Monitoring effectiveness of a large wood addition: a collaborative, multi-disciplinary approach

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Oregon Department of Fish and Wildlife
How quickly will a physical response be observed and how long can the observed improvements be expected to last?

How much habitat change is needed to produce a measurable change in fish abundance?

What is the long-term impact of wood placement on food resources and fish production?

Roni et al. (2015)

In short, what is the biological return on investment for wood placement projects?
To answer these questions we need:

- Accurate estimates of basin-scale fish production
- Long-term data due to natural variability in fish abundance and stream habitat

ODFW
Salmonid Life Cycle Monitoring Sites
ODFW Salmonid Life Cycle Monitoring
Mill Creek: a unique opportunity to evaluate wood placement effects

- 20 years of data on smolt production and adult returns
- Strong landowner support for project
- Location facilitates ODFW/OSU research partnership
Smolt abundance

Chris Lorion and Erik Suring
ODFW Salmonid Life Cycle Monitoring Project
Geomorphic Response

Dr. Catalina Segura
M.S. students Russell Bair and Amelia Yeager
OSU Department of Forest Engineering, Resources, and Management

Winter Rearing Habitat

Kara Anlauf-Dunn and Charlie Stein, ODFW Aquatic Inventories Project
Evan Hayduk, MidCoast Watersheds Council
Lincoln Soil and Water Conservation District
Coho Salmon Overwinter Survival

Chris Lorion and Erik Suring
ODFW Salmonid Life Cycle Monitoring Project

Plum Creek and Weyerhaeuser
Aquatic macroinvertebrates

Shannon Hubler
Oregon Department of Environmental Quality

Bill Gerth and Judy Li
Oregon State University Department of Fisheries and Wildlife
Wood Placement

OWEB Grant to place ~700 logs in Mill Creek and its tributaries (7.5 miles of stream)
~40 logs placed in summer 2015, remainder in summer 2016
Effectiveness monitoring through 2022 (and hopefully beyond)

Geomorphic response

Aquatic macroinvertebrates

Basin-scale winter habitat

Coho salmon overwinter survival

Smolt abundance
Mill Creek Effectiveness Monitoring Budget

- OWEB Effectiveness Monitoring Grant: $123,000
- ODFW LCM In-Kind: $2,590,000
- Other Partners In-Kind: $223,000
- Other Grants: $156,000
Thanks

- Derek Wilson, ODFW
- Stacy Polkowske and Jeff Light
- Wayne Hoffman
- Maryanne Reiter, Weyerhaeuser
- Steve Johnson
- All of our monitoring partners

OSU College of Forestry
Fish and Wildlife Habitat in Managed Forests Research Program