

What's Upstream?  
(We All Are)

1. What we preserve and maintain
2. What we disturb/alter
3. What we create and “dispose of”
4. How we treat

# 1. What we preserve and maintain

Forests

Wetlands

Floodplains

## 2. What we disturb/alter

Stable geology

Cover vegetation

Premeable surface

Soil strata

### 3. What we create and “dispose of”

Nutrients

Toxics

Trash

Product residuals

By-products

## 4. How we treat

Media transfer

Chemical/biological alteration

Green infrastructure

# Valuation of our natural systems

Explicit quantification of avoided downstream costs

Strategies for maintaining functionality in the face of climate stressors

Valuation of more sustainable land use practices

Development of additional sustainable practice options and refinement of existing approaches



# The case for Reduce, Reuse, Recycle

Refining understanding of pollutant impacts

- Exacerbation and/or complications introduced by climate change
- Incidence and impact of emerging (and *emerged* contaminants)

Understanding how to modify processes that lead to unintended outputs

Designing better systems

Improving incentives for preferred behaviors

Optimizing and scaling up  
approaches that detoxify

Verifying/evaluating effectiveness of  
natural systems over time

And then there's  
What's Downstream....