

# The Cleanup and Restoration of SKYKOMISH, WASHINGTON

**Washington State Department of Ecology  
Toxics Cleanup Program (February 2010)**

**Program Manager: Jim Pendowski**

# Puget Sound

*Saving the Sound*

Reaching the goal of a healthy,  
sustainable Puget Sound  
now and forever.

## Climate Change

*in Washington  
State...*

*meeting the challenge  
and seizing opportunities*



## Reducing Toxic Threats

## Managing Our Water Successfully



## Mitigation that works

*Sustaining our resources,  
our communities &  
our economy*



# Program Goals and Mission

## Preamble to the Model Toxics Control Act (MTCA)

“Each person has a fundamental and inalienable right to a healthful environment, and each person has a responsibility to preserve and enhance that right. The beneficial stewardship of the land, air, and waters of the state is a solemn obligation of the present generation for the benefit of future generations.”

**The goals and mission of the Toxics Cleanup Program is to get contaminants from the environment and keep them out.**



# Key MTCA Principals

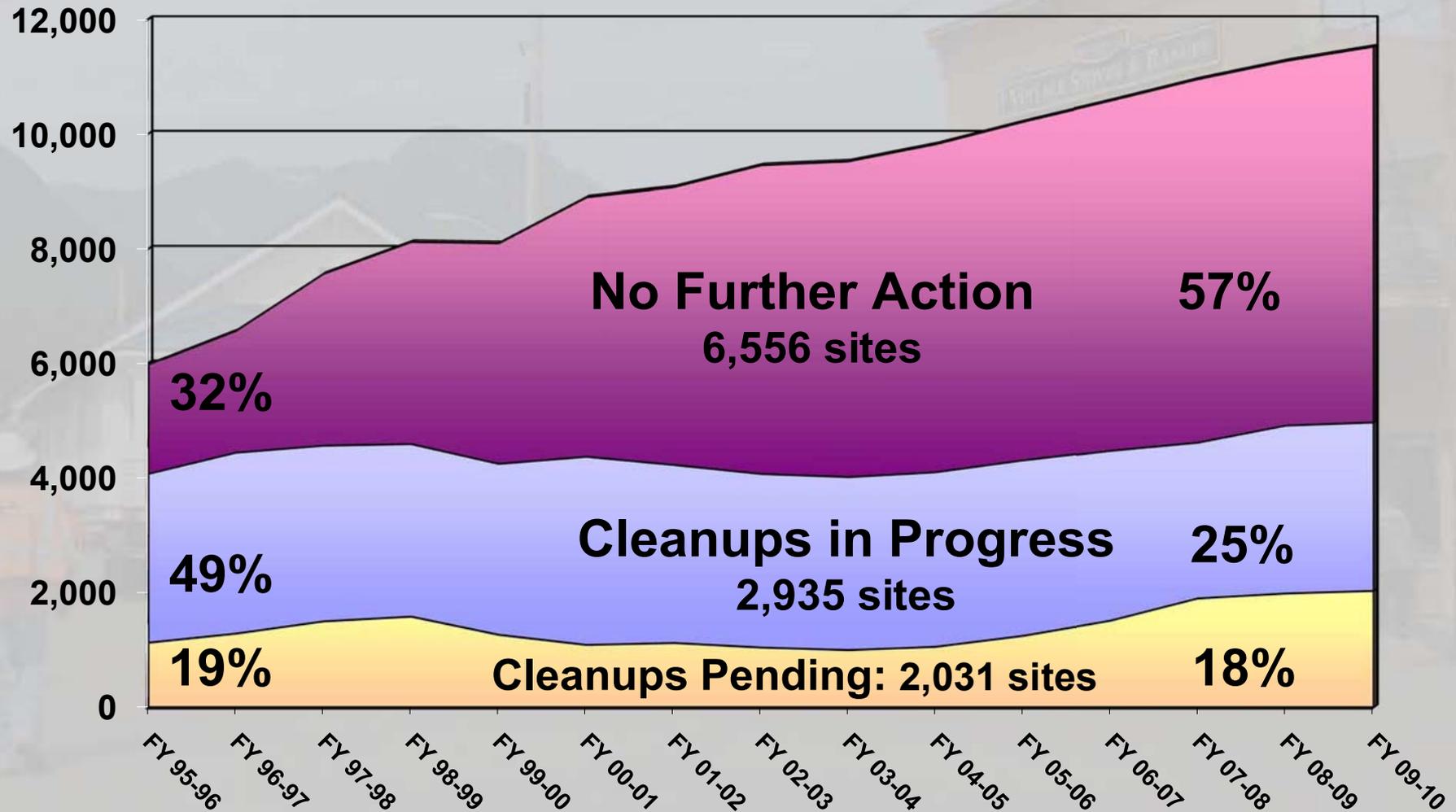
- **Polluter pays**
- **Permanent remedies**
- **Public participation**



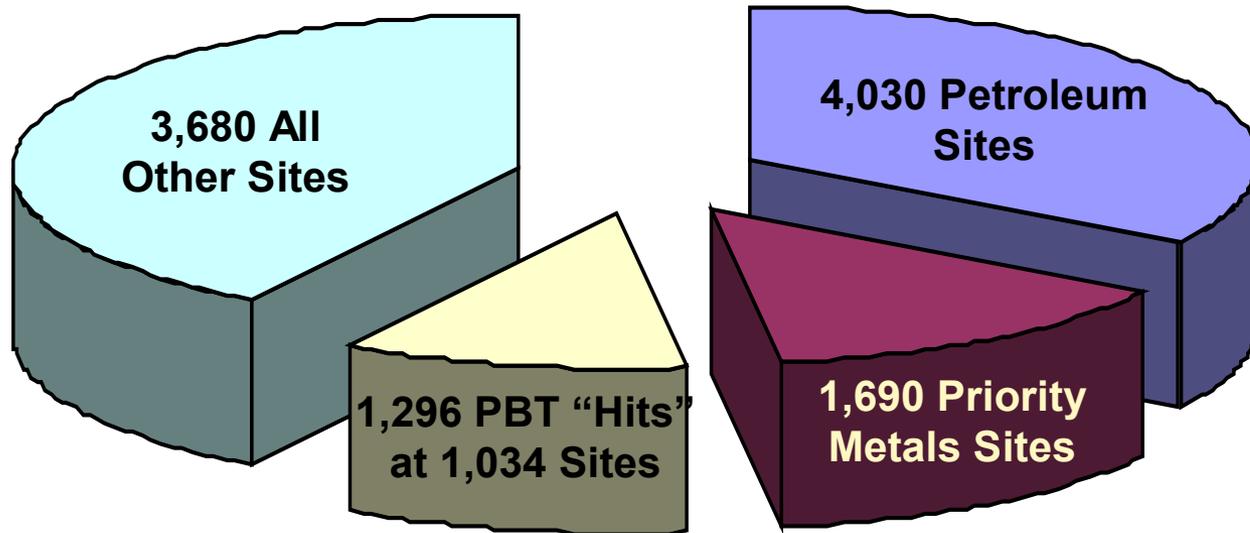
- **Protection of Human Health and the Environment**
- **Bias towards action**
- **Innovation**

# Contaminated Sites in Washington

Total sites: 11,521



# Reported Contaminants at Sites



- Petroleum Contaminants
- Metals, including those in the PBT Rule
- PBTs (includes PAHs, Pesticides, PCBs, Dioxins)
- All other Contaminates

## Petroleum, 4,030

Halogenated Organic Compounds, 987

Non-Halogenated

## PCBs, 376

Conventional Contaminants, Organic, 289

Phenolic Compounds, 213

Corrosive Wastes, 125

## Dioxins, 54

Asbestos, 42

MTBE, 19

## Priority Metals, 1,690

Other Metals, 448

## PAHs, 569

## Pesticides, 297

Conventional Contaminants, Inorganic, 225

Base Neutral Organics, 196

Arsenic, 112

Reactive Wastes,

Radioactive Wastes, 22

UXO, 1

# Skykomish, Washington

Approximately  
1.5 hours NW  
from Seattle.  
25 miles from  
Stevens Pass  
Ski Resort.

Town population  
is about 200;  
500 including  
the surrounding  
communities.



# Skykomish, Washington

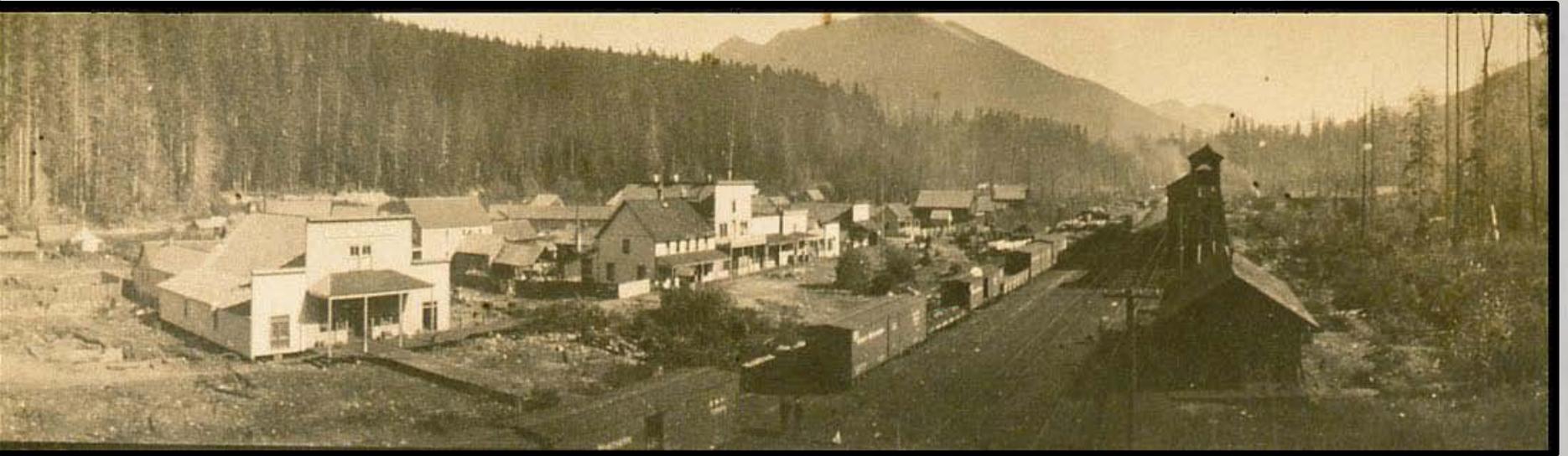


**Tourist community -- close to Stevens Pass for skiing; fishing, hunting, and hiking.**

**Popular recreational flying community in the summer with its own airstrip.**

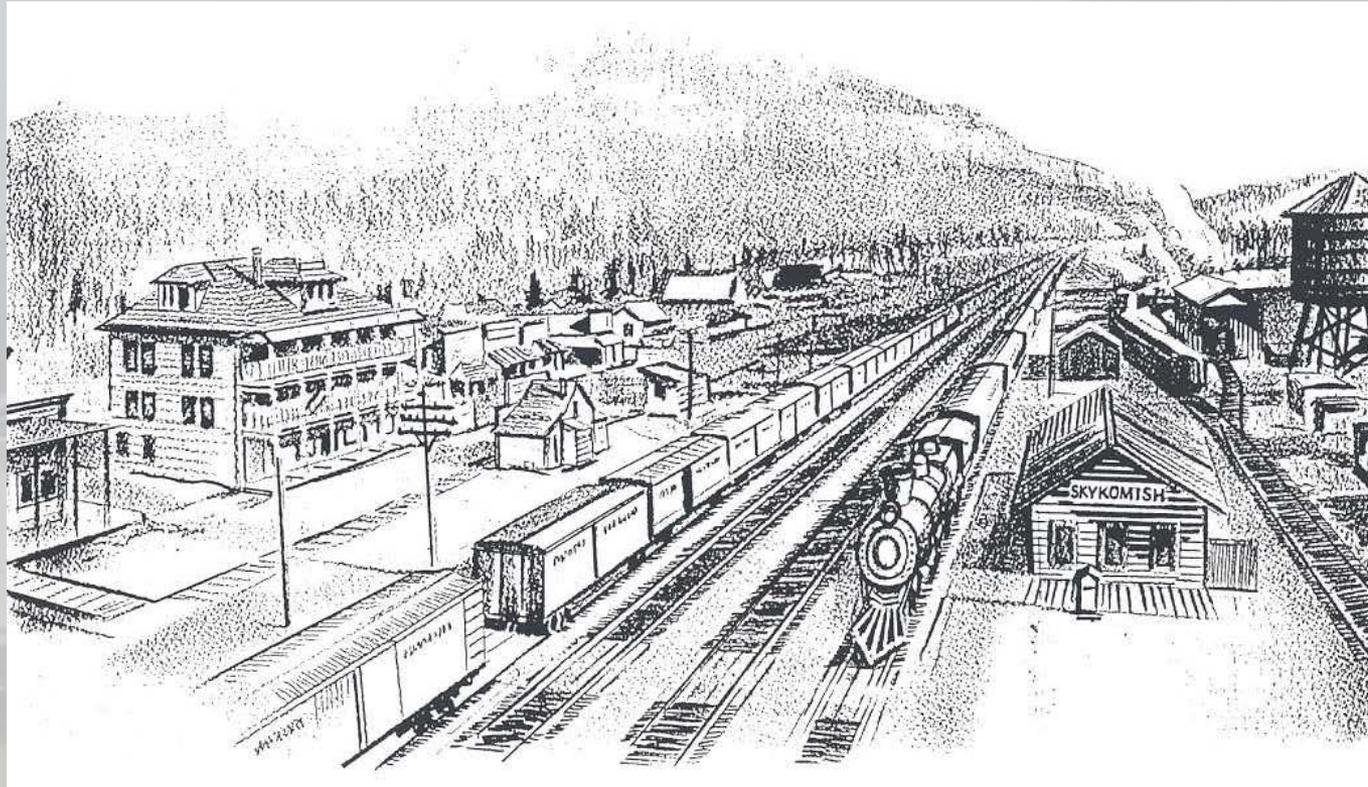


# Historic Skykomish



# BNSF-Skykomish

## Former Maintenance and Fueling Facility



Great Northern Railroad, (later merged with other companies), used the rail yard to refuel and maintain trains from late 1800s until 1974.

Operations resulted in discharges of petroleum products (bunker-c oil).

Discharges to Skykomish River and Maloney Creek first documented in 1920s.

# *Historic railway photo*

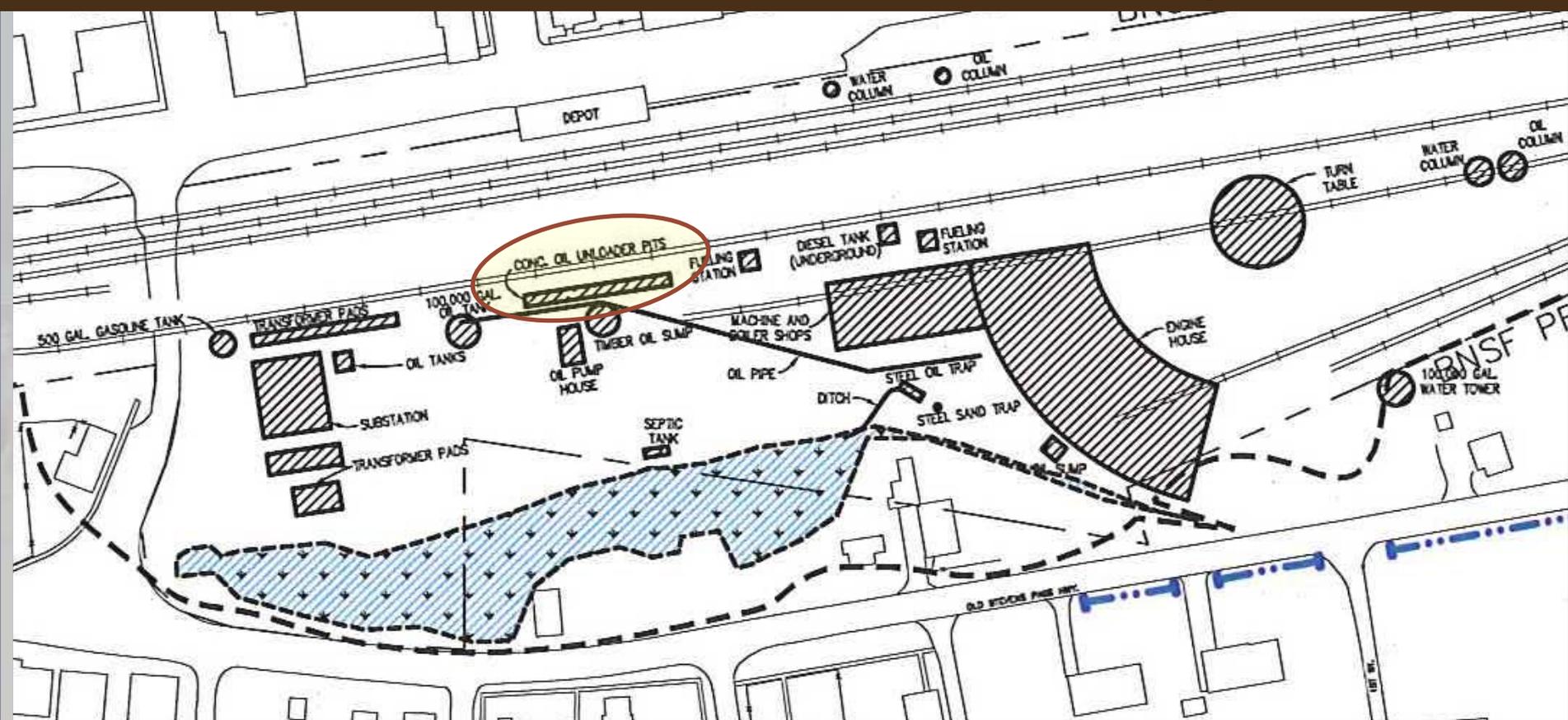


# Historic Railyard Facilities

So, what happened?

**Bunker C leaked from wood-lined cribs.**

**Later, diesel was allowed to overflow when filling locomotives.**

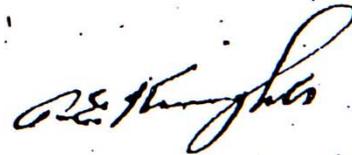


# Oil was reported in the river in 1926; the problem was considered over the next 5 years.

Mr. Imholt showed them there was no leak anywhere in our oil facilities at Skykomish, but they requested that we dig a small hole down below the bottom of the sump to see if there is not a leak in the bottom, also to dig a test hole between our tracks just north of the sub-station and another test hole north of Maloney's spur which Mr. Imholt promised to do within the next week or ten days, after which he will make another trip up there with them.

He states that in conversation with a representative from the Prosecuting Attorney's office, the latter stated if this was just oil in the ground that was seeping into the river, it was a different proposition so it is possible if we can convince them there are no leaks we will not be troubled with any more complaints. By moving our stand pipe and taking up part of our pipe line as recommended in R.F.A. dated March 2, 1931, we will also cut down the possibility of any leaks in the future.

Yours truly,



Superintendent

cc - F. Mears, Seattle  
T. G. Hastie, Seattle  
E. E. Adams, Spokane

COMMISSION FOR KING COUNTY  
City Building

March 11, 1931

ENGINEERING DEPT.  
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SEATTLE

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Seattle, Wa

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KING COUNTY CAMB

By W.J. Lumm, Chair

# Skykomish Contamination in the River



# Skykomish: Over 100 years old

**1991** -- Ecology enters into Agreed Order with BNSF for a Remedial Investigation and Feasibility Study.

BNSF conducts investigation throughout the 90s and submits a Feasibility Study in 1999.

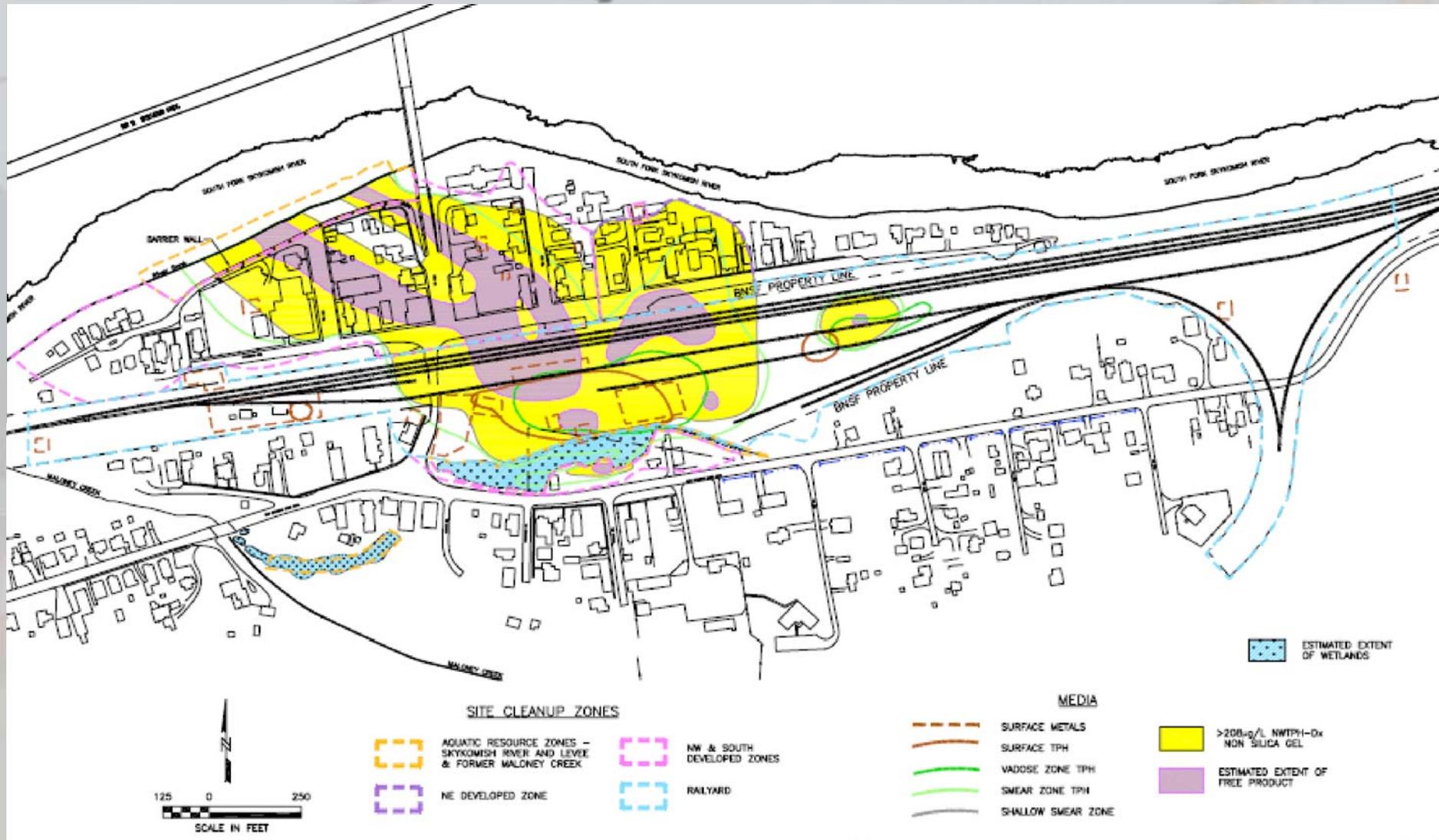
Ecology conducts further studies through 2005 to fill data gaps, and in 2005 develops a Cleanup Action Plan based on these studies.



# Skykomish, Washington – before cleanup activities

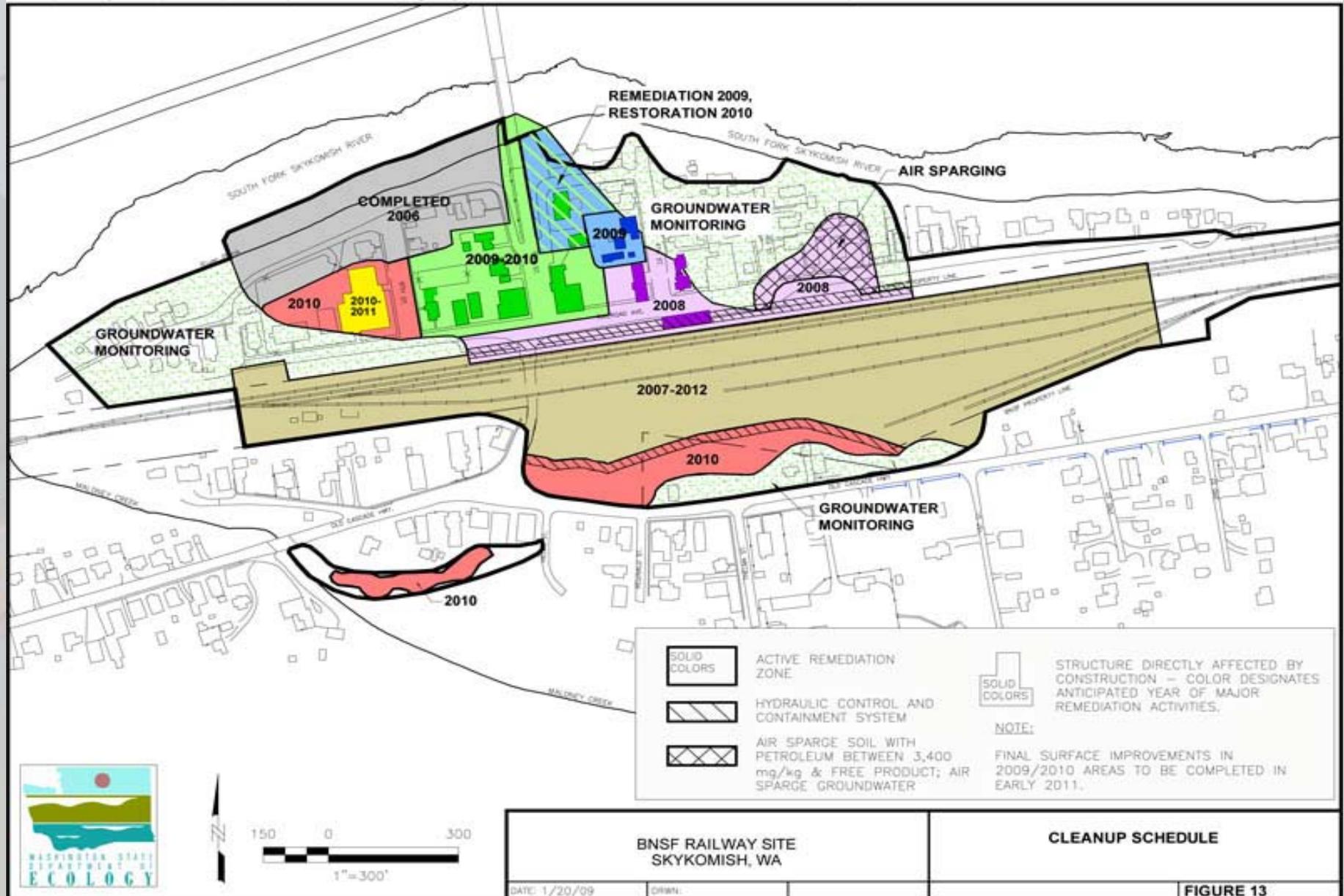


# BNSF-Skykomish: 2006



**2006 – Immediate interim cleanup actions required.**

# BNSF-Skykomish: 2006



# Creating a Town Vision



2005 -- Ecology partners with the community to develop a vision for their Town after the cleanup.

There were workshops, brainstorming sessions, and public discussions to create a final Vision for the Town of Skykomish.



# 6 Principles Guiding the Vision



# Creating a Town Vision

Future vision consistent with the Town Comprehensive Plan;

Community defined themes for vision;

Define options for development in the Town and specific projects following the cleanup.



# Creating a Town Vision



TOWN OF SKYKOMISH  
LEVEE ENHANCEMENT PROJECT

Proposed Perspective Sketch | K.P.C.

08.10.2006

Future vision of the levee.

# Creating a Town Vision



Future vision of the town.

# Creating a Town Vision



# Skykomish: 2006



# BNSF-Skykomish: 2006

Massive amounts of contamination leaches from the land towards the river.

This is one of the first times people in the community really see the extent of the contamination under their town.



Removed over 100,000 tons of contaminated soil; over 30,000 gallons of oil.

# BNSF-Skykomish: 2006

Removed & replaced contaminated river sediments & soil in river bank.

Replaced river flood levee and removed existing contaminants.



# BNSF-Skykomish: 2006

Excavated five properties;  
included relocating &  
returning residences.



# Skykomish: 2007

## Consent Decree signed

This included:

- Cleanup Action Plan
- Schedule for Cleanup
- Public Participation Plan
- Required deliverables

Ongoing monitoring and delineation of pollution



Public Planning and input on the Consent Decree.



# Skykomish: 2007



And...from  
conceptual ideas...

To actual construction.



Photo from Town of Skykomish website.

# Skykomish: 2007



Further construction  
and...



...restoration of  
the levee.

Photos from Town of Skykomish website.

# Skykomish: 2007



Homes were restored to their original locations.

Photo from Town of Skykomish website.

# BNSF-Skykomish: 2008



Construct Hydraulic Control & Containment System (HCC) (wall).

Dropped vaults in to filter contaminants flowing towards the town and river.



# BNSF-Skykomish: 2008



Move and return 3 structures -- included Whistling Post Tavern and historical Railroad Depot.

Excavate 2 properties.

Whistling Post

# BNSF-Skykomish: 2008

Removed and replaced more than 30,000 cubic yards of contaminated soil.

Removed more than 12,000 gallons of oil.



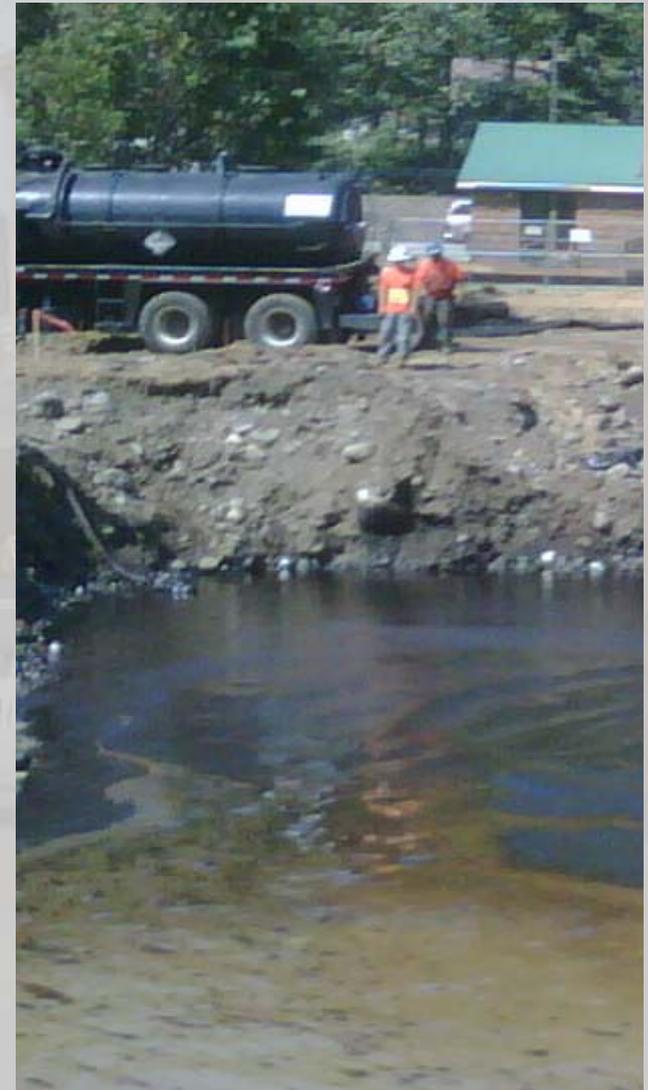
Oil recovery from excavation area.

# BNSF-Skykomish: 2009



# BNSF-Skykomish: 2009

- ▣ Cleanup moved to “heart” of contaminated area:
  - ▣ Con: largest amounts of pollution found
  - ▣ Pro: largest successes to date
- ▣ Removed:
  - Over **100,000 tons** of contaminated soil;
  - Over **55,000 gallons** of oil removed.
- ▣ Treated:
  - **Over 5 million gallons** of contaminated ground water and returned to Skykomish River.
- ▣ Excavated seven properties.



# BNSF-Skykomish: 2009



# BNSF–Skykomish: Successes

- Overall successful partnership between BNSF, State of Washington, Town of Skykomish.

## Results to date:

- Over **220,000** tons of contaminated soil removed
- **100,000** gallons of oil removed & recycled
- 14 properties successfully cleaned up
- 90% completion of waste water treatment plant



# BNSF–Skykomish: Successes

## ▣ More results to date:

- ▣ Skykomish River bed and levee successfully cleaned;  
**record Salmon counts in 2009**
- ▣ Record investments for a cleanup in Washington:
  - Burlington Northern Santa Fe Railroad > \$100 million
  - State of Washington > \$10 million
  - Natural Resource Damages > \$5 million



# Next -- Skykomish: 2010-2012

- ▣ School Property cleaned
  - ▣ -excavation with underpinning structure
  - ▣ -treatment via hot water steam flushing
- ▣ Wetlands excavated and cleaned
- ▣ Former Maloney Creek Channel cleaned
- ▣ Five properties excavated & cleaned
- ▣ Bridge abutment soil excavated and cleaned
- ▣ Completion of Town Waste Water Treatment System
- ▣ Town restoration efforts

# BNSF–Skykomish: Challenges

- ▣ Rebuilding a Town
  - Restoration – utilities, infrastructure
  - Business community – survival, future
  - Social – identity, branding, long term vision

The Town is still under major construction right now –

though will become something special in the near future.



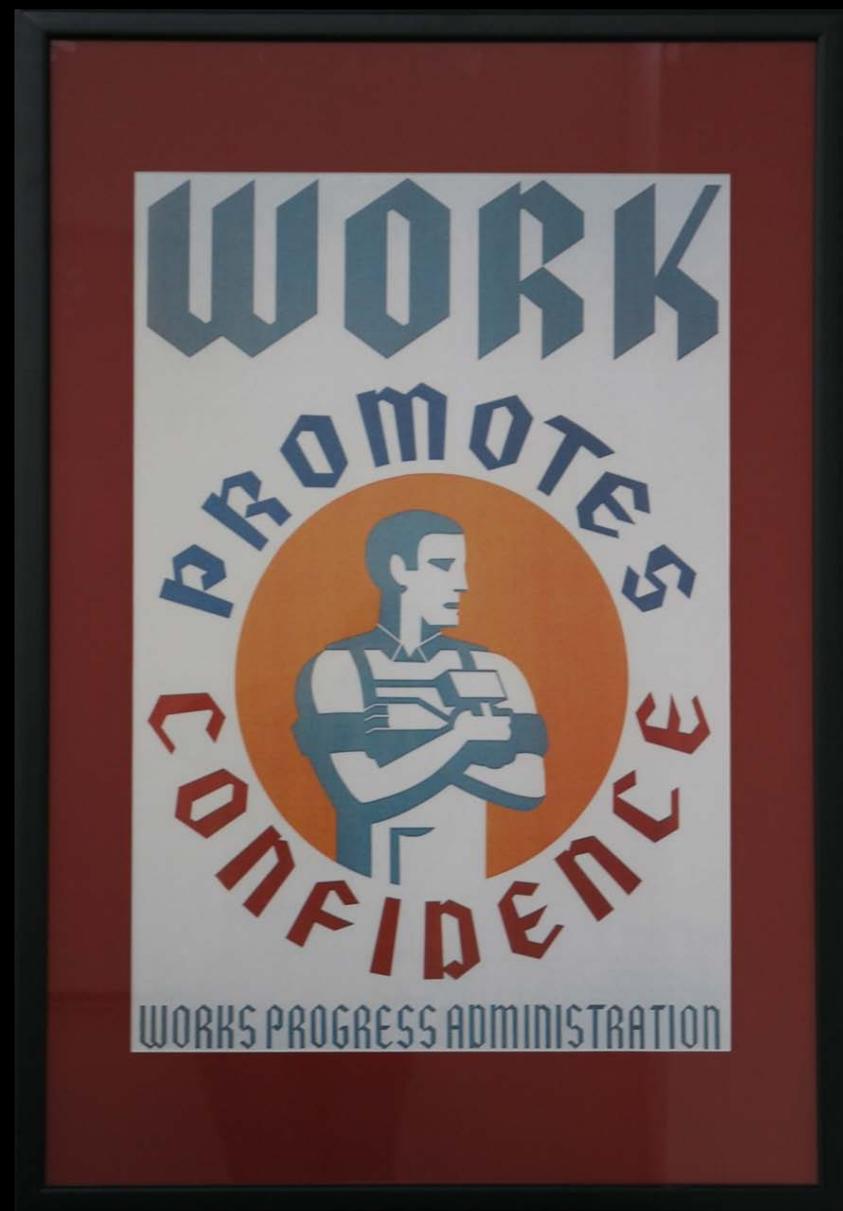


**Washington State  
Department of Ecology**

**[http:// www.ecy.wa.gov](http://www.ecy.wa.gov)**

**Toxics Cleanup Program**

**[http:// www.ecy.wa.gov/cleanup.html](http://www.ecy.wa.gov/cleanup.html)**





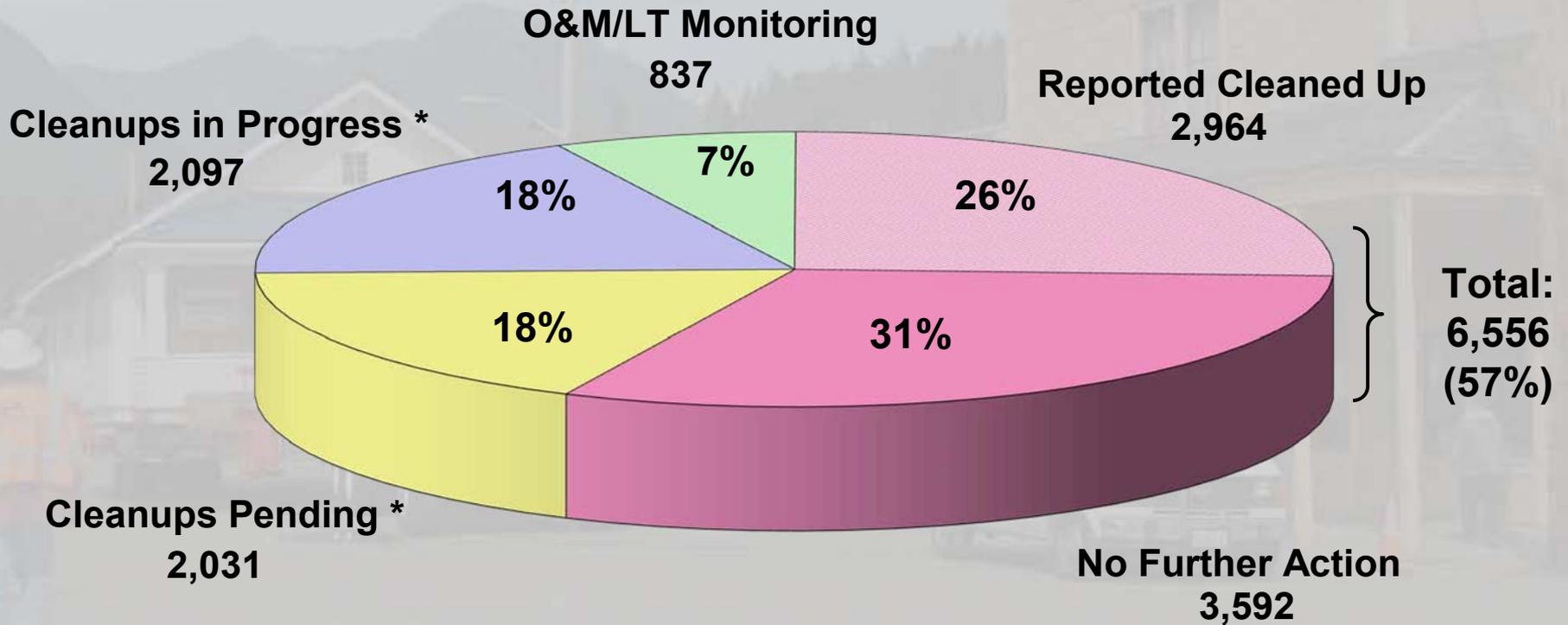
HOMESTEAD  
VINTAGE STOVES & RANGES

OVERSIZE LOAD

J.L. Smith's  
General Store & Hardware  
100 N. Main St. - Astoria, OR

# Contaminated Sites in Washington

Total Sites: 11,521



# CURRENT PHOTOS FROM THE SITE

# Joint Utility Trench being constructed



# Waste Water Treatment Plant



# Skykomish Hotel jacked up & being moved...



# Temporary Asphalt

