</i> *		✓	✓	3-9	1.5'	 								
<i>Carex bicknellii</i>			✓	3-7	3'	 								
<i>Carex cherokeensis</i> *		✓	✓	6-9	2'	 								
<i>Carex comosa</i> *		✓	✓	4-9	4'	 								
<i>Carex crinita</i> *		✓	✓	3-8	4'	 								
<i>Carex flaccosperma</i>			✓	5-8	1'	 								
<i>Carex frankii</i>		✓		5-8	2'	 								
<i>Carex grayi</i> *		✓	✓	3-9	3'	 								
<i>Carex laxiculmis</i> 'Hobb' Bunny Blue®			✓	5-9	1'	 								
<i>Carex lurida</i> *		✓	✓	3-8	3'	 								
<i>Carex muskingumensis</i> *			✓	4-8	3'	 								

















\* Listed in the North Carolina's stormwater design manual

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	Shallow Water Zone	Temporary Inundation Zone					Shade	Part shade	Part sun	Sun	Dry	Average	Moist	Wet
<i>Carex radiata</i> *			✓	4-8	2'									
<i>Carex squarrosa</i> *		✓	✓	4-8	3'	 								
<i>Carex stricta</i> *		✓	✓	4-8	3'	 								
<i>Carex vulpinoidea</i> *		✓	✓	3-8	3'	 								
<i>Chasmanthium latifolium</i> *		✓	✓	5-10	4'	 								
<i>Chasmanthium laxum</i> *		✓	✓	4-9	3.5'									
<i>Deschampsia cespitosa</i>			✓	4-7	1.5'	 								
<i>Deschampsia cespitosa</i> 'Goldtau'			✓	4-9	2'	 								
<i>Elymus hystrix</i> * syn. <i>Hystrix patula</i>		✓	✓	4-9	4'	 								
<i>Eragrostis elliottii</i>			✓	8-10	2.5'									
<i>Juncus effusus</i> *	✓	✓	✓	4-10	4'	 								
<i>Juncus tenuis</i> *		✓	✓	2-10	1'	 								

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	Shallow Water Zone	Temporary Inundation Zone					Shade	Part shade	Part sun	Sun	Dry	Average	Moist	Wet
<i>Muhlenbergia reverchonii</i>			✓	5-10	2.5'	 								
<i>Muhlenbergia capillaris</i> *		✓		6-10	4'	 								
<i>Panicum virgatum</i> * (and cultivars)		✓	✓	4-10	3.5'	 								
<i>Rhynchospora colorata</i> *	✓	✓		7-10	1.5'	 								
<i>Scirpus cyperinus</i> *	✓	✓	✓	4-9	6'	 								
<i>Sorghastrum nutans</i> *			✓	4-9	6'	 								
<i>Sorghastrum nutans</i> 'Indian Steel'			✓	4-9	5'	 								
<i>Spartina bakeri</i>			✓	6-9	5'									
<i>Sporobolus wrightii</i>			✓	5-9	6'									

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Information in this chart is based on our experience with these plants and/or the following sources: North Carolina Stormwater Design Manual ([deq.nc.gov](http://deq.nc.gov)), Lady Bird Johnson Wildflower Center ([wildflower.org](http://wildflower.org)), North Carolina Extension Gardener Plant Toolbox ([plants.ces.ncsu.edu](http://plants.ces.ncsu.edu)), Native Plant Trust ([plantfinder.nativeplanttrust.org](http://plantfinder.nativeplanttrust.org)), Prairie Nursery ([prairienursery.com](http://prairienursery.com)), Illinois Wildflowers ([illinoiswildflowers.info](http://illinoiswildflowers.info)), Gardenia ([gardenia.net](http://gardenia.net)), Waterwise Gardening, LLC. ([waterwisegardening.com](http://waterwisegardening.com)), Dyck Arboretum of the Plains ([dyckarboretum.org](http://dyckarboretum.org)).

If you have other experiences with these plants or information, please let me know. We revise our charts, lists, and plant profiles when new findings and research is available and will update the information on our website at [hoffmannursery.com](http://hoffmannursery.com).