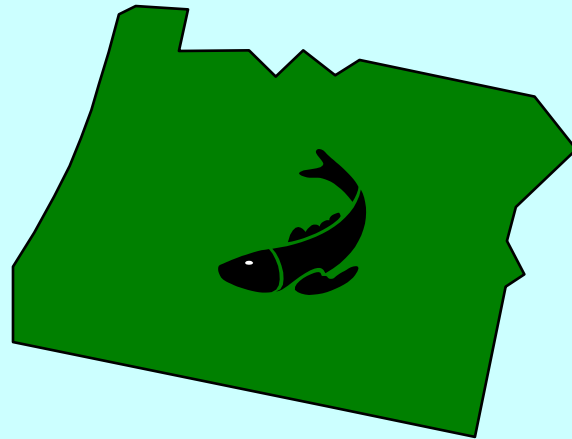


# **Stream Channel & Bank Restoration with Fish Passage**



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# ODOT

- Is not just concerned with Trains, Planes, and Automobiles any more.
- Past design practices were only interested in moving water and were not environmentally sensitive.
- ODOT has stepped up the efforts to design with the environment in mind and repair past problems.

- Designs now use minimal concrete and less rock.
- Designs now use more wood, soil, vegetation, and other products available to stimulate plant growth.
- ODOT is doing more stream and bank restoration on and off ODOT right of way.
- ODOT also does off site mitigation work when the impacts can not be mitigated on site.
- There is a fine line that DOT's contend with - highways have to be built or widened to handle the traffic increase and yet minimize environmental impacts.

# PERHAM CREEK

Trenchless Technology 12 foot Diameter Pipe



The initial ram was not large enough and stalled part way through.



Larger ram was brought in to finish the ramming operation.



Notice the settlement of the freeway from the vibration of the ram.



Delivery of a section with bracing to retain shape during transport.



There is very minimal traffic disturbance during installation.



New section being lifted into place. Bracing is removed prior to ramming.



Stream channel prior to construction.  
notice the standpipe in the upper right.



New channel after construction with  
bank slopes are seeded with matting.



7% slope, simulated streambed with  
side baffles, heavy bedload movement.

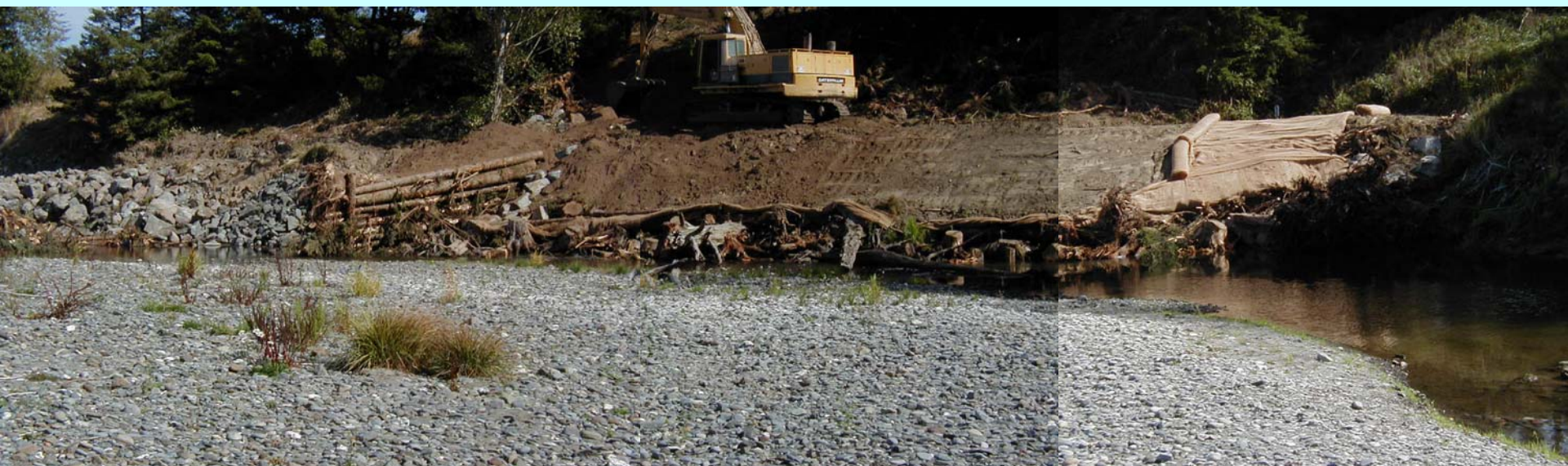


Fish started spawning upstream  
immediately after completion.

# Floras Creek Bank Stabilization & Stream Restoration



Project before and during installation of habitat structures and bank stabilization.





1978 Aerial photo showing river footprint.



Bank Prior to installation of wood.



Wood complex being added.



After installation of wood.





Installation on stumps for bank footing stability.



Cross log locks into stumps to prevent washout.



Biodegradable fabric secured to log.



Re-sloping bank to 2:1 for stability.



Fabric laid over seeded soil.



Log A-frame with soil and rock in the middle to kick river away from soil bank.



# West Fork Illinois River

## River Alignment & Streambank Stabilization





First winter flows, thalweg is moving back to the North.



Prior to installation of Rock Barbs the river was moving to the south.



Normal Winter high flows, barbs almost covered.



After two winters flow plants starting to establish.



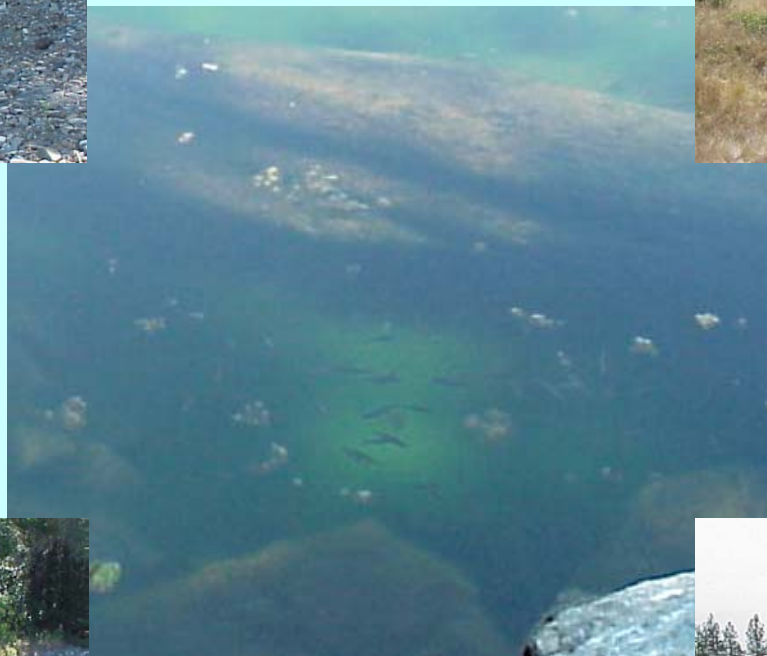
Woody debris collecting in the riprap.



New plant growth on scoured bank.



Current flow channel.



Fish using the calm pools.



Scour pool created by barb.



Normal high winter flow.

# West Fork Diary Creek



Urgency repair by ODOT Maintenance in November, using Pyramat. Photo was taken November 30th, 1999.



December 6th, 1999, Pyramat and riprap holding well.



June 6th, 2000, seed starting to sprout through Pyramat.



August 14th, 2000, 10 months after installation there is abundant vegetation growth.



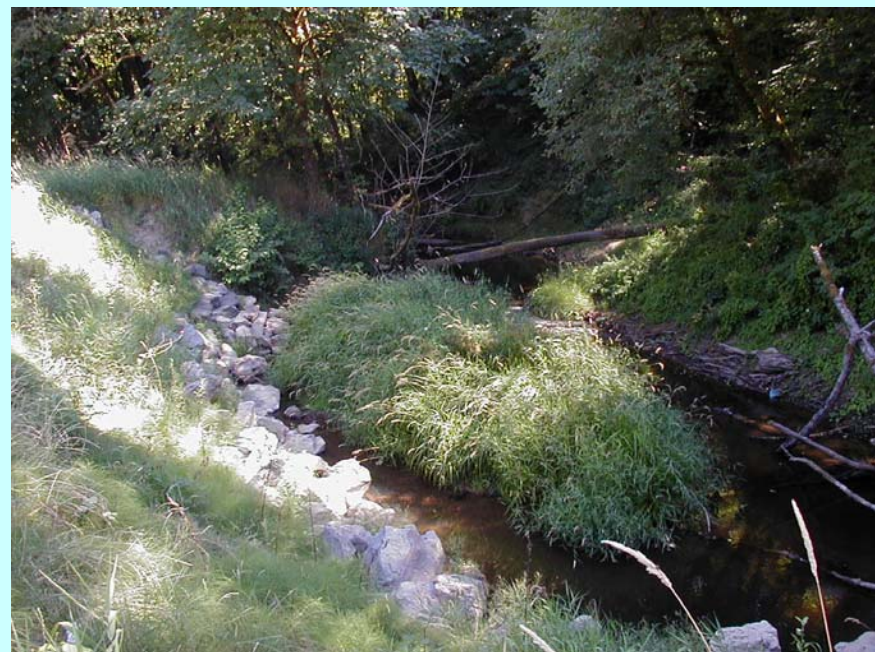
Nov. 30th 1999, just after installation.



December 16th, 1999, low gradient stream winter flow.

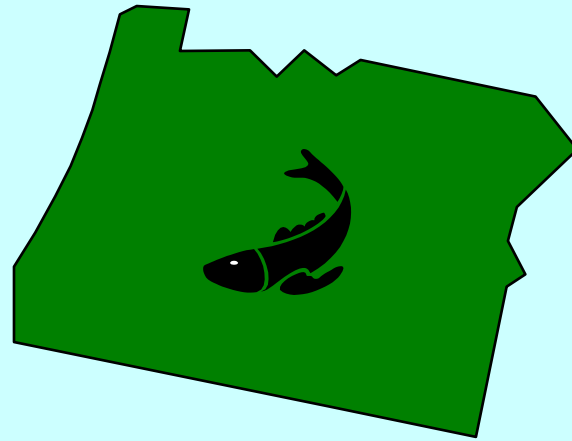


June 6th, 2000, vegetation starting to establish.



August 14th, 2000, good vegetation growth.

**Thank you!**



**Are there any  
questions?**