

# Salmon Hatcheries in Alaska – Plans, Permits, and Policies to Protect Wild Stocks

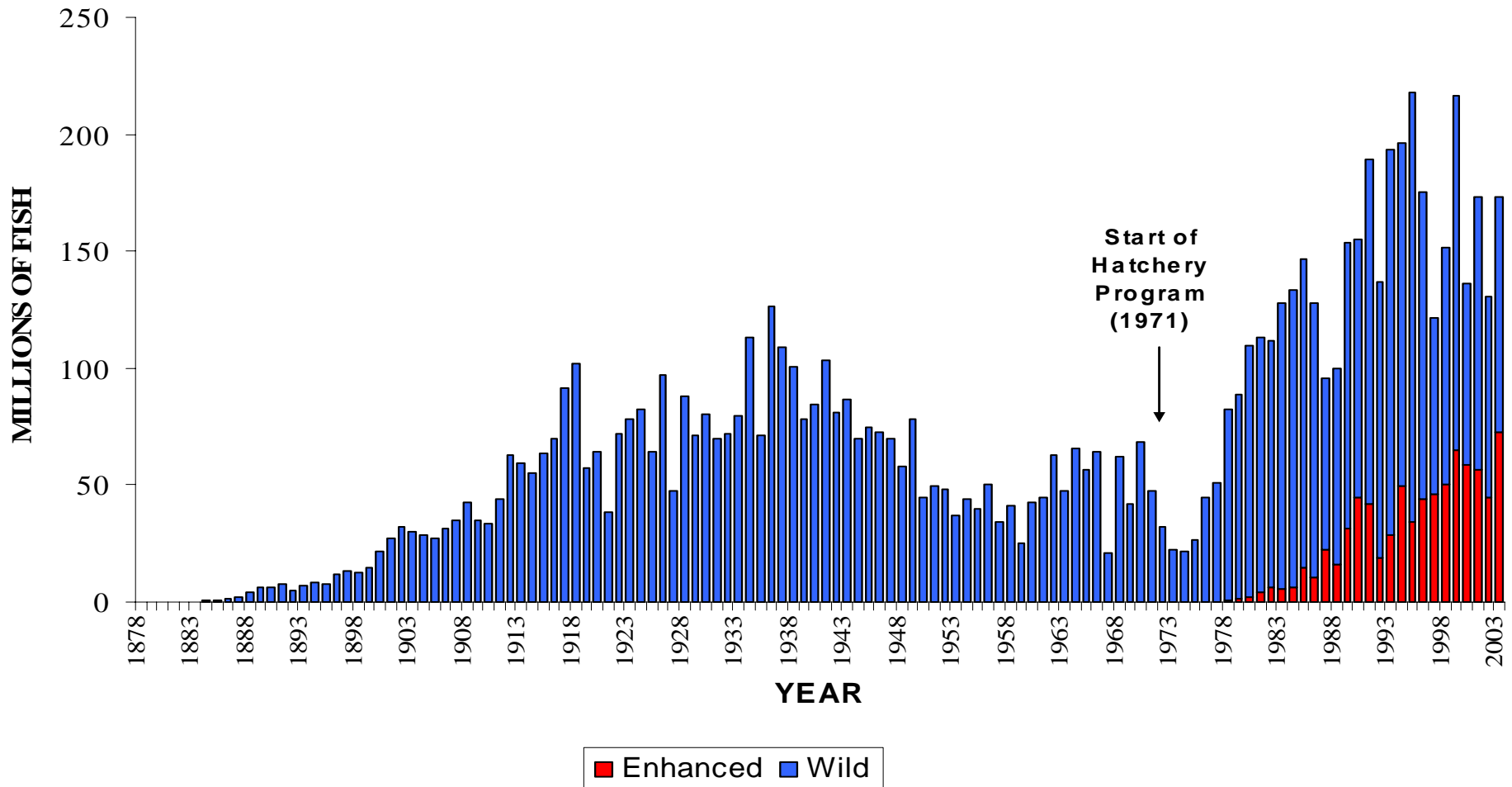


Steve McGee

Alaska Dept of Fish and Game

# Start of the Hatchery Program in Alaska

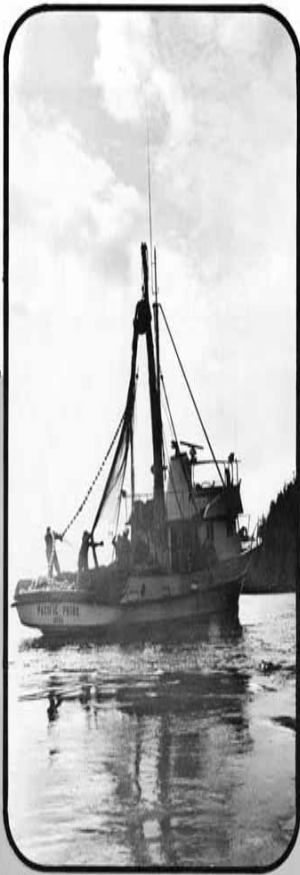
## Commercial Salmon Harvest



# Policies, Statutes and Regulations

- 1971 FRED Division statute
- 1974 PNP hatchery permitting statute
- 1976 regional planning statute
- 1978 BoF hatchery mgt policy
- 1981 fish transport regulations
- 1985 PNP regulations
- 1985 genetics policy
- 1988 pathology policy
- 1992 wild and enhanced stock statute
- 1994 sockeye salmon culture policy
- 2000 BoF sustainable salmon policy

# 1976 Alaska Salmon Plan

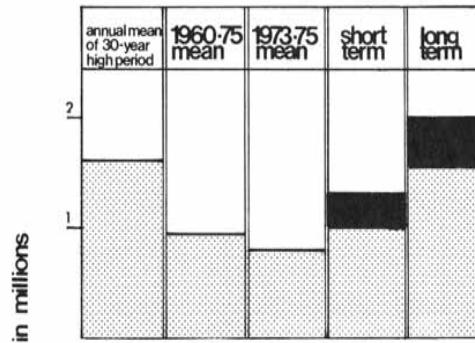


## alaska salmon fisheries plan

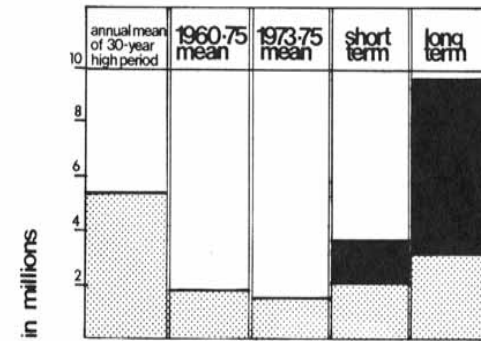
reviewed by:  
alaska fisheries council and  
alaska board of fisheries

state of alaska  
Jay Hammond, governor  
department of  
fish & game  
James W. Brooks,  
commissioner

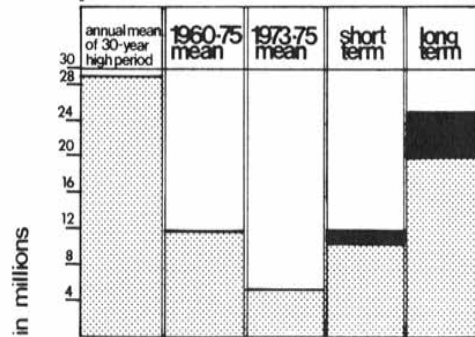
### coho



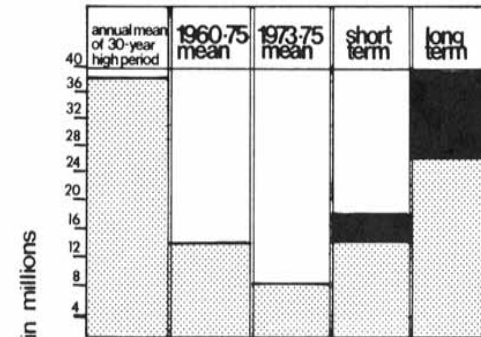
### chum



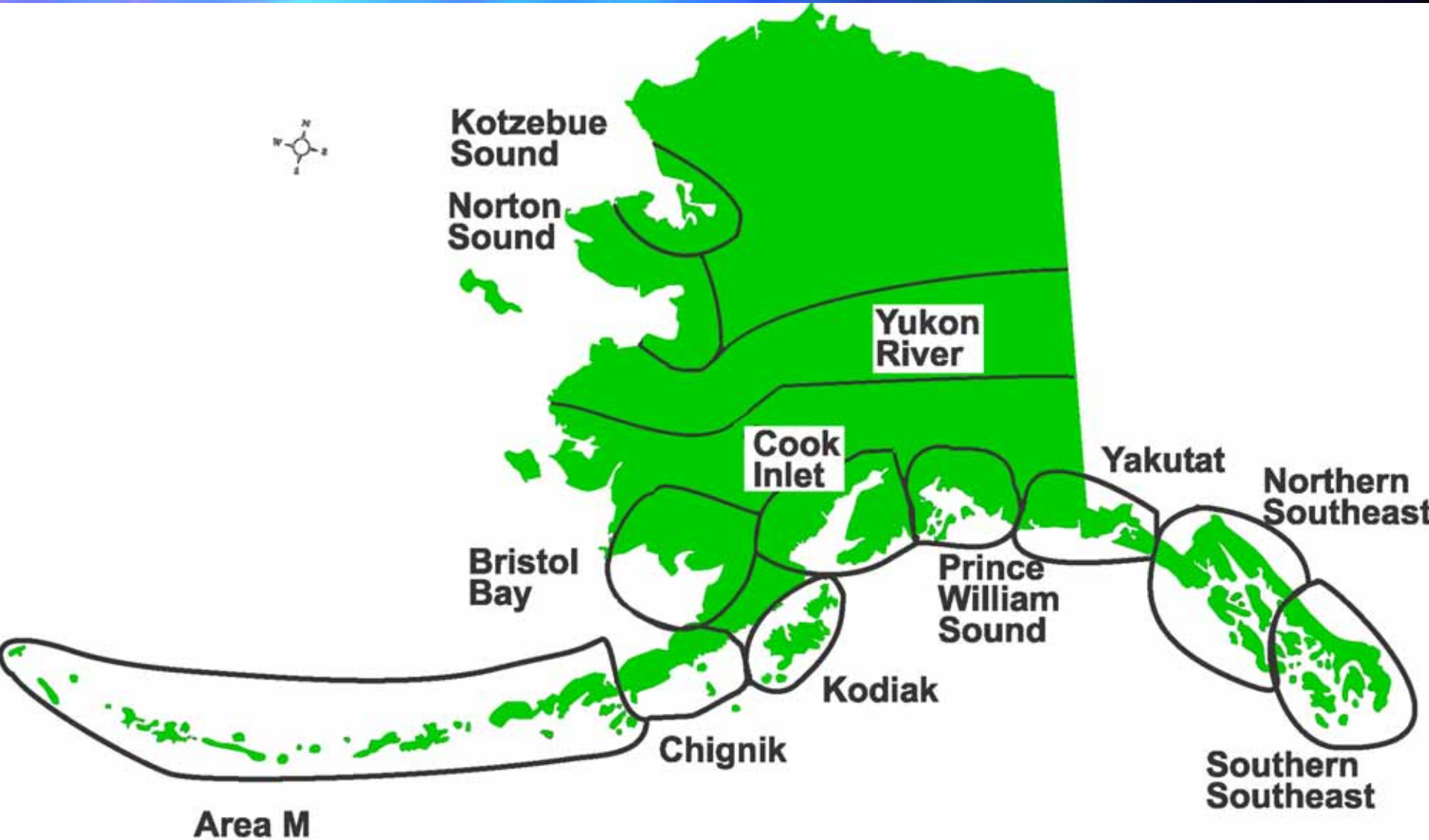
### pink



### all species combined



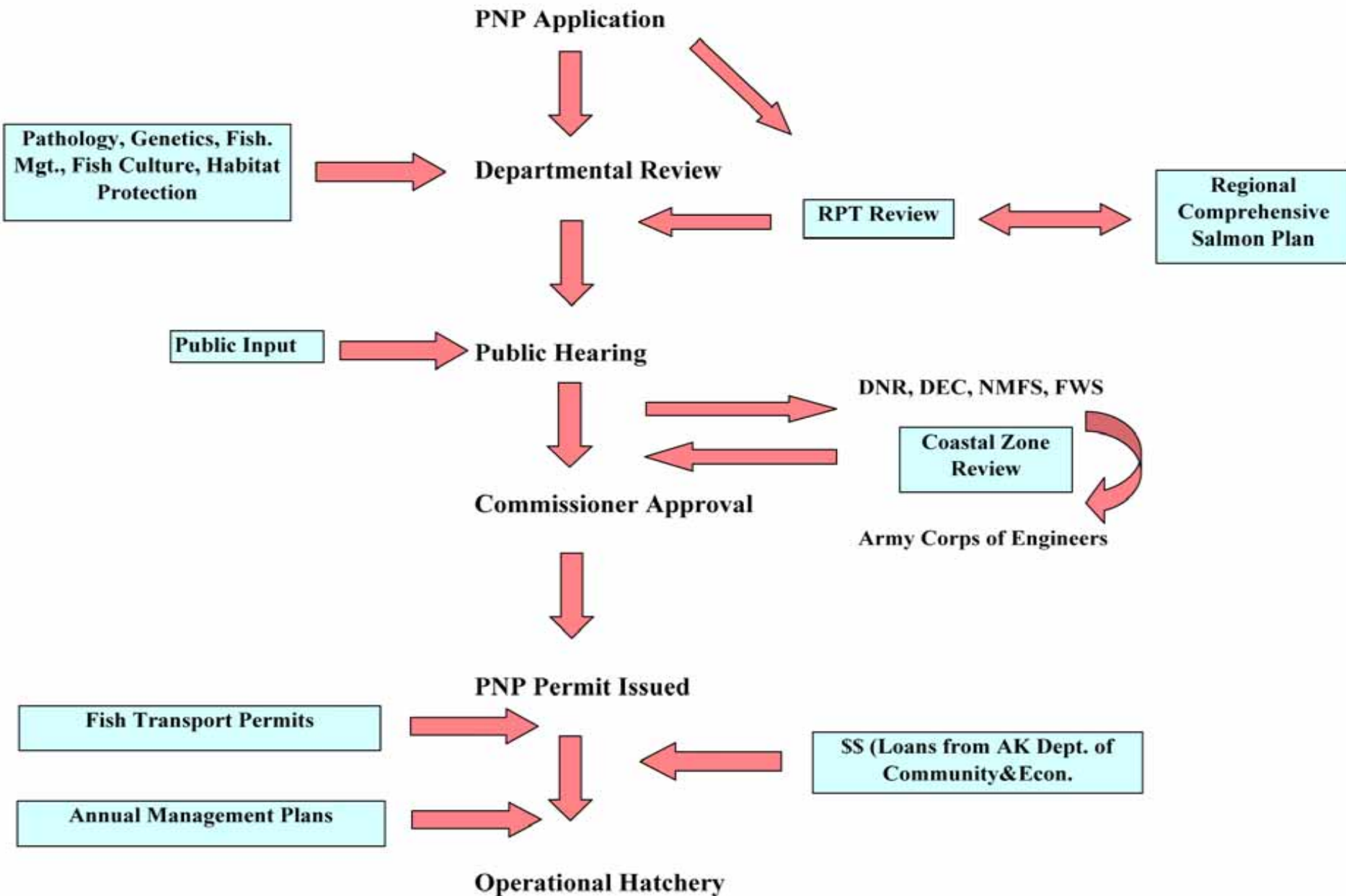
# Salmon Planning Regions



# Regional Comprehensive Salmon Plans

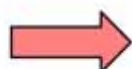
- Southeast Phase I – 1981; Northern SE Phase II – 1982; Southern Southeast Phase II – 1983; Southeast Phase III – 2004
- Cook Inlet – 1982
- Prince William Sound Phase I – 1983; Phase II – 1986; Phase III- 1994
- Kodiak Phase I – 1984; Phase II – 1987; Phase II Revised – 1992
- Yakutat – 1984
- Bristol Bay – 1989
- Sikusuilaq/Kotzebue Sound – 1992
- Alaska Peninsula/Aleutian Islands/Area M – 1993
- Chignik – 1993
- Norton Sound – 1996
- Yukon River - 1998

# PNP Application Process

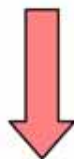


# Regulation of PNP Hatcheries

Development by Regional Planning Team. Review by public, ADF&G. Approval by ADF&G commissioner



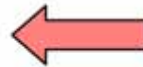
Regional Comprehensive Salmon Plan  
5 AAC 40.300, 5 AAC 40.340



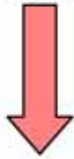
Review by Regional Planning Team, ADF&G, public hearing; Approval by ADF&G commissioner



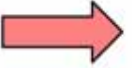
PNP Operational Permit  
AS 16.10.400



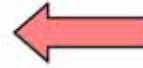
Operating permit may be altered by ADF&G commissioner if in best interest of public or if wild or hatchery stocks are jeopardized (AS 16.10.430)



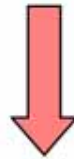
Review by ADF&G and Regional Planning Team



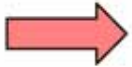
Basic and Annual Management Plans and permit alterations  
5 AAC 40.820, 5 AAC 40.840, 5 AAC 40.850



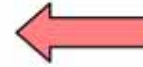
Alaska Board of Fisheries may amend permit terms for source and number of eggs, and harvest (AS 16.10.440)



Review by ADF&G (genetics, pathology and management divisions)

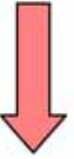


Fish Transport Permit  
5 AAC 41.005



Fish transport permit may be altered by ADF&G commissioner if wild or hatchery stocks are jeopardized (5 AAC 41.040)

Broodstock and pre-release pathology inspection



Release

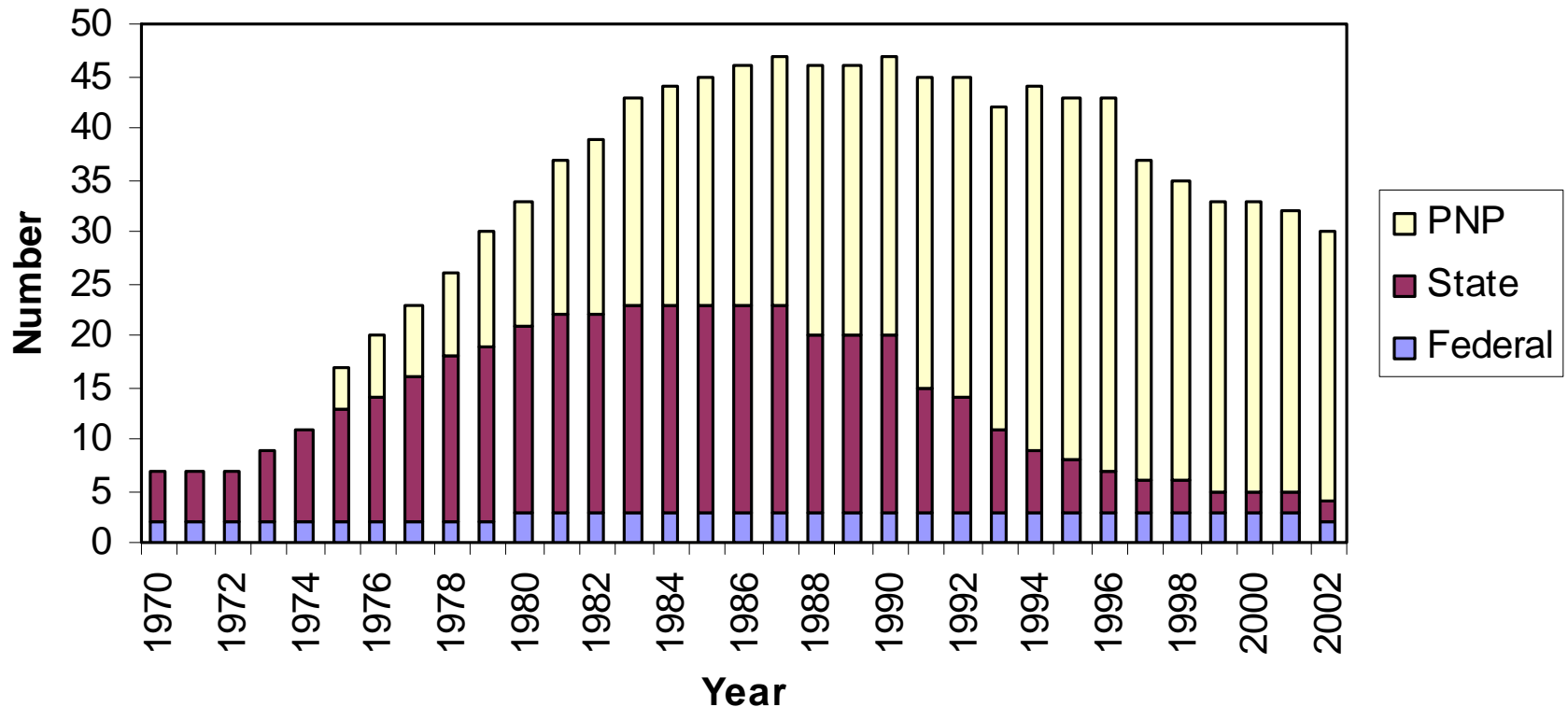


# Wild Stock Protection Mechanisms

- Rigorous hatchery permitting process
- Locate hatcheries away from significant wild stocks
- Use local brood sources
- Permit hatcheries at lower initial capacities
- Wild stocks always given priority in fisheries
- Require tagging/marking of hatchery fish
- Require special studies on wild/hatchery interactions

# Hatcheries in Alaska

## Number of Hatcheries in Alaska



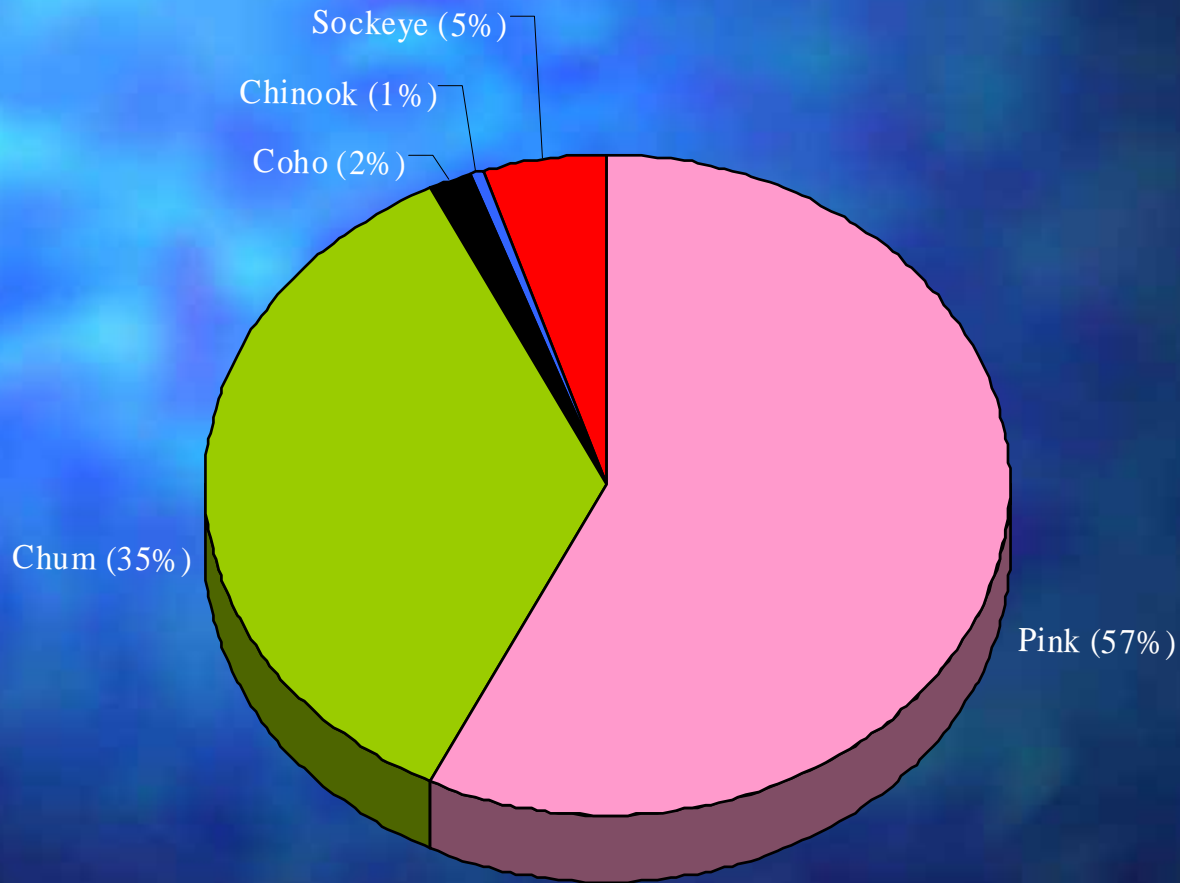
4 non-operating PNP hatcheries not included

# 30 Hatcheries Currently in Operation

- 15 PNP-owned and operated
- 11 State-owned – PNP-operated
- 2 State-owned and operated
- 2 Federal/Tribal

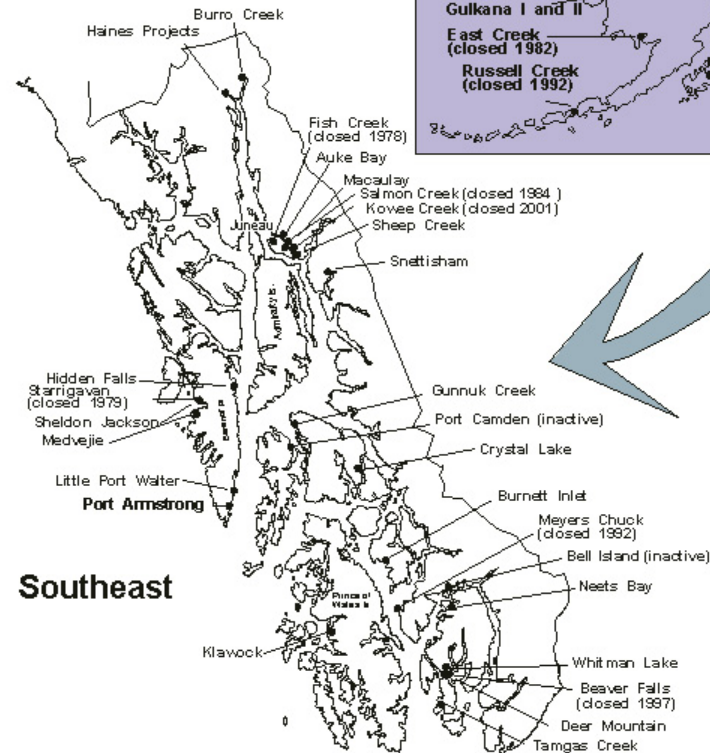
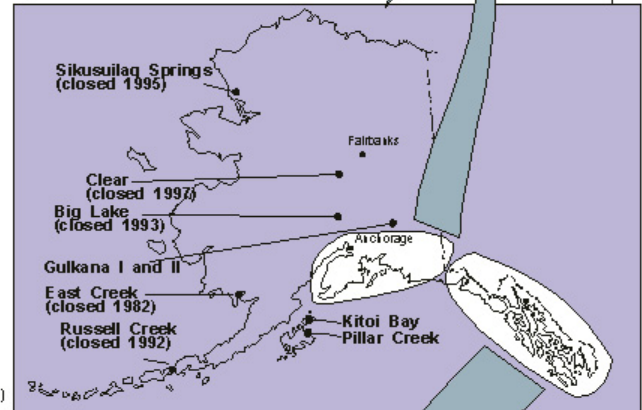
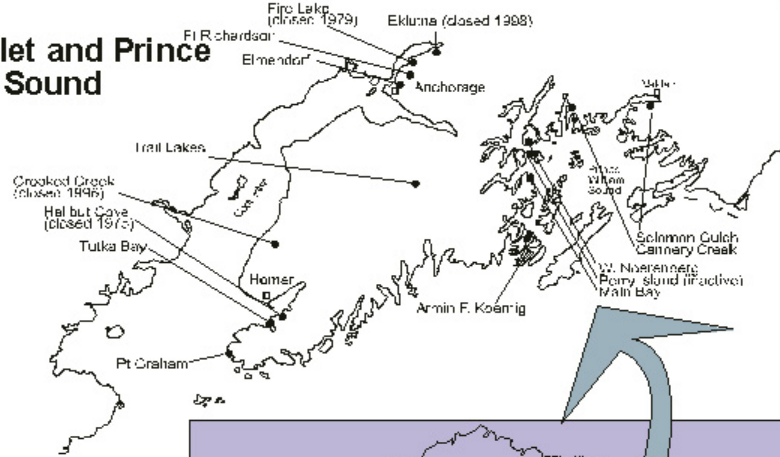
21 Hatcheries have closed: 11 State; 9 PNP; 1 Federal

# Production Percentage by Species



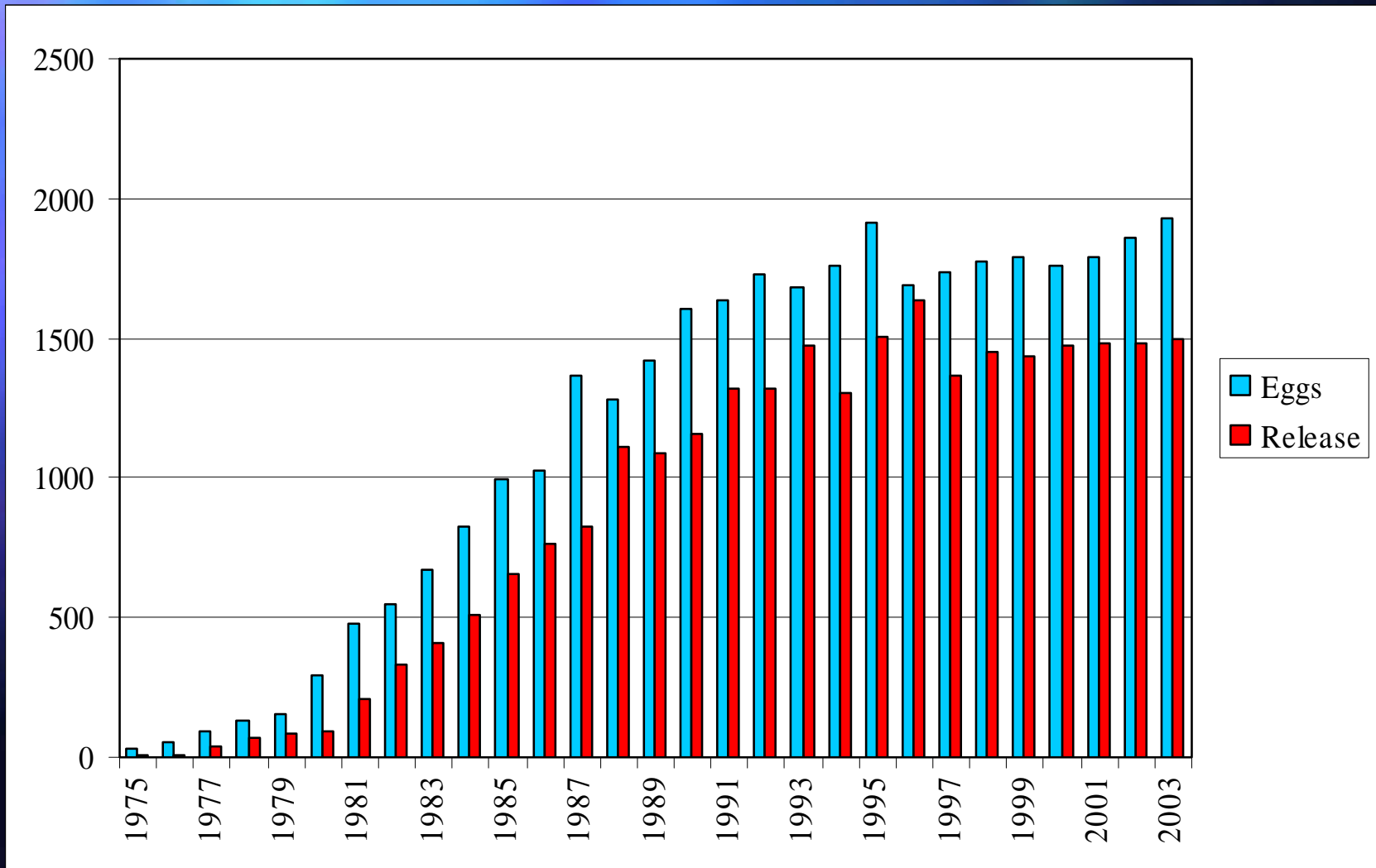
# Locations of Hatcheries in Alaska

## Cook Inlet and Prince William Sound

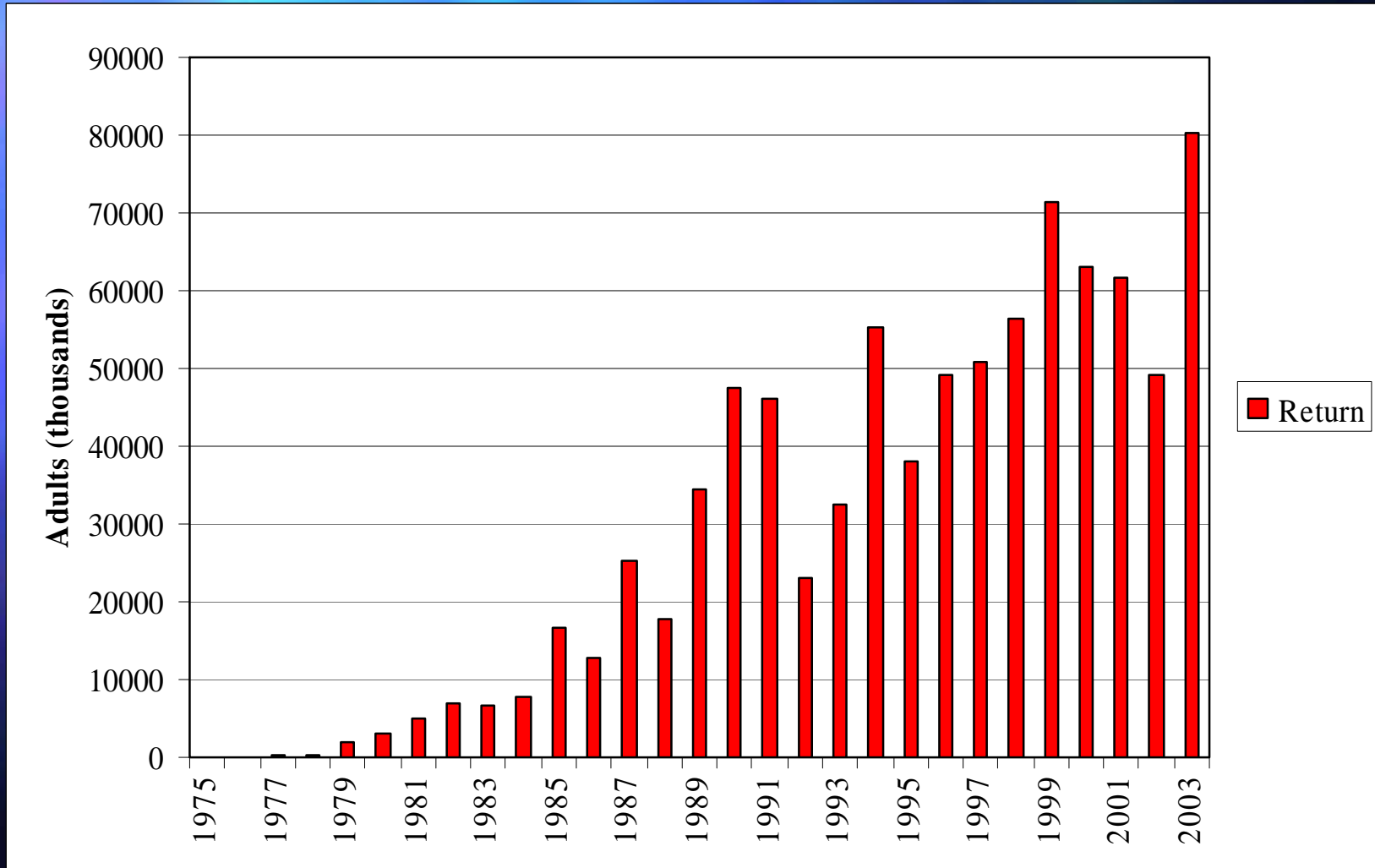


## Locations of Hatcheries within Alaska

# Alaska Hatchery Production

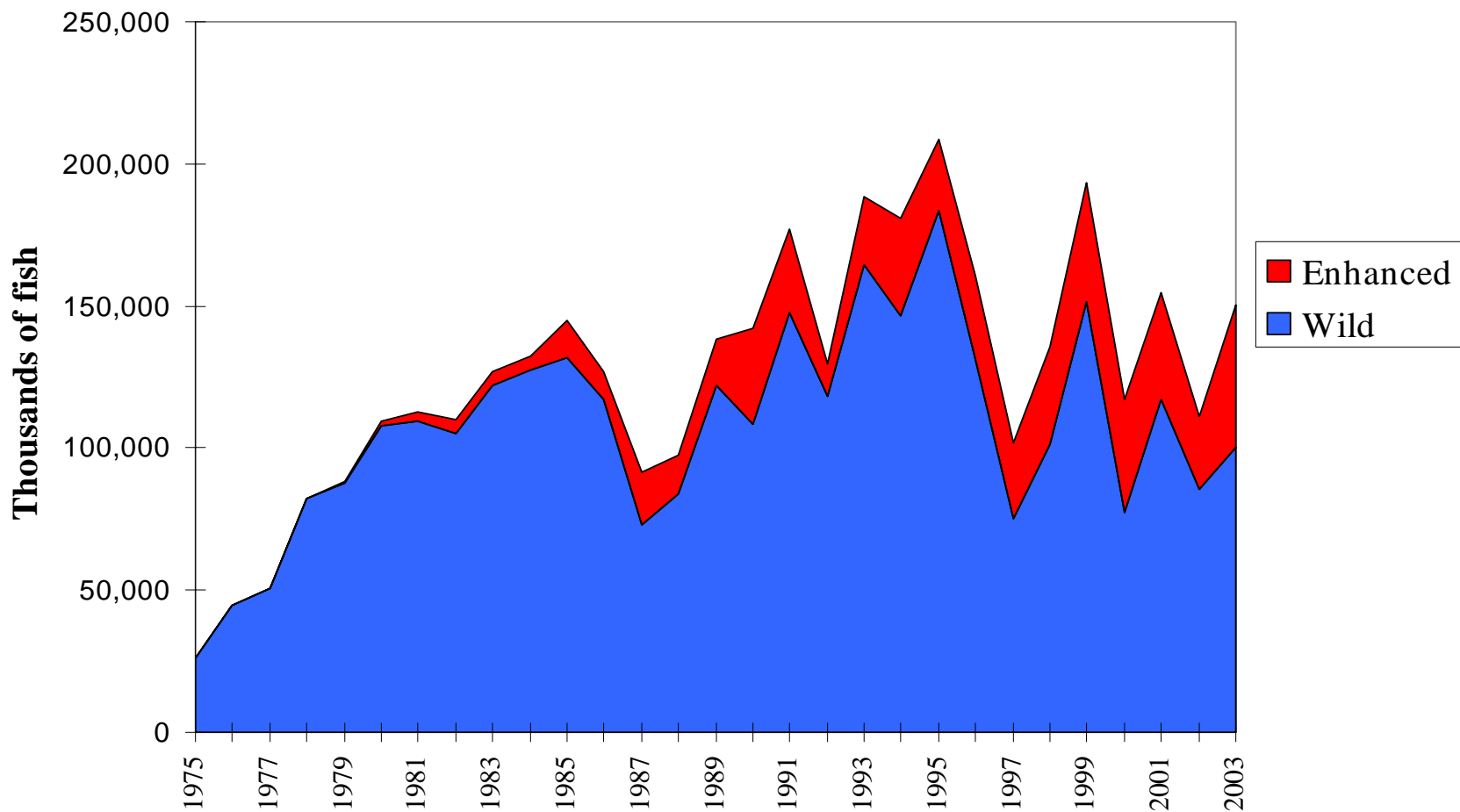


# Hatchery Returns



# Harvest of Alaskan Wild and Enhanced Salmon

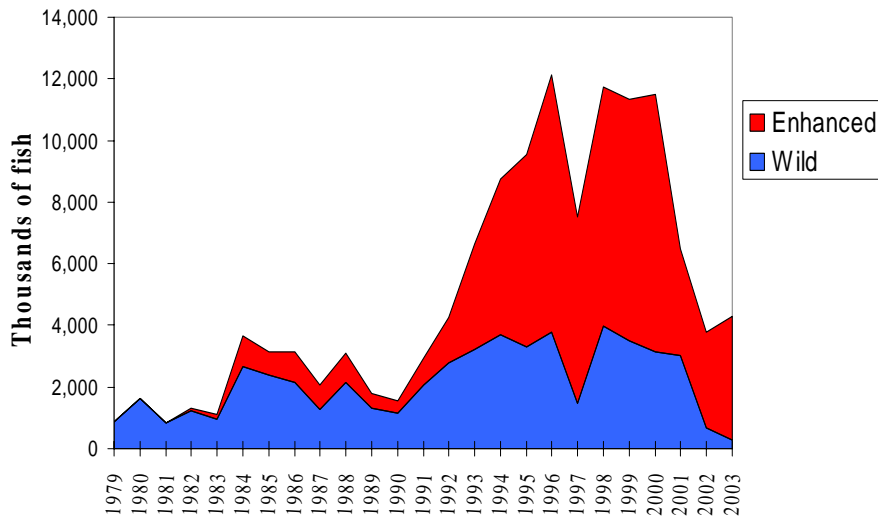
Proportion of Enhanced Salmon in the Common-Property Commercial Harvest





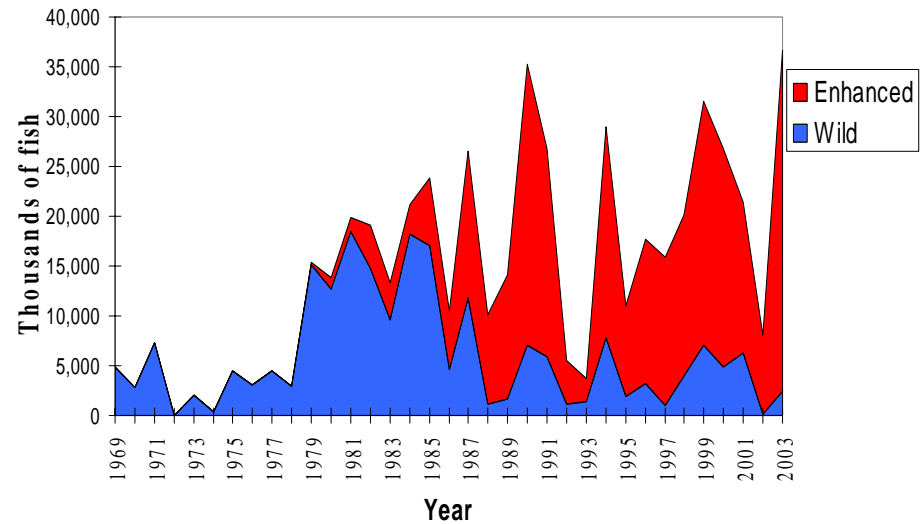
# Common Property Chums (SE) and Pinks (PWS)

Proportion of Enhanced Chum Salmon in the SE Common-Property Harvest



Enhanced 10 yr. average = 71%

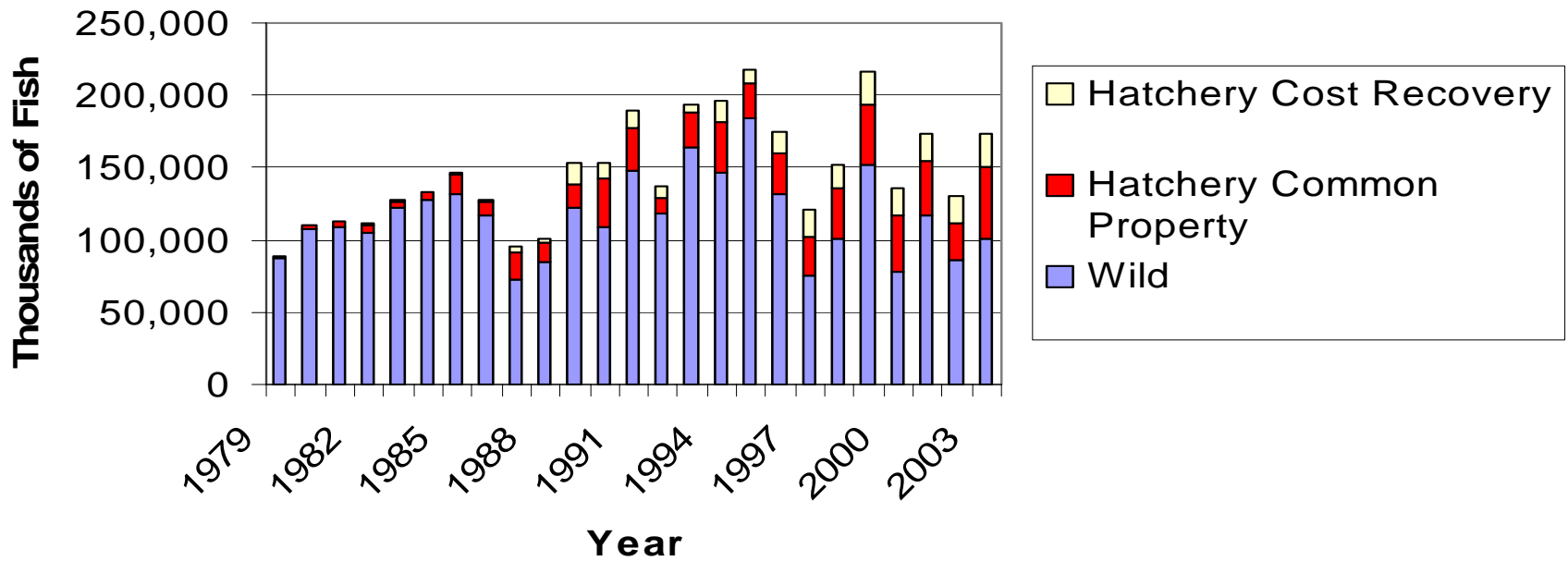
Proportion of Enhanced Pink Salmon in the PWS Common-Property Harvest



Enhanced 10 yr. Average = 83%

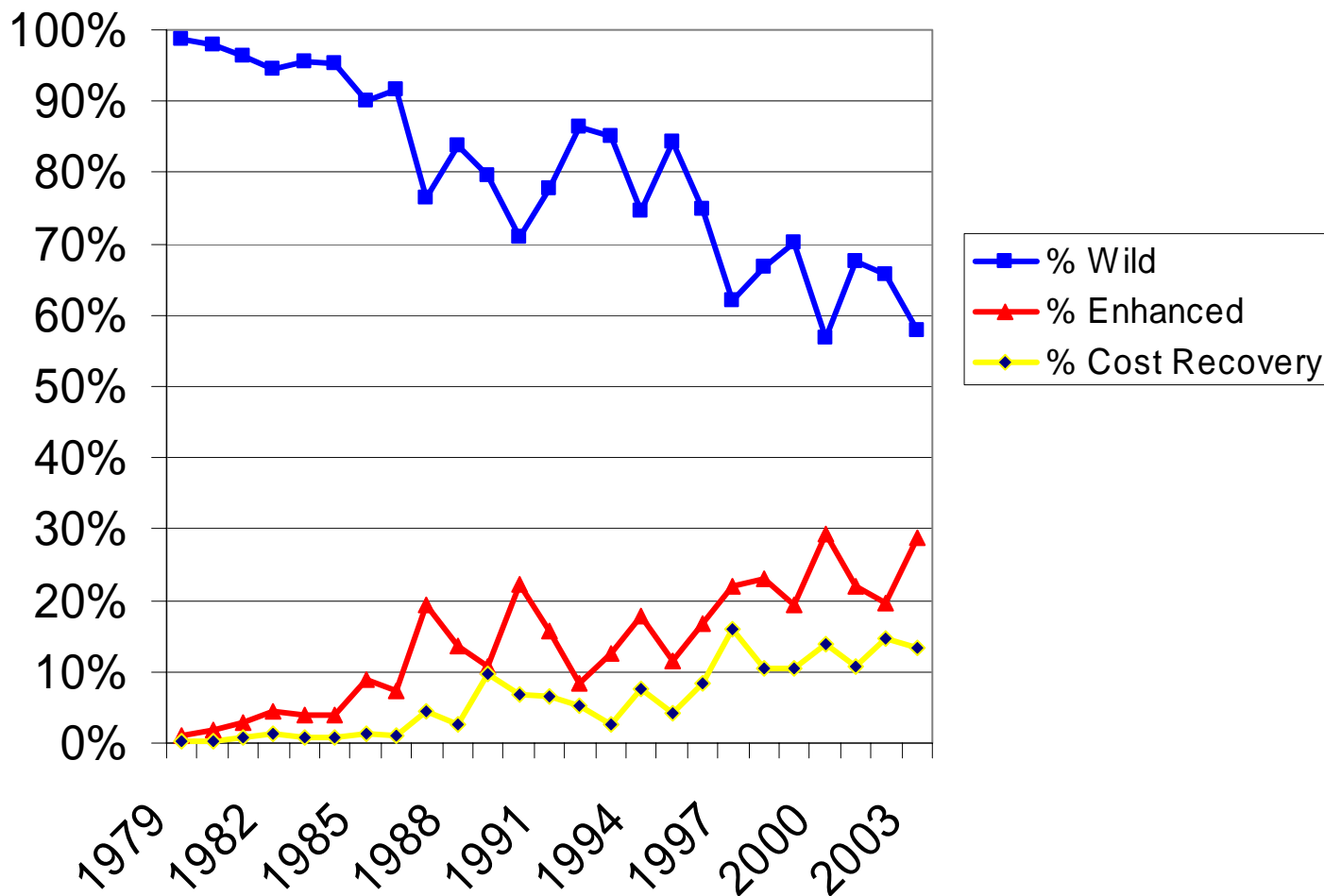
# Common Property vs Hatchery Harvest

## Composition of Commercial Salmon Harvest

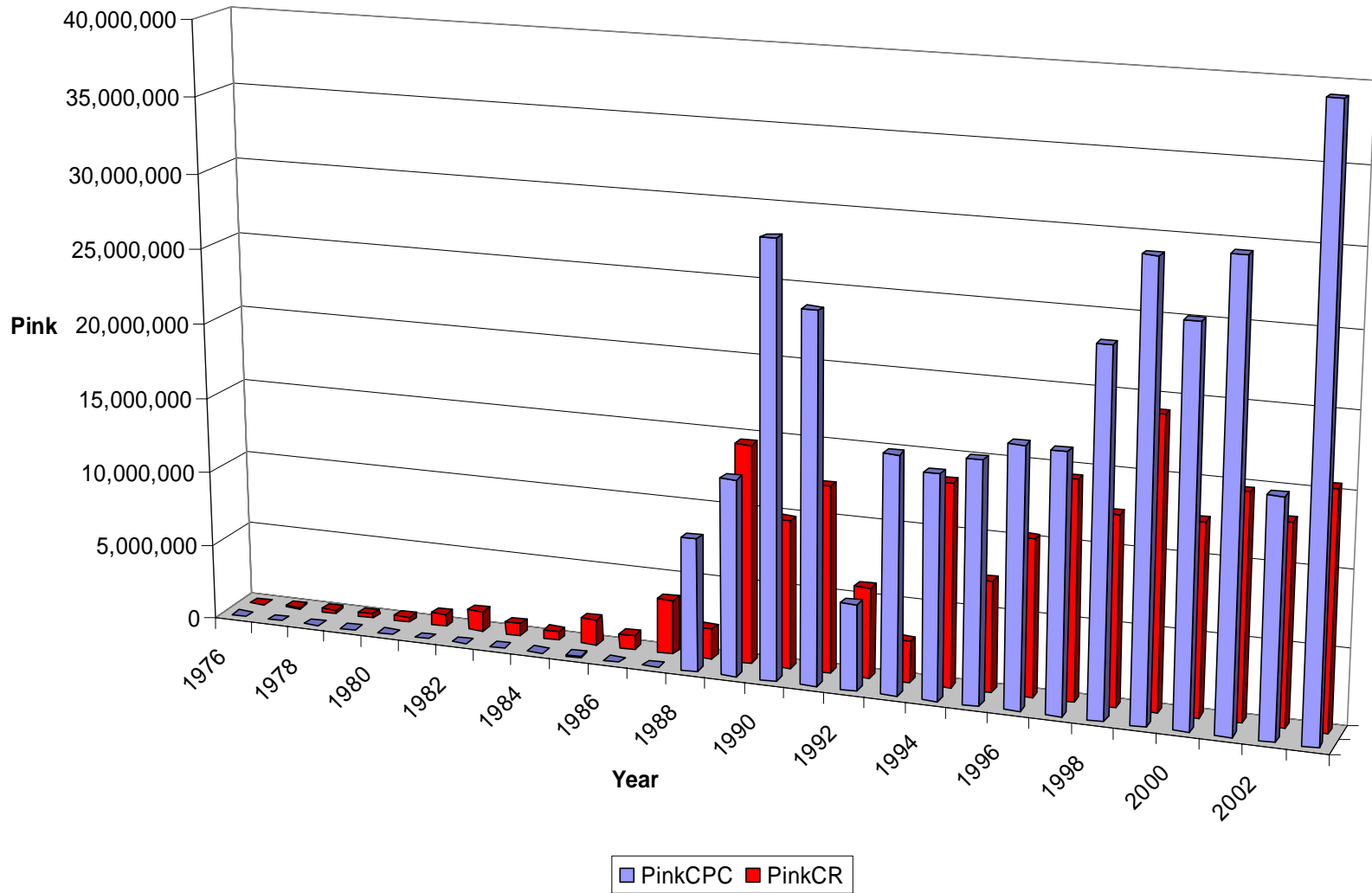


2003 hatchery contribution = 42%

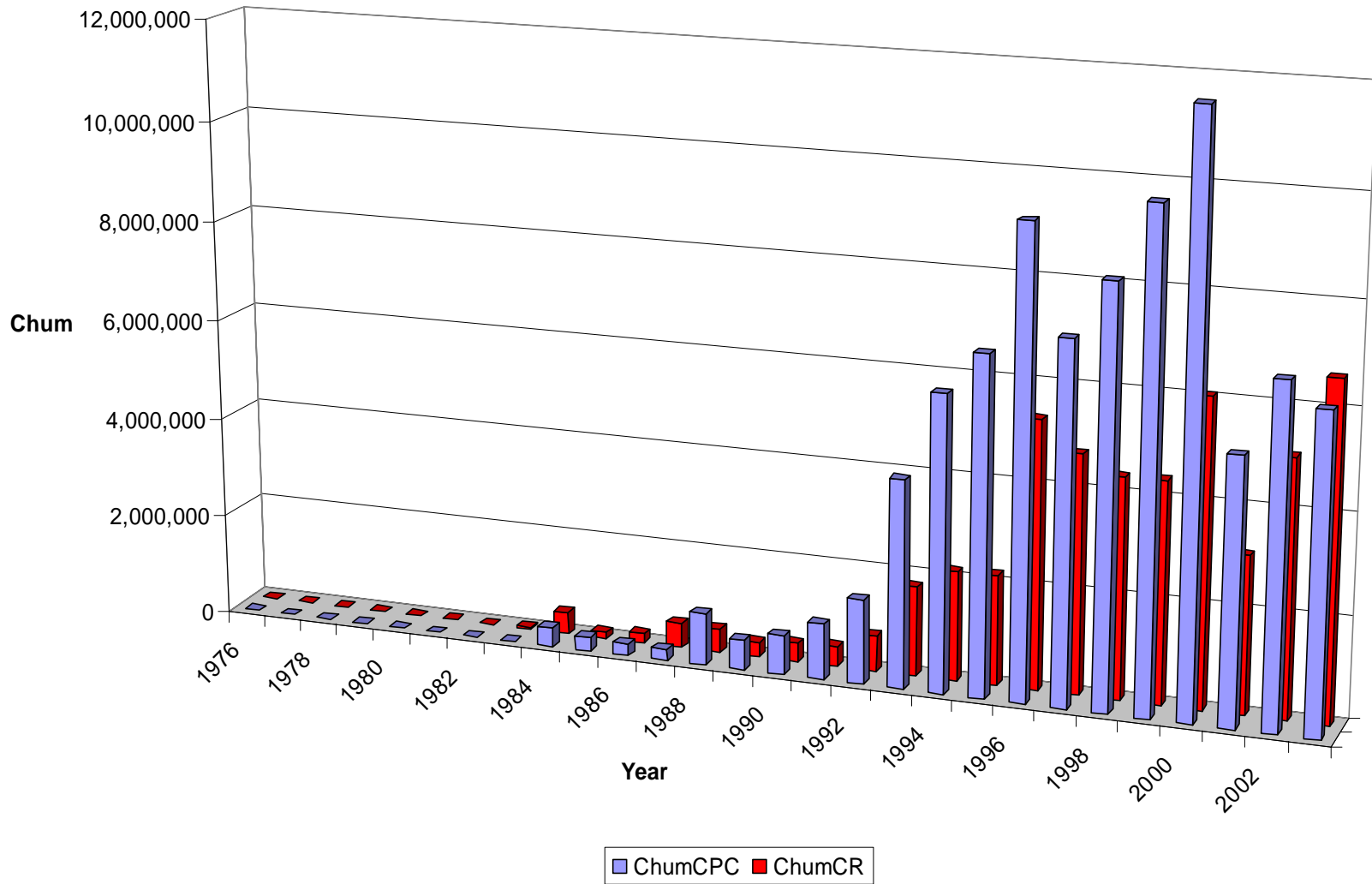
# Percentages of Wild and Hatchery Produced Salmon Harvested in Alaska



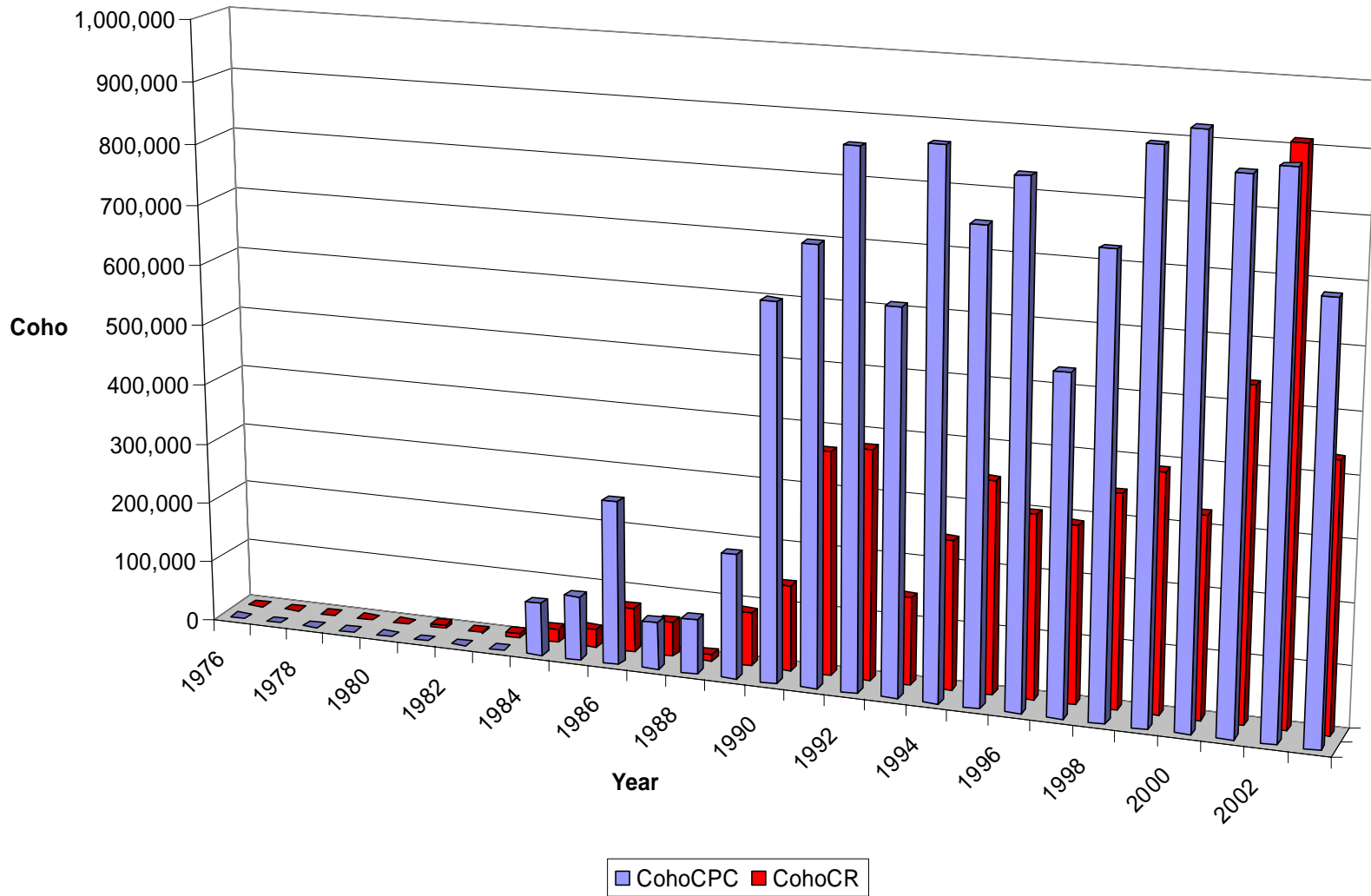
# Alaska Hatchery Produced Pink Salmon - Common Property Contributions vs Cost Recovery Harvest



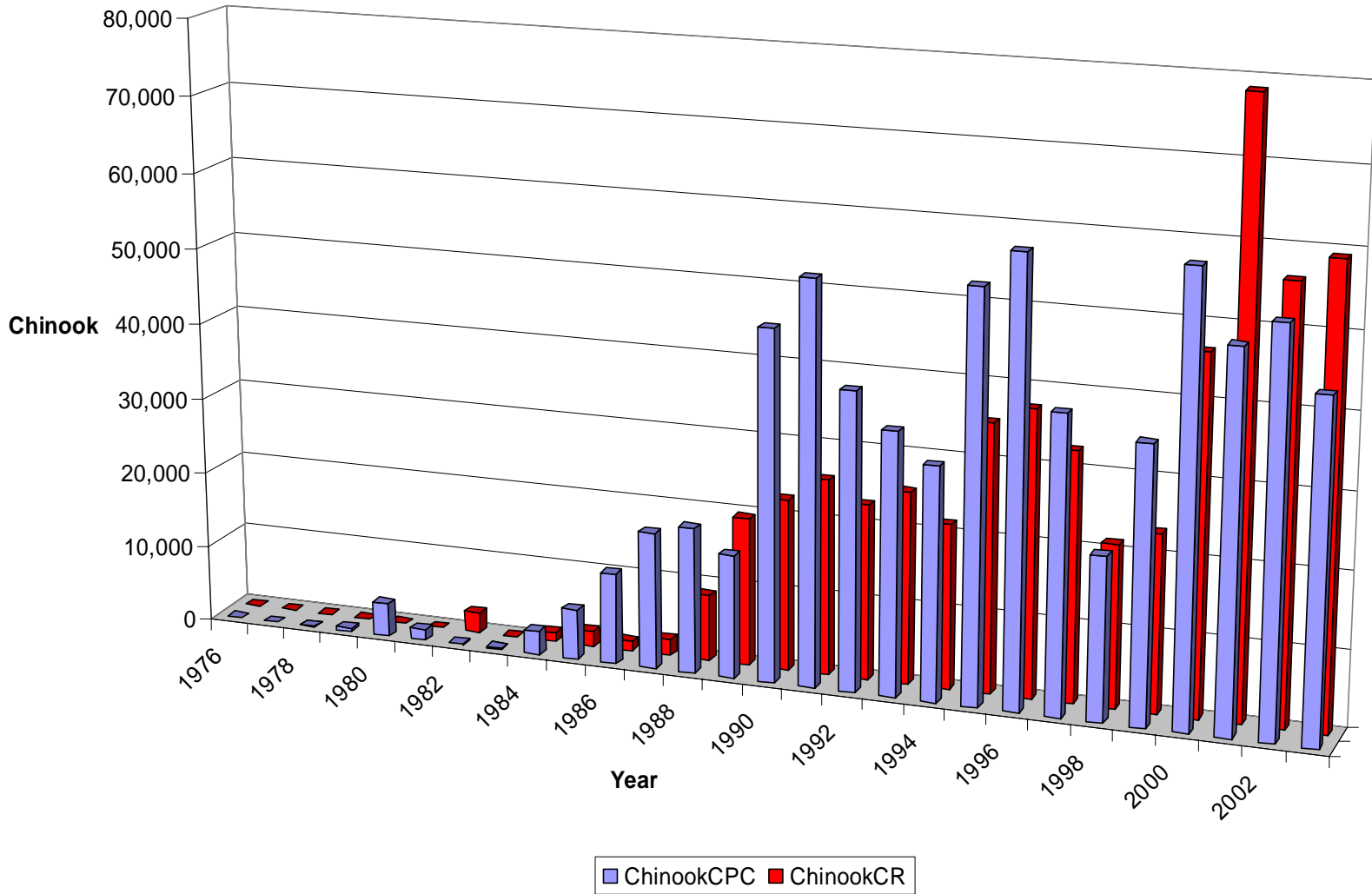
# Alaska Hatchery Produced Chum Salmon - Common Property Contributions vs Cost Recovery Harvest



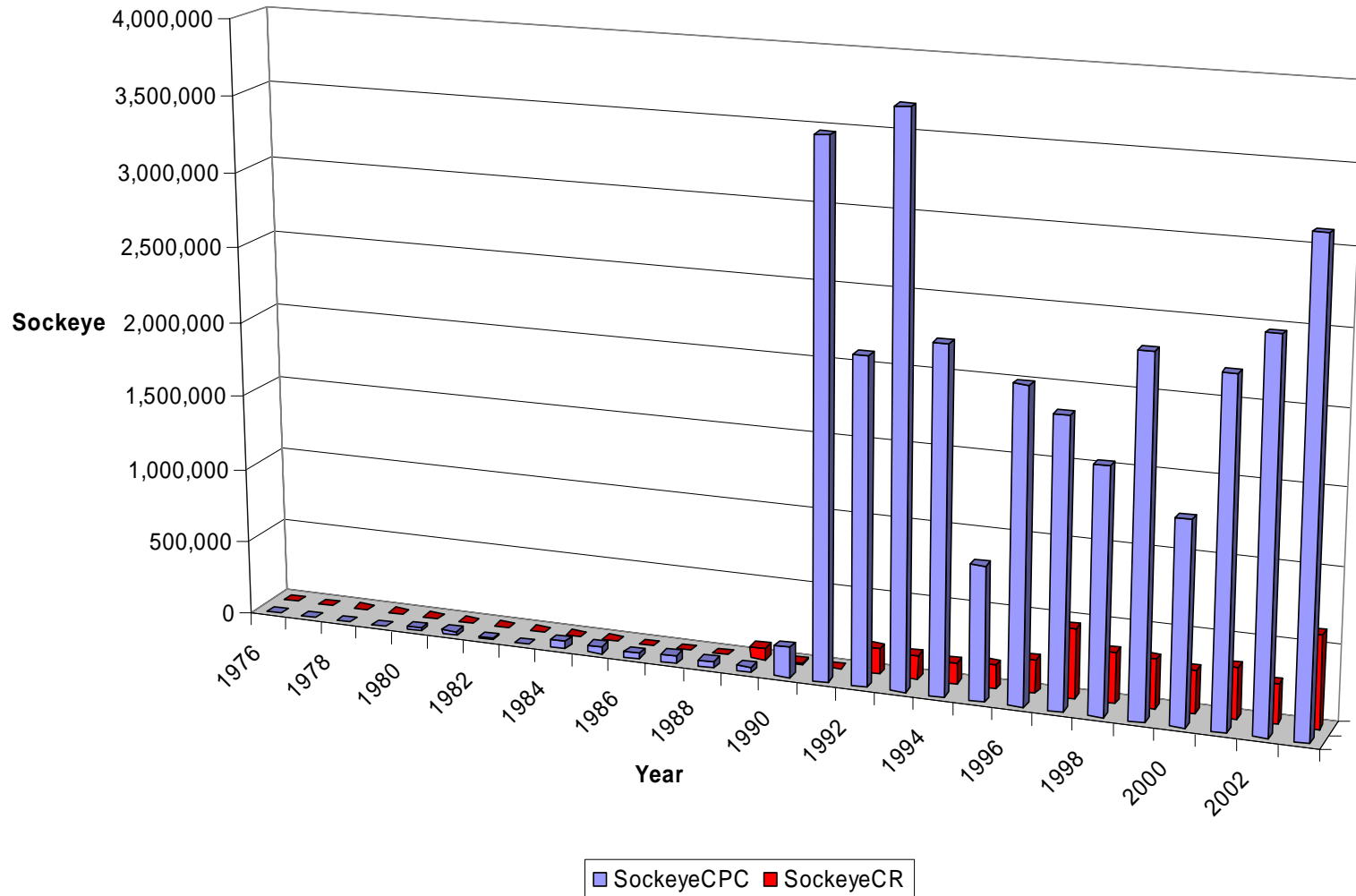
# Alaska Hatchery Produced Coho Salmon - Common Property Contributions vs Cost Recovery Harvest



## Alaska Hatchery Produced Chinook Salmon - Common Property Contributions vs Cost Recovery Harvest



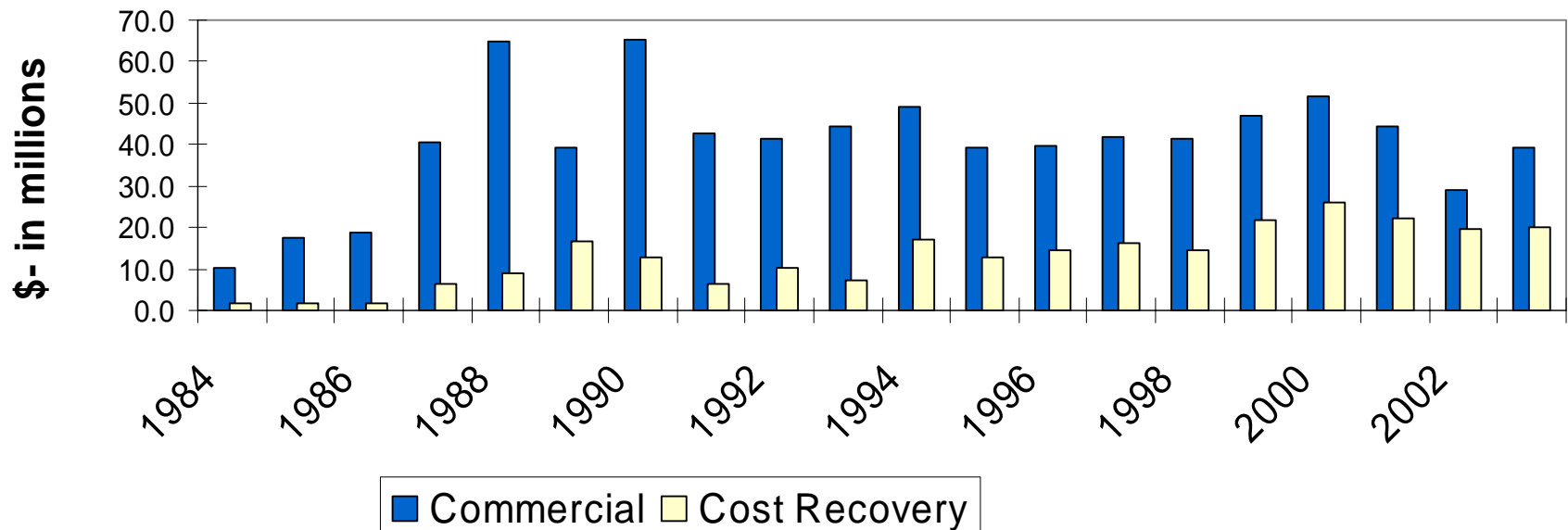
## Alaska Hatchery Produced Sockeye Salmon - Common Property Contributions vs Cost Recovery Harvest





# Value of Alaska's Hatcheries

## Value of Enhancement-Generated Commercial Common Property and Cost Recovery Harvest

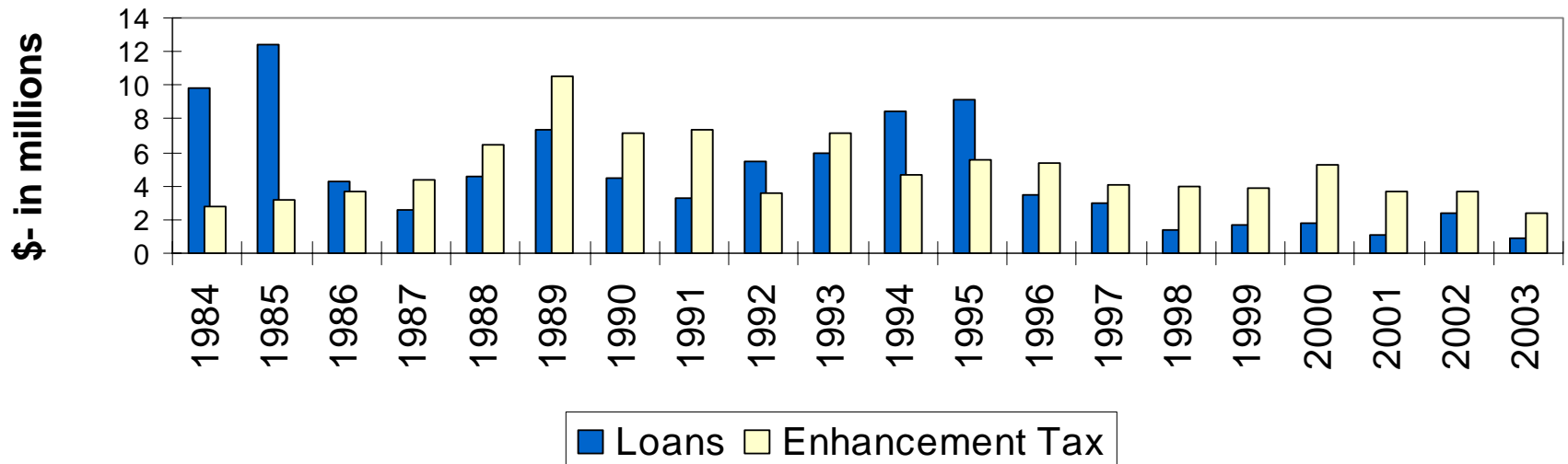


84-03 Commercial Harvest = \$808 M

84-03 Cost Recovery Harvest = \$259 M

# Other Funding Sources for PNP Hatcheries

## Value of Enhancement-Related ADCED Loans and Enhancement Tax



84-03 Loans - \$93 million

84-03 Enhancement Tax - \$99 million

The End

