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June 1, 2006

MEMORANDUM

TO: Council Members

FROM: Steve Waste, Manager for Program Evaluation and Analysis

SUBJECT: Overview of Columbia River Salmon and Steelhead Harvest Management

Action

This is an informational briefing and no action is required by the Committee at this time.

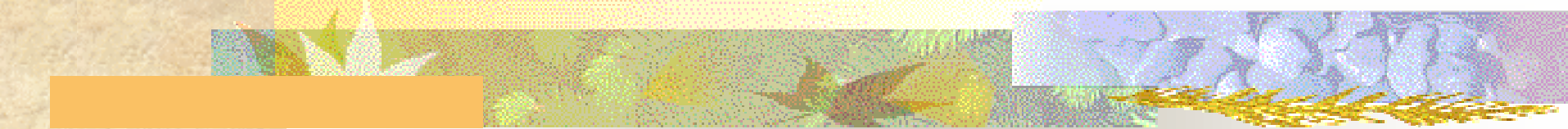
Background

This briefing will be presented by Guy Norman of the Washington Department of Fish and Wildlife. An 'Overview of Columbia River Salmon and Steelhead Harvest Management' was presented in April 2006 to the FCRPS remand Policy Working Group (PWG). The presentation describes the domestic and international harvest management forums, current plans and agreements, management strategies and tools, and harvest trends associated with species listed under the Endangered Species Act.

This presentation is aimed at providing essential background information as a starting point for considering alternative harvest management strategies as part of an All-H approach to recovery of listed Columbia River salmon and steelhead. The final work product, which will be worked through *U.S. v. Oregon* and the FCRPS remand processes, will include an assessment of alternative strategies, including implications to existing management processes and jurisdictions for approval. Additionally, the final product will provide an assessment of data gaps and/or research that would help reduce uncertainty in harvest management and monitoring needed to gauge success of proposed actions.

This presentation is intended to provide Council members with the same harvest management background information presented earlier to the remand PWG and to initiate a discussion with Council members concerning harvest management of Columbia Basin salmon and steelhead.

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Overview of Columbia River Salmon and Steelhead Harvest Management



KEY SALMON HARVEST MANAGEMENT FORUMS

- *U.S. v. OREGON*
- PACIFIC FISHERY MANAGEMENT COUNCIL
- NORTH OF FALCON
- PACIFIC SALMON COMMISSION
- COLUMBIA RIVER COMPACT

U.S. v. OREGON





U.S. v. OREGON

- 1968 Federal court ruled equitable harvest for Columbia River Tribes.
- Columbia River Fish Management Plan adopted (CRFMP) as court order in 1988.
- Plan aimed at rebuilding weak salmon and steelhead runs.
- Interim 2005 – 2007 Management Agreement in place.



PACIFIC SALMON COMMISSION

- 1985 Salmon Treaty between U.S. and Canada
- In 1999, all fishing regimes were replaced
- Most of the regimes expire after the 2008 season and need to be re-negotiated



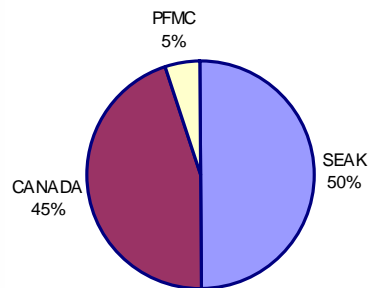
OCEAN DISTRIBUTION OF COLUMBIA RIVER STOCK

Far North Migrating

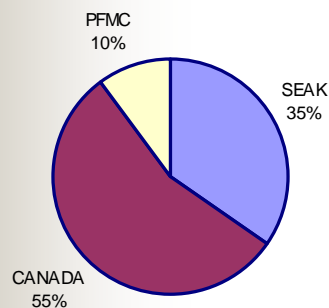
- Willamette Springs
- Columbia Summers
- Upriver Bright Falls
- Lewis River Bright Falls

Far North Migrating Stocks

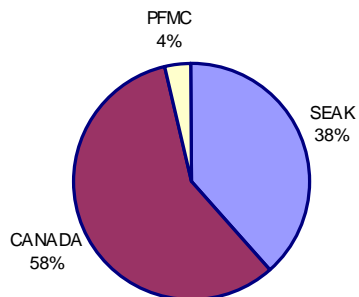
Upriver Bright



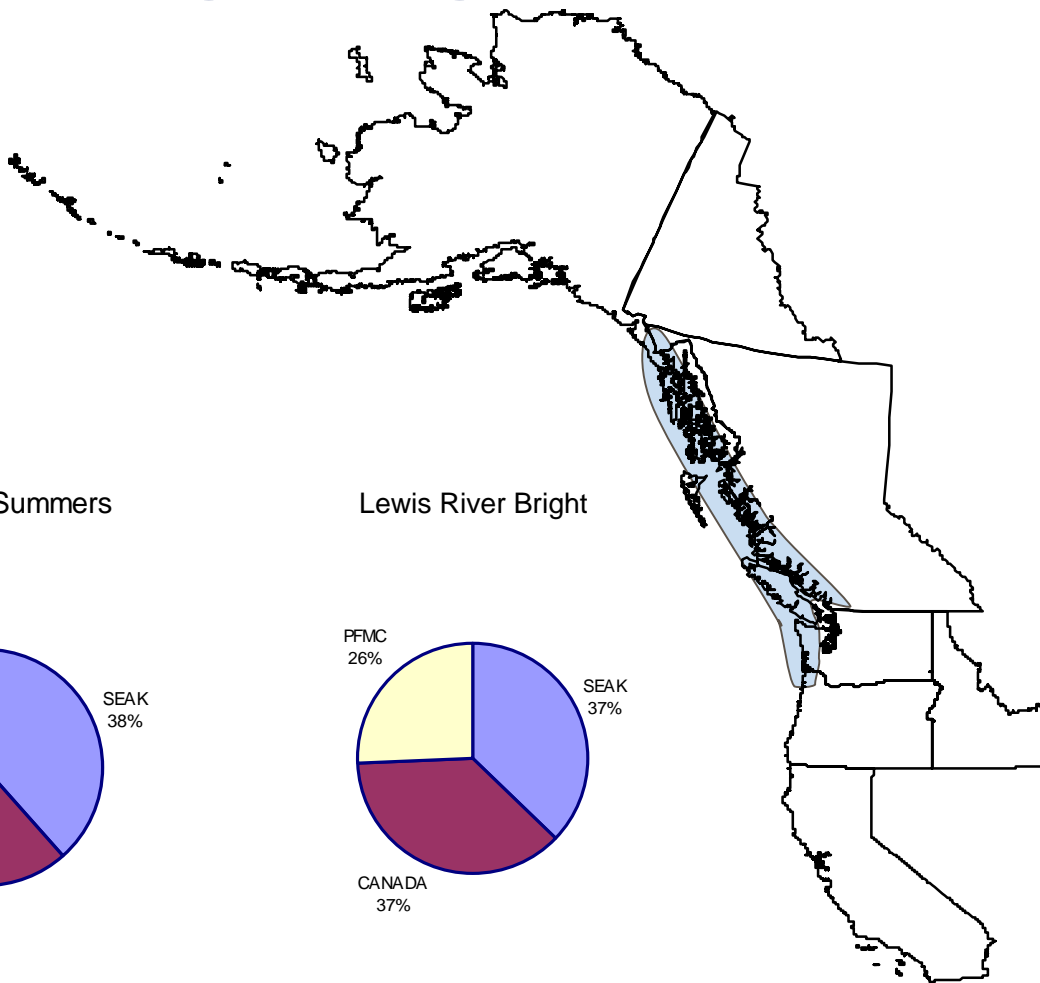
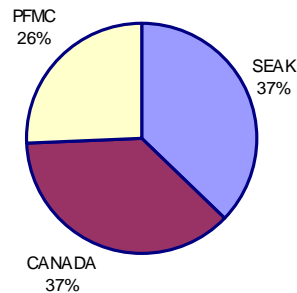
Willamette Spring



Columbia Summers



Lewis River Bright



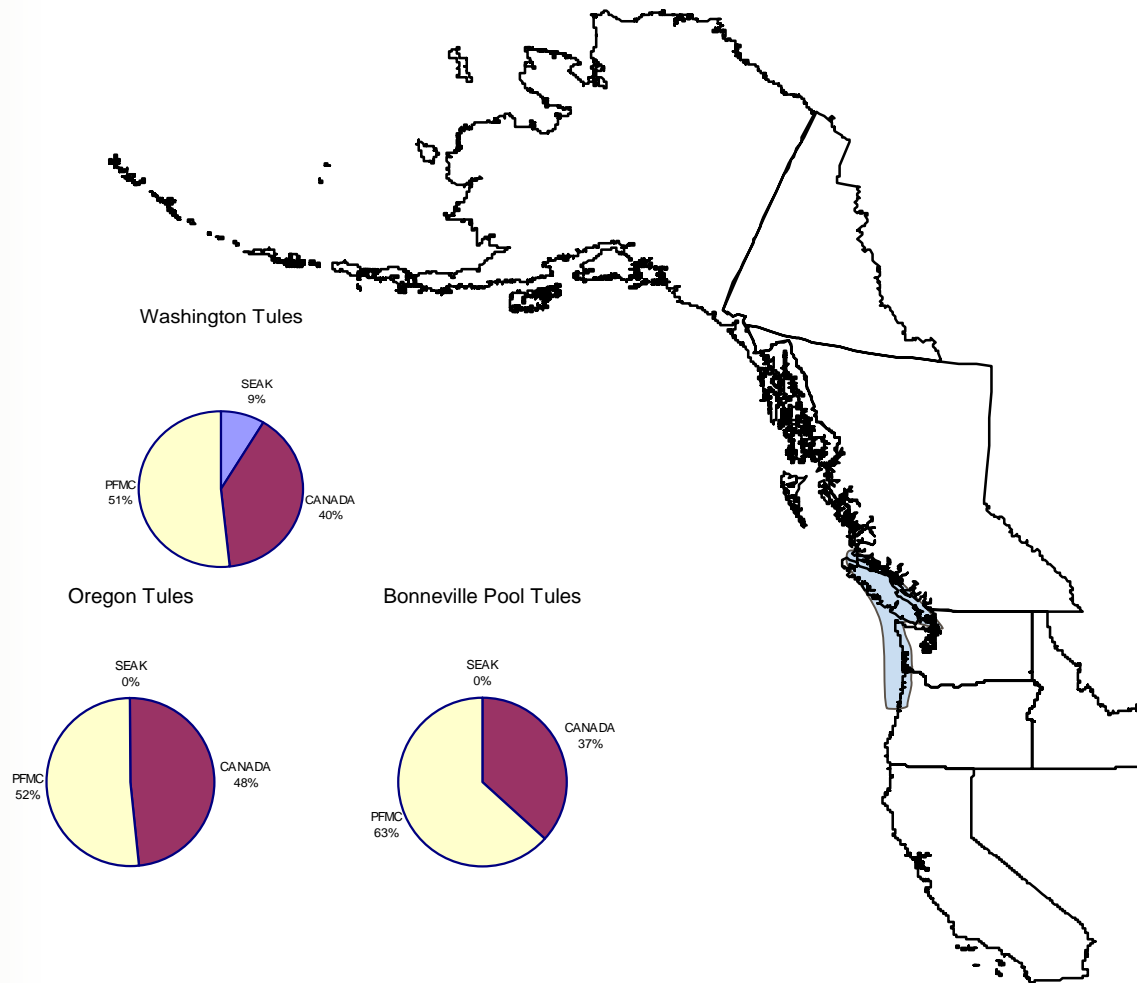


OCEAN DISTRIBUTION OF COLUMBIA RIVER STOCK

Near North Migrating Stocks

- Bonneville Pool Tule Falls
- Oregon Tule Falls
- Washington Tule Falls

Local Stocks



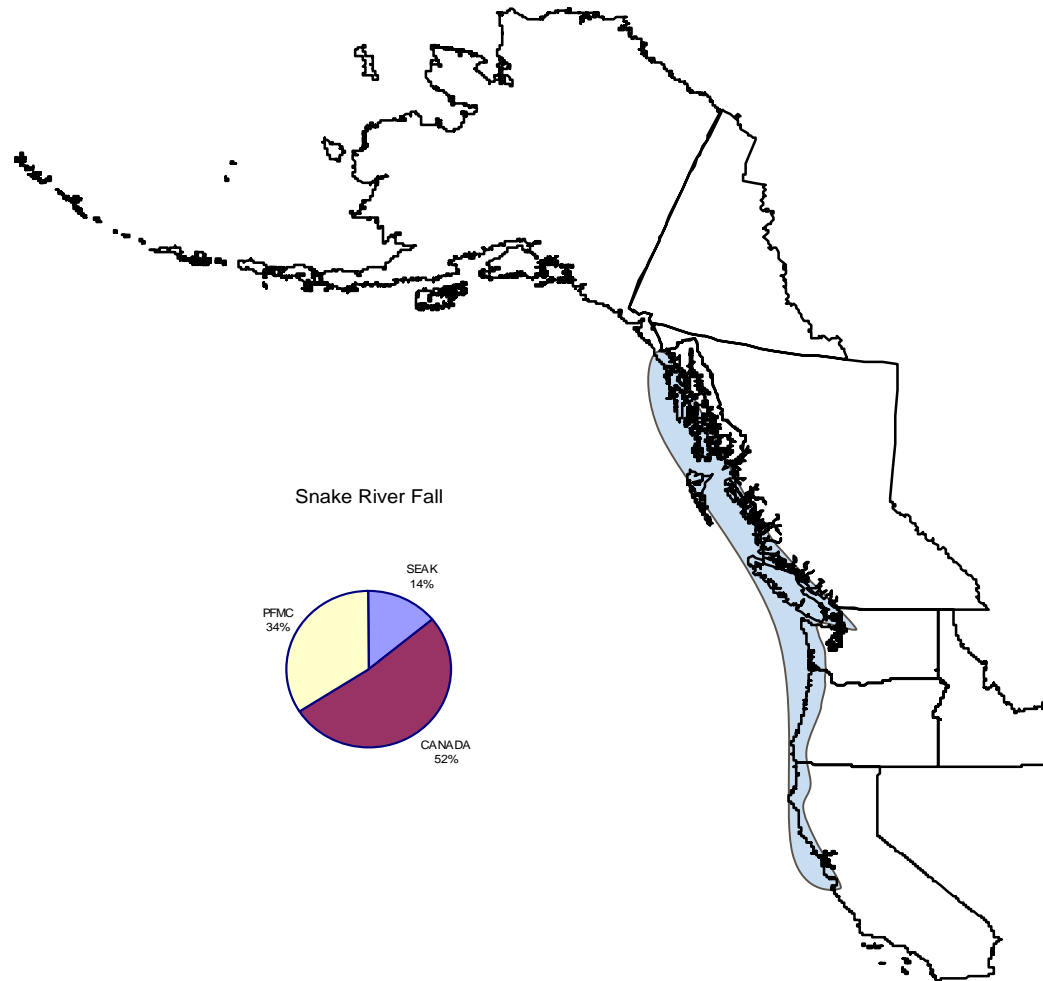


OCEAN DISTRIBUTION OF COLUMBIA RIVER STOCK

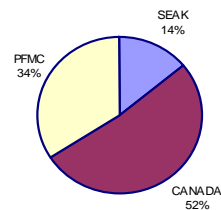
■ Oddities

- Snake River Falls – north and south migrating
- Upper Columbia Springs - very low CWT recoveries
- Snake River Spring/Summers - very low CWT recoveries
- Steelhead - very low ocean catch

Snake River Falls



Snake River Fall





PACIFIC FISHERY MANAGEMENT COUNCIL

- Magnuson Fishery Conservation and Management Act of 1976 established PFMCC
- Manages the conservation and ocean harvest of fish from the U.S.-Canada border south to Mexico
- Fourteen voting members
- PFMCC technical committees coordinate with CTC and TAC

KEY PFMC MANAGED SALMON

Chinook

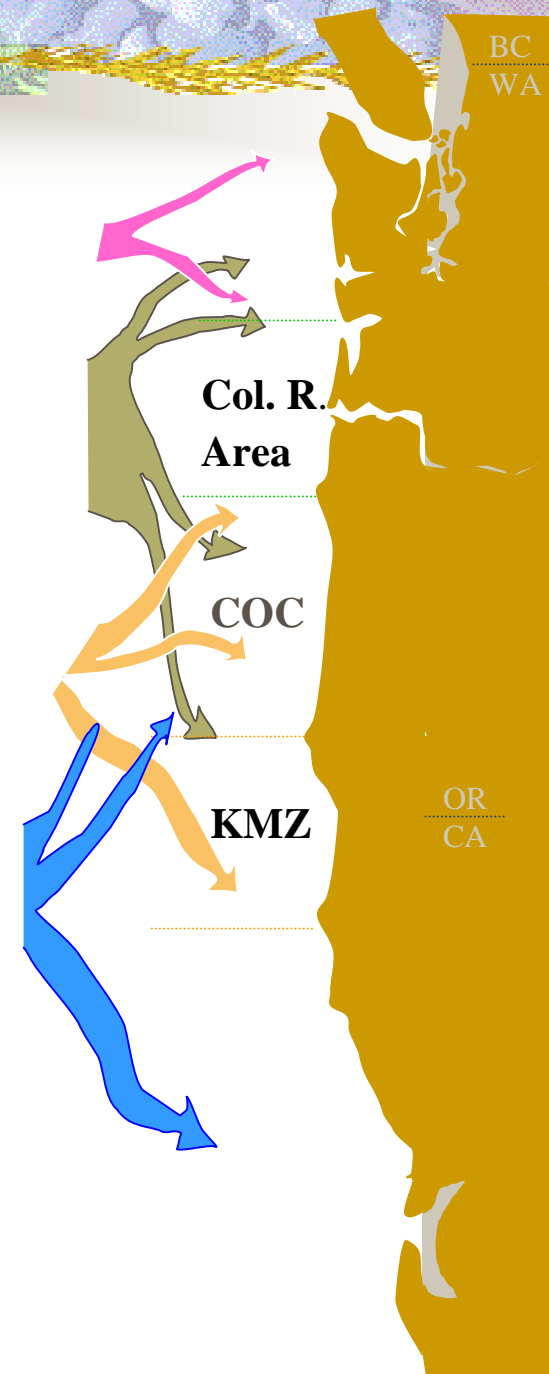
- Col. River Fall

Coho

- Col./Coast Hatchery
- Oregon Coast Natural
- Lower Col. Natural

Chinook

- Klamath River
- Sacramento River



OCEAN/IN RIVER COORDINATION

- PFMCM/North of Falcon Process
 - Run forecasts provided to ocean managers
 - Modeling of ocean/Col.R fisheries
 - Escapement goals and management objectives achieved
 - Includes Public Involvement





COLUMBIA RIVER COMPACT

- Compact and agreement between Oregon and Washington ratified by Congress 1918
 - Fishery decision-making authority
 - Provides concurrent jurisdiction of Columbia fisheries
 - Compact comprised of Directors or designees of WDFW and ODFW
 - Public hearings held to adopt or modify seasons and regulations



WHO MANAGES COLUMBIA BASIN FISHERY?

- States and individual treaty tribes share co-management in the tributaries
- States, Feds and Tribes in main stem Columbia River
- Authorities
 - Tribal treaties reserved rights to fish in perpetuity
 - State laws require conservation of the public's fish
 - *United States v Oregon* clarifies Treaty and non-Treaty sharing of harvestable fish
 - ESA provides for federal oversight



MANAGEMENT PRINCIPLES

- MISSION: REBUILD UPRIVER RUNS AND FAIRLY SHARE HARVESTS
- PROVIDE FOR SPAWNING ESCAPEMENTS FIRST
- PROTECT WEAK STOCKS
- FAIRLY SHARE HARVESTABLE FISH
- EQUITABLY DISTRIBUTE FISHERY BENEFITS AMONG USER GROUPS



Management Approaches

- ESCAPEMENT GOAL MANAGEMENT:

$$\begin{array}{rcll} \text{RUN SIZE} & - & \text{SPAWNING NEED} & = \text{HARVESTABLE} \\ 100,000 & - & 40,000 & = 60,000 \end{array}$$

- HARVEST RATE -BASED MANAGEMENT:

$$\begin{array}{rcll} \text{RUN SIZE} & \times & \% \text{ ALLOWABLE} & = \text{HARVESTABLE} \\ 100,000 & \times & 12\% & = 12,000 \end{array}$$

ESA Constraints Limit access to Harvestable Fish. (ie: It is not possible to catch all the harvestable fish given the ESA limits.)



U.S. v Oregon and TAC

- Includes state, federal and treaty-tribe agencies
- Review fisheries, provide updates to runs
- Technical review of all data pertinent to management of fisheries
 - Authors ESA BA's
 - Detailed Joint Staff Reports 2-3 times per year
 - Fact sheets for each Compact- includes real-time data
 - <http://wdfw.wa.gov/fish/crc/crcindex.htm>



In-Season Management

- Dam Counts
- Fishery catches
- Escapement estimates
- Coded-Wire Tags (CWT)
- ESA monitoring
- Activities almost daily

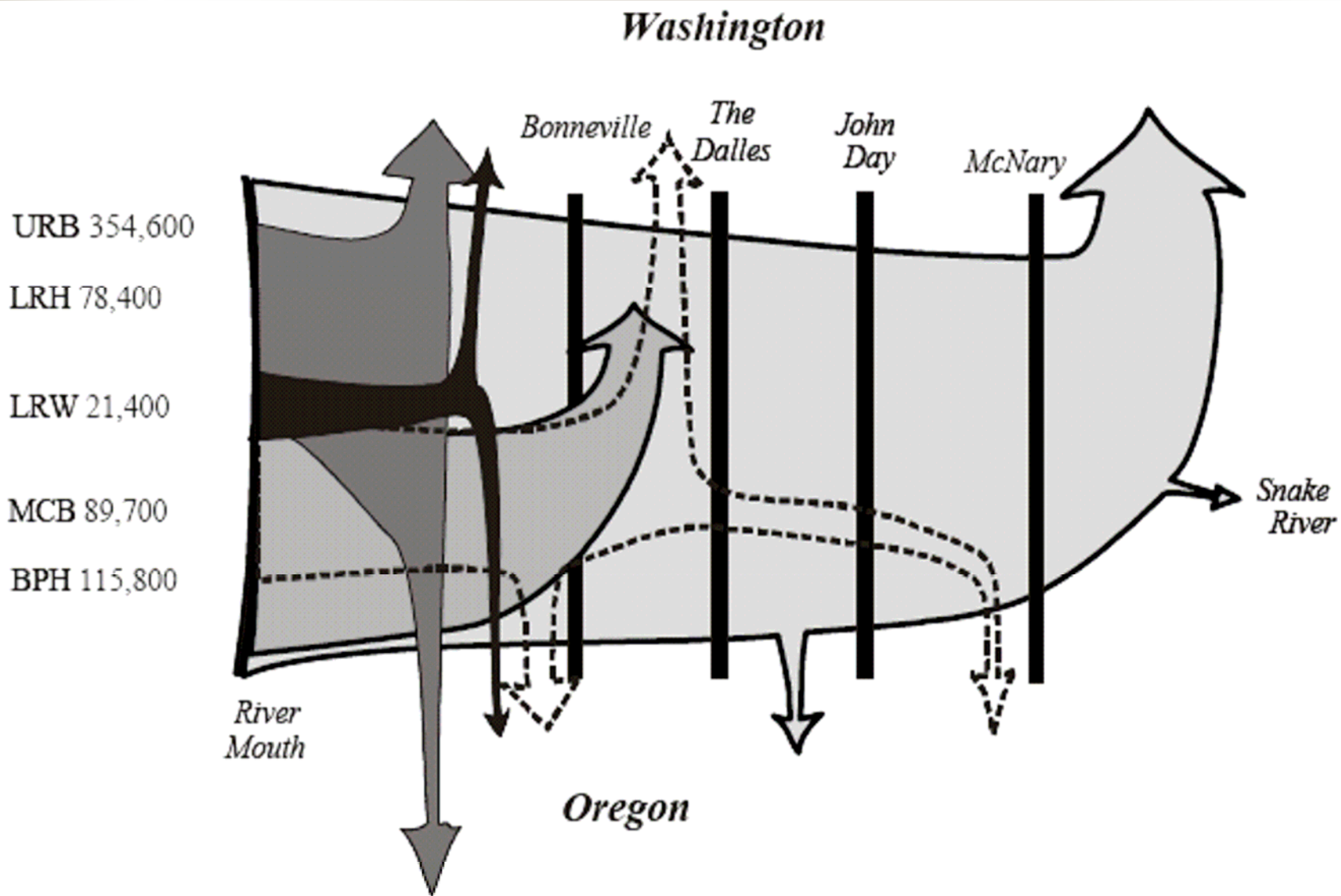
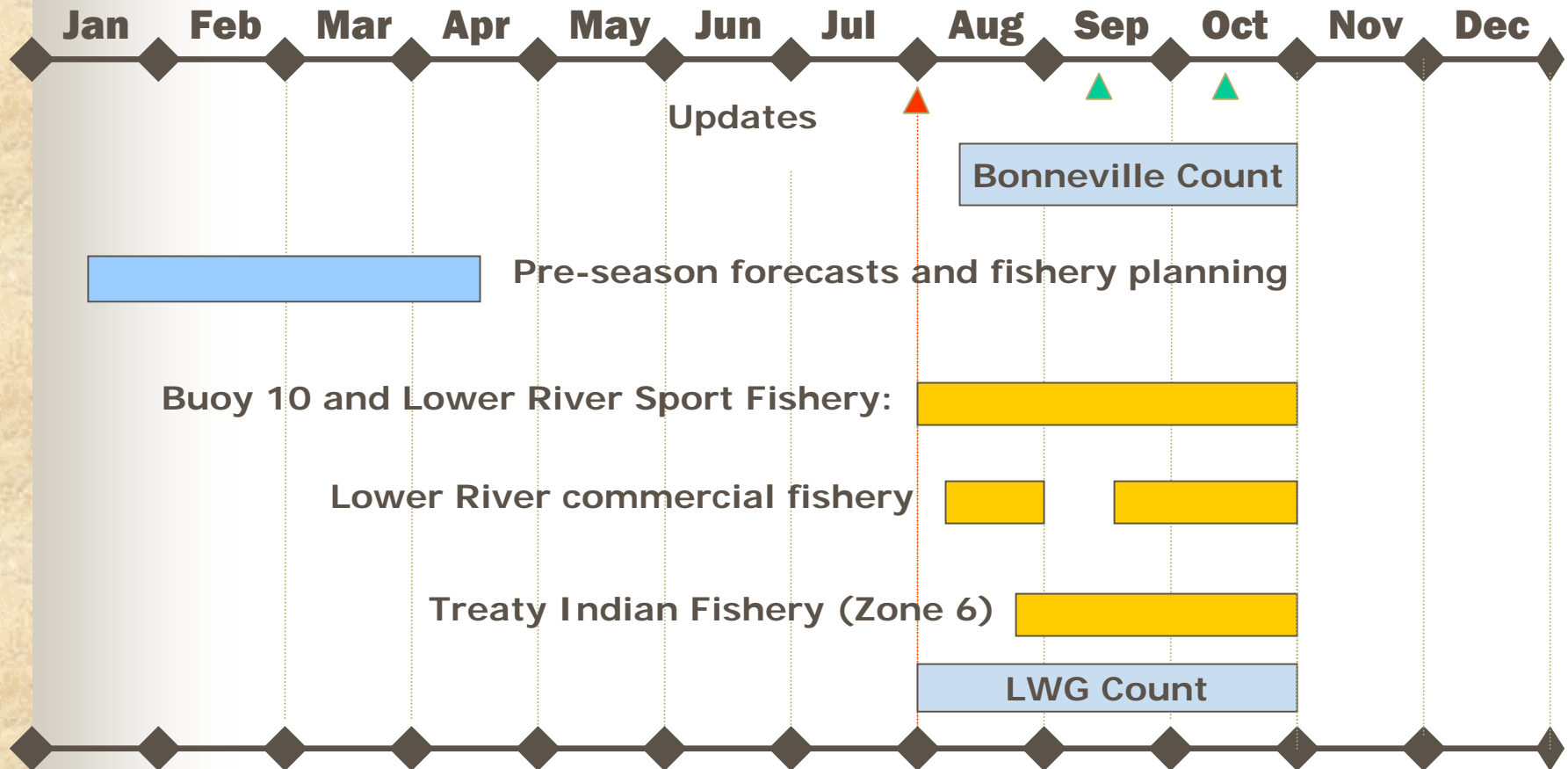


Figure 3. Stock Components of Columbia River Fall Chinook and 2005 Adult Adult Preseason Forecasts

Fall Season Timeline

■ **Fall Chinook-management period begins Aug. 1**





Columbia River *U.S. v. Oregon* Fishery Strategy

- Focus harvest on hatchery fish and strong wild stocks
- Fishery impact levels are compliant with ESA and *US v. Oregon* conservation objectives



2005-2007 Spring Chinook Management

- States capped at 2% HR on ESA listed fish
- Treaty fisheries managed on stepped HR
- No aggregate escapement goal
- C&S Entitlement of 10,000 on low returns



2005-2007 Summer Chinook Management

- Management period changed to June 16 – July 31
- Interim Escapement goal of 29,000 adults to river mouth (20,000 spawners)
- Fisheries managed on HR schedule on returns up to 125% of goal (36,250)
- Runs above 36,250 shared 50/50



2005-2007 Sockeye Management

- Management goal is 75,000 at Bonneville, 65,000 at Priest Rapids
- States capped at 1% HR on listed fish
- Treaty fisheries based on HR schedule:

<u>Run Size</u>	<u>Harvest Rate</u>
< 50,000	5%
50-75,000	7%
> 75,000	7% and discussion



2005-2007 Fall Chinook Management

- Escapement objectives for brights and tules
- Fisheries managed for total HR of 31.29% on upriver brights (30% reduction from base period).
- States capped at 8.25%
- Tribes capped at 23.04%



2005-2007 Steelhead Management

- New escapement goals under development
- Fall Fisheries managed for wild Group B Index
- Non-Indian fisheries outside Snake Basin not to exceed 2% HR on wild B
- Prohibition on non-Indian commercial sale of steelhead
- Treaty fisheries in Zone 6 not to exceed 15% HR on wild B



2005-2007 Coho Management

- Escapement goals under development
- Non-treaty fisheries required to pass 50% of upriver Coho to Bonneville Dam
- Lower Columbia Coho listed in 2005

2005-2007 Sturgeon Management

- Oregon, Washington and tribes to meet annually to determine harvest guidelines
- States and tribes to review management issues



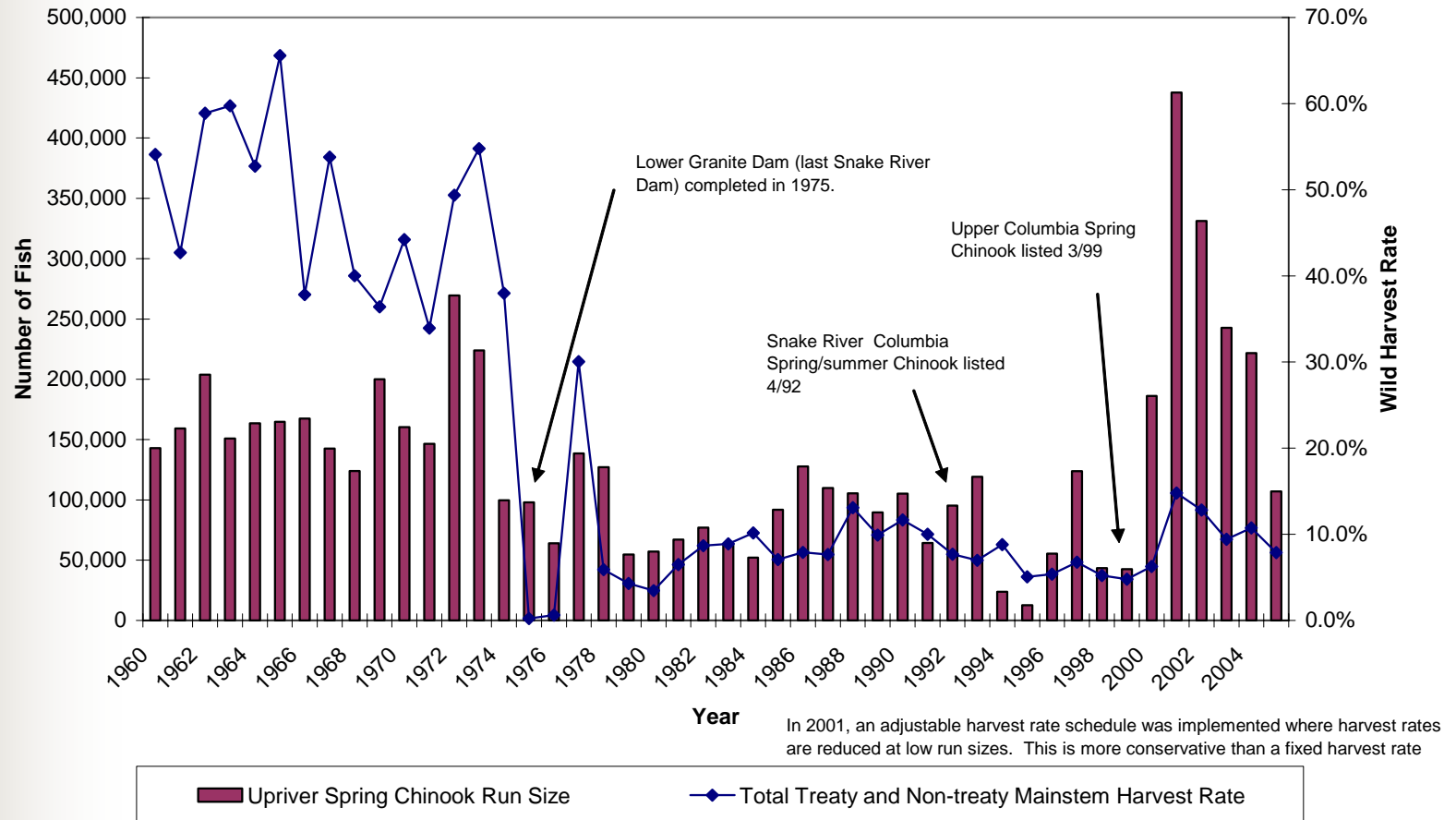
Framework for Continuing Negotiations in *U.S. v. Oregon*

- Parties agreed to quarterly meetings to continue work on outstanding issues for a long-term agreement
- Counsel and lead representatives must be available for quarterly policy meetings

Changes in Columbia River Harvest Over Time

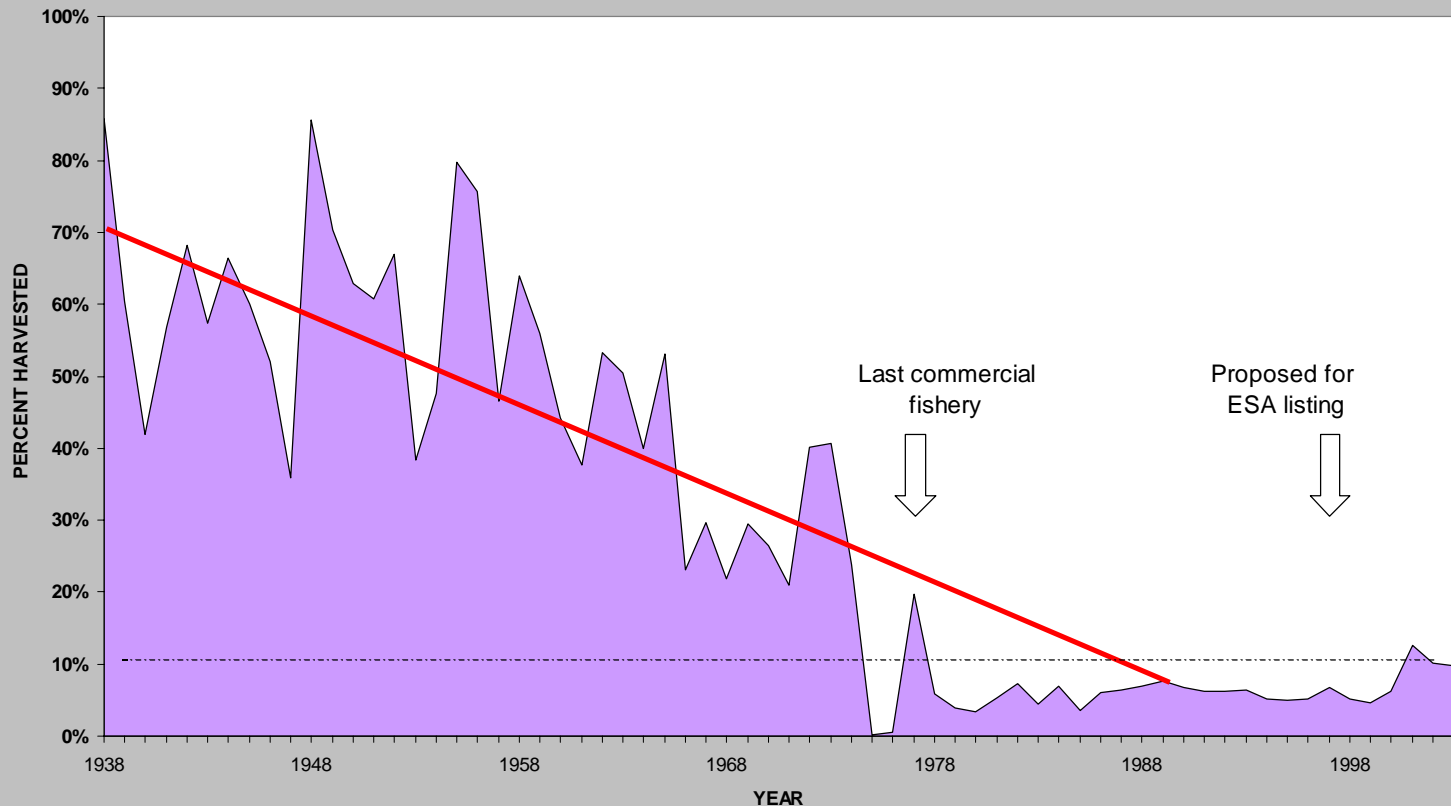


Up-river Spring Chinook Runsize and Total Mainstem Harvest Rate

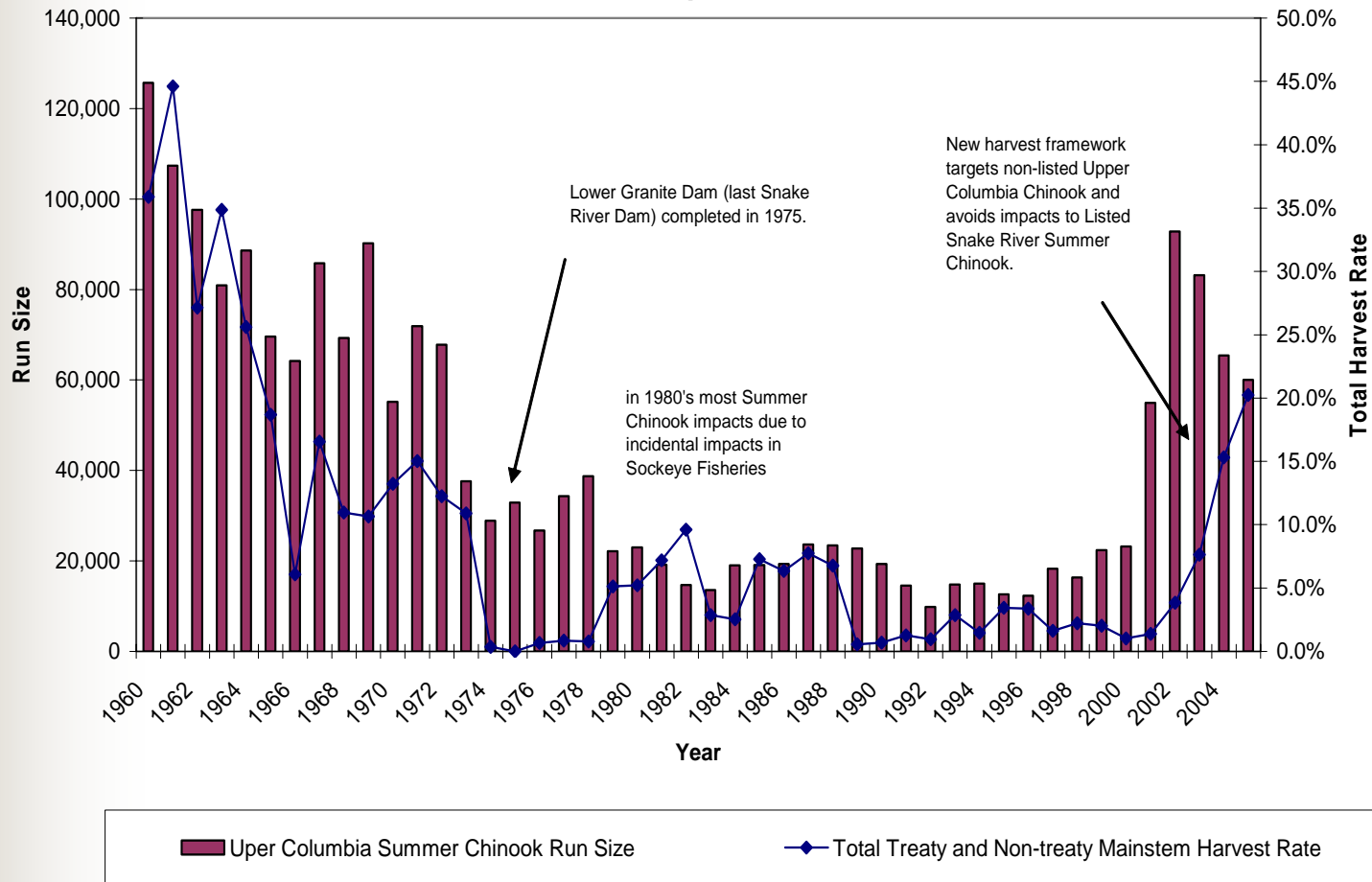


Note: Spring Chinook run size and harvest includes fish passing Bonneville between June 1-15 after 1978

TREND IN SPRING CHINOOK HARVEST RATE, 1938-2003

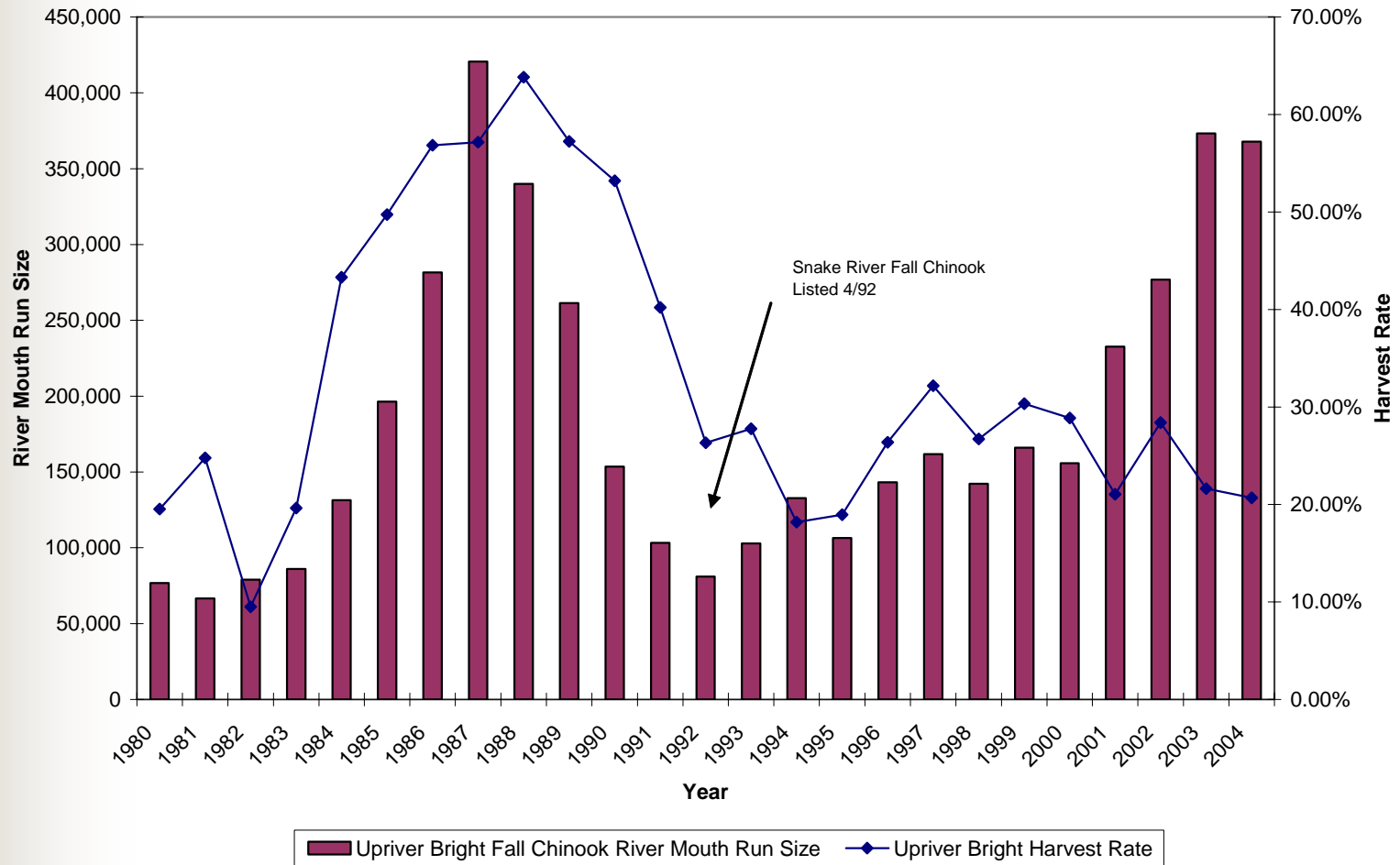


Upper Columbia River Summer Chinook Run Size and Mainstem Harvest Impacts

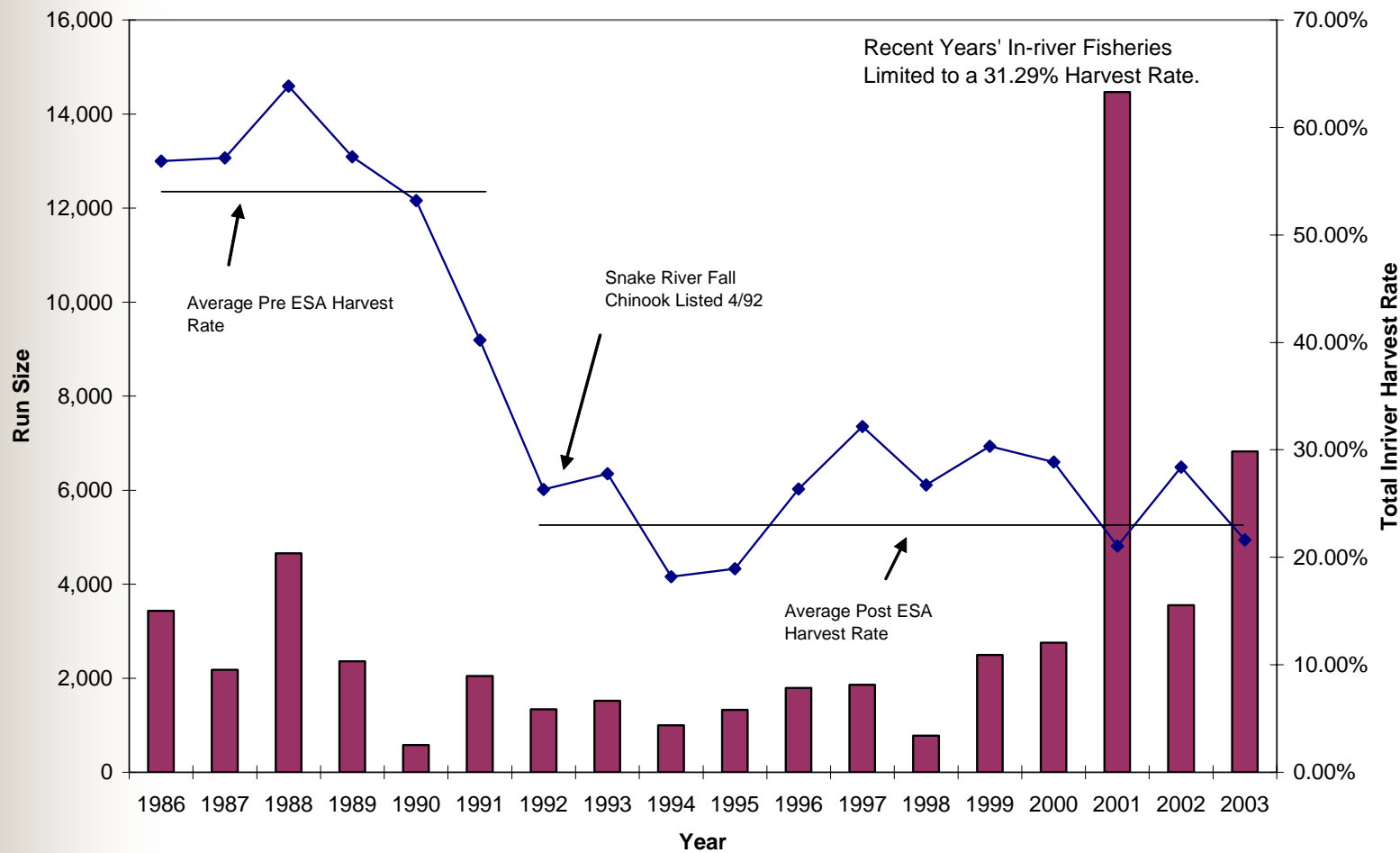


Note: Spring Chinook run size and harvest excludes fish includes fish passing Bonneville between June 1-15 after 1978

Upriver Bright Fall Chinook Run Size and Total Treaty and Non-Treaty Inriver Harvest Rate

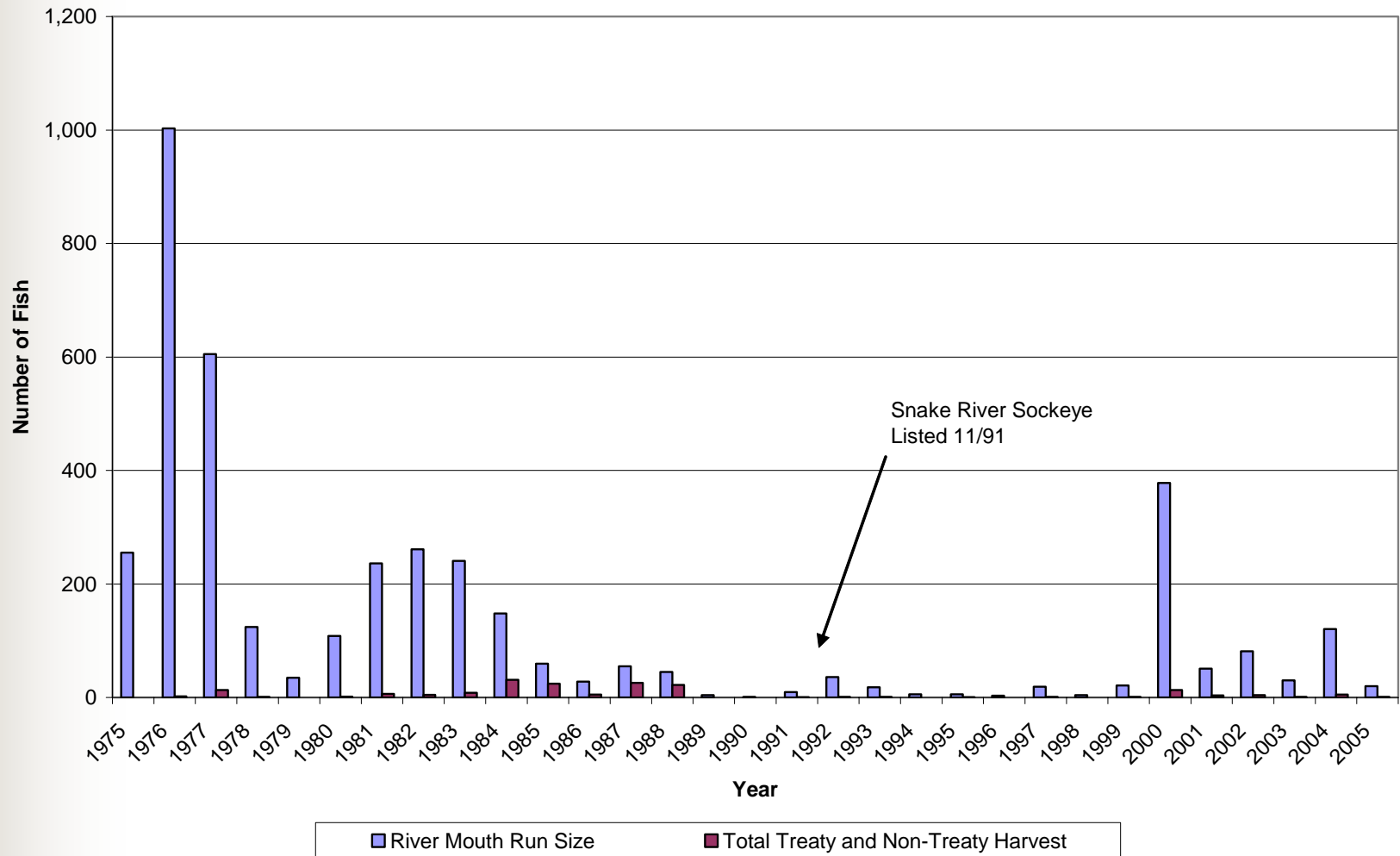


Snake River Wild Fall Chinook River Mouth Run Sizes and Total In-River Harvest Rates

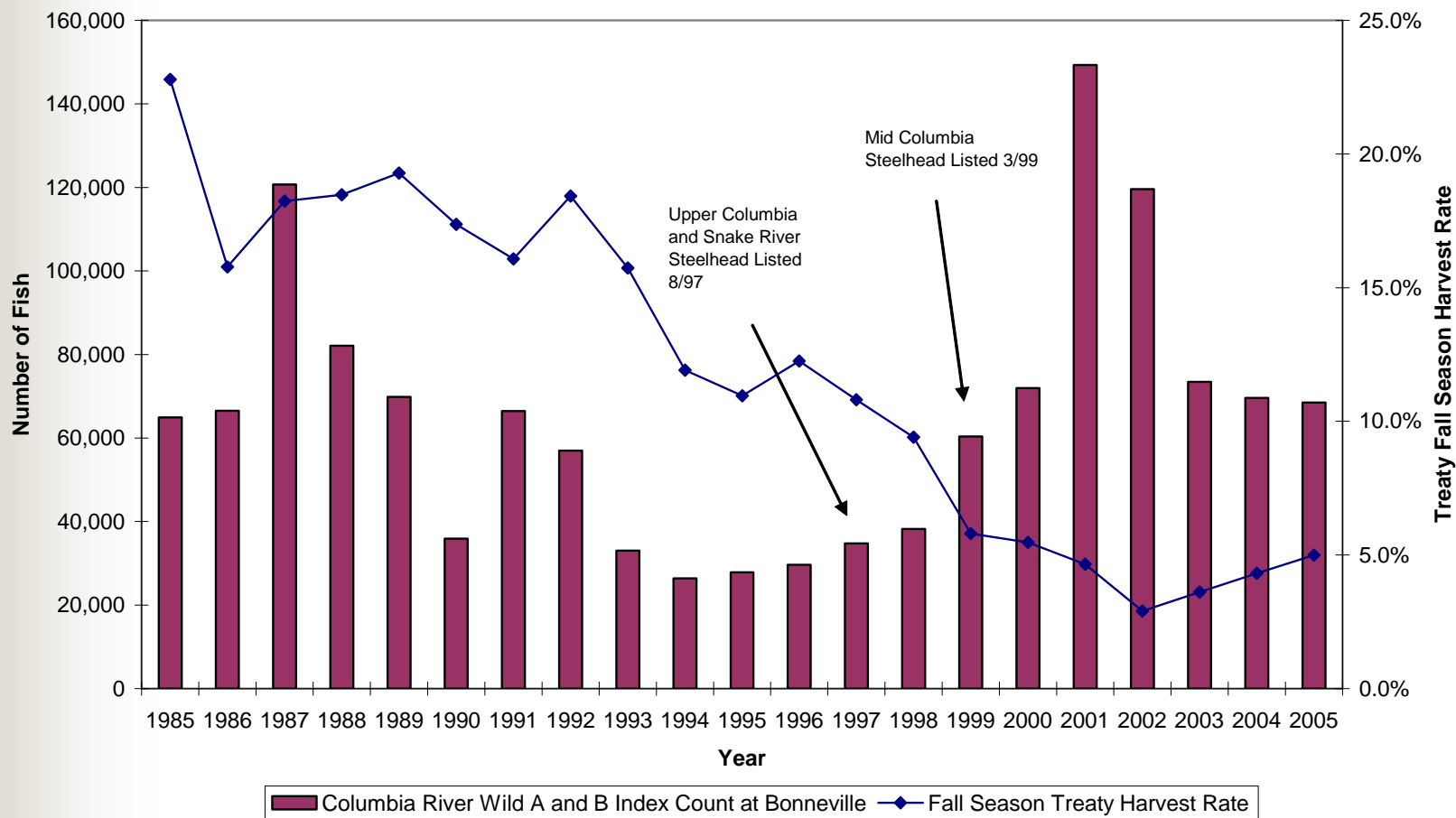


Snake River Wild Fall Chinook River Mouth Run Size
 Total Treaty and Non-Treaty In-river Harvest Rate

Snake River Sockeye Run Size and Harvest

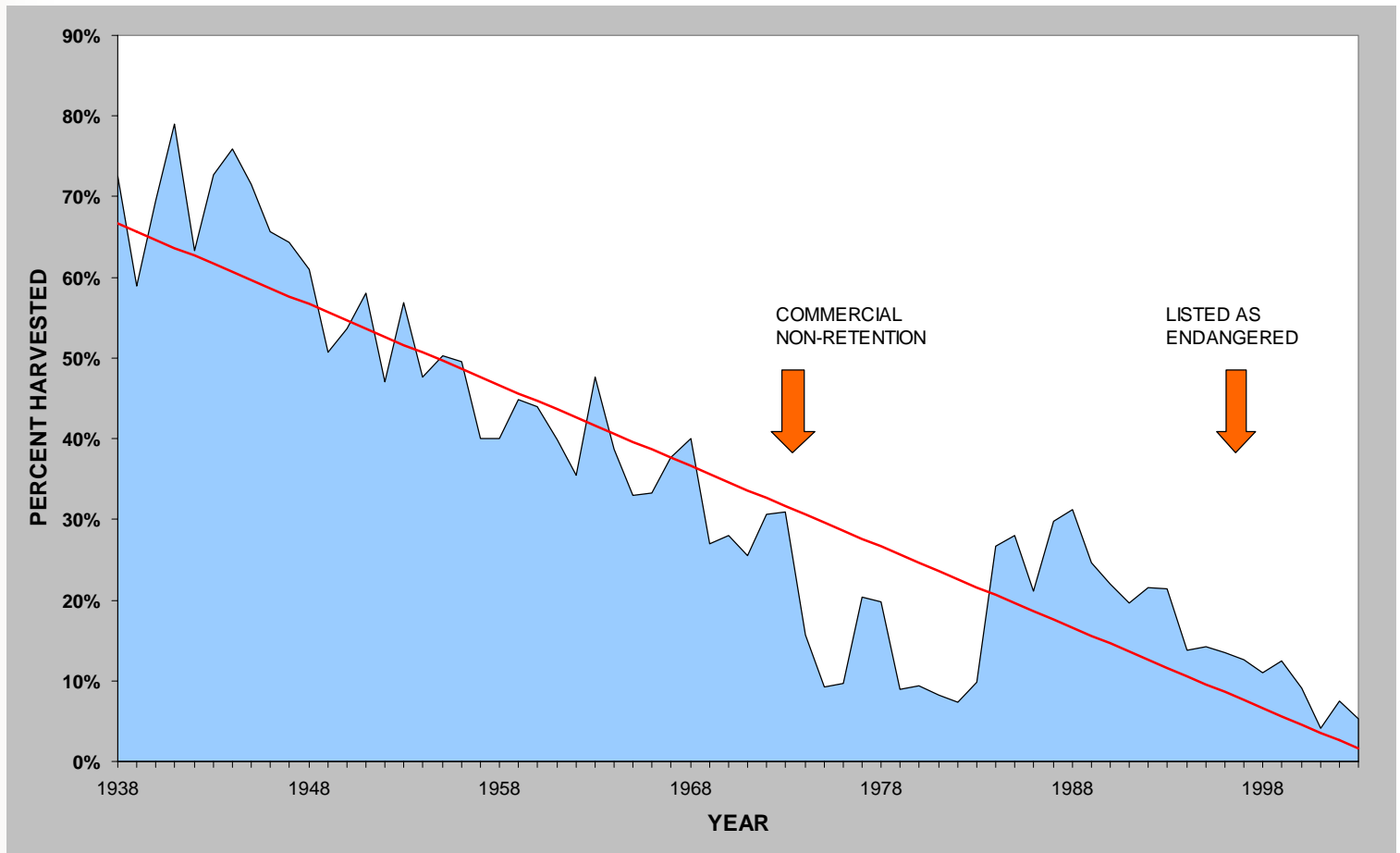


Columbia River Wild A and B Run Summer Steelhead Bonneville Counts and Treaty Fall Season Wild Harvest Rates

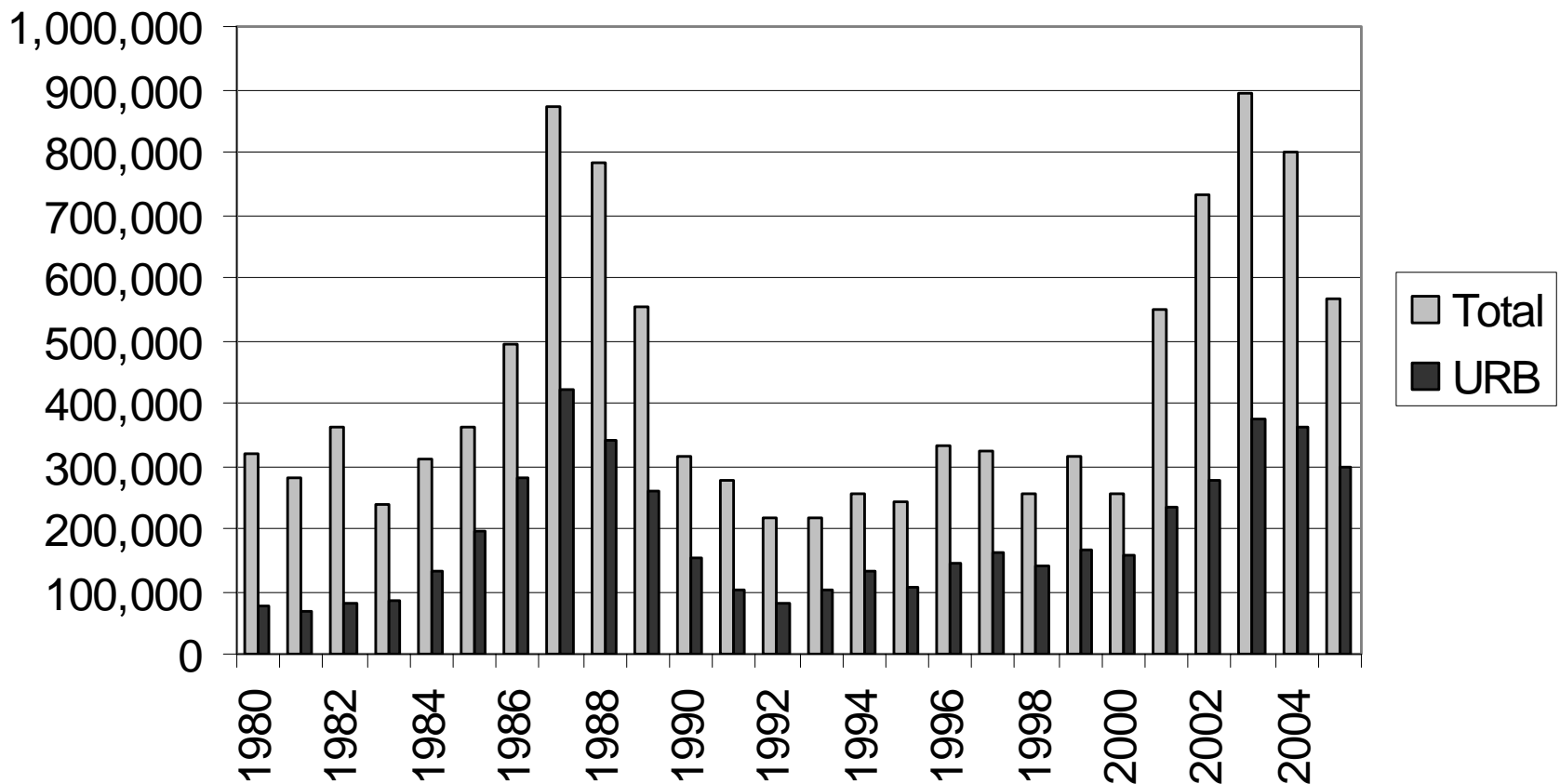


Note: A and B run steelhead pass Bonneville between July 1 and October 31

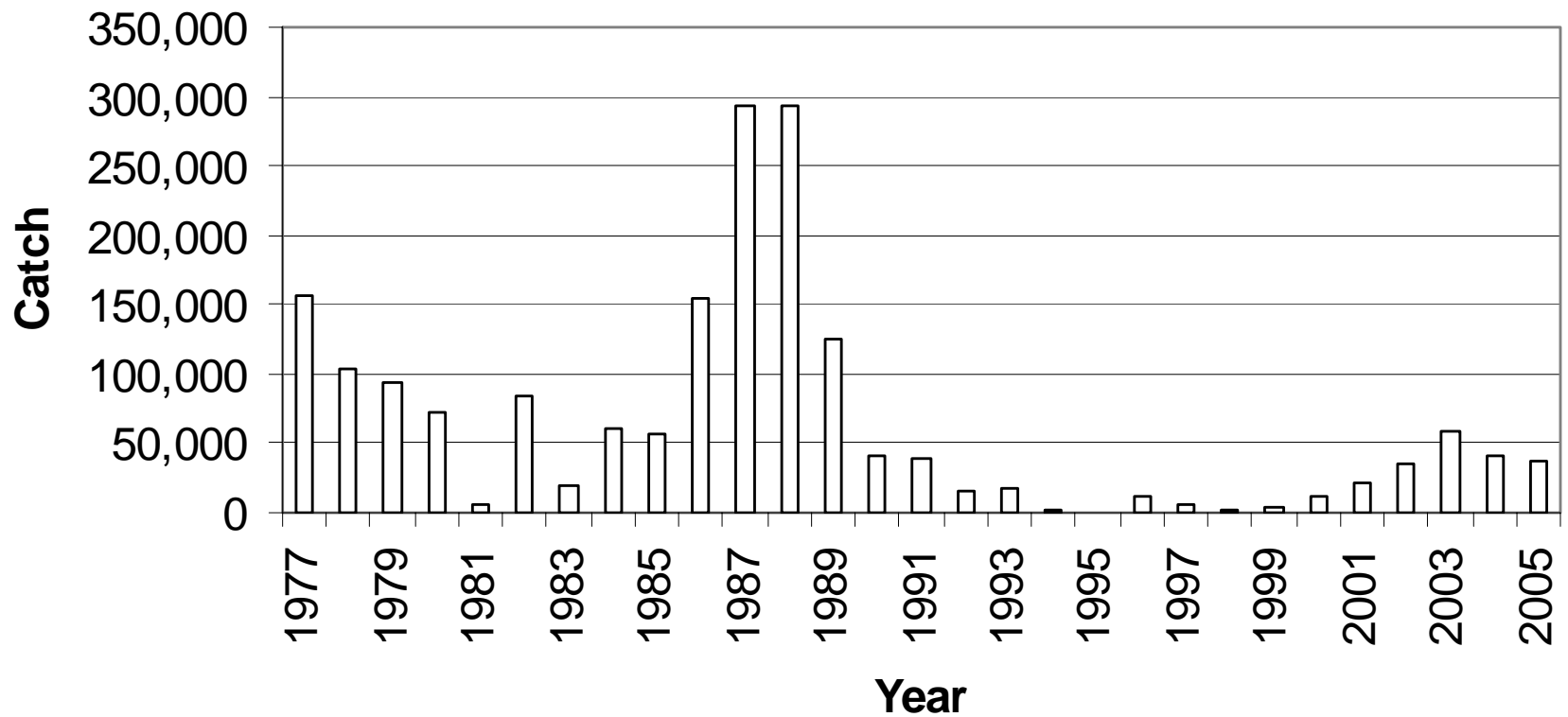
TREND IN STEELHEAD HARVEST RATE, 1938-2003



Fall Chinook Returns to the Columbia, 1980-2005



Non Indian Columbia River Commercial Fall Chinook Harvest, 1977-2005





TOOLS FOR MANAGEMENT

- Catch quotas
- Season structure (time/area)
- Gear type (e.g. net mesh size)
- Selective fisheries
- In season monitoring
- In-Season Fishery Adjustments



KEY TECHNICAL TOOLS

- Fishery catch and stock composition
- Spawning escapement enumeration
- Forecasting database
- Ocean and River catch models
- In-season real time fishery catch information
- Coded-Wire-Tag
- Genetic Stock ID
- On-board monitoring
- Dam counts
- CPUE updates
- PIT Tags