Multi-Dimensional Modeling for Stream Restoration
2019

This three (3) day workshop will cover applications of two-dimensional hydraulic modeling and its use to support stream restoration design work. Participants will improve their skills with two-dimensional modeling using real-world stream restoration designs. The group will learn the latest advancements in HEC-RAS and get practical instruction on developing a project workflow and interpreting results. Participants will need to bring a laptop computer for spreadsheet and modeling applications. Getting the most out of this workshop will require attendees have significant experience with HEC-RAS, in hydraulic processes, and stream morphology principles.

Day 1

8:00am	Registration
8:30am	Welcome and Introductions
Morning Session	
9am-10:00am	Lecture – Multi-Dimensional Modeling Principles and Practice
10:15-10:45am	Lecture – Intro to Hec-Ras 2D
10:45am-11:15am	Exercise 1 – RAS Mapperr
11:15am – 12pm	Exercise 2 - My First 2D Model – Swannanoa Rive
12-1pm	Lunch
Afternoon Session	
1pm-3:00pm	Exercise 3 – Mesh optimization in HEC-RAS
3:15pm-3:45pm	Discussion and Results Review
3:45pm-5:00pm	Exercise 4 – 1D vs 2D Modeling
5:00pm	Adjourn

Day 2

Morning Session	
8:30am-9am	Review and Overflow from Day 1!
9am-10:30am	Exercise 5. 2D Modeling of In-Stream Structures
10:45am-11:30am	Exercise 6. 2D Modeling of Stream Restoration Designs
12-1pm	Lunch
Afternoon Session	
1pm-3pm	Exercise 7. Stream Design Testing
3:15pm-4pm	Lecture: Case Studies in 2D Modeling
4pm-5pm	Discussion and Future Study
5:00pm	Adjourn

Day 3

Morning Session	
8:30am-9am	Overflow and Discussion from Day 2
9am-11am	Exercise 8. 1D-2D and Structures
11:15am-12am	Lecture: Performing a Breach Analysis
12-1pm	Lunch
Afternoon Session	
1pm-3pm	Exercise 9. Simple Breach Analysis
3:00pm-4pm	Lecture: Lessons Learned and Best Practices
4pm-5pm	Discussion and Future Study
5:00pm	Adjourn