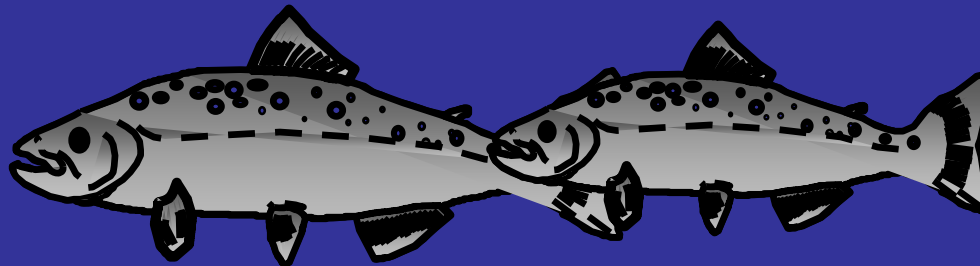


Large Wood Replenishment
and Pre-Commercial
Thinning:

Doing Two Things at Once

Scott Nicolai
Yakama Nation




The historical context...



Log Drive Teanaway River

Photo Courtesy of Boise Cascade

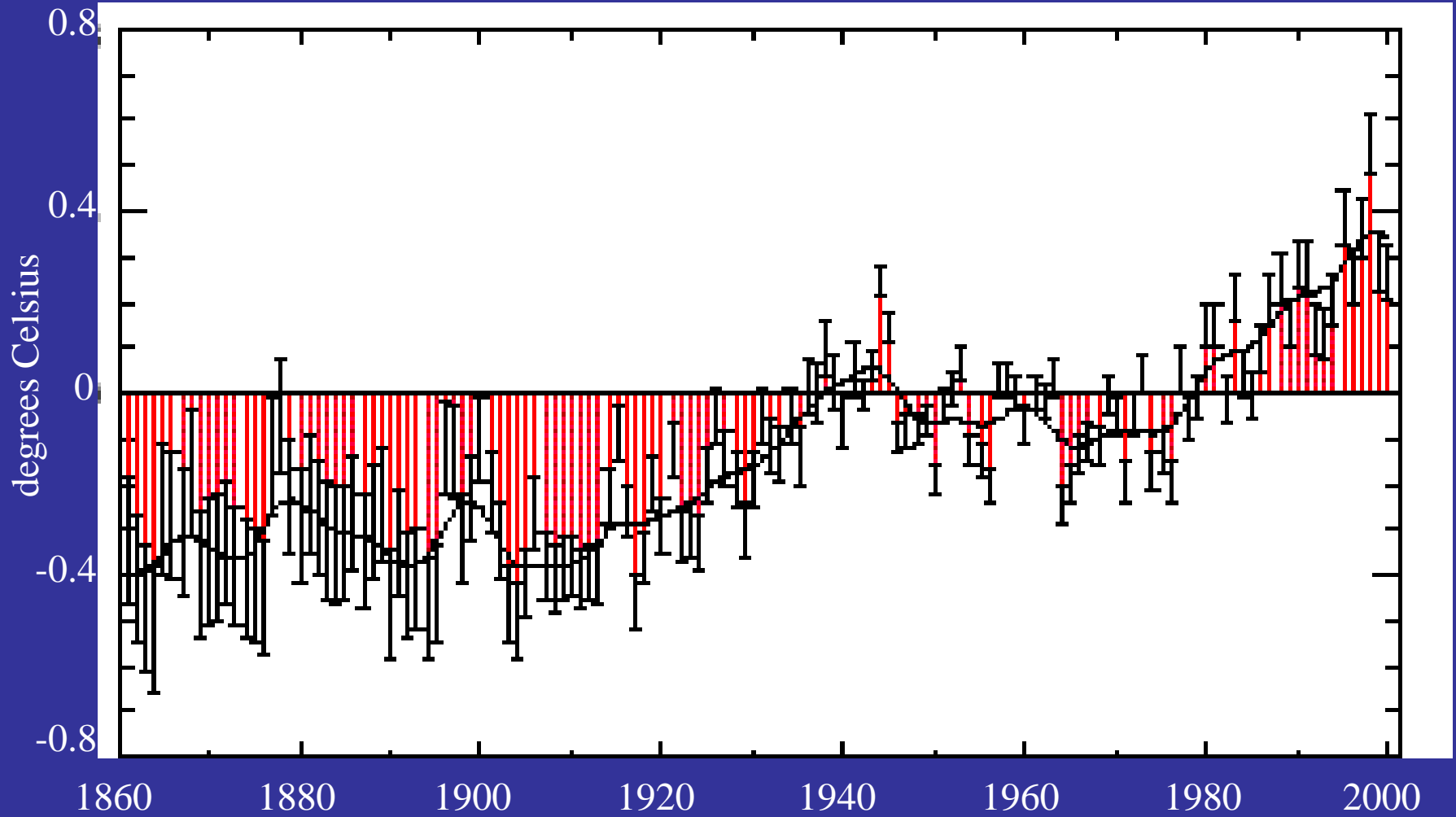


...has lead to this
(where are the pools,
instream cover,
instream
complexity??).

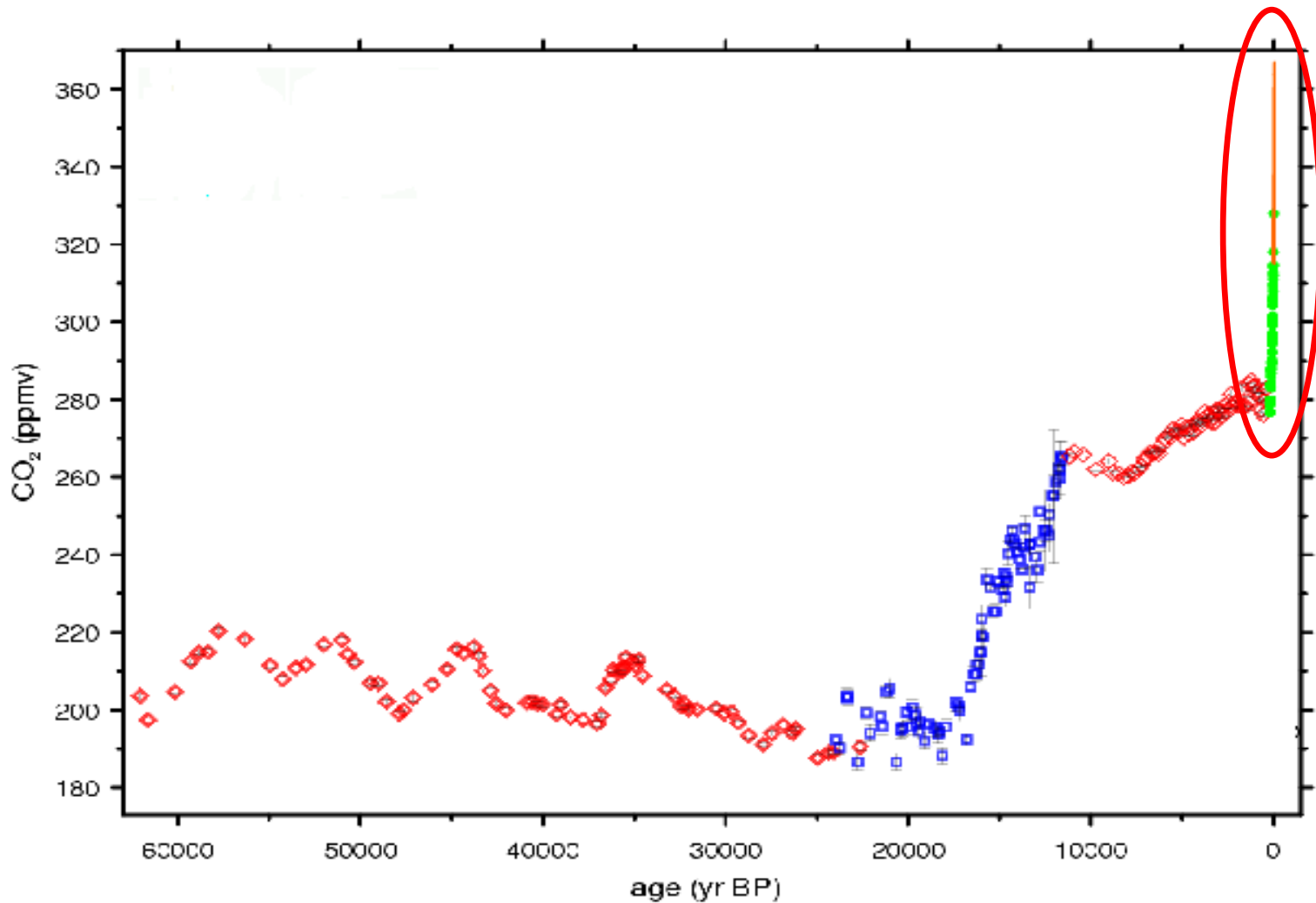
08.29.2007 23:24

...and today we have new threats to our natural resources.

Global average temperature



Carbon Dioxide Levels Over The Last 60,000 Years




Source: University of Berne and National Oceanic and Atmospheric Administration

From the Seattle PI.com, 2/11/2009 article on The Climate Change Impacts Assessment:

“The stream conditions in the summertime are just looking to be deteriorating,”

The Future Looks Grim -
We Need Your Help



A close-up photograph of a log in a stream. The log is covered in white foam, and several salmon egg scars are visible on its surface. The water is dark and turbulent, with white foam around the log. The log is positioned vertically, and the egg scars are arranged in a line along its length. The background shows the stream and some other logs.

...And habitat restoration isn't just about salmon!

01.28.2009 15:32

Large Wood Replenishment:

- Recruit (replenish) Large Wood via manual tools utilizing recommendations from WDFW's Stream Habitat Restoration Guidelines



Source-wood is selectively removed from upland areas



07.22.2008 14:58



Trees are positioned in the stream with manual griphoists (aka “a come-along on steroids”)



04.13.2009 08:47

Trees are not bucked to shorter lengths, thus they remain as 50-100' boles once in-channel.





07.24.2008 16:47



07.22.2008 14:58



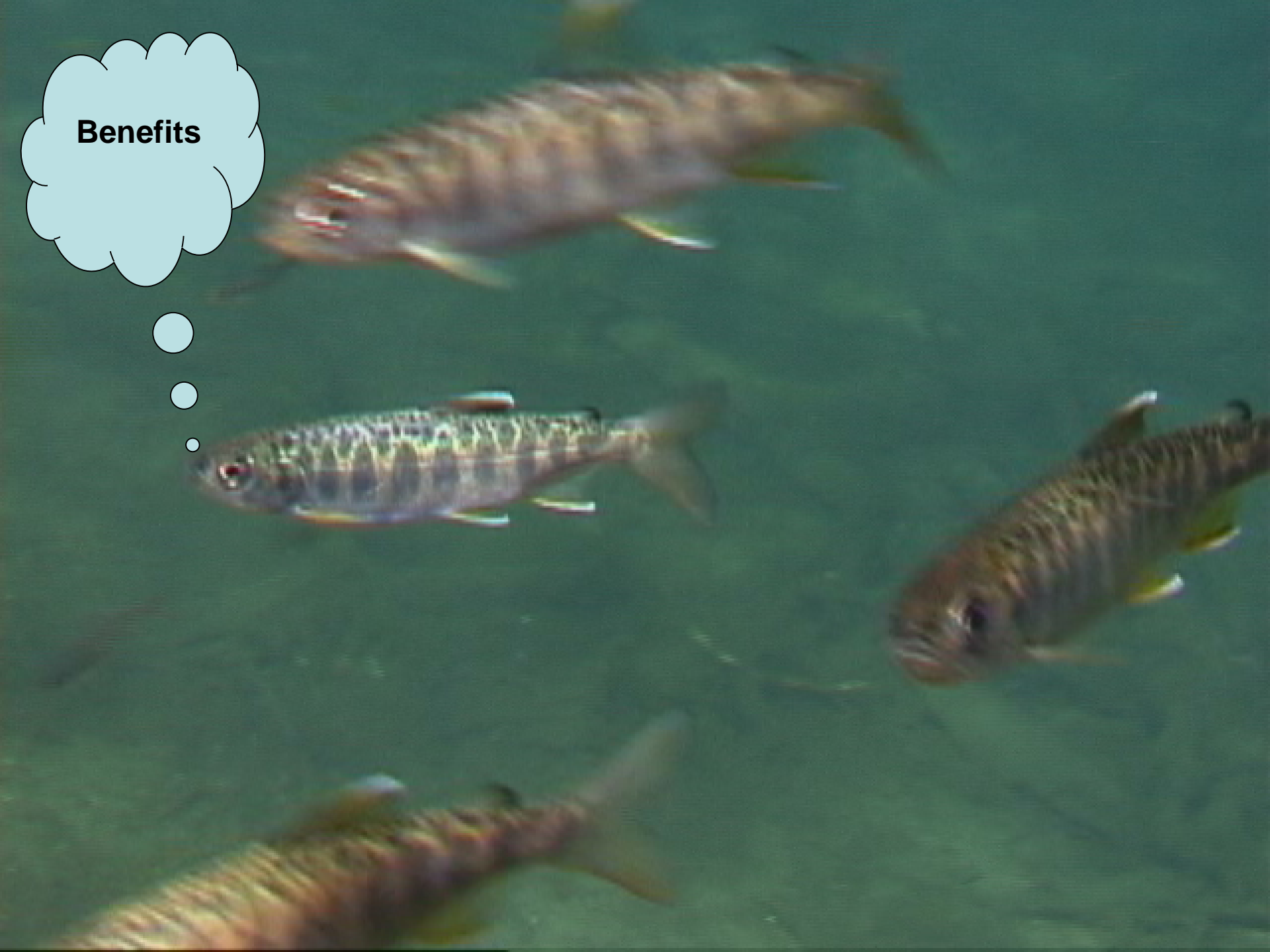
09.03.2008 12:56

Trees are then moved,
sorted and racked by
stream hydraulics

05.16.2008 10:45



Benefits



1. Stream/Floodplain
Function



11.14.2008 11:54

Before...

05.01.2008 15:44



After...



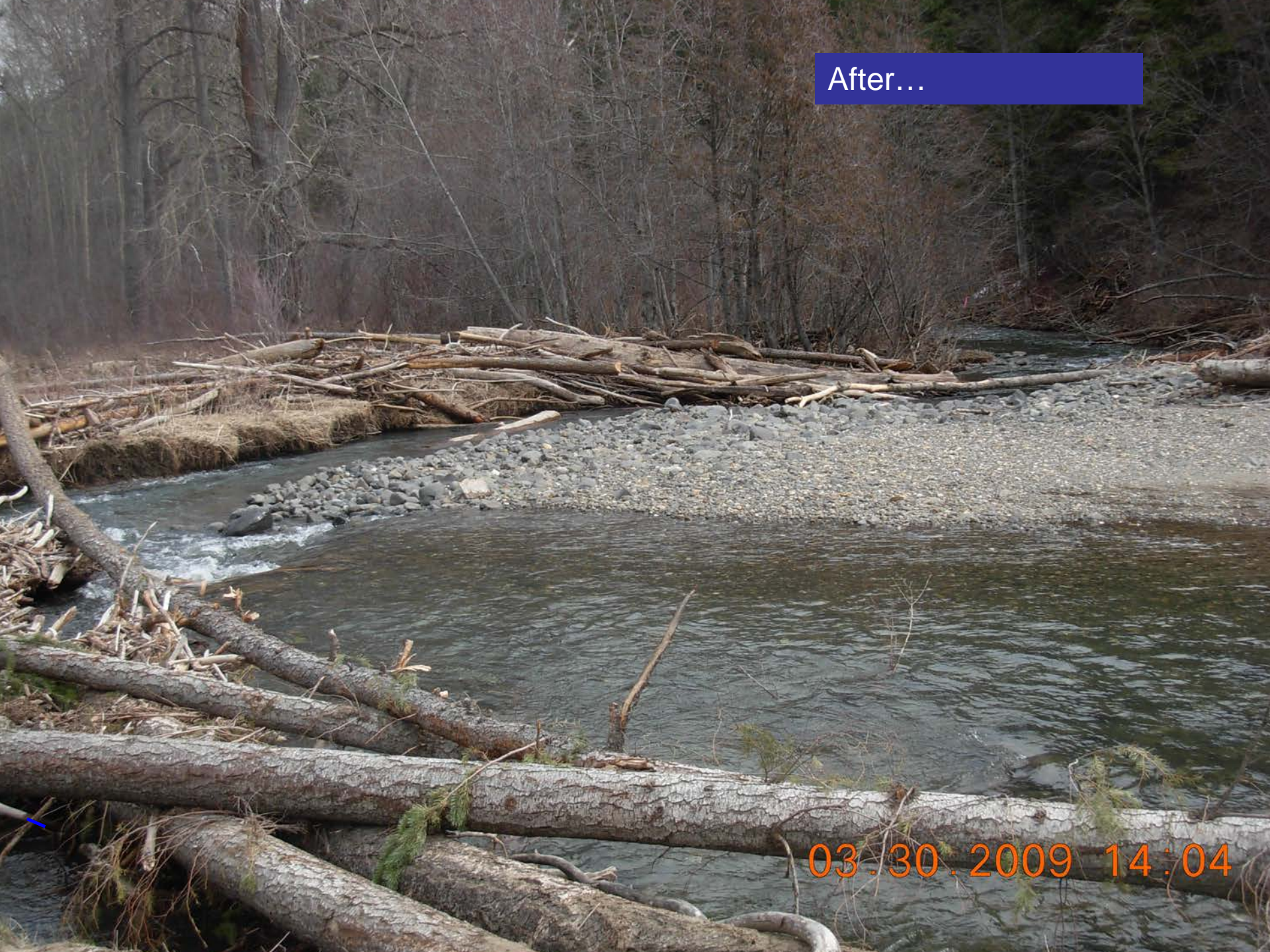
03.30.2009 14:04

Before...

05.01.2008 15:44



After...



03.30.2009 14:04

2. Forest Health



10.02.2008 11:13

3. Carbon Storage



01.15.2009 13:22

4. Safe Tree Felling Technique – Lower Risk of Hang ups



Tree prior to felling



Tree prior to felling



Pulley hold



Tree prior to felling



Griphoist at tail hold



Pulley hold



5. Low Cost!



Taneum Creek
Project
Monitoring –
Post January
Flooding.

01.08.2009 14:35

During the flood, ice was a major geomorphic factor

01.28.2009 13:59

Eight restoration sites



01.15.2009 13:31

A photograph of a stream with a large pile of logs in the background, illustrating a restoration site. The stream flows over a rocky bed, and the water is clear. The background shows a dense forest of bare trees, suggesting a winter or late autumn setting. The logs are piled up on the right side of the stream, partially submerged. The water is turbulent as it flows over the rocks and through the logs.

Eight restoration sites

235 full-length trees placed at a labor cost of \$12,000

01.15.2009 13:31



Eight restoration sites

235 full-length trees placed at a labor cost of \$12,000

71% remained within ordinary high water mark after the January flood

01.15.2009 13:31

Representative
Wood Loading
Sites



01.15.2009 13:21



03.30.2009 14:39



03.30.2009 14:45

Summary of Benefits

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- Nothing to mobilize

Tools for a crew of seven...



04.05.2009 12:16

Summary of Benefits

- Inexpensive, so more restoration can occur across Washington State
- Improved forest stand conditions
- There's nothing to mobilize (tools fit in a sedan)
- Extremely low impact, thus permit conditions should be liberal

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- Great volunteer activity



04.05.2009 14:24

Rhetorical Questions:

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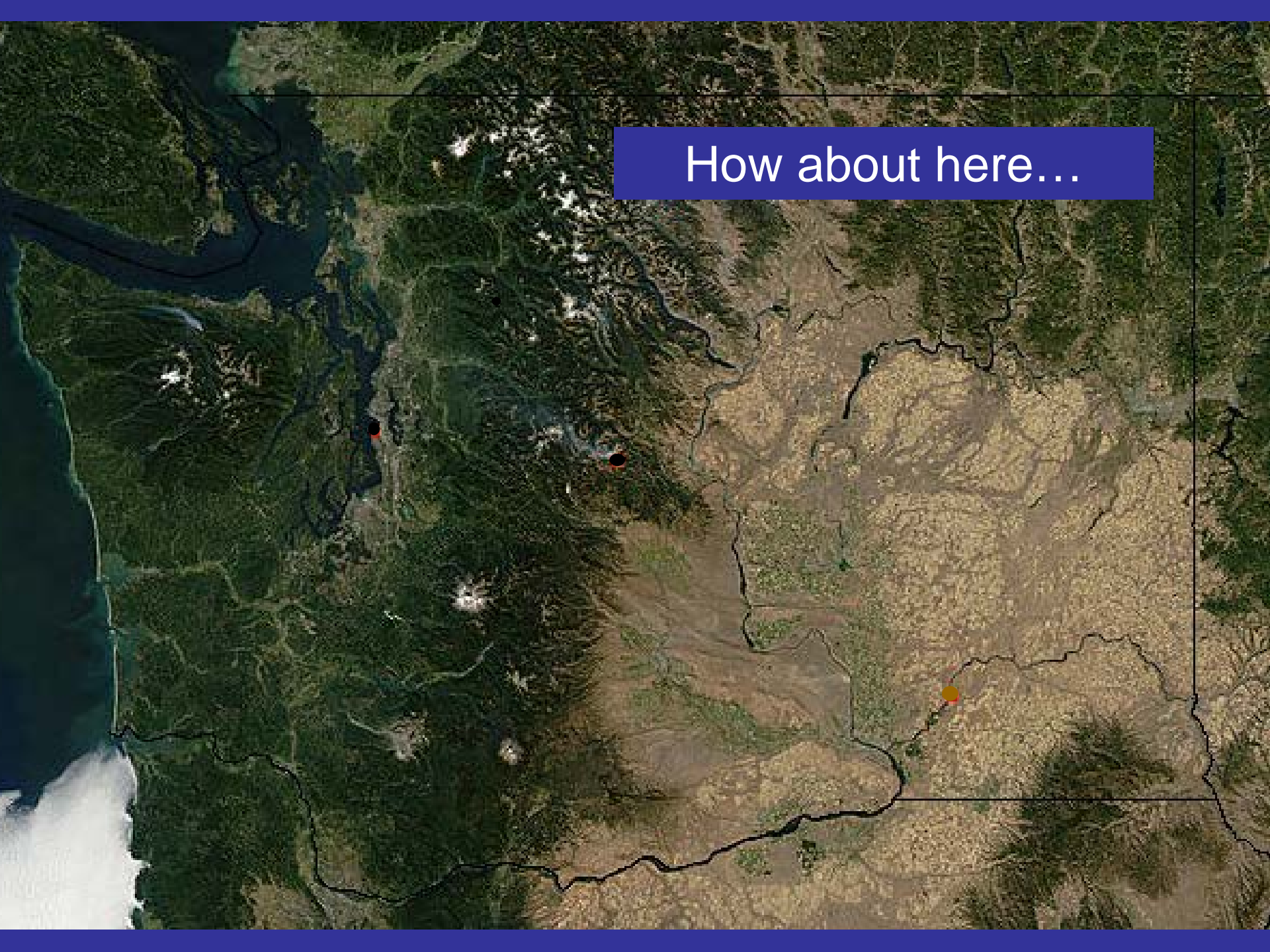
- How many miles of stream in Washington State are wood-deficient?

Rhetorical Questions:

- How many miles of stream in Washington State are wood-deficient?
- Funding is small, restoration needs are big. How long will it take until our streams have “healthy” wood loading???

So, where should this
work occur???

How about here...



Acknowledgements

• Mid Columbia Regional
Enhancement Group



09.09.2008 12:25

- Mid Columbia Regional Enhancement Group

- WDFW



- Mid Columbia Regional Enhancement Group

- WDFW



- Mid Columbia Regional Enhancement Group
- WDFW
- Bonneville Power Administration



- Mid Columbia Regional Enhancement Group
- WDFW
- Bonneville Power Administration
- The Washington Conservation Corps



My son!



The End...

