

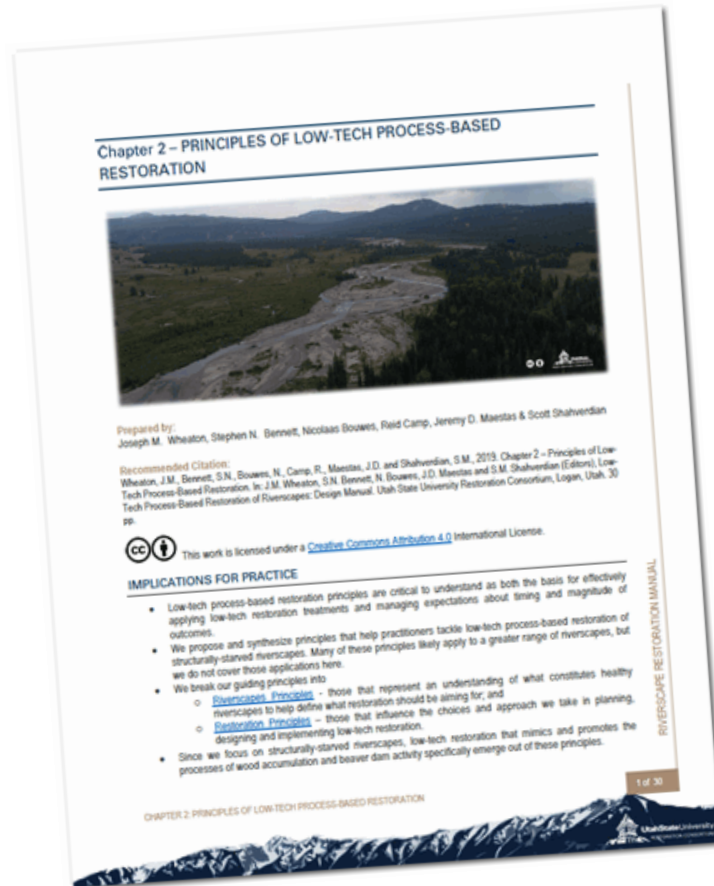
Colorado & Wyoming AFS



LTPBR Restoration Principles



Design Manual References – Chapter 2



Chap 2: Wheaton et al. (2019a)
DOI: [10.13140/RG.2.2.34270.69447](https://doi.org/10.13140/RG.2.2.34270.69447)

From pages 1-6 of Pocket Guide; Wheaton et al. (2019)
DOI: [10.13140/RG.2.2.28222.13123/1](https://doi.org/10.13140/RG.2.2.28222.13123/1)

5. It's okay to be **messy**
6. There is strength in **numbers**
7. Use **natural** building materials
8. Let the system **do the work**
9. **Defer decision making** to the system
10. **Self-sustaining** systems are the solution

The logo features a blue ribbon banner with the word "Process" in white script and "Based Restoration" in white sans-serif. Below the banner, the words "LOW-TECH" are written in white sans-serif. The entire logo is set against a background of red and blue diagonal stripes. A small "CC" logo is visible in the bottom left corner.



From pages 3-4 of Pocket Guide; Wheaton et al. (2019)

DOI: 10.13140/RG.2.2.28222.13123/1

See Wheaton et al. (2019, p 72)

Chapter 2 LTPBR Manual for Principles

DOI: 10.13140/RG.2.2.34270.69447

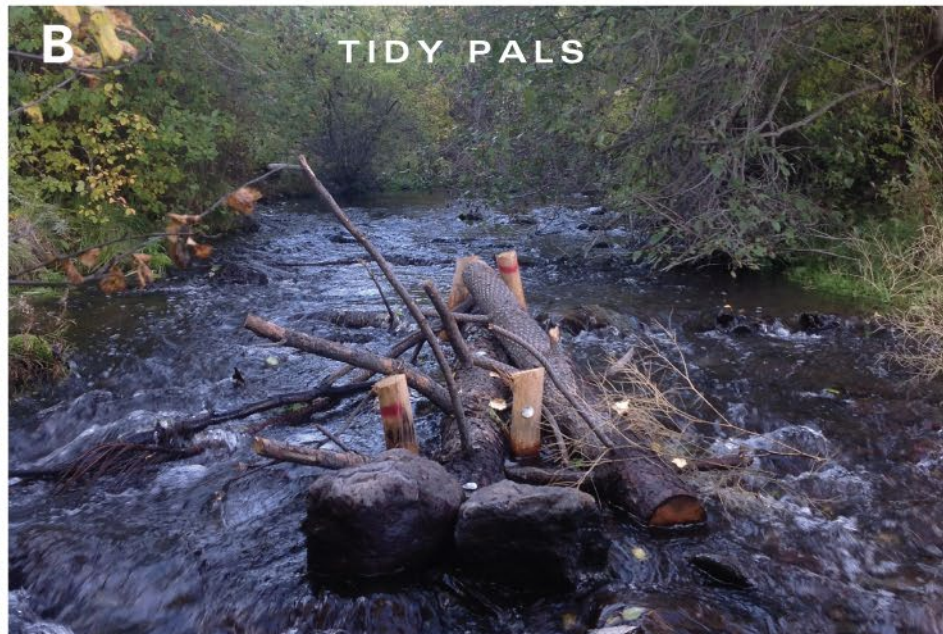
A

MESSY PALS



B

TIDY PALS



CC BY Reid Camp

5. It's okay to be messy



IT'S OKAY TO BE MESSY
RESTORATION PRINCIPLE 5.

Beaver Like to Make Messes...



- Messiness = complexity -> ecosystem health and resilience

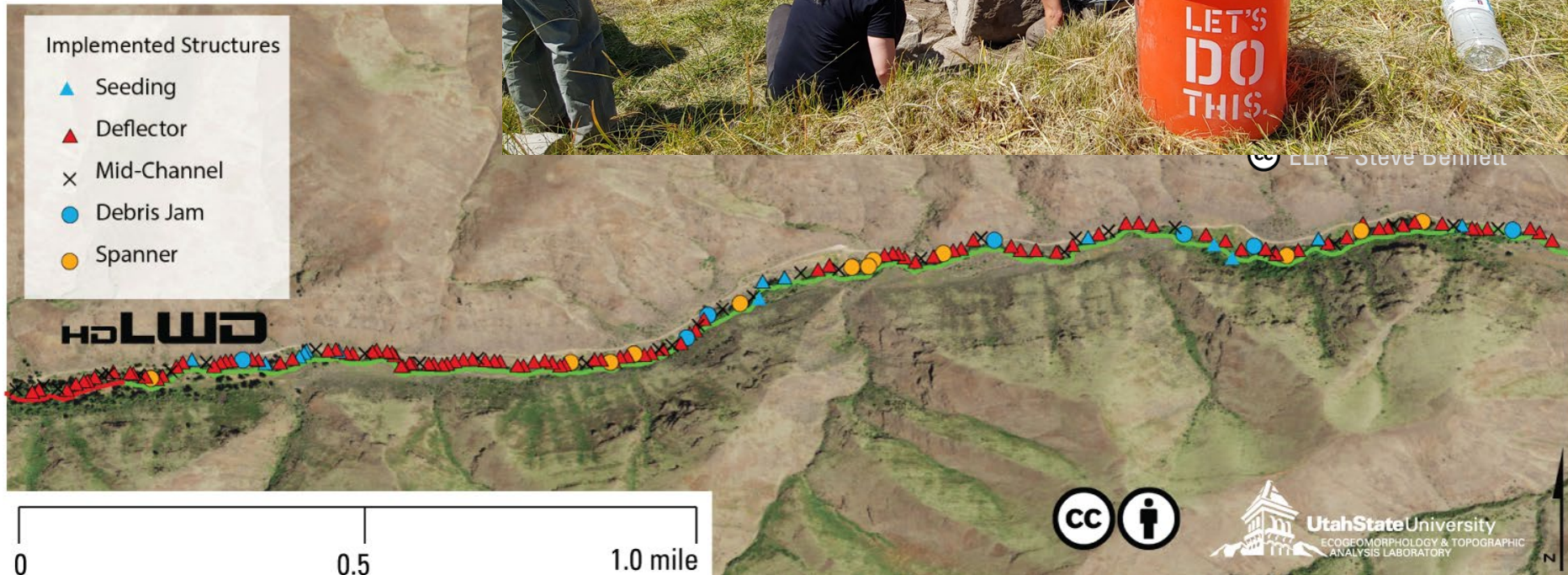
6. There is strength in numbers

More IS better



Implemented Structures

- ▲ Seeding
- ▲ Deflector
- × Mid-Channel
- Debris Jam
- Spanner



Adapted from Figure 2.10 of Wheaton et al. (2019, p 74-75) – Chapter 2 LTPBR Manual. DOI: [10.13140/RG.2.2.34270.69447](https://doi.org/10.13140/RG.2.2.34270.69447)

From pages 3-4 of Pocket Guide; Wheaton et al. (2019)

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7. Use Natural Building Materials



Reduce costs

Consistent with local landscape

Pocket Guide; Wheaton et al. (2019, p. 3-4)

DOI: [10.13140/RG.2.2.28222.13123/1](https://doi.org/10.13140/RG.2.2.28222.13123/1)

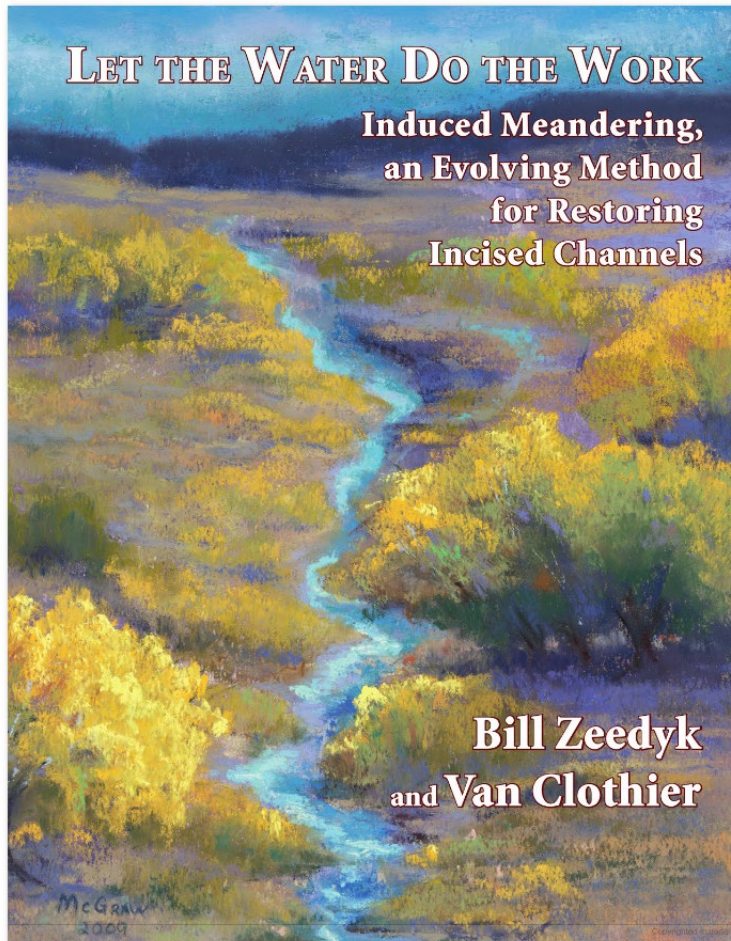
See Wheaton et al. (2019, p 76)

Chapter 2 LTPBR Manual for Principles

DOI: [10.13140/RG.2.2.34270.69447](https://doi.org/10.13140/RG.2.2.34270.69447)

8. Let the system do the work

Geomorphic work like erosion & deposition instead of grading



“What if restoration was about stream power doing the work, not diesel power?”

— Jared McKee (USFWS)

See Wheaton et al. (2019, p 77)
Chapter 2 LTPBR Manual for Principles
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9. Defer Decision Making to System

What decisions do we make in traditional restoration design?

- How far to erode bank?
- Channel width
- Slope
- Planform
- Elevation to set floodplain
- Capacity of channel



Joe Wheaton

Pocket Guide; Wheaton et al. (2019, p. 3-4)

DOI: [10.13140/RG.2.2.28222.13123/1](https://doi.org/10.13140/RG.2.2.28222.13123/1)

See Wheaton et al. (2019, p 77)

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RESTORATION PRINCIPLES

5. It's okay to be **messy**
6. There is strength in **numbers**
7. Use **natural** building materials
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9. **Defer decision making** to the system
10. **Self-sustaining** systems are the solution

Review: Restoration Principles



Uplands

Ultimate goal is Self-Sustaining systems

Fan

Valley Bottom Margin

Valley Bottom Margin