

# LOW-TECH PROCESS-BASED RESTORATION OF RIVERSCAPES

## VIRTUAL WORKSHOP Module 2 - Science August 12, 2020



Workshop by:

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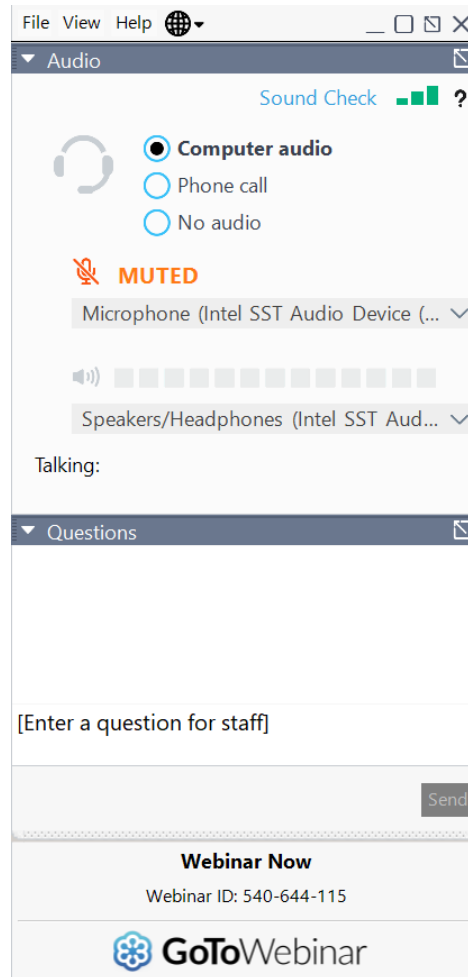


# ASWM Moderators for the Virtual Workshop

*Welcome to the NRCS-USU Low-Tech Process-based Restoration of Riverscapes Virtual Workshop*  
hosted by the Association of State Wetland Managers.



**Today's Moderator**  
Brenda Zollitsch  
ASWM Senior Policy Analyst



Reminder... If things go wrong:

- Simply shut down your system and restart; use your Join Webinar link from your email to get back onto webinar
- Can always call in only and look at the slides from the website
- Contact [Laura Burchill](#) at ASWM if you are having technical issues:

**Telephone:**

207-892-3399

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[laura@aswm.org](mailto:laura@aswm.org)

# Module 2: Instruction Team



Joe Wheaton  
(USU, Anabranh  
Solutions)



Steve Bennett  
(USU, Anabranh,  
ELR)



Scott Shahverdian  
(USU, Anabranh)



Jeremy Maestas  
(USDA-NRCS)



Nick Bouwes  
(USU, Anabranh  
Solutions, Eco  
Logical Research)



Nick Weber  
(Anabranh,  
ELR)

## Guest Presenters



Mark Beardsley  
(EcoMetrics)



Colin Thorne  
(Univ of Nottingham)



Ben Goldfarb  
(Environmental  
Journalist)

# Course Structure - Pick and Choose



Tuesday, Aug. 11 (10 AM – 4 PM MT)

- Module 1: Introduction to Low-Tech Process-Based Restoration (3/4 day)

Wednesday, Aug. 12 (9 AM – 4:30 PM MT)

- **Module 2: Underlying Science & Case Studies for Low-Tech** (morning, ½ day)
- Module 3: Planning Low-Tech Process-Based Restoration (afternoon, ½ day)

Thursday, Aug. 13 (10 AM – 3:30 PM MT)

- Module 4: Designing Low-Tech Process-Based Restoration (3/4 day)

Friday, Aug. 14 (9 AM – 12:30 PM MT)

- Module 5: Implementing Low-Tech Process-Based Restoration (morning, ½ day)

# Today's Agenda

## Module 2: Underlying Science & Case Studies for Low-Tech

Wednesday, Aug 12: 9:00 AM - 12:00 Noon (Mountain Time)



- Logistics
- Background on Science & Case Studies
- 3 Case Studies



- Panel Discussion ~ 9:45 to 10:00



- **Break** ~ 10:30 to 10:45

- Panel Discussion ~ 11:00 to 11:15



- Ongoing & Outstanding Science

- Panel Discussion ~ 11:45 to 11:45



- **Break for Lunch** ~ 12:35 to 13:35



- Module 3 – Starts @ 13:00

# Today's Agenda (Detail)

## Module 2: Underlying Science & Case Studies for Low-Tech

Wednesday, Aug 12: 9:00 AM - 12:00 Noon (Mountain Time)



- **A.** Logistics/Intro
- **B.** Background on Science & Case Studies - **Joseph Wheaton**
- **Three Case Studies**
  - **C.** Beaver Dam Analogues: Bridge Creek & Birch Creek- **Nick Bouwes**
  - **D.** Post Assisted Log Structures: Asotin IMW – **Steve Bennett**
  - **E.** Building Resilience with Low-Tech - **Jeremy Maestas**
- **F.** Ongoing & Outstanding Science – **Maestas & Wheaton**

# Many of you are –OLOGISTS...

The science behind LTPBR, which gives the **-ers** some confidence

## Who you work for

Other	284
State Wildlife Agency	163
Other NGO	89
USFS	88
Conservation District	83
NRCS	80
<b>University</b>	<b>50</b>
BLM	44
Tribe	36
USFWS	27
Land Owner	21
Watershed Council	17
The Nature Conservancy	12
Trout Unlimited	10
Pheasants Forever	2
Grand Total	1006

## What you call yourself

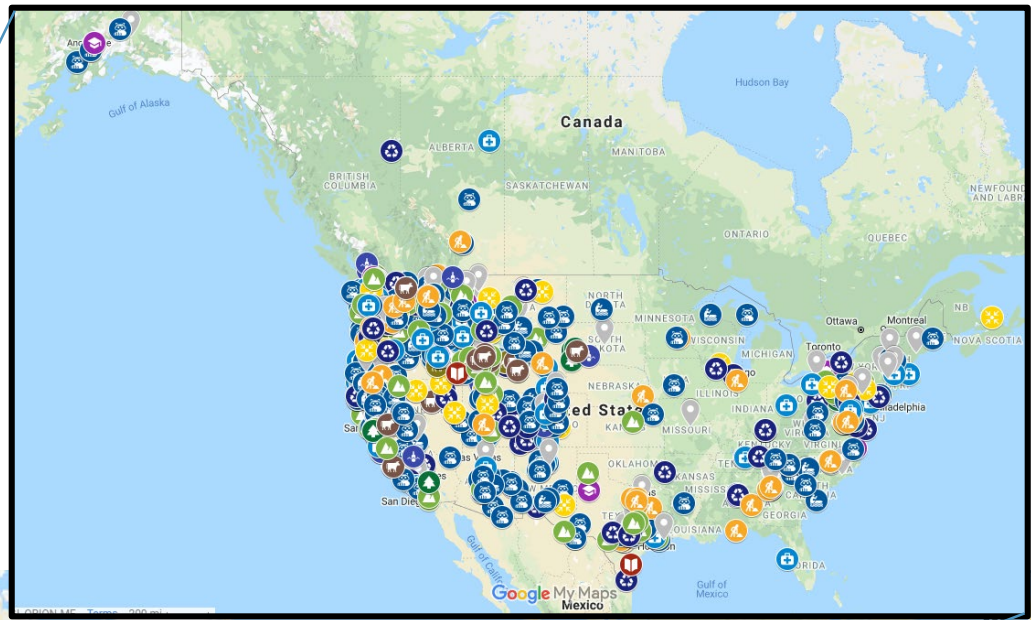
<b>Biologist</b>	259
Restoration Practitioner	141
<b>Ecologist</b>	119
Conservationist	106
Other	81
Engineer	79
Manager	67
<b>Hydrologist</b>	66
Range Conservationist	24
<b>Geomorphologist</b>	23
Student	16
Forester	9
<b>Researcher</b>	9
Rancher	7
Grand Total	1006



Jay Wilde – A rancher (and inquisitive amateur scientist)

# Where y'all from?

- 44 US States
- 25 with > 5
- 15 with > 15
- 7 with > 50



- Biologist (259)
- Restoration Practitioner (141)
- Ecologist (119)
- Conservationist (106)
- Other (81)
- Engineer (79)
- Manager (67)
- Hydrologist (66)
- Range Conservationist (24)
- Geomorphologist (23)
- Student (16)
- Forester (9)
- Researcher (9)
- Rancher (7)



# LTPBR Website

<http://lowtechpbr.restoration.usu.edu>

The screenshot shows the LTPBR website homepage. At the top, there is a navigation menu with links for RIVERSCAPES, RC TOOLS, RC SCIENCE, RC DATA, and RC HELP. The main header features the title "LOW-TECH PROCESS-BASED RESTORATION OF RIVERSCAPES DESIGN MANUAL, RESOURCES, WORKSHOPS" and the Utah State University Restoration Consortium logo. A yellow callout bubble points to the "Workshops" link in the site contents menu, stating "Click here to get to the workshop pages right away." Another yellow callout bubble points to the "Manual" link in the site contents menu, stating "Click here for manual... and pocket guide". Below the header, there is a banner for a "Virtual LTPBR Workshop - FREE" on August 11-14, 2020. The main content area includes a "Manual" section with a description of the design manual's purpose and a list of resources. A QR code is located in the bottom right corner of the screenshot.

Click here to get to the workshop pages right away.

Click here for manual... and pocket guide

Register for Virtual LTPBR Workshop - FREE August 11-14, 2020

**Manual**

The purpose of this **design manual** is to provide restoration practitioners with guidelines for implementing a subset of low-tech process-based restoration (LT-PBR) in riverscapes. While the concept of process-based restoration in riverscapes has been advocated for at least two decades, details and specific examples on how to implement it remain sparse. Here, we describe 'low-tech process-based restoration' (LT-PBR) as a practice of using simple, low unit-cost, structural additions (e.g. wood and beaver dams) to riverscapes to mimic functions and initiate specific processes. Hallmarks of this approach include:

- An explicit focus on the processes that a low-tech restoration intervention is meant to promote
- A conscious effort to use cost-effective, low-tech treatments (e.g. hand-built, natural materials).

## Find:

- Design Manual
- Pocket Guide
- Other Resources
- Workshop Slides
- Links/Videos/Literature



# Navigating the Workshop Pages



**PAGE CONTENTS**

- 2020 NRCS WLFW Low-Tech Riverscape Restoration Workshop
- 2020 Virtual Workshop
  - Overview
  - Odd 2020 Opportunity
  - Virtual Workshop Description
    - Agenda
    - Registration
  - Course Materials
    - Slides & Handouts
    - Workshop Textbooks
  - More Background
    - Purpose & Need
    - Instruction Team
  - Audience
  - Make it Count
    - Subscribe to the Low-Tech PBR mailing list

All workshop slides, videos, resources, exercises.... etc.

## 2020 Virtual Workshop

August 11-14, 2020 - Anywhere with Internet

Registration for Virtual LTPBR Workshop - FREE! August 11-14, 2020

### Overview



Thanks to the generous support of the Natural Resource Conservation Service's Working Lands for Wildlife, and a grant

## Resources:

- During workshop
- & Following workshop
- & to share 

## INTRO LTPBR WORKSHOP MATERIALS

**PAGE CONTENTS**

- Intro LTPBR Workshop Materials
- Day 1 - Intro to Low-Tech Process Based Restoration
  1. Logistics and Introductions
  2. Background and purpose
  3. Build your first Beaver Dam Analogue exercise
  4. Introduction to low-tech approaches
  5. Guiding Principles
- Day 2 - Planning and Designing Low-Tech Riparian Restoration
  6. Beaver Ecology
  7. Conservation Planning Process
  8. Planning in Detail
  - Mimicking and promoting wood accumulation and beaver dam activity
    9. Case Study: Asotin Creek
    10. Case Study: Bridge Creek

Below you can find PDFs of the slides we cover in the intro to low-tech process-based restoration workshops. Each is licensed with a Creative Commons licence, so you are free to re-use subject to the terms of the license.

## Day 1 - Intro to Low-Tech Process Based Restoration

### 1. Logistics and Introductions

The workshop kicks off with some introductions and logistics.

- Logistics, Introductions - Slides

A lot of material to get lost in... navigate to Module and Topic to find what you need...

### 2. Background and purpose



We will post on slides and in chat windows:

- Links to resources we're currently using

# Low-Tech PBR Design Manual

- Refers to the science behind LTPBR (primarily in Chapters 1 & 2)
- Defines standards of practice for LTPBR (primarily in Chapters 3-6)

<http://lowtechpbr.restoration.usu.edu>



Available on Amazon or Bookbaby for \$60