

# Lower Columbia River Sturgeon Annual Update and Policy Review

Washington Fish and Wildlife Commission Meeting

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Fish Program

Patrick Frazier, Fish Program Policy Coordinator – Region 5

Brad James, Region 5 Sturgeon Project Biologist



# Purpose:

- Provide annual review of stock status and fisheries (included in Commission Policy C-3001 “Lower Columbia Sturgeon Management”)

# Background:

- The Lower Columbia white sturgeon population inhabits the lower Columbia River and tributaries below Bonneville Dam and includes fish that migrate to marine areas, coastal bays, Puget Sound, and their tributaries.
- Populations above Bonneville Dam, including the Snake River and the upper Columbia River are considered separate populations and are not included in this briefing.

# Annual Review Topics:

- Accounting of fish left unharvested
- Review of harvest outside lower Columbia River
- By-catch in all fisheries
- Predation rates
- Stock status
- Review in-season management actions
- Recommended management changes

# Policy Guidance for 2015:

## Policy C-3001

- In effect March 1, 2014 through December 31, 2018.

## Retention Prohibition

- Retention prohibited since Jan. 1, 2014 in the Columbia River and tributaries below Bonneville Dam, the WA and OR coast, Puget Sound, and their tributaries.

# Predation of White Sturgeon: USACE Bonneville Dam Observations





# Sea Lion Abundance:

Astoria Mooring Basin:

2014: 1,420

2015: 2,340

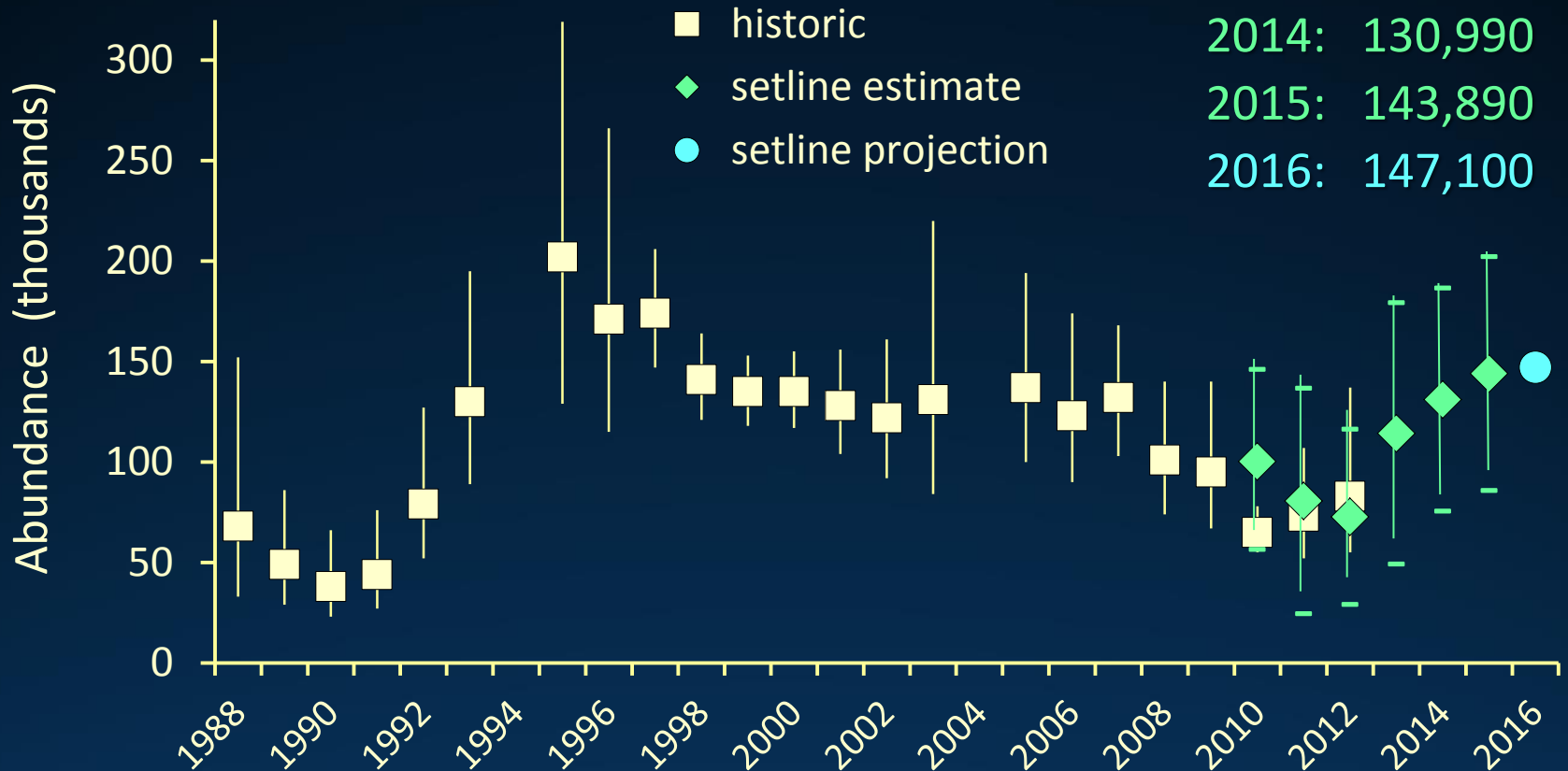


# Population Assessment:

- Abundance estimation
  - 1) Historic approach sampled harvest for tag recoveries
    - Not available since 2013 following harvest prohibition.
  - 2) Research setline survey used to obtain tag recoveries.
- Sport fishery CPUE trend
  - Data comparable to pre-2014 is not available due to drop in angler participation.
- Sub-yearling (Age-0) productivity indexing



# Abundance Trend: Legal-Size Fish

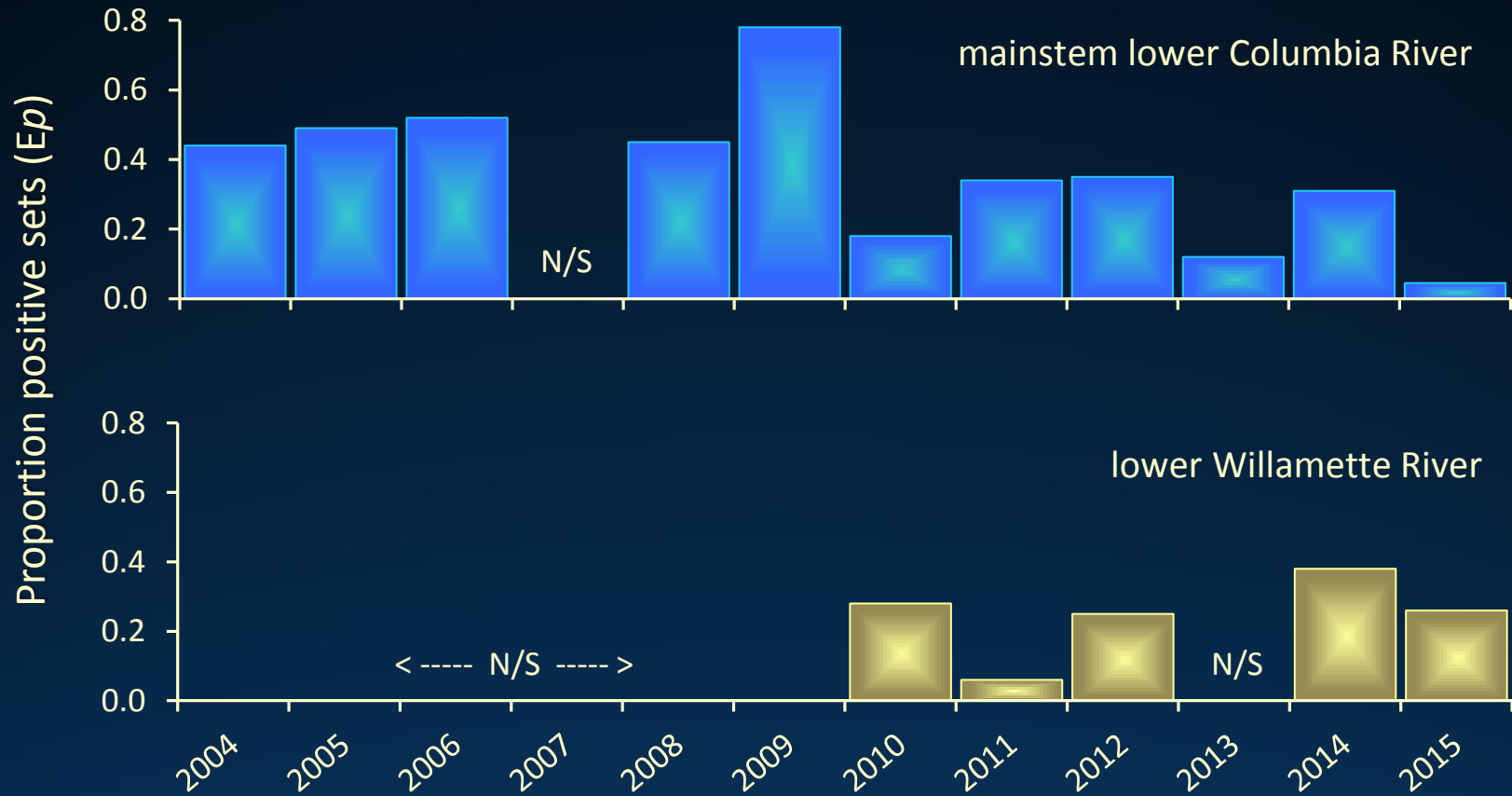


2012: 72,700  
2013: 114,200  
2014: 130,990  
2015: 143,890  
2016: 147,100

# Abundance Estimates: Spawner-Size Fish

- Estimate 3,040 spawner-size fish (fish >165cm) for 2015.
- Three-year average is 3,330 fish.
- Three-year average remains below the Oregon Plan conservation status threshold of 3,900 fish.
- Uncertain about future trend due to poor precision with the spawner-size abundance estimates.

# Sub-Yearling Production Index:

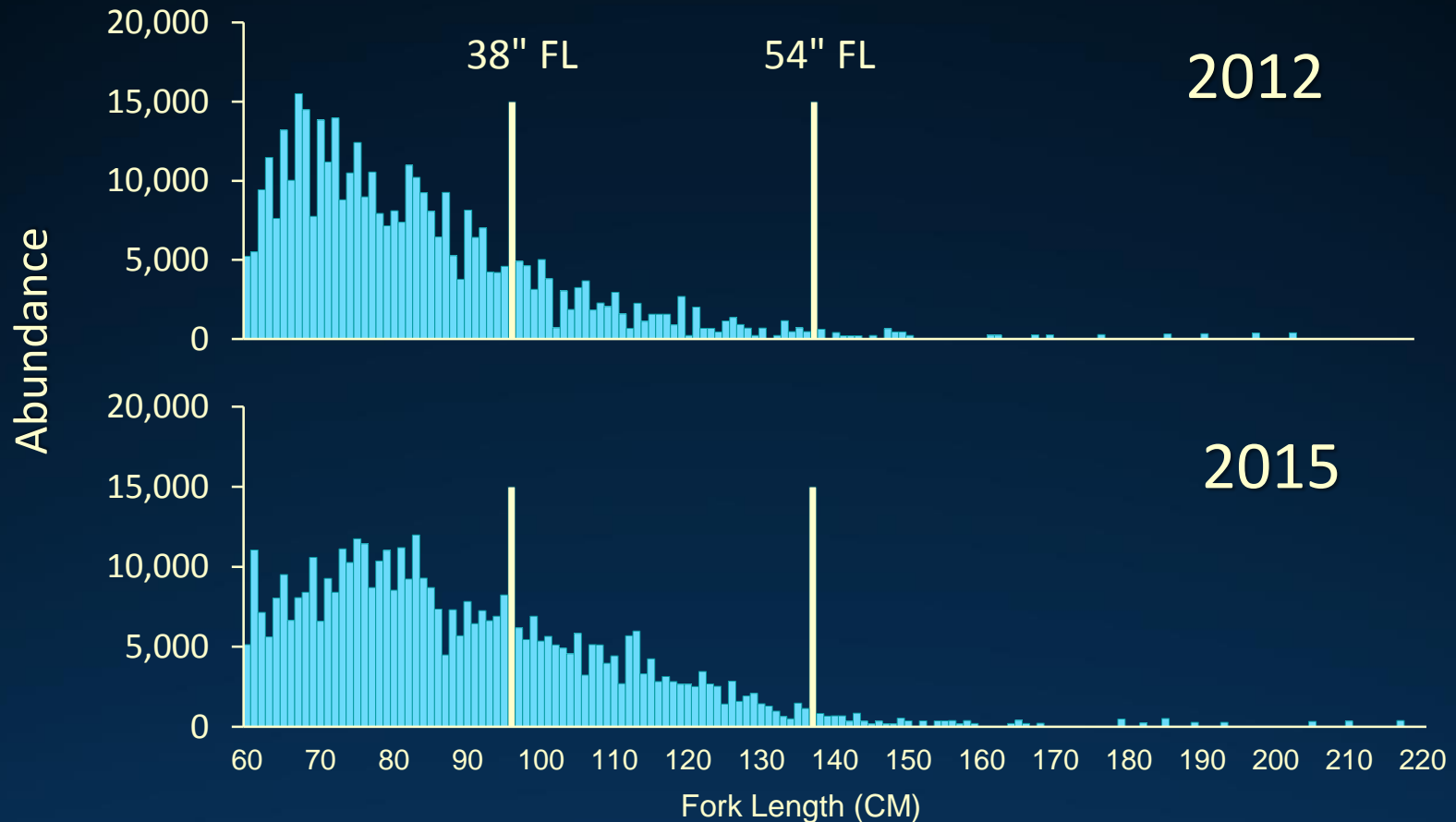


# Sub-Yearling Production Index:

- Mainstem Columbia River production index peaked in 2009, followed by the five lowest years surveyed.
- 2015 was lowest year yet with age-0 fish in just 5% of sets.
- Production index for the Willamette River was average in 2015.
- Still uncertain how the eleven years surveyed compare to historic production.



# Setline Catch-Frequency by Size:








# Production and Recruitment:

## Setline size frequency

- Sublegal abundance estimates:
  - 2011-2013 average 480,000 fish (range 340,000 – 600,000)
  - 2014-2015 average 360,000 fish (range 350,000 – 370,000)
- Sampling effort during 2014 and 2015 was about twice the level of 2011-2013, which increased precision.
- Key is sub-legal size segment now represents a smaller proportion of the overall population.

# Summary:

Metric	Value	Interpretation	Brief Summary
Legal Abundance	143,890		Continues to increase and is similar to modeled projection. Supported by CPUE trend in gillnet & setline tagging fisheries.
Length Frequency Distribution	69% Juveniles		Reduced relative abundance of juvenile fish over time indicates productivity issues. Supported by CPUE trend in gillnet & setline tagging fisheries.
Spawner Abundance	3,039 (3,326 3-yr avg.)		Below the Oregon Plan conservation status threshold (a 3-year average of 3,900 spawning-size fish).
Recruitment Index	0.05 vs 10-yr avg. of 0.40		Age-0 recruitment in the lower Columbia River was extremely poor in 2015, but was similar to the near-term average in the Willamette River. This continues a recent trend of relatively poor recruitment values.
Sea Lion Abundance	CSL up SSL ~steady		Continued increase in sea lion abundance is problematic for white sturgeon population growth.



# 2015 Fishery Considerations:

- With retention prohibited, angler participation during 2014 dropped by 90% in the estuary sturgeon fishery and by 82% upstream of the estuary.
- Some public support to reinstate retention.
- The legal-size population was large enough to consider some harvest opportunity based on recent abundance estimates and fishing seasons.
- 2015 fishery options focused on less than a 6% impact to the legal-sized population.
- Limit harvest impact to ensure brood stock population growth.
- 2015 fishery options focused on bringing sturgeon anglers back to the lower Columbia in May-June.

# 2015 Fishery Discussions:

- WFWC supported staff engaging in negotiations with ODFW regarding a low level white sturgeon retention fishery in the lower Columbia River
  - Consistent with the Conservation objectives in Commission Policy C-3001,
  - Harvest rate less than 6% of the legal-sized population,
  - Focused on attracting anglers back into the lower Columbia River estuary.
- Negotiations concluded with no fishery proposal being brought forward.

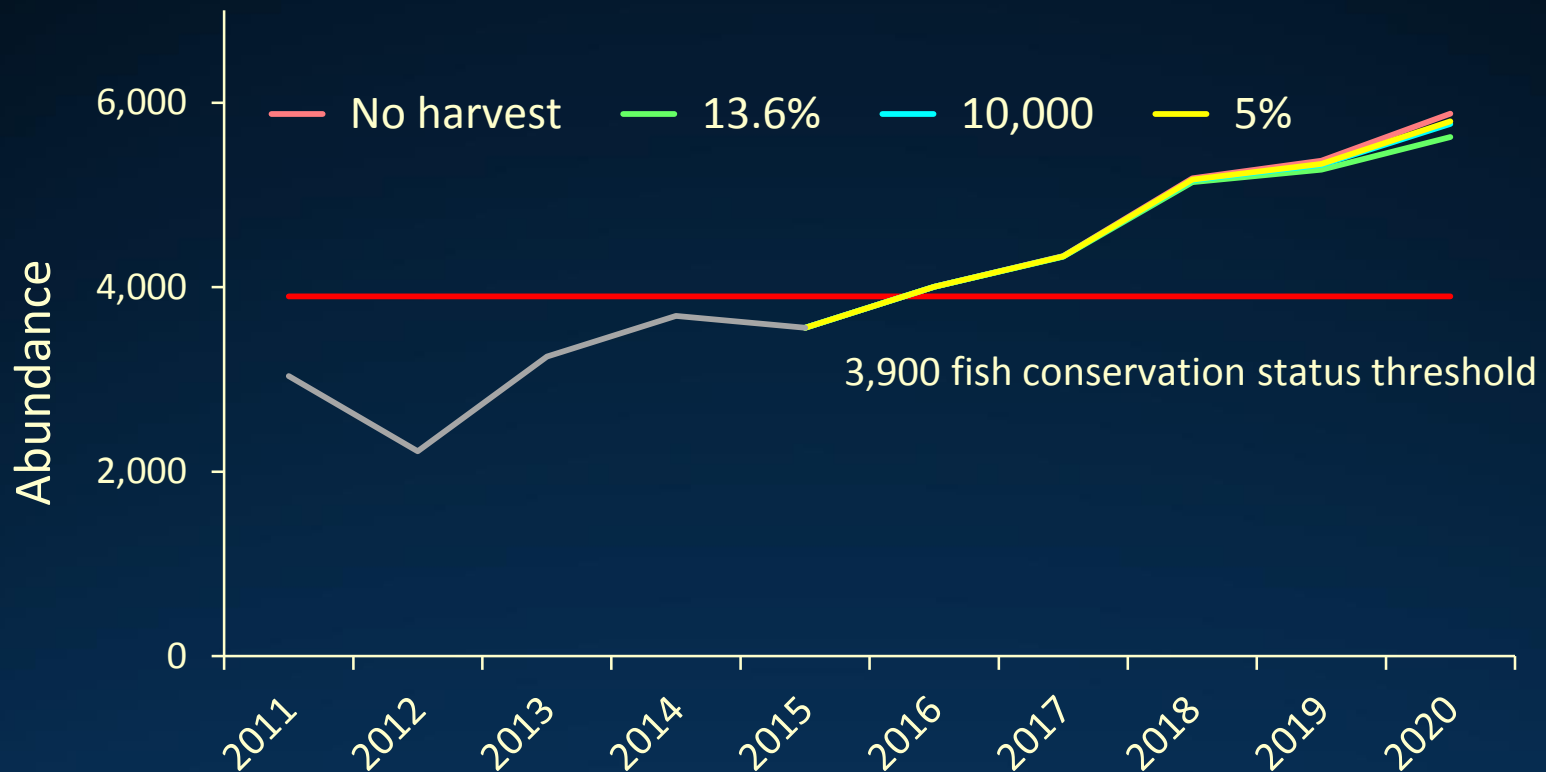
# 2016 Fishery Considerations:

- 4 of 5 population status indices remain a concern.
- The legal-sized population has doubled in size since 2012 .
- Some sport advisors support a retention fishery.
- Commercial advisors support maintaining the retention prohibition.

# Example Fishery Modeled

- Impact to brood stock equivalent population less than 6%.
- Narrow legal-size slot to reduce harvest.
- 30-day fishery:
  - Columbia River estuary only,
  - May-June timeframe.
- Expected to generate 30,000 angler trips.
- Commercial harvest 20% of total harvest as per Commission Policy.

# Harvest Scenarios: Spawner-size Abundance





# Thank You

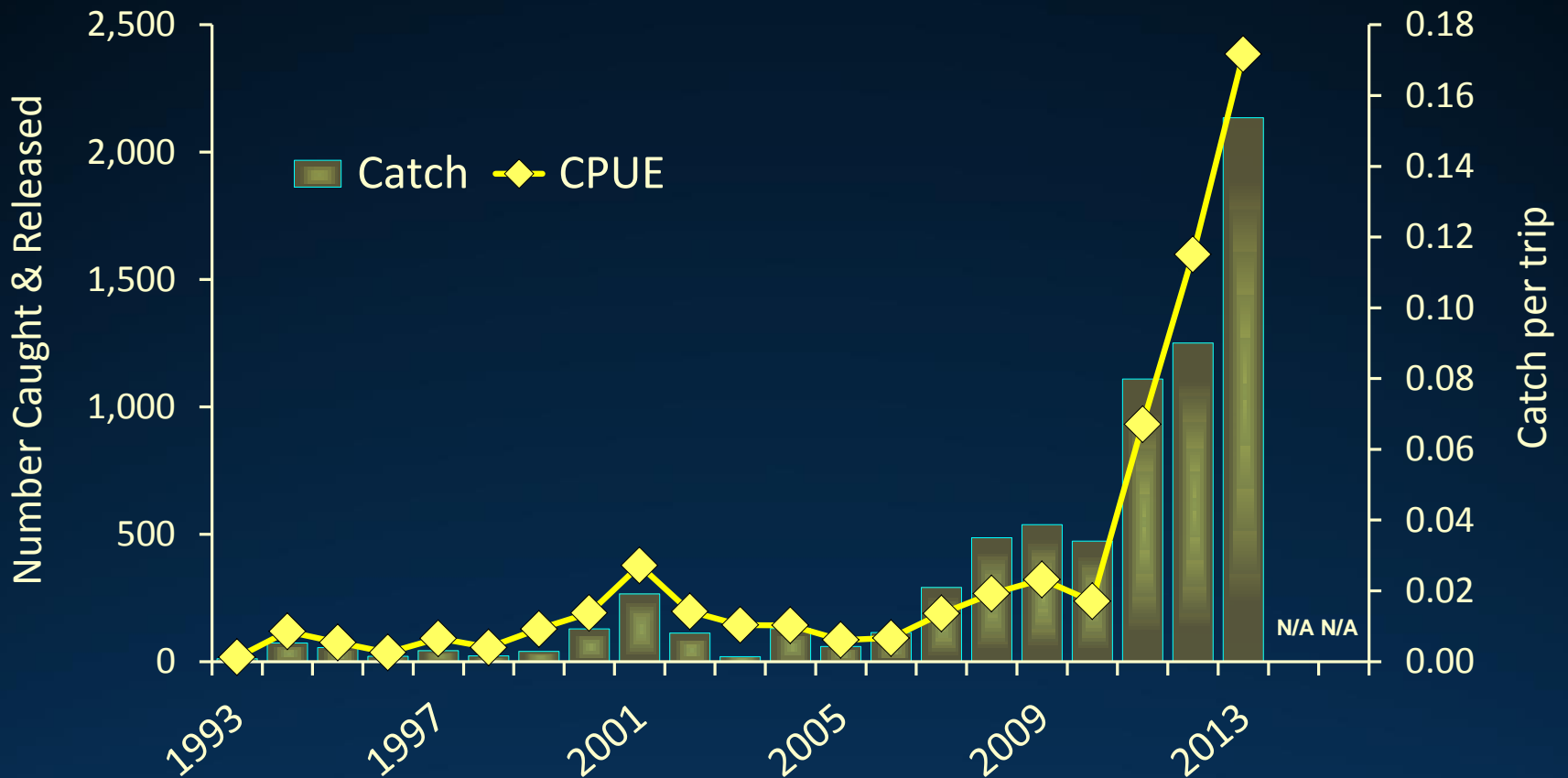


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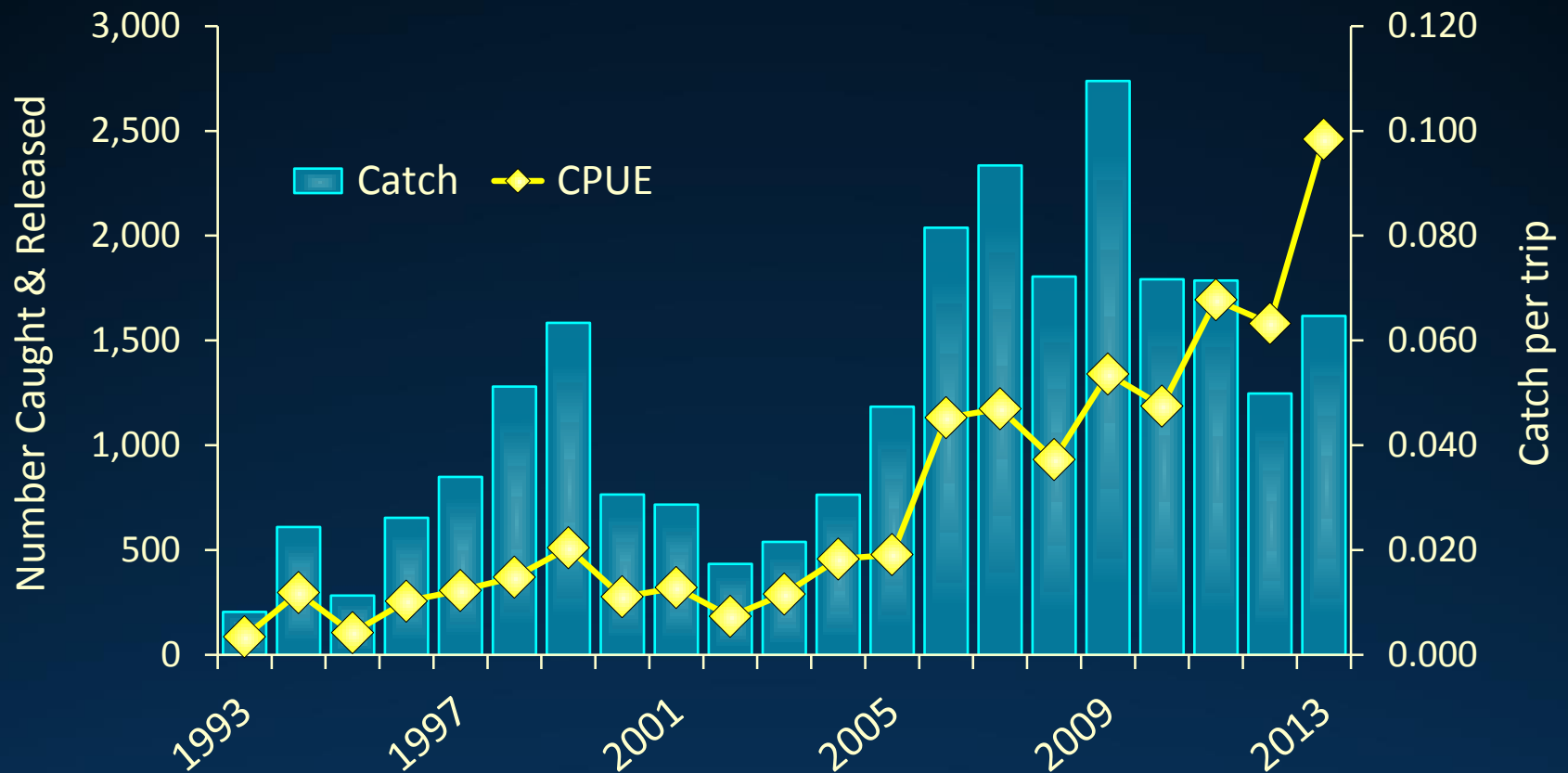




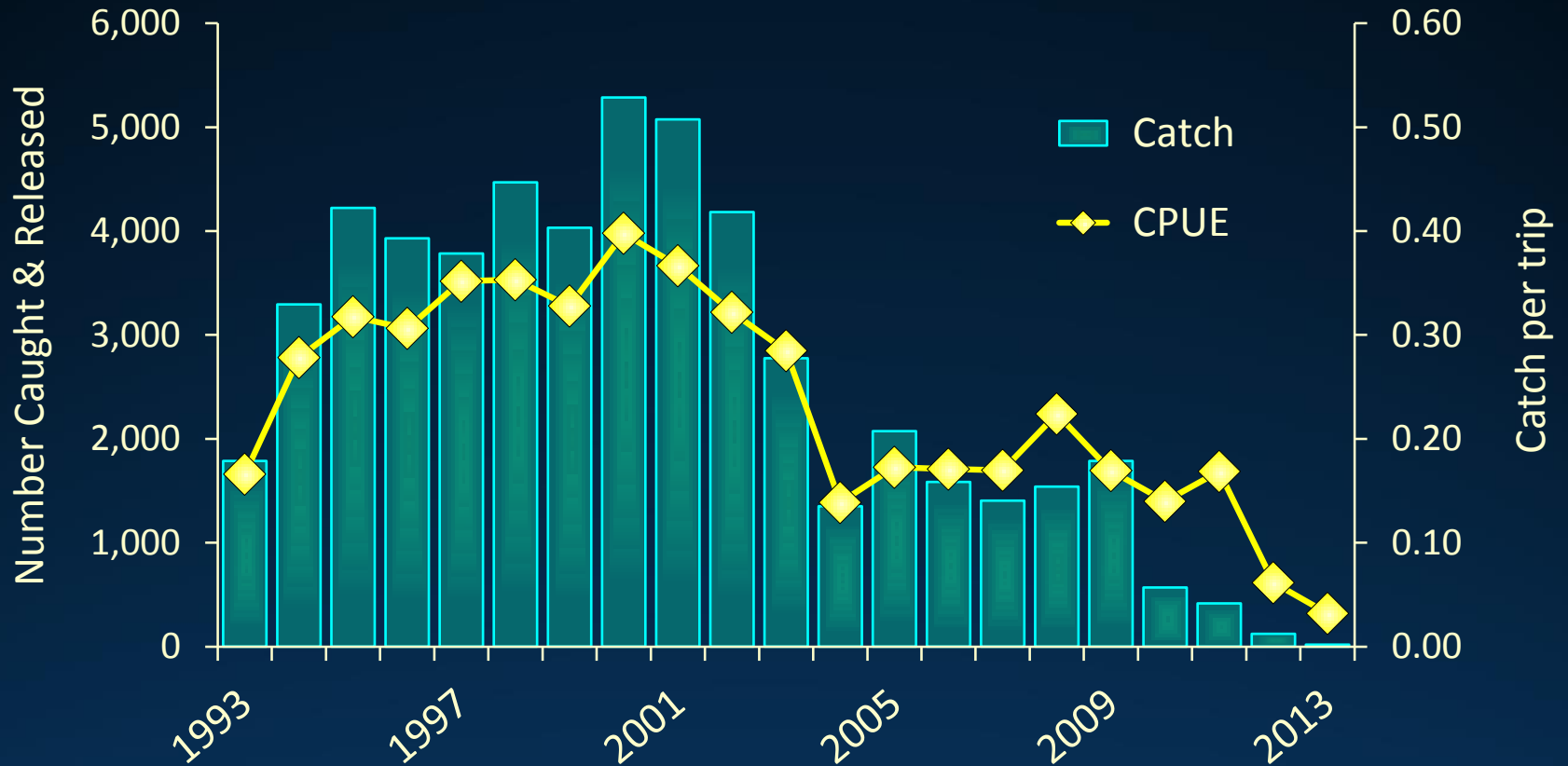
# Over Legal-size Catch Trend: Willamette River



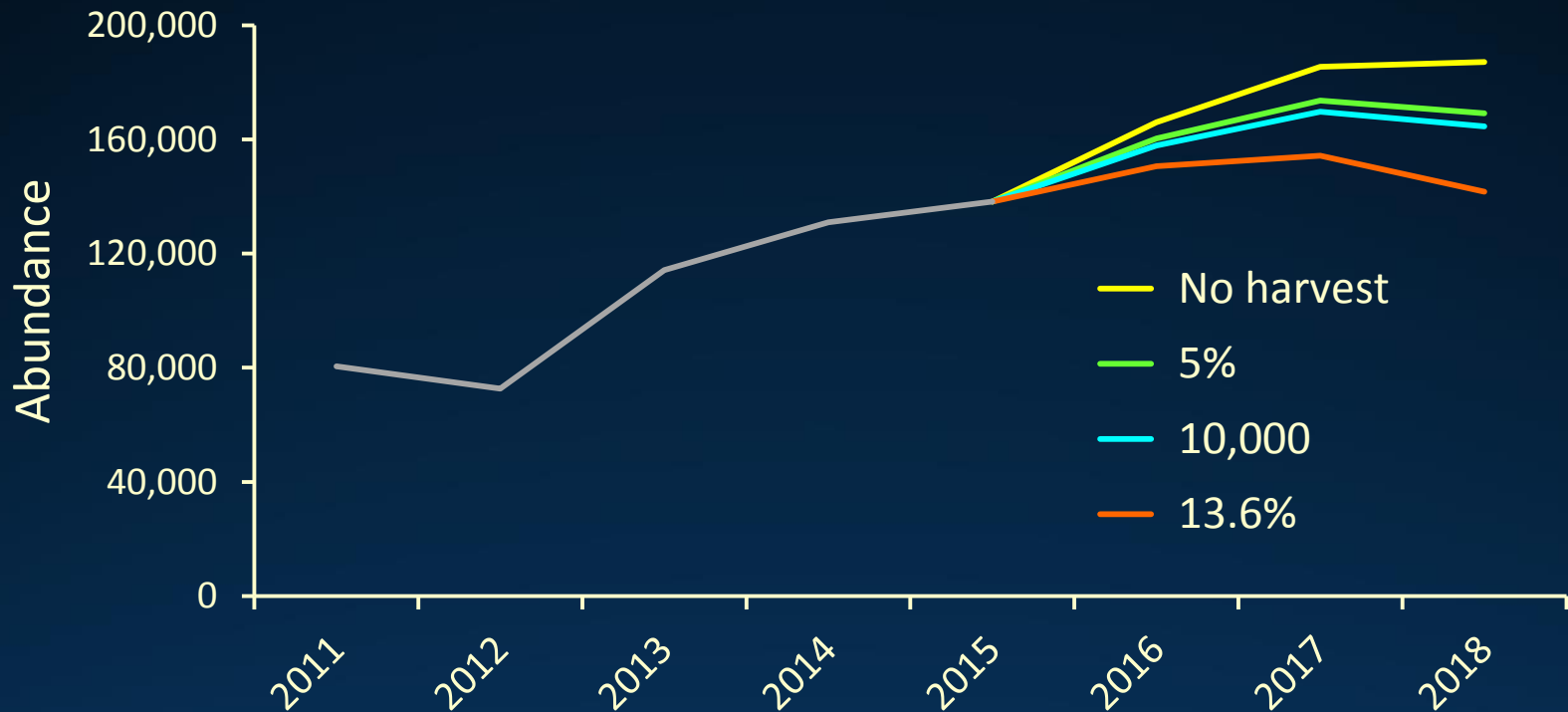
# Over Legal-size Catch Trend: Estuary



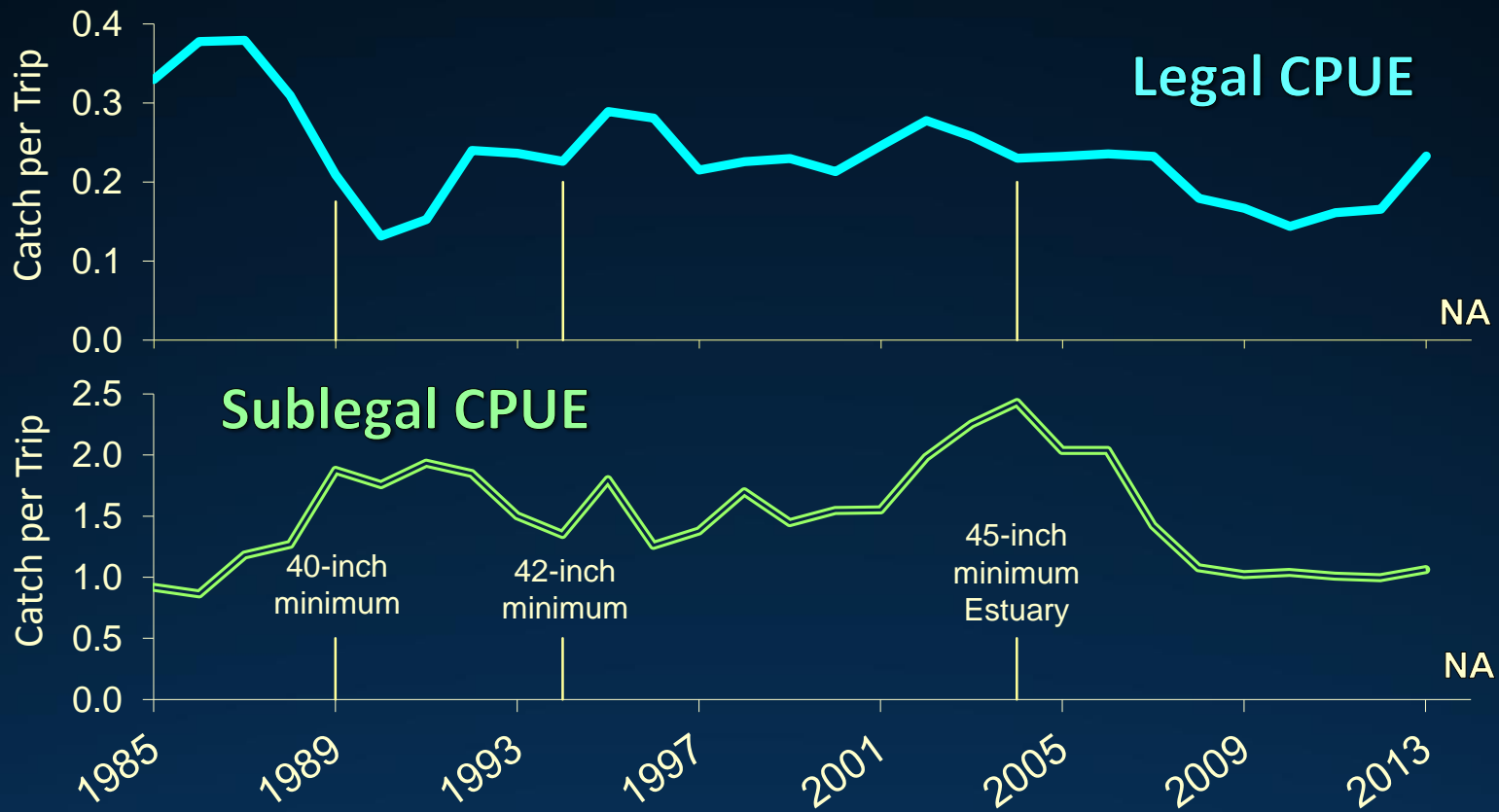
# Over Legal-size Catch Trend: Columbia River Gorge



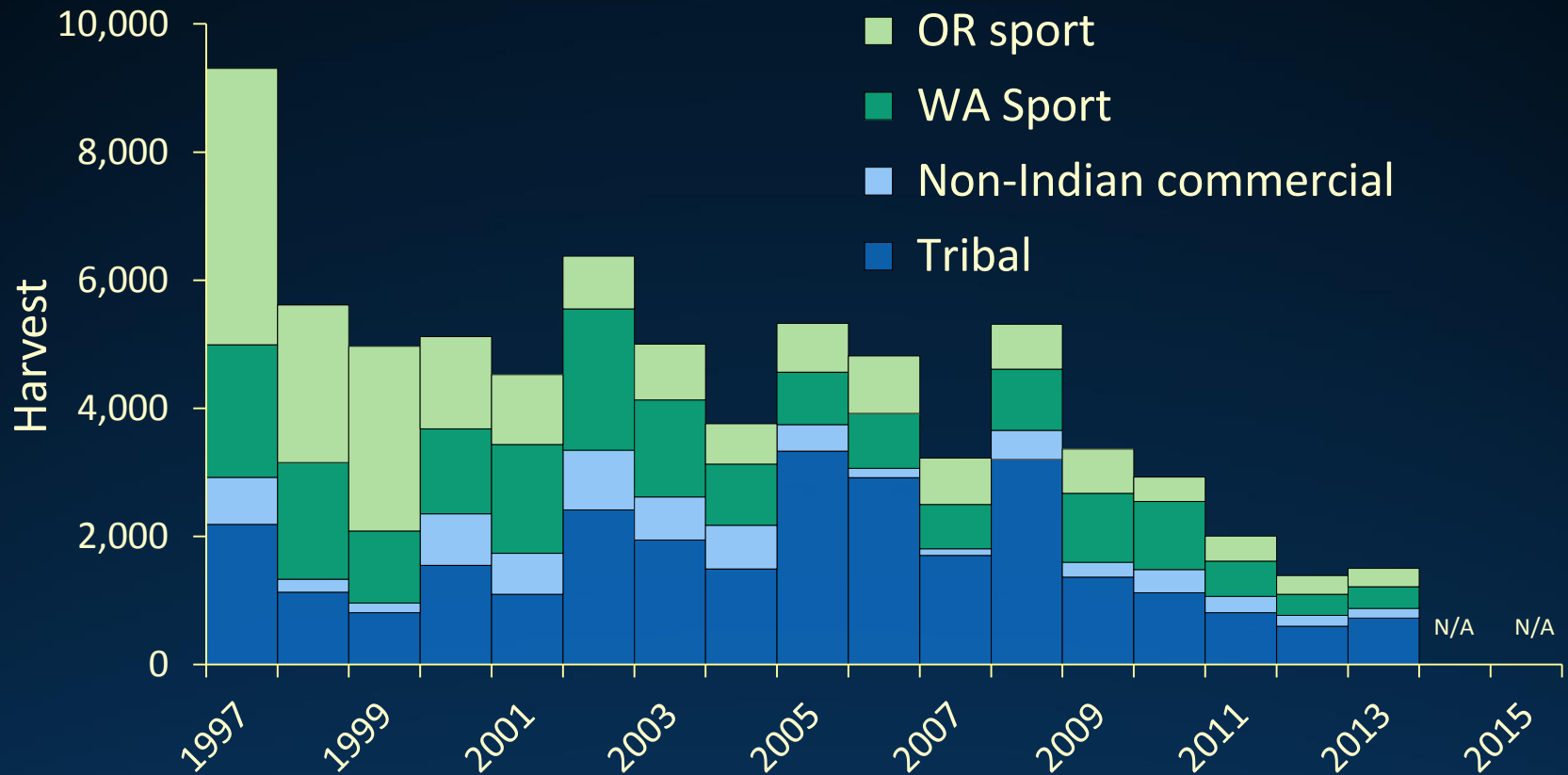
# Harvest Scenarios: Legal-size Abundance



# Sport Fishery Catch Trends:



# Harvest Outside Columbia River:



# Annual Fish Growth Rates

