



Friends of the Winooski River

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FWR Stream Table Rental Program Manual

Friends of the Winooski River is pleased to offer you this Emriver Em2 river process simulator—also known as the stream table—for use in your classroom or program. The stream table can serve as an effective tool for demonstrating river geomorphology to all audiences. Please take the time to read this entire manual to insure proper use and a successful program.



Funding for developing the rental program came from the Lake Champlain Basin Program.

Note: By signing the rental agreement with Friends of the Winooski River, you agree to follow all of the instructions laid out in this binder. This includes all information set forth by Friends of the Winooski River and Little River Research & Design.

As the renting party, your responsibilities include the following:

You must make arrangements with Friends of the Winooski River to pick up and drop off the stream table and kit.

- The following are specific space and personnel requirements associated with the stream table (see the next page for a specifications table):

Transporting: The table itself is approximately 6' L x 3' W x 5" D with an empty weight of 38 lbs. It must be properly secured on a car roof, roof rack, or inside a truck bed as not to accrue any damage. The rest of the kit, which includes five 5-gallon buckets each weighing 30 lbs or more, a 27-gallon plastic reservoir, and the table supports, should fit into an empty backseat and trunk of most vehicles. Reference the *Specifications of FWR's Emriver Stream Table and Kit* to determine specific vehicle requirements. Two (2) people are required when picking up and dropping off the table.

Set up: The stream table will take approximately 45 minutes to set up with two (2) people. We recommend a room with non-carpeted floors and adequate space for all program staff and participants to stand around all four sides of the table. You will want to first lay a tarp down (not provided) and center the table on top of it.

Take down: At a minimum, the stream table will take a minimum of 90 minutes to break down with two (2) people. This includes a **minimum of one (1) hour for the water to drain out of the sediment** and 30 minutes to break down all of the components. All parts needs to be DRY before storing back into the buckets, totes, etc.

Specifications of FWR's Emriver Stream Table and Kit

| Emriver item | Specifications | |
|-----------------------|--|--|
| Modeling media | modeling media material | particulate thermoset plastic |
| | modeling media (sediment) dry wt. | 150 lb (68.2 kg) |
| | sediment specific gravity | 1.55 |
| | sediment particle size | 0.02 - 0.09 in. (0.5 - 2.1 mm) |
| Box | box weight | approx. 38 lb (17.5 kg) |
| | box dimensions | 77 x 33 x 5 inches (1.96 x 0.83 x 0.13 m) |
| Reservoir | water capacity | 27 gal (102 L) |
| | pump capacity | 12V DC marine pump, rated 500 gph at 2.0 amps. |
| Pump | | Typical maximum output at EDU outlet is 192 mL/sec |
| | | Typical minimum output at EDU outlet is 20 mL/sec |
| | | |
| Entire system | wt. of entire system (dry) | approx. 260 lbs (118.2 kg) |
| | wt. of entire system (wet, @25 gal) | approx. 460 lbs (209.1 kg) |
| | min. floor space required for demonstration with 12 people | 12 x 15 ft (3.6 x 4.6 m) |
| | | |

IMPORTANT: NEVER attempt to move the table when it is full of sediment OR attempt to move the reservoir when it is full of water.

- Reference the above *Specifications of FWR's Emriver Stream Table and Kit* to determine specific vehicle requirements for transporting the table. Email info@winooskiriver.org if you have questions or concerns about transporting.
- Reference the enclosed *FWR Parts and Accessories Checklist* to ensure that you have everything you need in order to run your program. FWR will make sure you have all of the provided materials upon pick up. However, there are several items you will need to provide (see list on next page.)
- **IMPORTANT:** You must follow the Little River Research & Design manual (white binder) for assembly and operation of the stream table. Be sure to read all warnings before using the table. Reference the *Setup Checklist* on page 21 of the **Emriver Use and Care Manual** prior to use.
- When disassembling the table, **allow at least one (1) hour** for the “sediment” and all associated parts of the kit to dry. **Before storing in the buckets, all of the debris must be removed and most of the water must be drained from the sediment.** This water can take several hours to drain completely. Pile the sediment in the center of the table and leave overnight to drain if possible. Follow the instructions on page 22 of the **Emriver Use and Care Manual**.
- Before returning the table and kit, reference the enclosed *FWR Parts and Accessories Checklist* to ensure that all parts and accessories are accounted for, in the proper location, and **DRY**. You are responsible for returning the table in the exact condition in which you found it.
- You must make arrangements with Friends of the Winooski River to drop off the stream table and kit. **Do not attempt to drop off the table without first coordinating with FWR.**

FWR Parts and Accessories Checklist (provided)

| Part | Storage Location | Part | Storage Location |
|---|--------------------------------|---|------------------|
| Emriver Em2 Box | --- | Perforated Scoop | Inside reservoir |
| Reservoir | --- | Extension cords (2) | Inside reservoir |
| Emriver supports | --- | Squirt bottles (2) | Tote box A |
| Square buckets (2) | --- | Squeegee | Tote box A |
| Modeling media | 5 buckets + 1 tray | Silicon spatulas (2) | Tote box A |
| Emriver Use and Care Manual/FWR Manual | White binder, inside tote bag* | Hand broom/dust pan | Tote box A |
| FWR Curriculum and lesson plans | Green binder, inside tote bag* | Sponge | Tote box A |
| Dye bottles (2) | Tote bag* | Flow outlet | Tote box B |
| Power supply | Red box* | Measuring tape | Tote box B |
| Pump and filter | Red box* | Scrapers for moving media (2) | Tote box B |
| GFCI-equipped outlet | Red box* | Energy Dissipater Unit (EDU) | Tote box B |
| Crayfish Electronic Flow Controller | Red box* | Standpipe | Tote box B |
| Accessories(velcro etc.) | Bag, inside red box* | Activity Flags | Tote box C |
| Metal strainer | Inside reservoir | Simulated riparian vegetation/debris | Tote box C |
| ³ / ₄ -inch-diameter tubing | Inside reservoir | Hydraulic shapes | Tote box C |
| Solid scoop | Inside reservoir | Simulated culverts, roads, houses, etc. | Tote box C |
| Sediment trap | Inside reservoir | Riprap stones | Tote box C |
| Extra mesh | Inside reservoir | | |

You are responsible for supplying the following:

| Item | Purpose |
|------------------------------|---|
| Tie downs or wratchet straps | Transporting the table on a roof rack or inside a truck bed |
| Tarp | To lay down underneath the table to catch water and sediment debris |
| Towels | For clean-up |
| Paper Towels | For hands and clean-up |
| Trash bin | For sediment “dust” and soiled paper towels |
| Hose | If direct filling the reservoir. Buckets may also be used. |

- **IMPORTANT:** The red box containing all the electronic parts and the backpack containing the binders and dye bottles **must be stored in a heated space at all times.**

- You are responsible for making sure **all components of the kit are DRY** before returning the table. This includes all the demonstrative parts (riprap, vegetation, etc.) and all cleaning supplies. Do not store wet items in the totes or reservoir! **Please make sure all totes and other items are securely stored and completely inside of the reservoir.**

- You are responsible for repairing or replacing any items that get damaged or lost while the table and kit are in your care.

FWR Parts and Accessories Photo Guide

The following is a guide to the proper storage of the stream table and kit.

RED BOX



STORE IN A HEATED SPACE AT ALL TIMES
ALL PARTS MUST BE DRY BEFORE STORING

- Power Supply
- Pump and filter
- GFCI-equipped outlet
- Crayfish Electronic Flow Controller
- Accessories (Velcro, clips, gel)

TOTE BOX A



ALL PARTS MUST BE DRY BEFORE STORING

- (2) Silicon spatulas
- Handbroom/dustpan
- (2) Squeeze bottles (for dye)
- Sponge
- Squeegee

TOTE BOX B



ALL PARTS MUST BE DRY BEFORE STORING

- Flow outlet
- Measuring Tape
- Standpipe
- Energy Dissipater Unit (EDU)
- (2) Triangular scrapers

TOTE BOX C



ALL PARTS MUST BE DRY BEFORE STORING

- Riprap stones
- Simulated vegetation
- Woody debris
- Activity flags
- Simulated culverts, houses, roads
- Hydraulic shapes

RESERVOIR



RESERVOIR (continued)

ALL PARTS MUST BE DRY BEFORE STORING

- Sediment trap
- Metal strainer
- ¾ inch-diameter tubing
- Solid scoop
- Perforated scoop
- (2) Extension cords
- Extra Mesh

BACKPACK

STORE IN A HEATED SPACE AT ALL TIMES

ALL PARTS MUST BE DRY BEFORE STORING

- FWR Rental Program Manual/Emriver Use and Care Manual
- FWR curriculum and lesson plans
- (2) Dye bottles

OTHER

ALL PARTS MUST BE DRY BEFORE STORING

- (2) Square buckets
- (2) Supports
- Stream Table