

# Trends in Cowlitz River Salmon and Steelhead Returns and Hatchery Releases

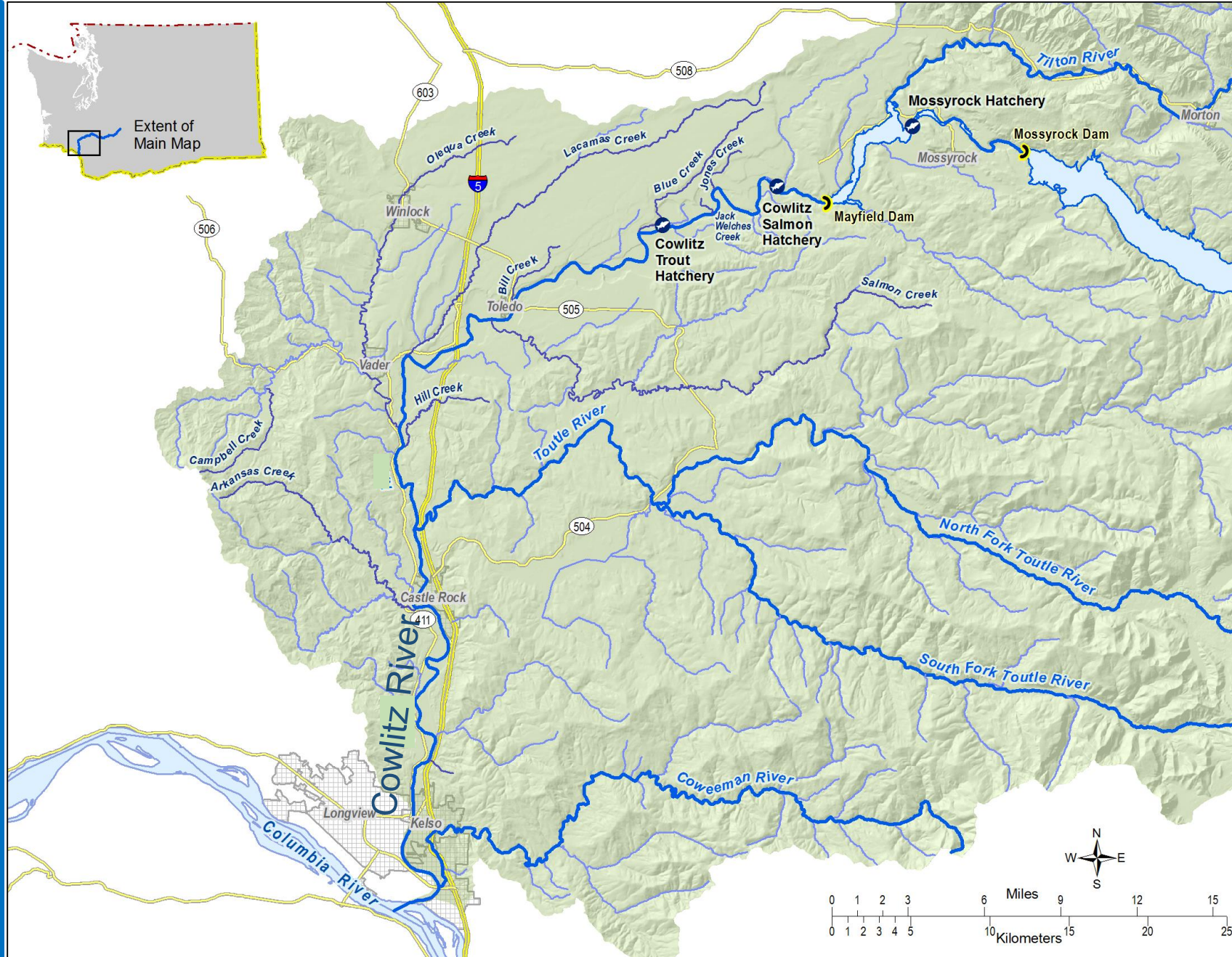
Tom Wadsworth

WDFW District Fish Biologist



# Lower Cowlitz River Basin

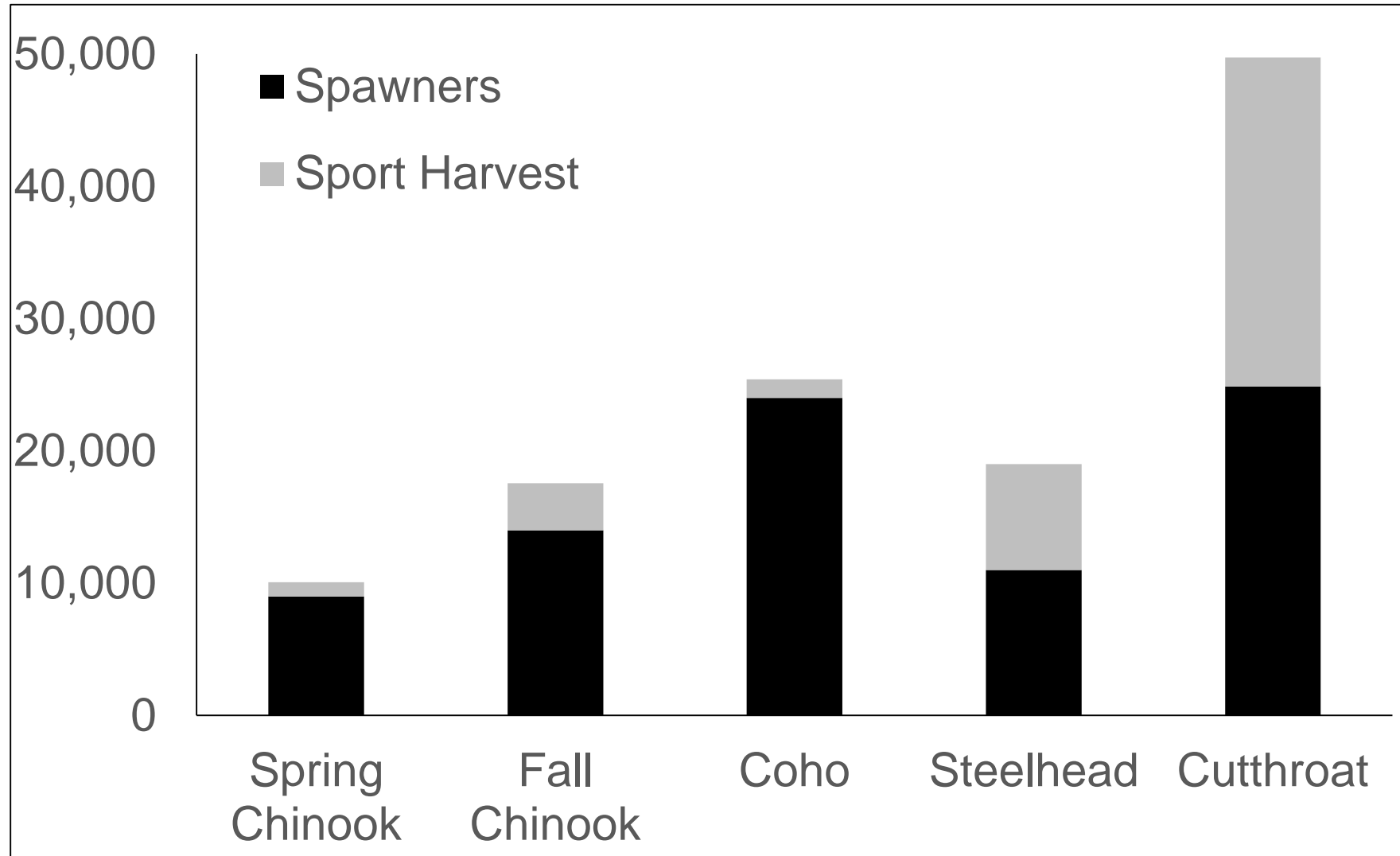
Pacific Ocean



Upper Cowlitz  
Basin

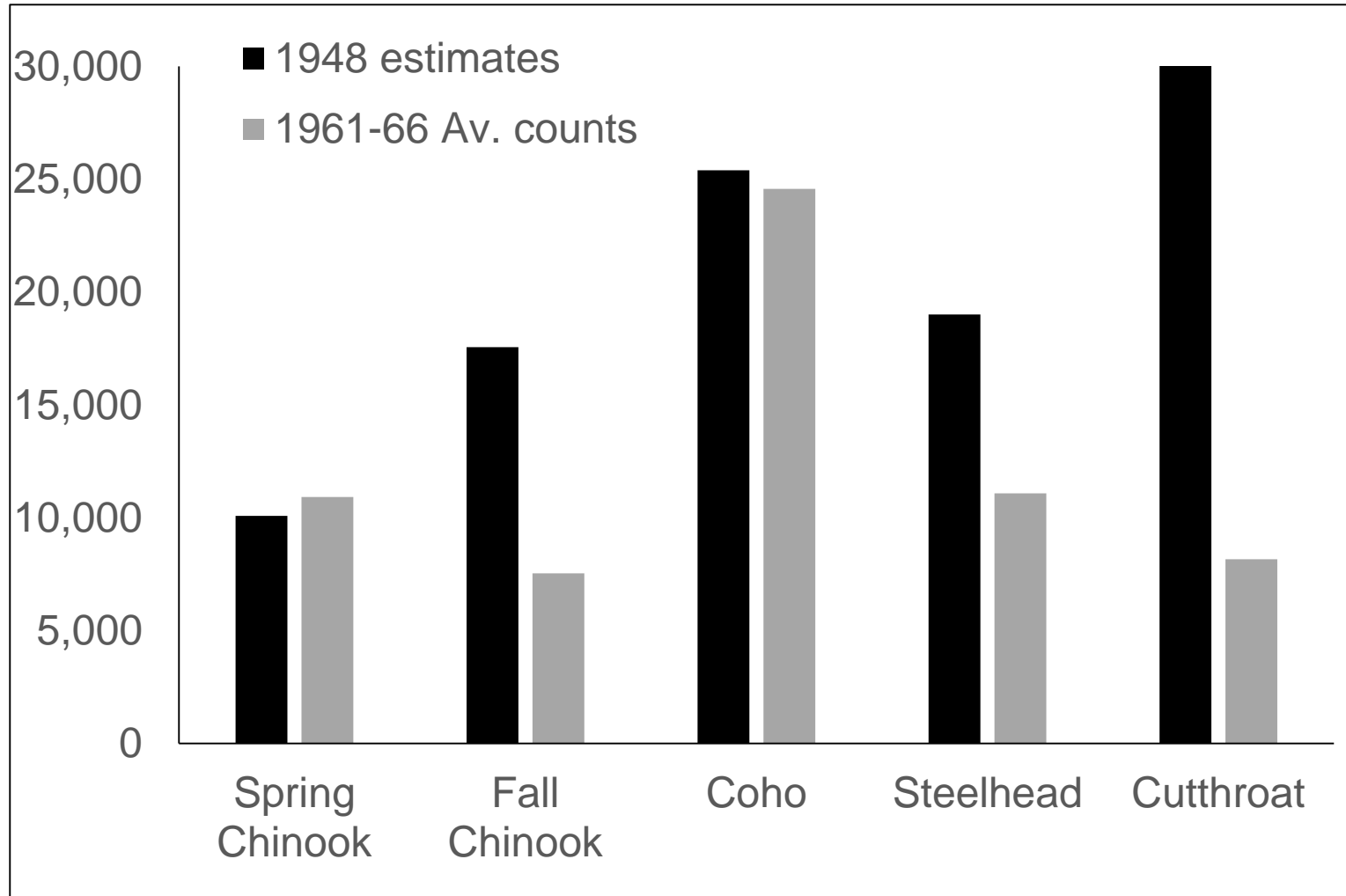


# 1948 Estimates of Cowlitz River Catch and Spawners Above Proposed Mayfield Dam Site



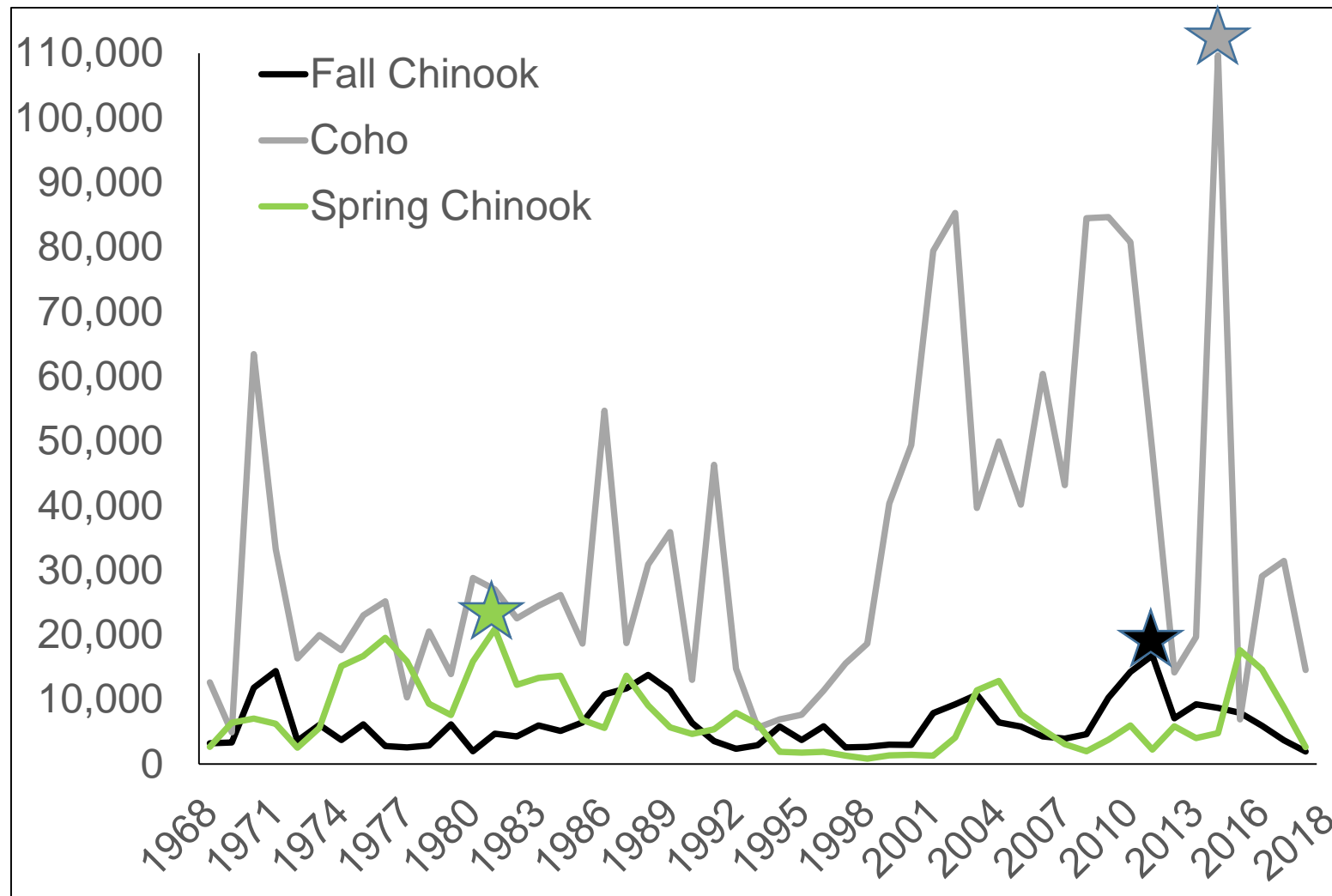
- Does not include fish below Mayfield Dam site
- Most harvest was steelhead and cutthroat
- Likely no summer steelhead
- Mostly natural-origin fish

# 1948 and 1961-1966 Abundance Above Mayfield Dam site



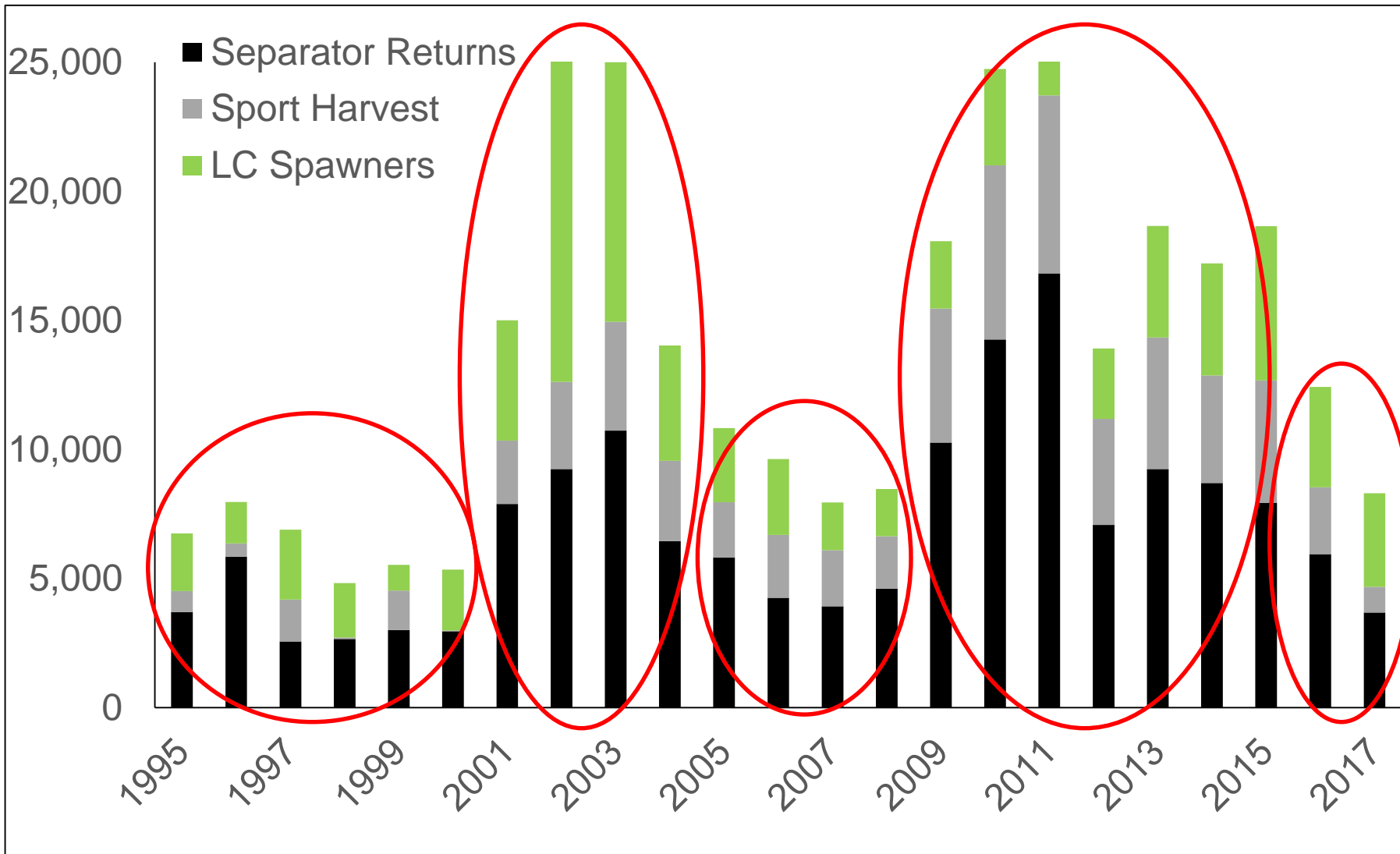
- Does not include fish below Mayfield Dam
- Averaged 1961-66 counts from fish ladder at Mayfield Dam
- Declines in fall Chinook, steelhead, cutthroat after 1948

# Returns of Salmon Species to Cowlitz Barrier Dam Separator 1968-2018



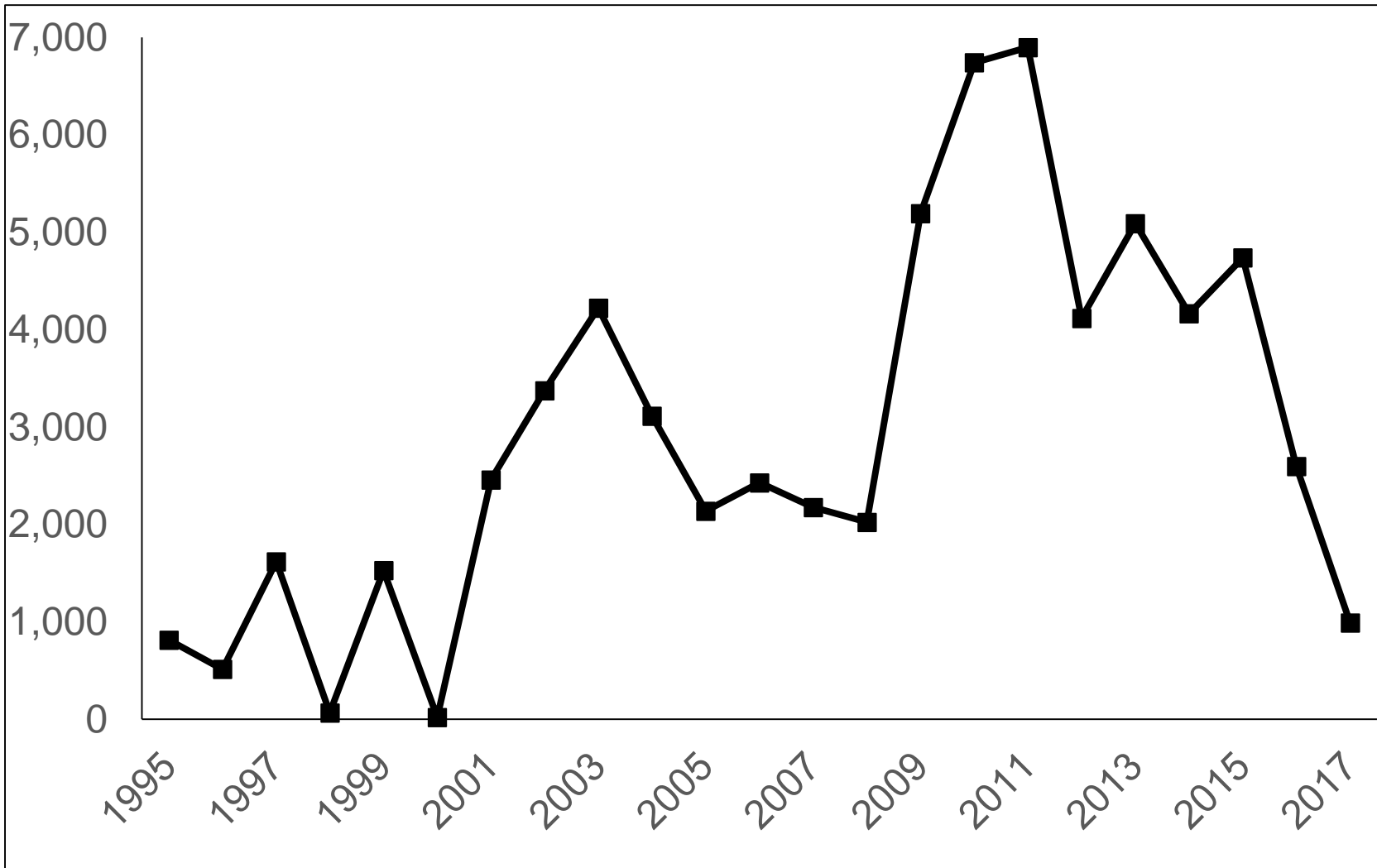
- Mossyrock Dam and Barrier Dam – 1968
- Cowlitz hatchery adult returns of Coho started 1970, Chinook 1971
- Coho increased overall, Chinook more stable
- Stars indicate peak of returns since 1968

# Fall Chinook Returns, Harvest and Lower Cowlitz Spawners, 1995-2017



- Mass marked returns started in 2010
- Harvest and spawners usually half of total return
- Returns cyclical, increased overall

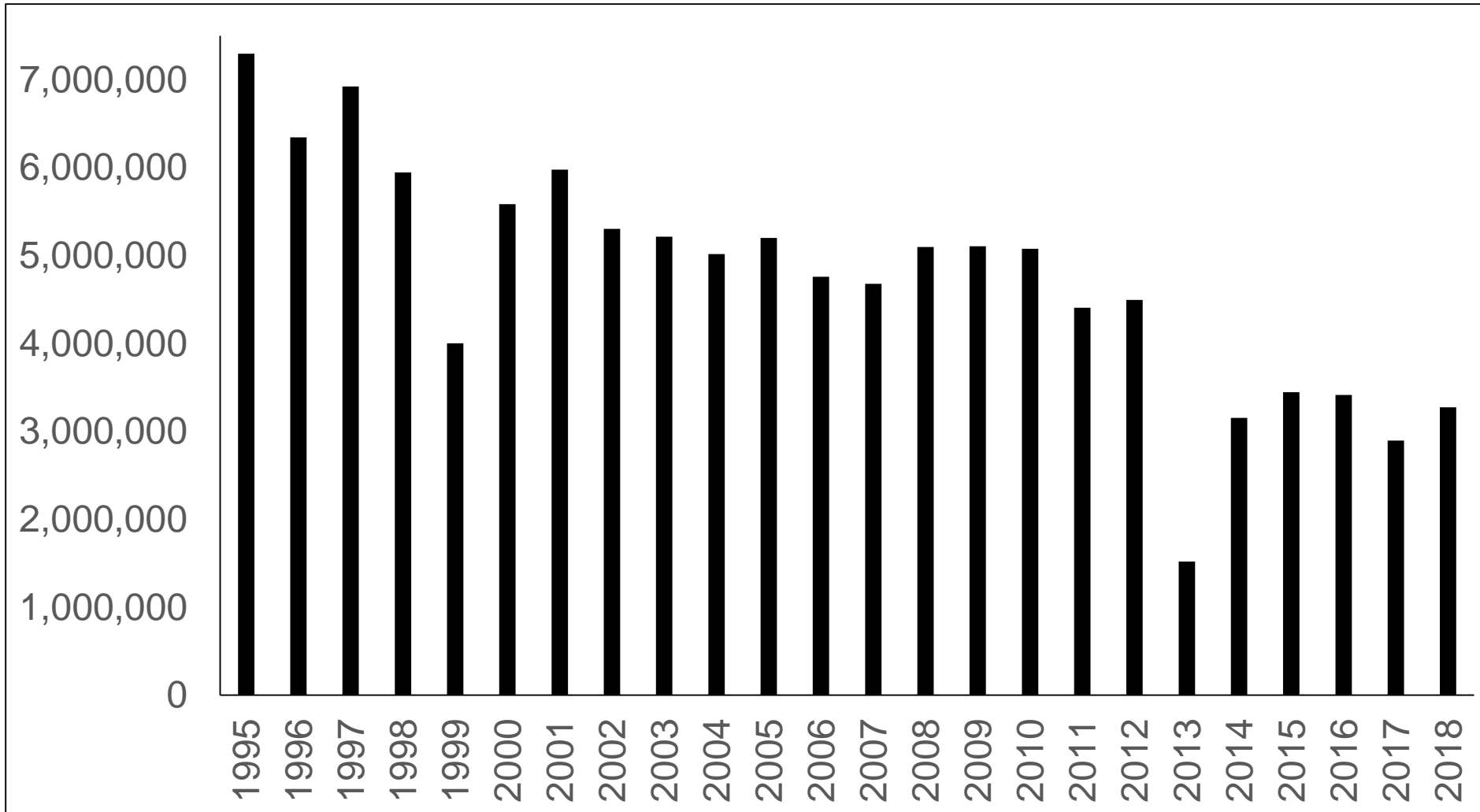
# Fall Chinook Sport Harvest 1995-2017



- Harvest increased overall
- Decline in 2016-2017 harvest
- Similar declines throughout Columbia River Basin
- Harvest expected to be closed in 2019



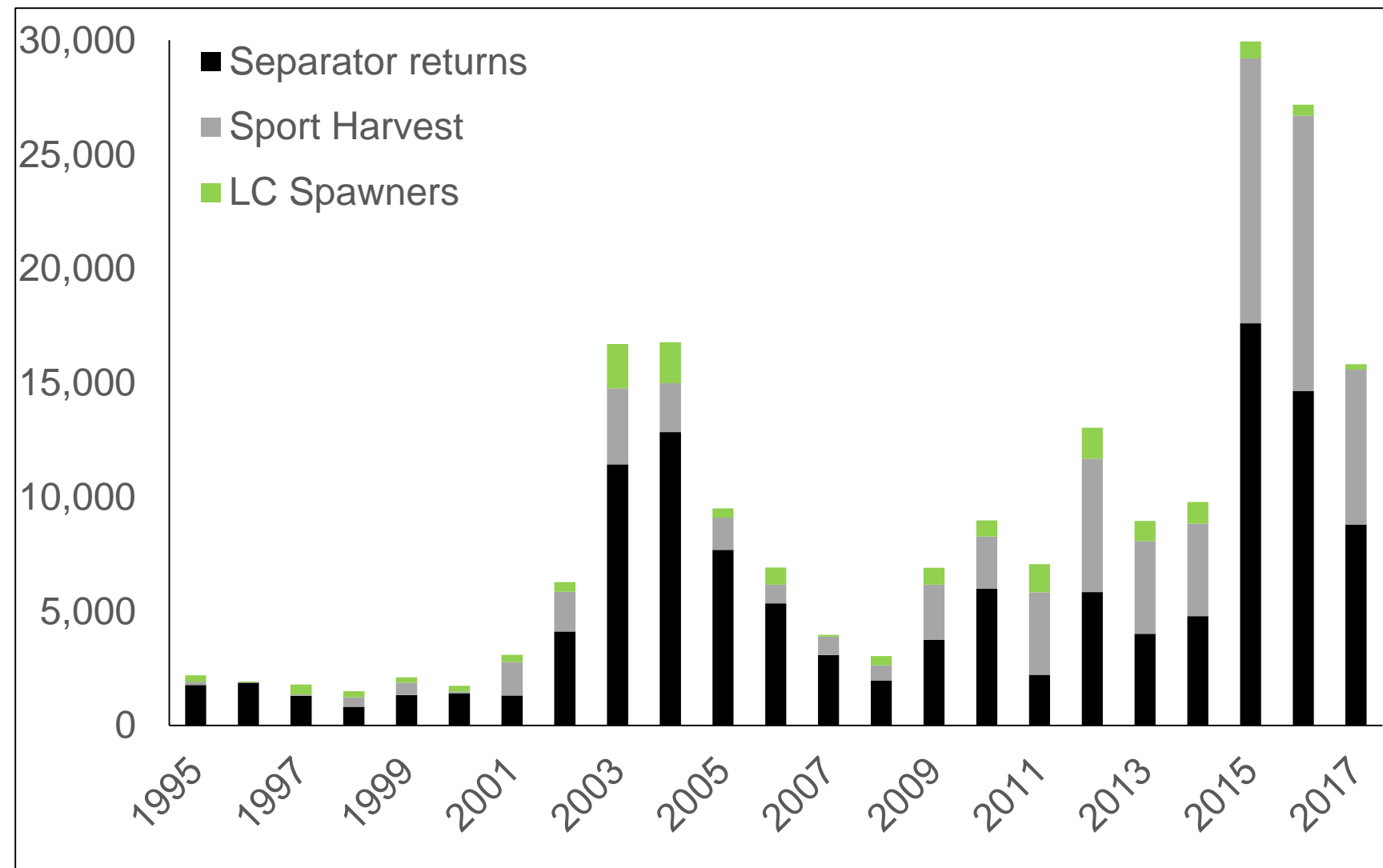
# Fall Chinook Juvenile Hatchery Releases 1995-2018



➤ Releases  
decreased  
overall

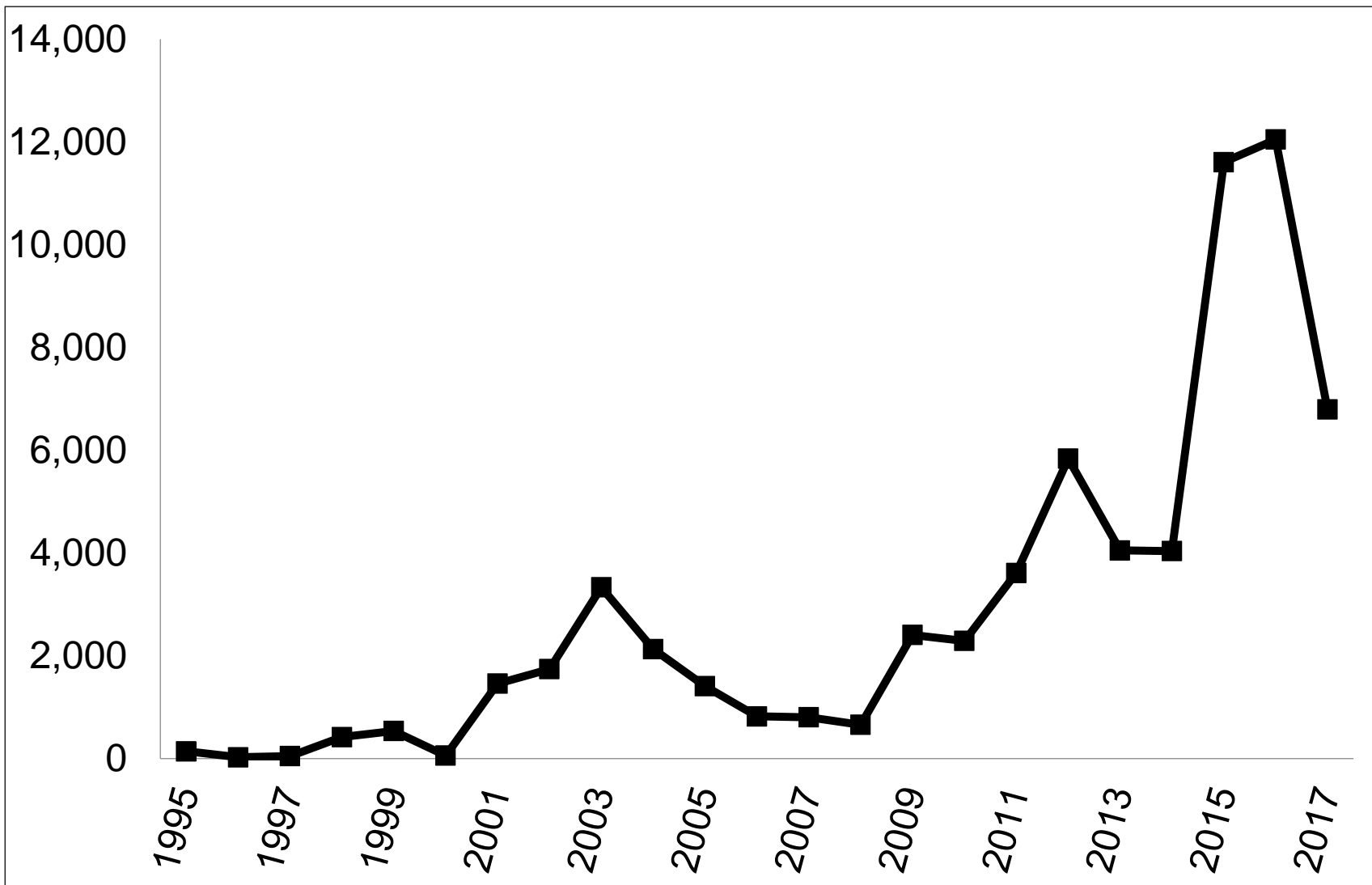


# Spring Chinook Returns, Harvest and Lower Cowlitz Spawners, 1995-2017



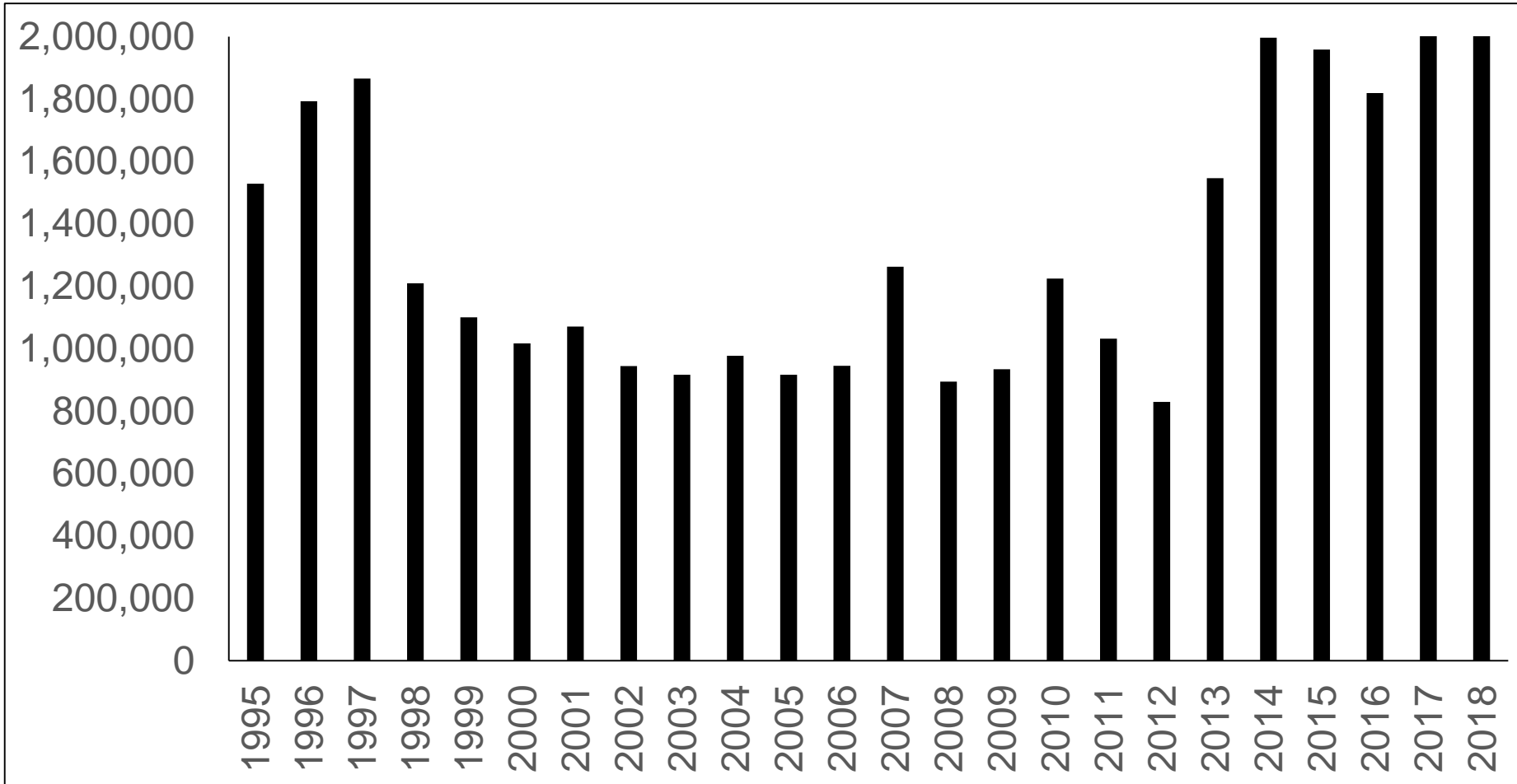
- Harvest and Separator returns usually similar
- Few spawners in lower Cowlitz, usually spawn upriver
- Returns increased overall, with some cycles

# Spring Chinook Sport Harvest 1995-2017



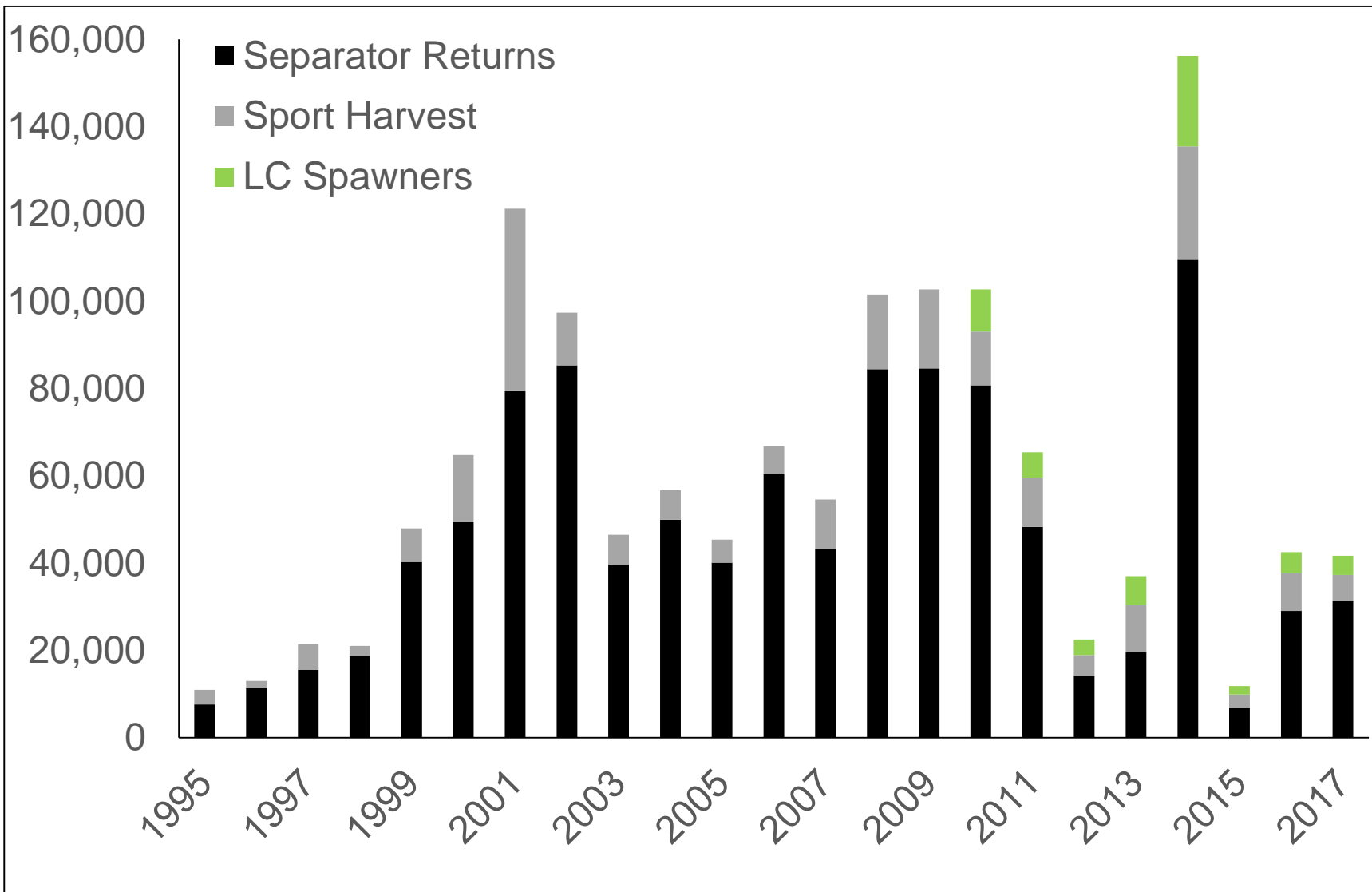
- Dramatic harvest increase overall
- Decline in 2017 harvest
- Similar declines throughout Columbia Basin
- Harvest closed in 2019

# Spring Chinook Juvenile Hatchery Releases 1995-2018



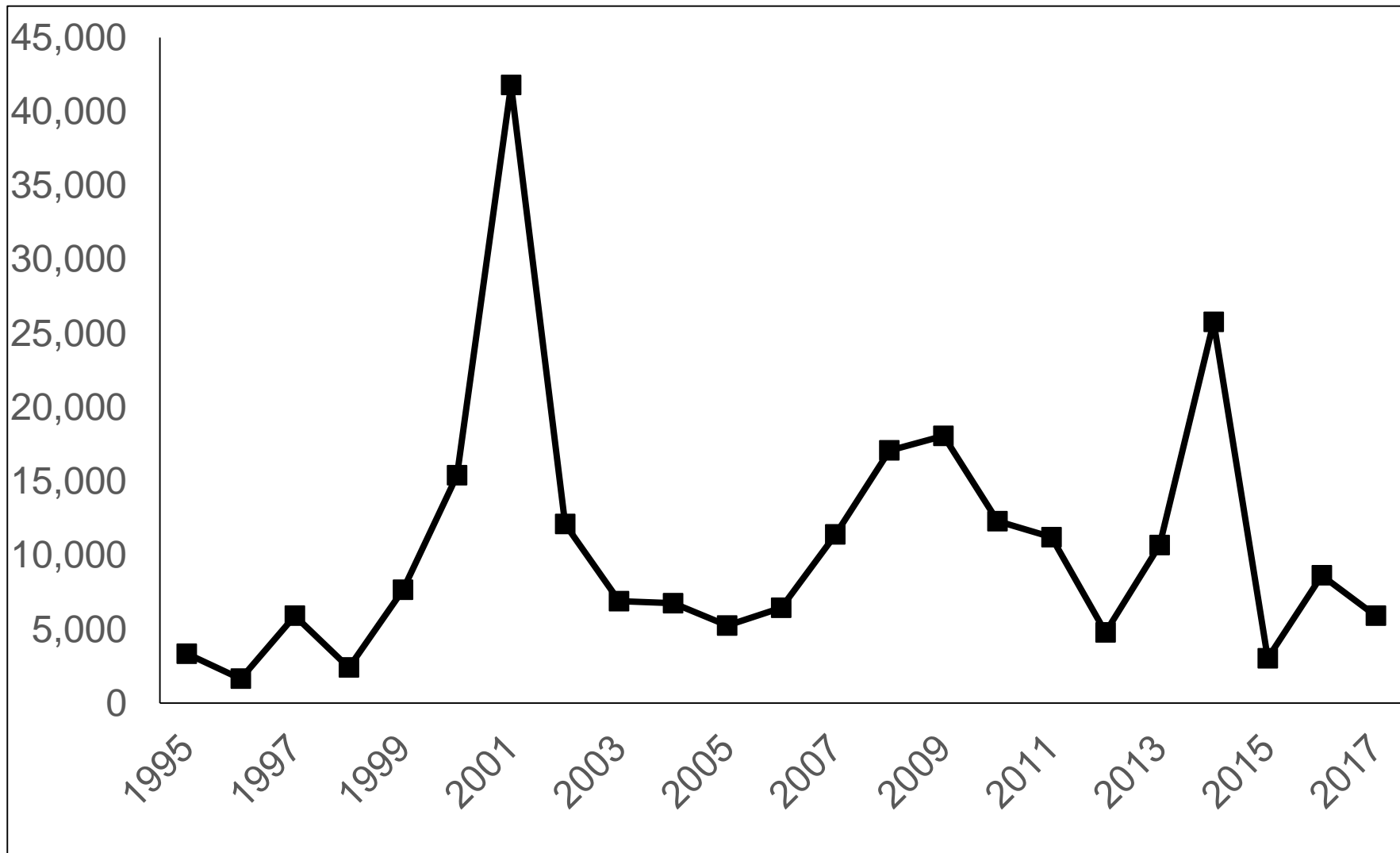
➤ Recent years  
had the highest  
releases

# Coho Returns, Harvest and Lower Cowlitz Spawners, 1995-2017



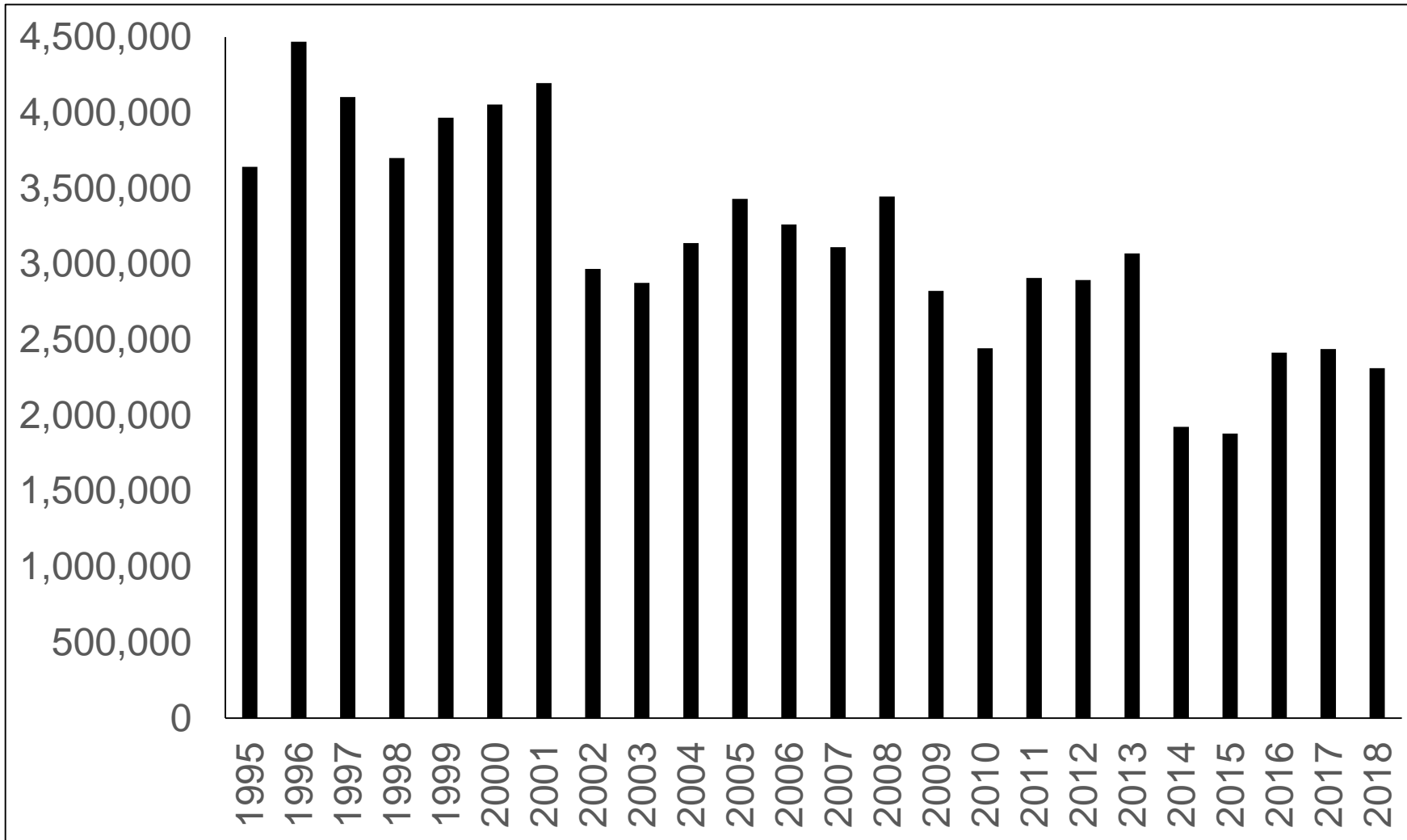
- Spawner surveys started in 2010
- Separator returns largest component
- Cycles of returns less clear, many ups and downs
- 2019 expected to be a large return

# Coho Sport Harvest 1995-2017



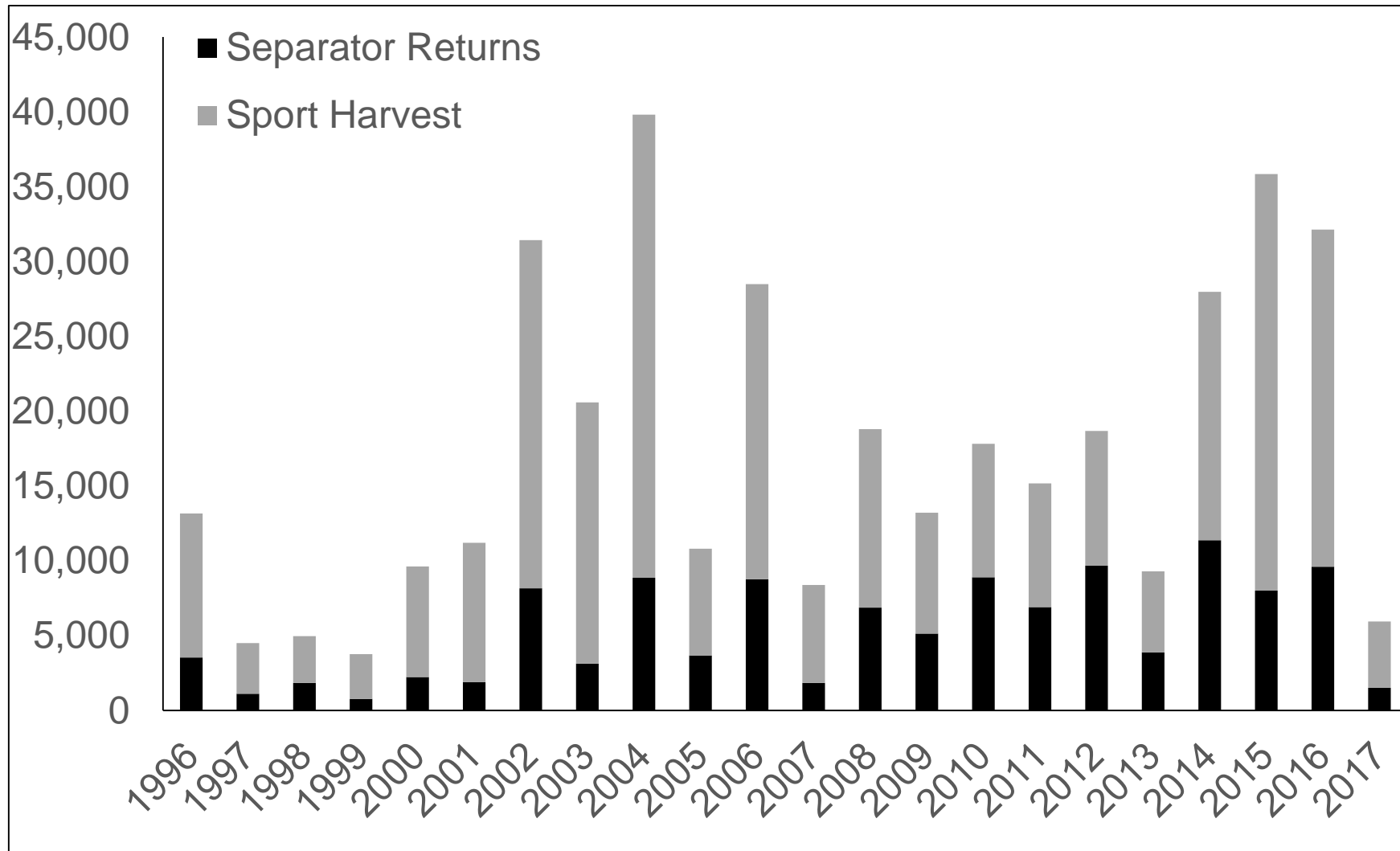
- Harvest fairly consistent with a few peaks
- Liberal regulations planned this year

# Coho Hatchery Releases 1995-2018



➤ Releases decreased overall

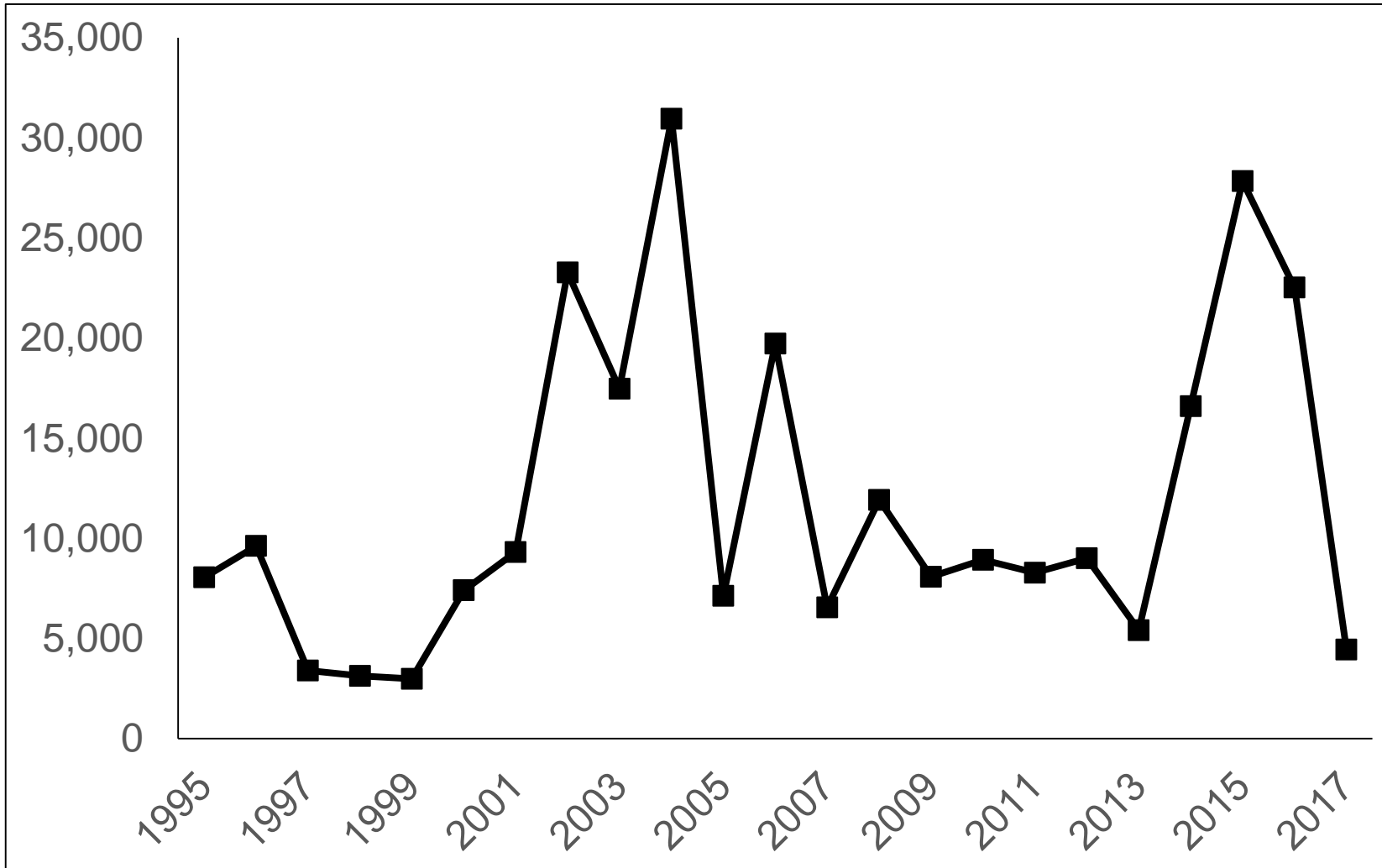
# Summer Steelhead Returns and Harvest 1996-2017



- Hatchery program no wild fish
- Harvest usually higher than separator returns
- Returns cyclical
- Good returns in 2014-2016, down in 2017

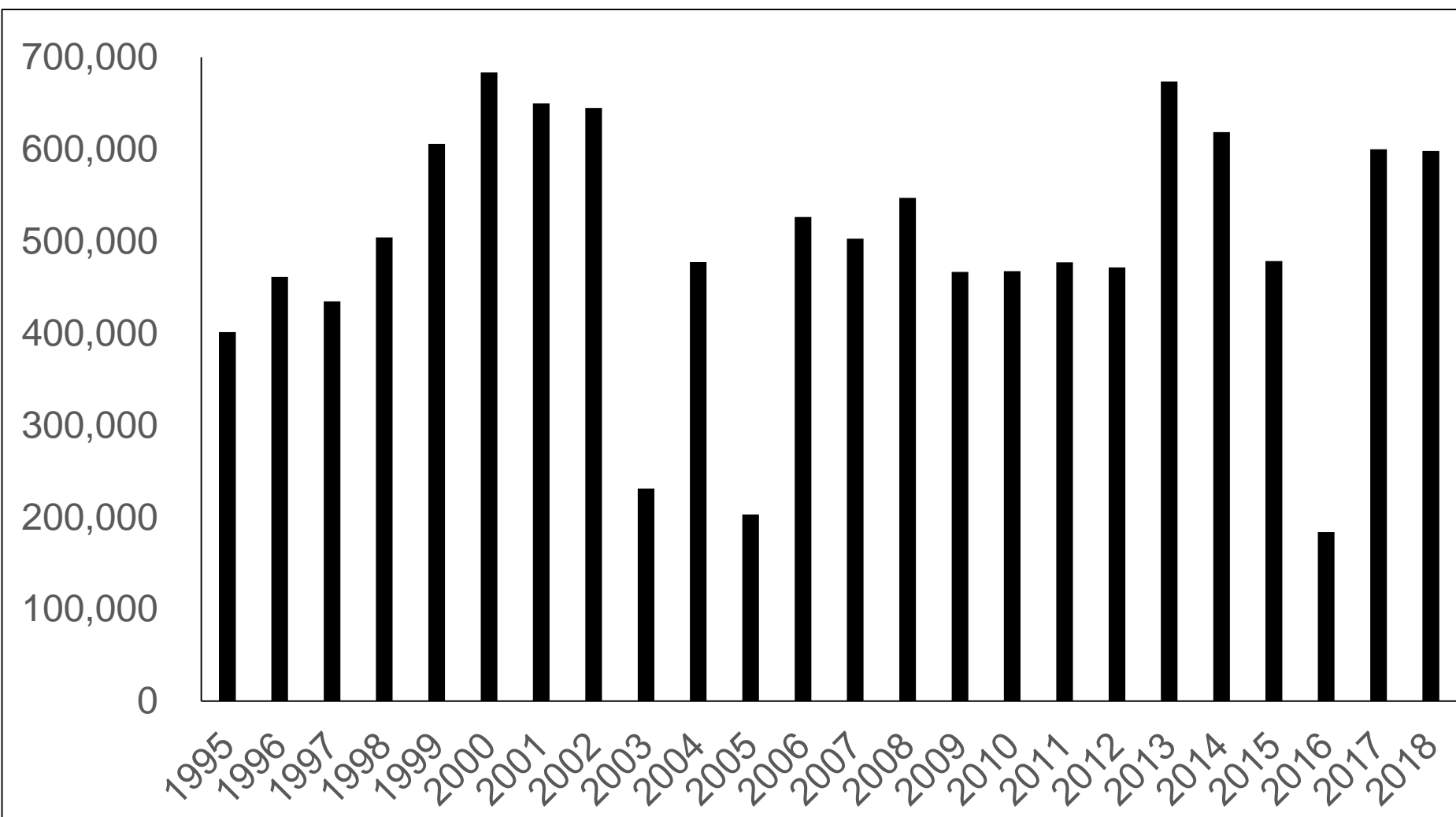


# Summer Steelhead Harvest 1995-2017



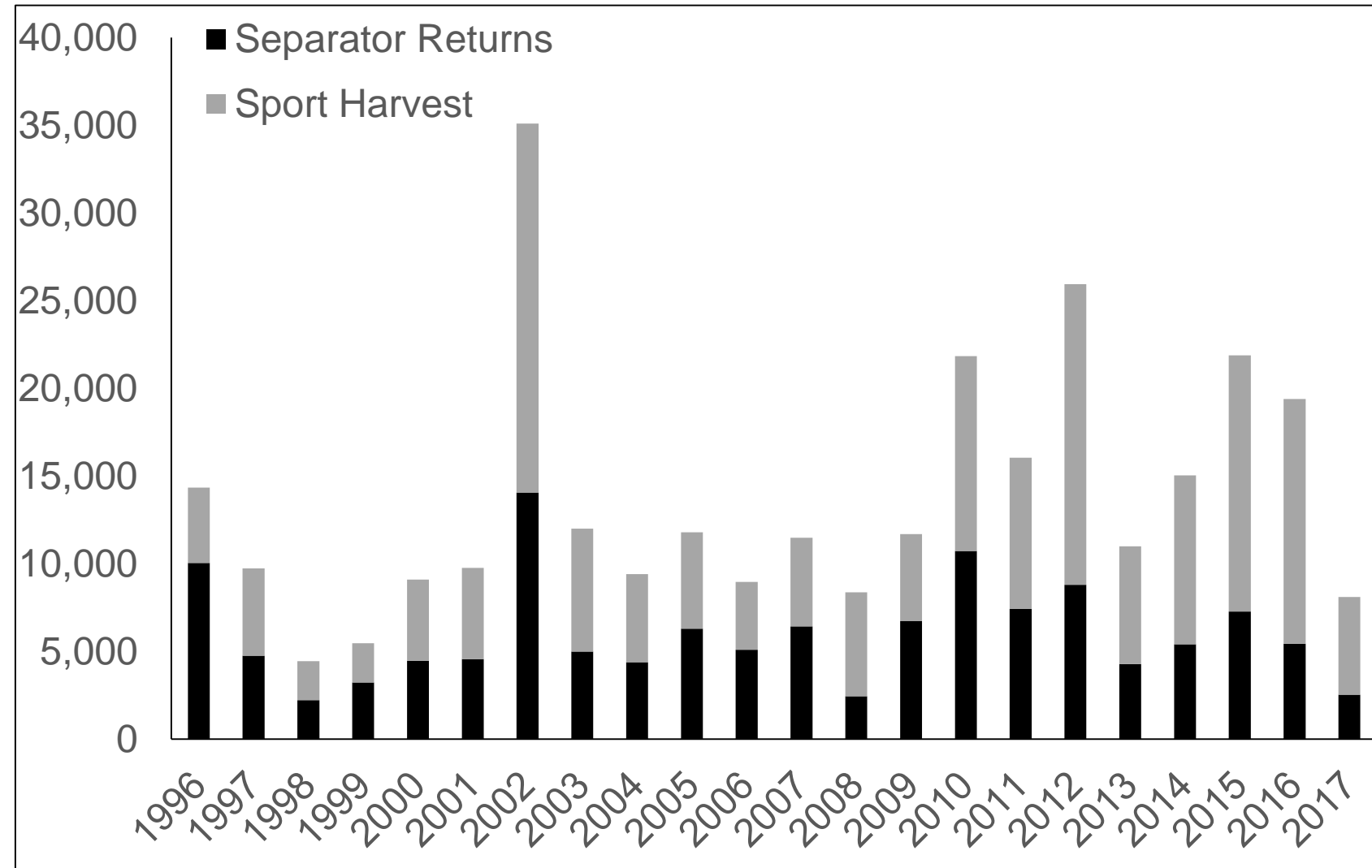
- Harvest increased overall
- Decline in 2017 harvest
- Similar declines throughout Columbia Basin
- Typical fishery planned in 2019, except at mouth

# Summer Steelhead Releases 1995-2018



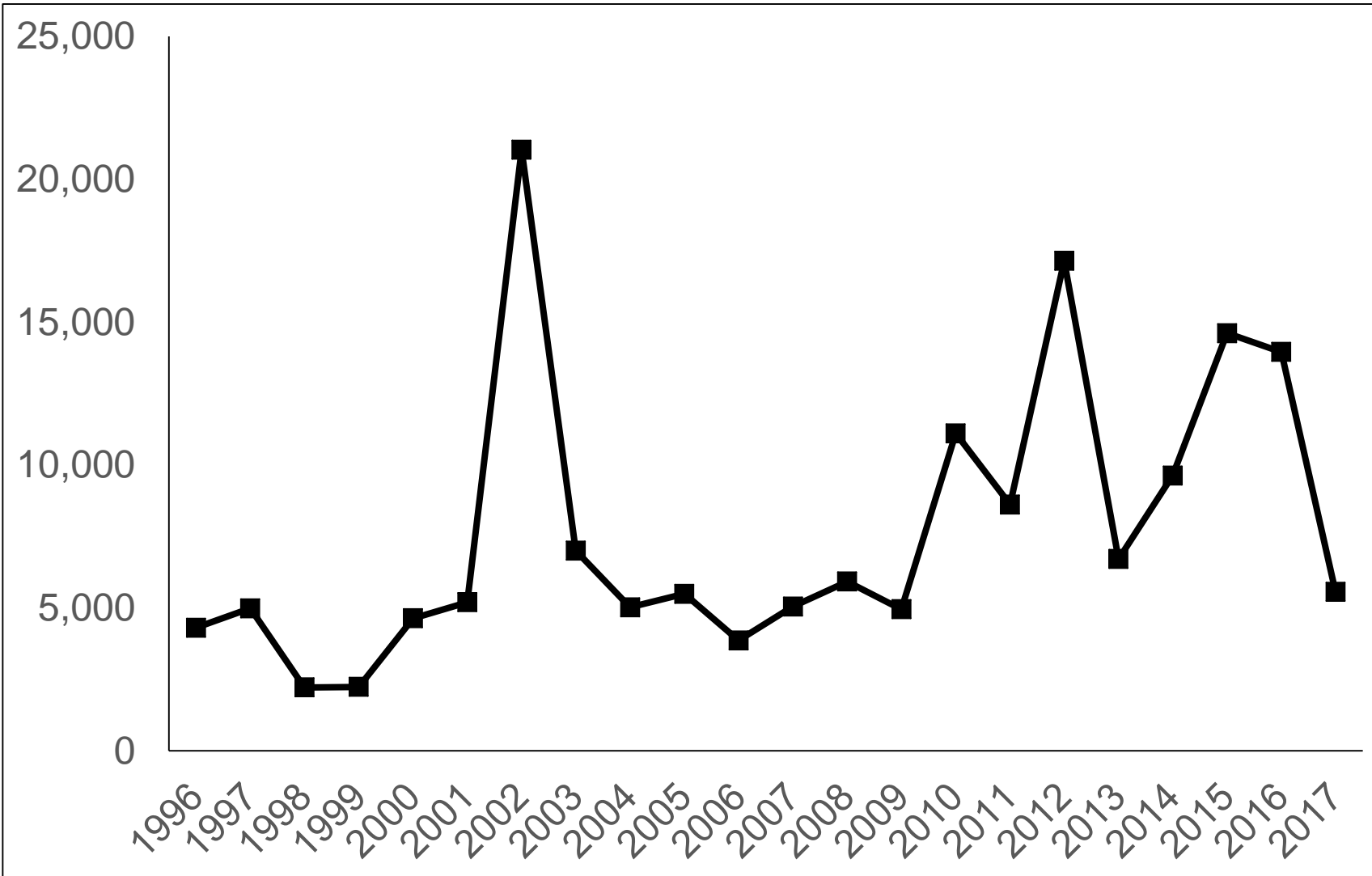
- Releases consistent overall
- Generally higher releases in recent years

# Winter Steelhead Returns and Harvest 1996-2017



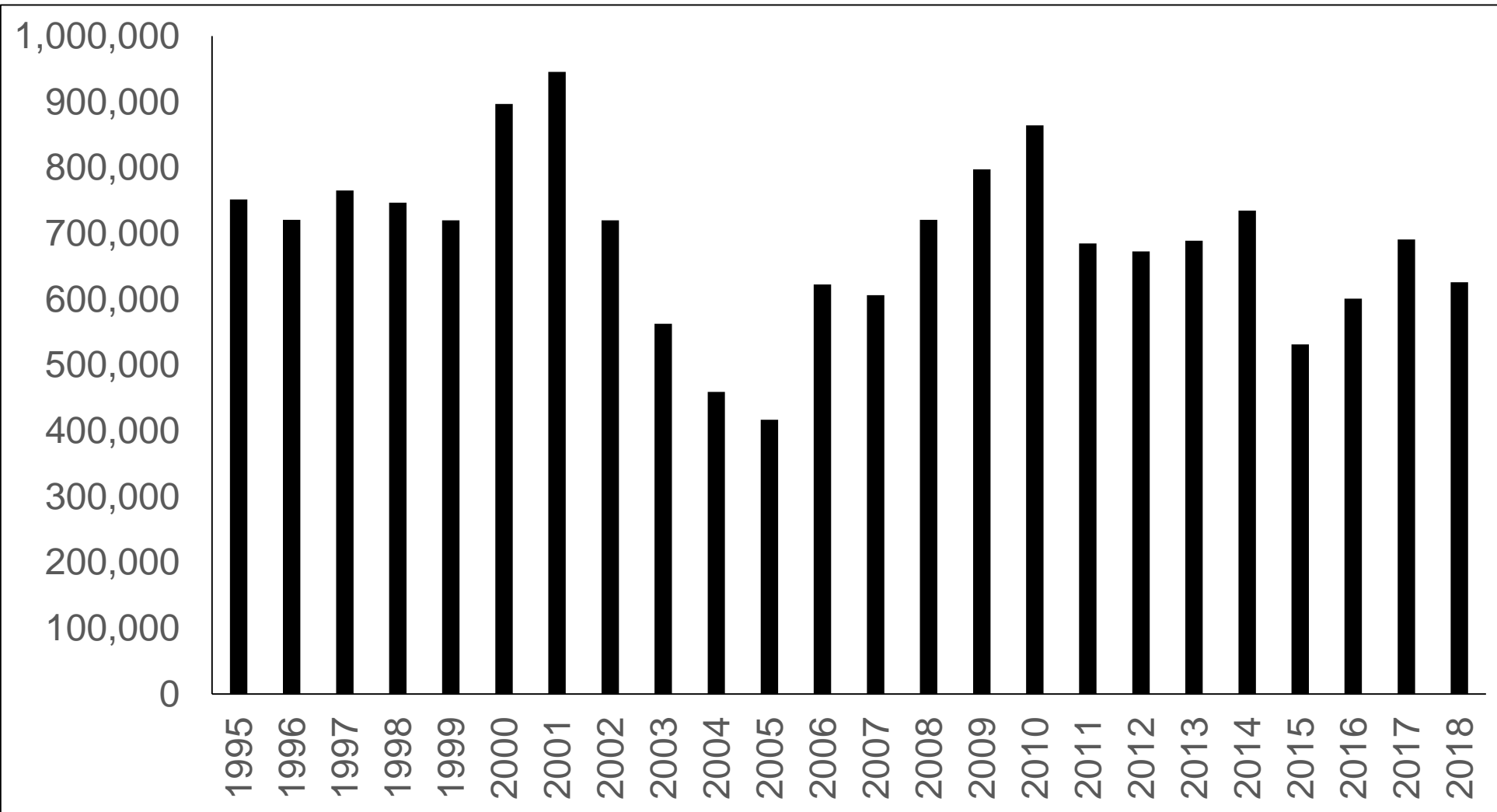
- Lower river spawner estimates not available until recent years
- Harvest was usually higher than Separator return
- Fairly consistent returns overall

# Winter Steelhead Harvest 1996-2017



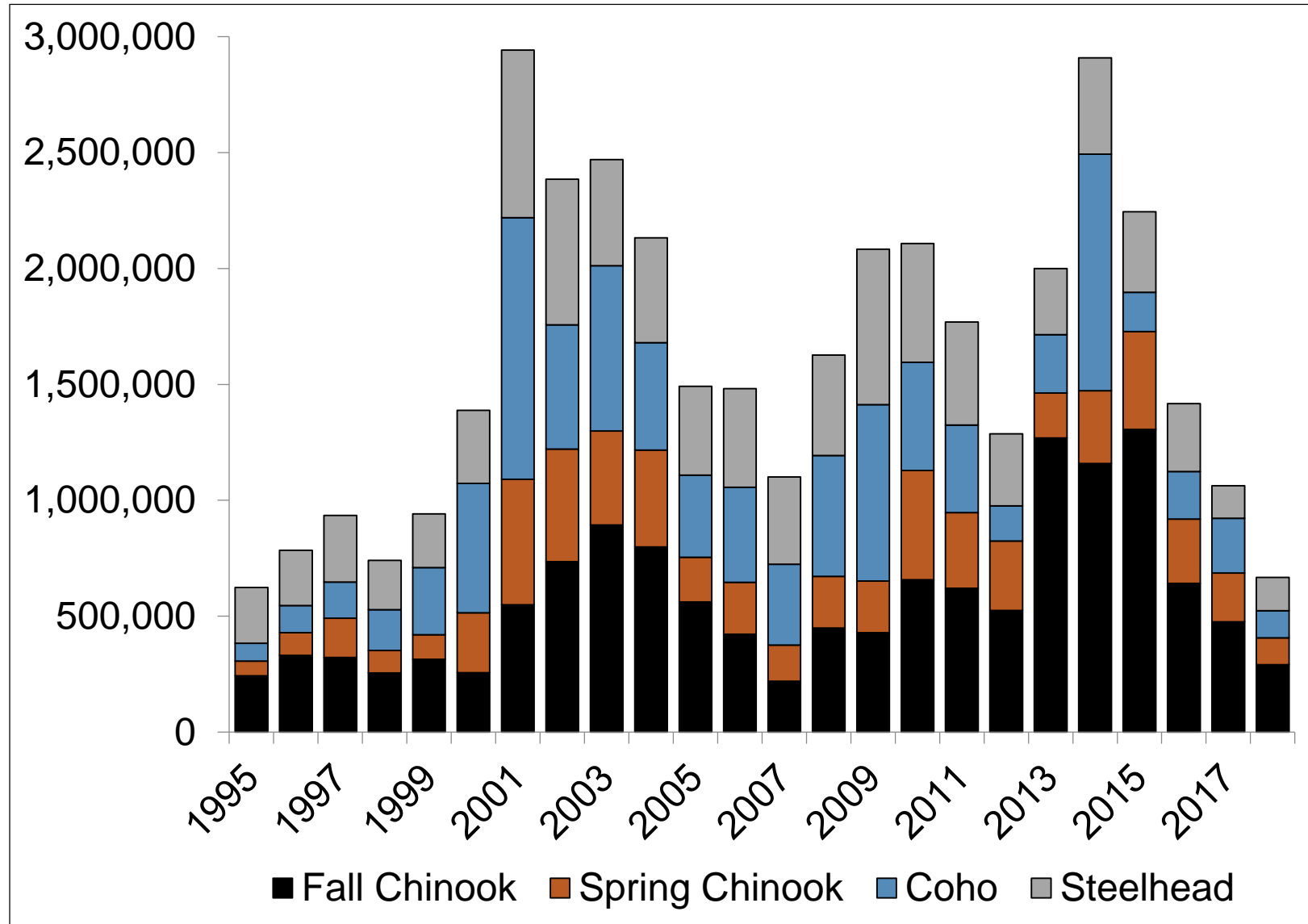
- Harvest increased overall
- Decline in 2017 harvest
- Similar declines throughout Columbia Basin
- Typical fishery regulations in 2019

# Winter Steelhead Releases 1995-2018



➤ Releases  
slightly  
decreased  
overall

# Columbia River Returns 1995-2018

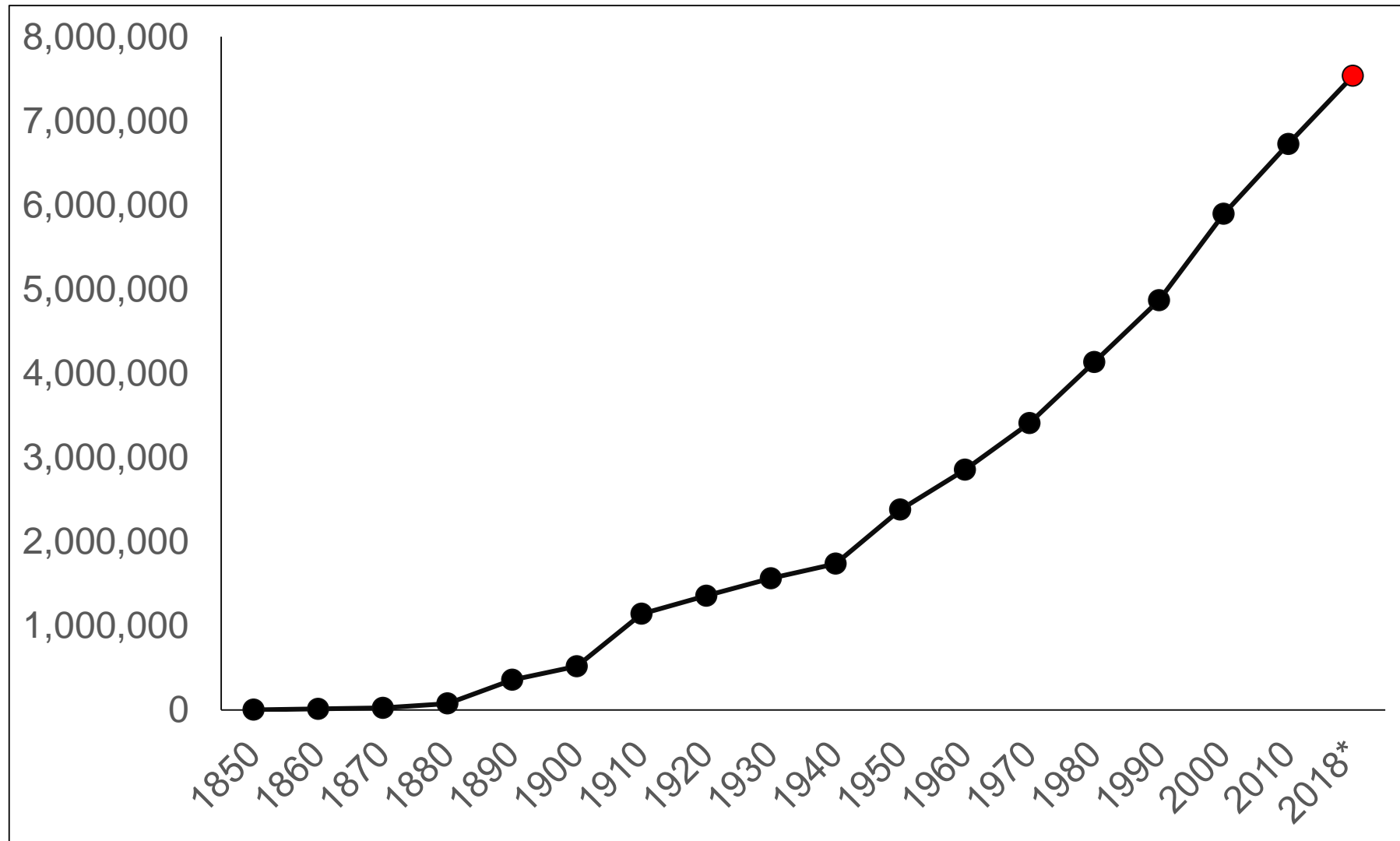


# Summary

- Coho variable but increased at Separator overall, Chinook lower numbers but more consistent
- Sport harvest generally increased overall for 1995-2016
- 2017 was a down year for returns and harvest of salmon and steelhead in Cowlitz River and throughout Columbia River Basin
- Hatchery releases in 1995-2018:
  - Fall Chinook, Coho = decreased substantially since 1990s
  - Spring Chinook, summer steelhead = increased in recent years
  - Winter steelhead = decreased slightly in recent years
- Additional harvest of Cowlitz-origin fish occurs in the Columbia River and ocean waters off the U.S. and Canada



# Washington State Population Growth



Source: U.S. Census Bureau

\*Estimated

# Acknowledgments

- WDFW: John Serl, Chris Gleizes, Sam Gibbons
- Tacoma Power: Eric Shoblom, Jamie Murphy

# Questions?

