

# Legacies and Lessons from the Lower 48

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“A legacy is a bequest, or something handed down from the past. However, the concept of legacy can have important consequences for the future...”

- Robin Waples, 2009



# Legacies & Listings

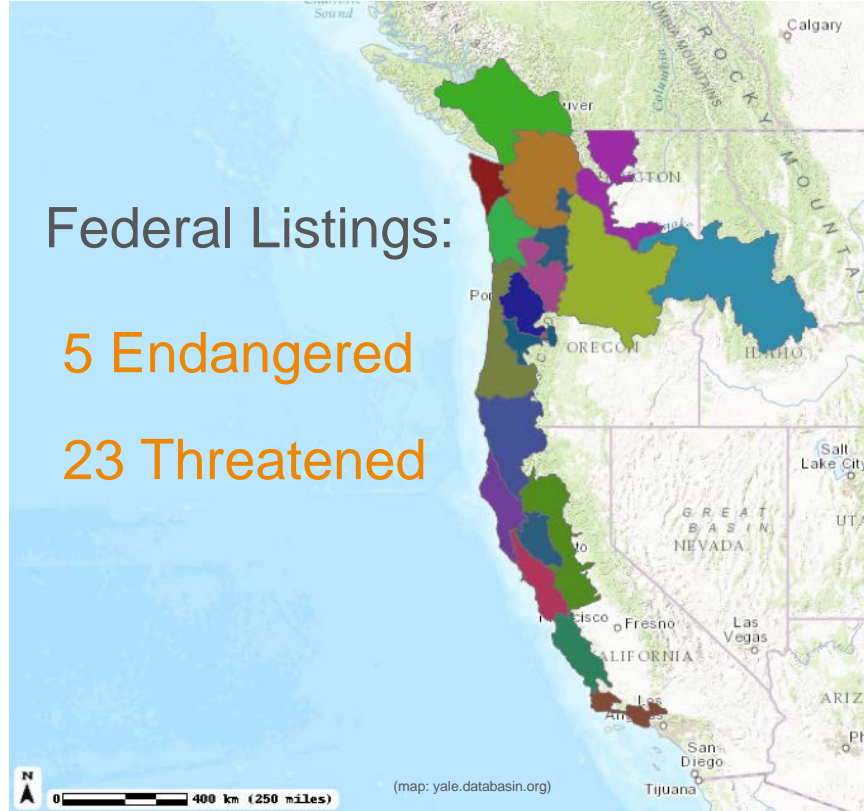
Evolutionarily Significant Unit (ESA):

- 1) reproductively isolated
- 2) important component of the species' **evolutionary legacy**

Federal Listings:

5 Endangered

23 Threatened

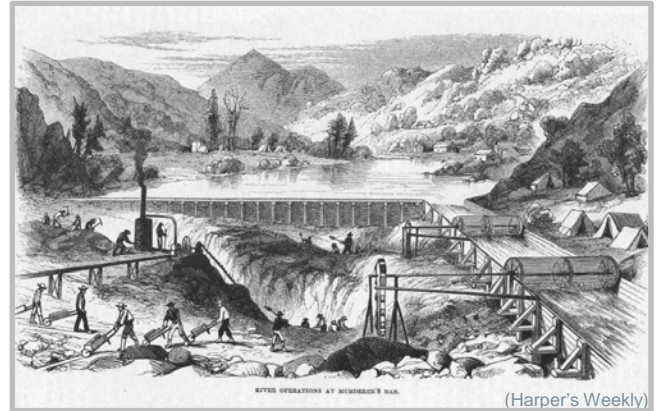


# Insults to Salmon Habitat, Large and Small



Property of Special Collections, University of Washington Libraries.

Diversion and irrigation



(Harper's Weekly)



Placer &  
hydraulic mining

## Logging and road-building





## Agriculture



## Urbanization



# Cumulative Small Impacts

“The fishery of the Columbia River has been decreasing slowly since the turn of the century. The constant inroads of civilization have continually worked to the detriment of fish populations. First irrigation diversions, then small hydroelectric dams on several tributaries, then more and larger irrigation diversions, over-fishing by the commercial interests, increasing sport fishing, gaffing of fish on the spawning grounds, and increasing industrial and domestic pollution bringing pressure constantly against the fish population have slowly decreased their former abundance.”

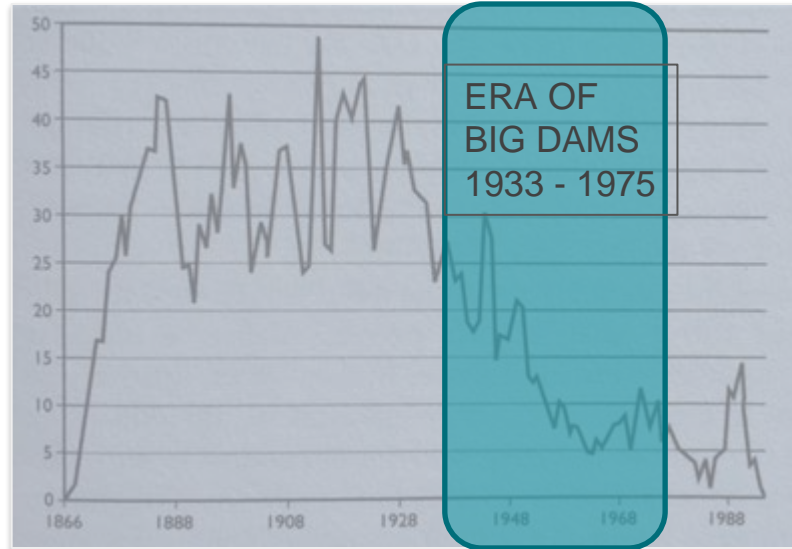
- B.M. Brennan, Director of Washington Dept. of Fisheries, 1938  
(source: NW Council)

# Mitchell Act - 1938

intended to “provide for the conservation of fishery resources of the Columbia River and its tributaries,

“...one or more salmon cultural stations”

stream improvements and stocking operations for these purposes.”



(Columbia R. commercial landings, from WDFW)



# Grand Coulee Dam, 1941



(photos from NW Power & Conservation Council)

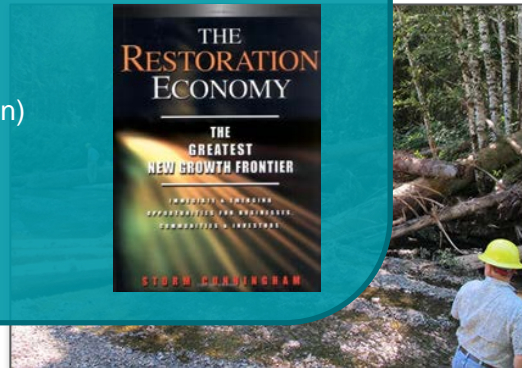
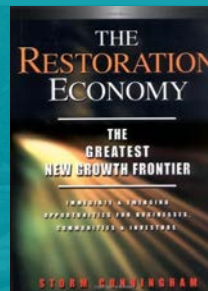
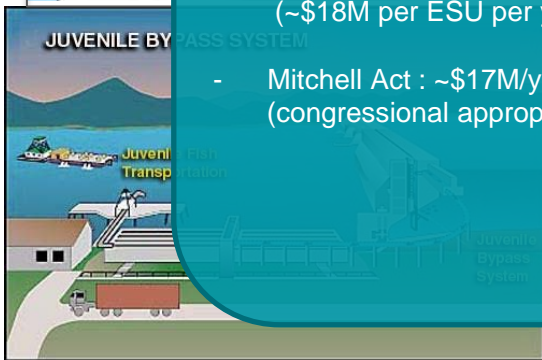
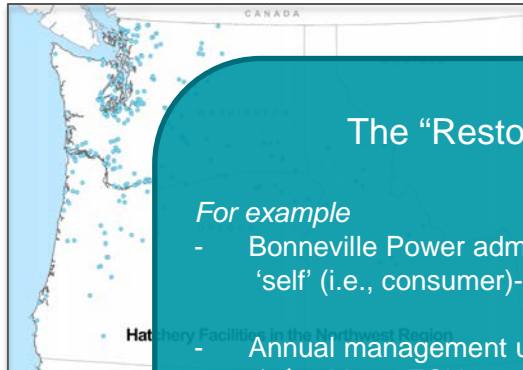
No fish passage provided



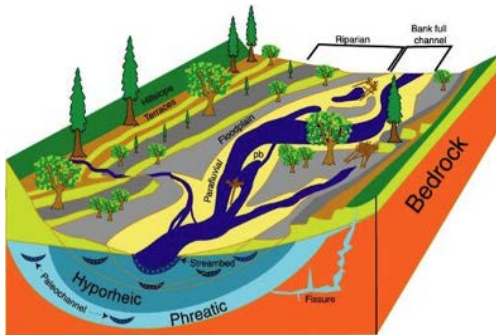
## The “Restoration Economy”

*For example*

- Bonneville Power administration: \$550 million /year  
‘self’ (i.e., consumer)- funded
- Annual management under ESA: > \$500 million  
(~\$18M per ESU per year)
- Mitchell Act : ~\$17M/year  
(congressional appropriation)



# Floodplains



Stanford et al. 2005, The shifting habitat mosaic of river ecosystems.



# 1996



(Yakima Herald Republic)

# 2016

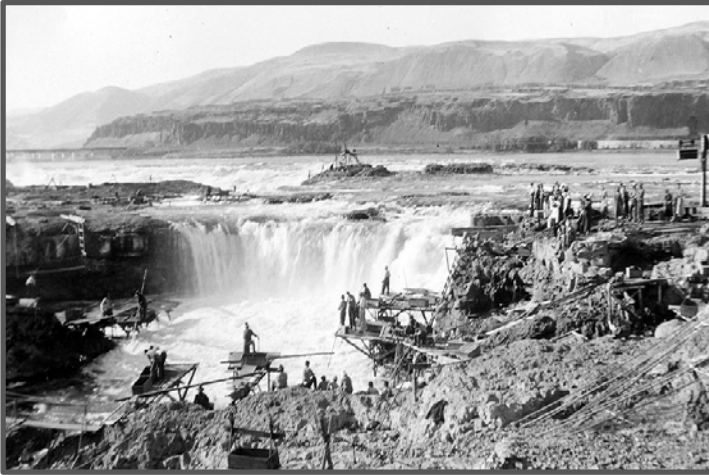


YAKIMA, Wash. — Ongoing efforts to give the Yakima River more room by pushing back levees and restoring more floodplain habitat were recently recognized with a statewide award.

Yakima County was crowned a “Floodplain Luminary” by the Floodplains by Design Partnership, which is an effort by the state Department of Ecology, The Nature Conservancy and the Puget Sound Partnership. The floodplains partnership has invested \$80 million in projects that improve flood protection and fish habitat over the past four years.



## Legacy of Colonialism



# Lessons from the Lower 48

Habitat losses  
**big and small**  
add up

Restoration  
**costs more**  
than  
conservation

Hatcheries do  
**not mitigate**  
for lost habitat

Policy:  
**implementation**  
not intention

**Equity**  
**matters**  
for costs and  
benefits



# Listening to history...

“The fishery of the Columbia River has been decreasing slowly since the turn of the century. The constant inroads of civilization have continually worked to the detriment of fish populations. First irrigation diversions, then small hydroelectric dams on several tributaries, then more and larger irrigation diversions, over-fishing by the commercial interests, increasing sport fishing, gaffing of fish on the spawning grounds, and increasing industrial and domestic pollution bringing pressure constantly against the fish population have slowly decreased their former abundance. **So many factors were at work in so many ways, that the public’s attention was never riveted for any length of time on the decreasing value of this enormous natural asset.**”

- B.M. Brennan, 1938