

RRNW River Sediment Dynamics

Short-Course: 19 -20 October, 2017

DAY ONE

8:00 – 8:15 Welcome and introductions

Module 1 – Sediment Transport Mechanics and Prediction

8:15 – 8:45 Significance of sediment dynamics in rivers and river restoration - Thorne

8:45 – 9:00 Questions and Answers

9:00 – 9:45 Sediment transport mechanics – Thorne

9:45 – 10:00 Q&A

10:00 – 10:15 Break

10:15 – 11:00 Sediment transport prediction – Crowe

11:00 – 11:15 Q&A

11:15 – 12:00 Class exercise 1: sediment transport prediction – Crowe

12:00 – 13:00 Lunch Break

Module 2 –Sediment Dynamics and River Channel Changes

13:00 – 13:45 Sediment Imbalance and the Stream Evolution Model – Thorne

13:45 – 14:15 Class exercise 2: Stable Channel Design using the new NCHRP Method - Crowe

14:15 – 14:30 Q&A

14:30 – 14:45 Break

14:45 – 15:30 River Planforms (Straight, Meandering, Braided and Anastomosing) and Planform Metamorphosis – Thorne

15:30 – 16:15 Q&A

16:15 – 16:45 Class exercise 3: Meander migration prediction - Thorne

16:45 – 17:00 Closing discussion for Day One

DAY TWO

8:00 – 8:15 Review of Day One and Introduction to Day Two

Module 3 – Influence of Biology on Sediment Dynamics

8:15 – 8:30 Life at the bottom: small animals, big impacts - Thorne

8:30 – 8:45 Q & A

8:45 – 9:15 Working with Nature's River Restorers – Thorne

9:15 – 9:30 Q&A

9:30 – 10:00 Class exercise 4: Interactions between physical and biotic processes – Thorne

10:00 – 10:15 Break

Module 4 – Modelling Sediment Dynamics

10:15 – 10:45 Modelling sediment dynamics for river management and restoration

11:00 – 11:45 Modelling sediment dynamics in 1-Dimension - Winter

11:45 – 12:00 Q&A

12:00 – 13:00 Lunch Break

13:00 – 14:00 Class exercise 5: Using HEC-RAS to model sediment dynamics - Winter

14:00 – 14:45 Modelling sediment dynamics in 2-Dimensions - Lacey

14:45 – 15:00 Q&A

15:00 – 15:15 Break

15:15 – 16:15 Class exercise 6: using iRIC and Nays 2dh to model sediment dynamics - Lacey

16:15 – 16:45 Accounting for Sediment Dynamics in River Restoration - Thorne

16:45 – 17:00 Closing discussion for Short Course