

# TECHNICAL NOTE

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## Wetland Sodmats

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### Introduction

Wetland plants such as sedges and rushes have been documented to have very large and dense root systems. Manning et al. (1989) found that Nebraska sedge (*Carex nebrascensis*) had 328 cm of roots per  $\text{cm}^3$  of soil (in the top 20 cm), or 22 miles of roots per  $1.5 \text{ ft}^3$  of soil. This kind of root density translates into excellent streambank protection

Wetland sodmats are an excellent way to establish both small and large areas of wetland plants. The sodmats are sections of wetland sod that are harvested out of a wetland that is scheduled to be destroyed or from an area that might be enhanced by digging out a larger open water area. For the purposes of this publication, wetland sodmats are large pieces of intact wetland soil and vegetation removed from a donor wetland site.



*Typical sodmat harvested with backhoe*

*Wetland sodmat harvest hole – not too deep!*

### Collecting wetland sodmats

The sodmats are harvested from the donor wetland with shovels, backhoe, or a front-end loader modified with a sharp-edged steel plate that undercuts the sod for removal. A front end loader can harvest nice uniform sod squares. A backhoe with a large bucket and a thumb can harvest sodmats very quickly, but

they typically will not be a nice uniform square. The harvested sodmats are then loaded onto a dump truck, flatbed truck, or trailer for transport to the planting area.

**Collection Conditions**

Best results are achieved when the soils are moist but well drained at the time of cutting. This reduces weight, helps the mat stay intact, and reduces "sticking" of the mat as it is being transferred on and off the transport vehicle.

**Size of sodmats**

Wetland sodmats can be up to 8 foot square depending upon the equipment that is used for harvest. Generally, the sodmats should be 6- 8 inches thick. Do not dig much deeper than this because of the weight and difficulty in keeping the sodmats together.



**Placing Sodmats**

The harvested sod should be placed in a matching hydrological zone similar to the donor site from where they were originally harvested. The sodmats should fit tightly together, similar to laying sod for a yard. Do not leave large gaps between the sodmats because invading weeds will potentially colonize the gaps and walking around the planting can be dangerous. Since relatively large areas of the donor wetlands are impacted, this method should be used only as a salvage technique.



**Timing**

Sodmats and plugs from natural wetlands may be transplanted successfully at any time provided sufficient moisture is available in the recipient wetland to allow for continued growth, root establishment and development. Dormant planting is not necessary as long as water is available immediately after planting at the restoration site.

**Transportation of sodmats**

Once the sodmats are harvested from the donor site, they can be placed on a large flatbed trailer or in a dump truck. If you are harvesting different species of wetland plants, use different colored flagging to designate each species for those who are unloading at the project site. Do not transport the sodmats uncovered for long distances because they will dry out from the wind unless they are covered by a tarp. For long distance transportation, wet down the sodmats before starting and also when they arrive at the project site. For short distances where truck speeds are slow, no special treatment is needed.

**Short term storage of sodmats**

Sodmats that will be stored for two to three days can be unloaded at the project site and stacked on top of each other if there isn't room to lay them out on the ground. Dumping them in a pile on the ground makes it more difficult to pick up the individual pieces.

**Long term storing of sodmats**

Sodmats can be stored for long periods as long as they are kept wet. Store them on an impenetrable surface because the roots will grow into what ever they are stored on. Sodmats may be stockpiled for up to 3 months. Periodically wetting sodmats will cool the pile, retard heat build-up, and keep the plants alive. Do not stockpile sodmats in the hot summer months or during periods of high temperature.

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