

Workshop Topics to Enhance Trout in the Classroom
Center for Coastal and Watershed Studies - Hood College, Frederick, MD
Maryland Department of Natural Resources – Aquatic Resources Education Program
Trout Unlimited – Trout in the Classroom

8:30 a.m. Registration/Check In

8:45 a.m. Introductions/Goals for the day

9:00 a.m. Content – Dr. Drew Ferrier

I. Introduction: Enhancing the TIC Experience with classroom and hands-on learning

II. Evolution and Taxonomy of Trout

How are fish (trout particularly) related to other animals?

Trout as a group of fish – common characteristics.

Trout in Maryland: What species are here?

How are they identified? Which are natives and non-natives?

III. Trout Anatomy and Physiology

External Anatomy of a Trout

Swimming adaptations / Life in flowing waters / Fish scales

Internal Anatomy of a Trout

Feeding and food digestion

Buoyancy control

Gas Exchange, the heart, and the circulatory system

The muscles and skeleton

Water and salt balance and the excretory system

Sensory Systems – How trout perceive sound, vibration, sight, and odors

IV. Life cycle and Reproductive biology of Trout

The trout life cycle

Mating behaviors

Egg development and the importance of environmental conditions

V. Trout ecology and their role in the stream community

Trout habitat requirements

The role of trout in the stream food web

VI. Environmental issues that impact trout in Maryland

Stream temperatures and their effects on trout

Climate change – altered temperature and precipitation

Land use Change – the increase of impervious surfaces

Opportunities for mitigating possible harmful effects

12:00 p.m. Lunch

12:30 p.m. Modeling TIC Lessons – Cindy Etgen, MD DNR

1:30 p.m. Tank Set up/Trouble Shooting – Chuck Dinkel, Trout Unlimited

3:30 p.m. Workshop Concludes

Trout in the Classroom Annual Teacher and Volunteer Training and Orientation Workshop

When

Saturday October 15 from 8:30 AM to 3:30 PM

Saturday November 5 from 8:30AM to 3:30 PM

[Add to Calendar](#)

Where

Robinson Nature Center 10/15

6692 Cedar Lane
Columbia, MD 21044

Hood College 11/5

401 Rosemont Ave.
Frederick, MD 21701



Driving Directions

Dear (Contact First Name),

This announcement is for all teachers actively involved in the Mid-Atlantic Trout in the Classroom (MATIC) program for the 2016-17 school year and volunteers interested in helping TIC.

Welcome to the new TIC year and congratulations on being part of the expanding TIC family. Largely because of your success the MATIC program will operate this year in over 95 schools and outdoor education centers in 12 counties and the District of Columbia.

It's a pleasure to invite you to save the date for and take part in the annual Mid-Atlantic TIC Training and Orientation Workshops. This year two Workshops are planned.

- The one on **October 15** is for Howard, PG, Harford, DC, Charles, Baltimore City/County and Anne Arundel schools.
- On **November 15**, schools in Montgomery, Carroll and counties west will meet.

The program will run from 8:30 AM to 3:30 PM. As usual, there is no charge for the workshop. This year it is supported by the Mid-Atlantic Council of Trout Unlimited, the Maryland Department of Natural Resources (DNR) Aquatic Resources Education Program, and the Center for Coastal and Watershed Studies, Hood College.

The annual workshop is a key event in the TIC year. Attendance is mandatory for first year teachers. It is highly recommended that other returning TIC teachers and volunteers participate. If you are unable to attend your assigned workshop please contact us and if space is available you will be accommodated on the other date.

A copy of the planned agenda is attached. Note that the workshop runs longer this year and has an enhanced agenda. In coordination with the Department of Natural Resources an application will be completed to request Maryland State Department of Education credit for those completing: 1. this workshop; 2. a DNR sponsored Explore and Restore Maryland Streams Workshop (1st one scheduled on October **, 2016 – contact Cindy Etgen at cindy.etgen@maryland.gov for more information); and 3. a small project with their students. Those teachers completing all three steps will be eligible for this credit.

In addition to their educational value TIC workshops develop and strengthen interpersonal and interschool TIC relationships. An important component this year will focus on innovative ways to integrate TIC activities into classroom activities and modeling TIC lessons.

Participants should plan to bring a bag lunch. Coffee and drinks will be provided as in the past. This is an excellent time for

fellowship and networking with other teachers and volunteers

Due to space restrictions, we are limited to 76 participants at the Robinson Nature Center. We don't anticipate this being an issue since there are two workshops this year. However, we encourage you to register now for your assigned venue.

Please feel free to phone or email with any questions.

Best wishes for a successful TIC year ahead and looking forward to seeing as many of you as possible at the workshop.

Chuck and Alan

Chuck Dinkel and Alan Burrows, co-coordinators
Mid-Atlantic Trout in the Classroom Team
Mid-Atlantic Council Trout Unlimited
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Register Now!

[I can't make it](#)

