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Preliminary Salmon Outlook for 2016

November 2015

Prepared by

Pacific Region Salmon Stock Assessment

& Institute of Ocean Science

Canada

What is the Outlook?

- preliminary forecast of “status”
- stock groups are arranged into “Outlook Units”
- categorical, not quantitative
- status and targets are based on a variety of approaches including expert opinion
- preliminary outlook is provided in November 2015
- final outlook is planned for May 2016

Outlook Units

- total of 91 Outlook Units
- Outlook Units represent aggregates of CUs
  - see appendix one in Outlook document
- further aggregated into management units
  - e.g. Fraser sockeye: 26 CUs; 14 OUs; 4 management units
- due to the preliminary nature, comparisons with previous outlooks are weak

Outlook Categories

Colour	Outlook Category	Abundance	Trend
Red	1 – Stock of Concern	<25% of target	Declining rapidly
Yellow	2 – Low	25% to 75% of target	Declining
Green	3 – Near Target	75% to 125% of target	Stable or increasing
Gray	4 – Abundant	>125% of target	N/A

- objective & consistent context for fisheries planning
- from biological perspective, gives indication of fishing opportunities and stocks around which fisheries may be shaped
- is a prelude to CSAS quantitative forecasts and formal advice
- no steelhead populations included

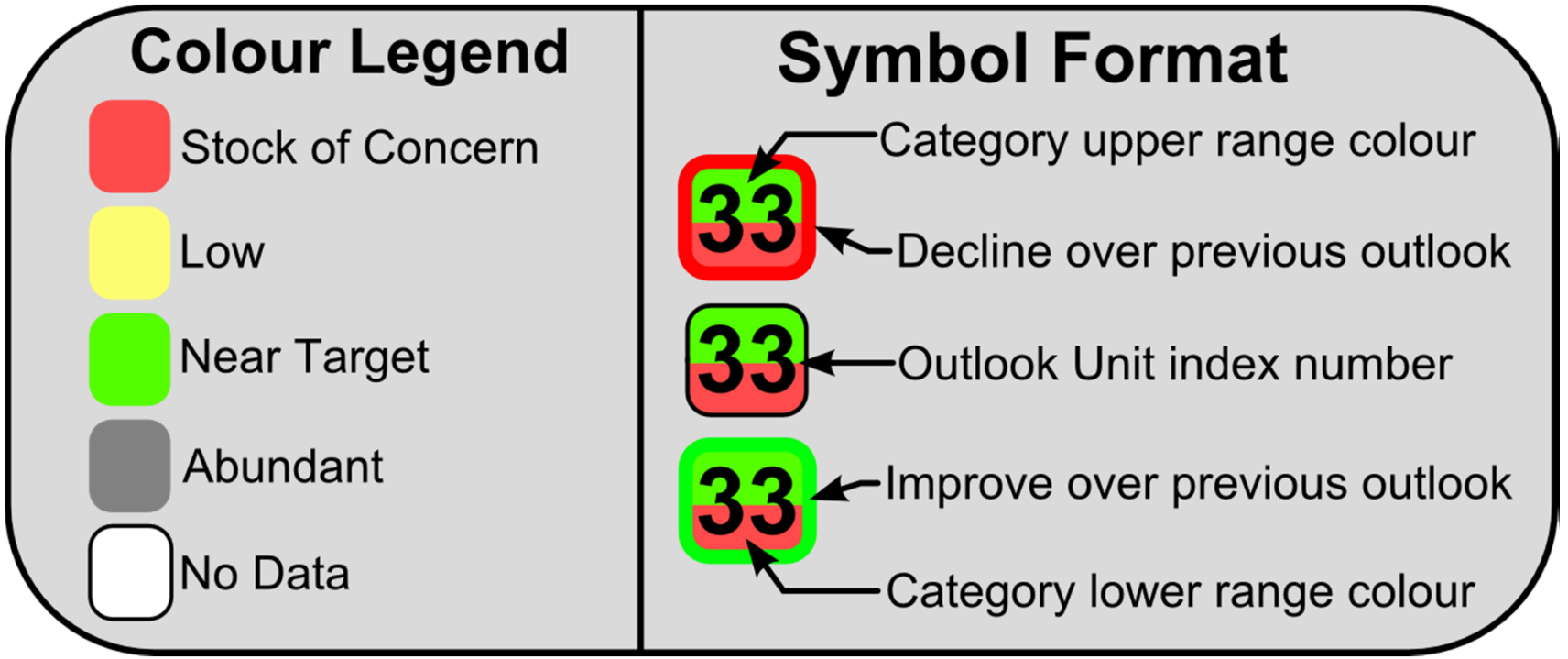
2016 Outlook Summary

- a total of 91 Outlook Units were considered
  - outlooks categorized for 84 units
  - six units were data deficient (ND)
  - one pink unit was not applicable (NA)
- 29 Outlook Units are likely to be at or above target abundance (3-4)
- 32 are expected to be of some conservation concern (1-2)
- the remaining 23 have mixed outlook levels
- overall, the outlook for 2016 has declined relative to the previous outlook

2016 Outlook Summary – cont'd

- 11 Outlook Units improved in category
  - sockeye: Nass, Alsek, WCVI other
  - chinook: Georgia Strait Fall (W&H), Alsek, Stikine
  - pink: Georgia Strait W even, Georgia Strait E even, North Coast Areas 3-6 even
  - chum: Fraser River, WCVI
- 19 Outlook Units declined in category
  - sockeye: Okanagan, Early Summer North Thompson, Early Summer South Thompson, Summer-Chilko, Summer-Quesnel, Summer-Harrison, Fall South Thompson, Fall-Birkenhead, Fall-Lower Fraser
  - chinook: Fraser River Summer 41, Fraser River Fall 41, Skeena
  - coho: Mid & Upper Fraser, Thompson, Lower Fraser, WCVI, Area 12, Georgia Strait
  - pink: Areas 7 to 10

Outlook Map Legend



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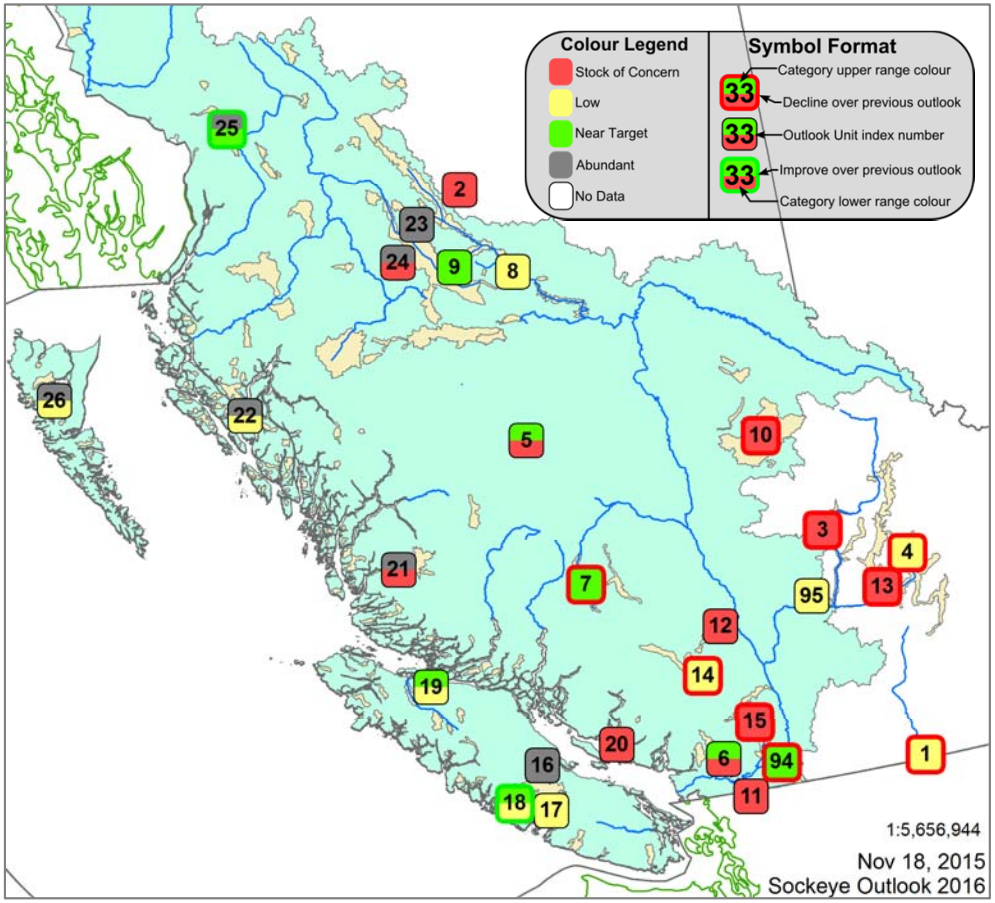
Sockeye 2016 Outlook

Category	Count
1, 1/2, 1/3, 1/4	12
2, 2/3, 2/4	10
3 & 3/4	7
4	2

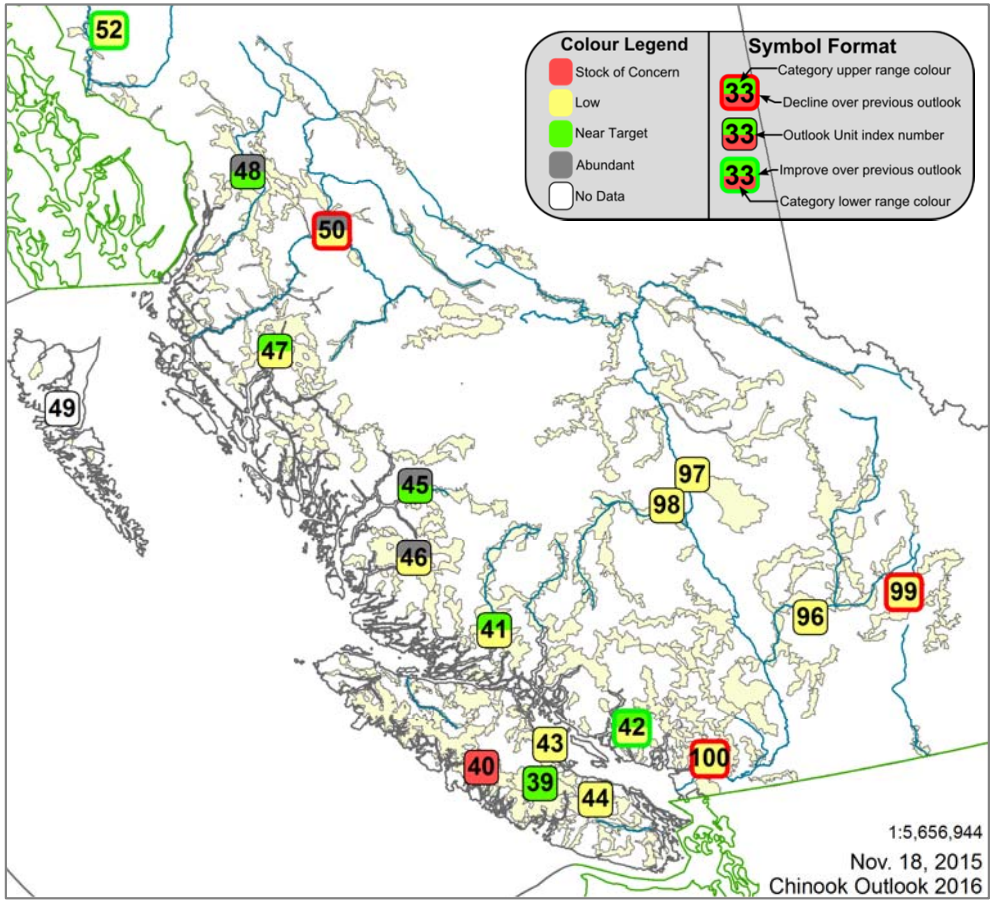
- 31 Outlook Units; 215 CUs
- Fraser: sub-dominant cycle; below average returns
- Somass: average returns
- Skeena: poor survival rates
- Nass: average returns



Chinook 2016 Outlook

Category	Count
1, 1/2, 1/3, 1/4	1
2, 2/3, 2/4	15
3 & 3/4	4
4	None
No Data	1

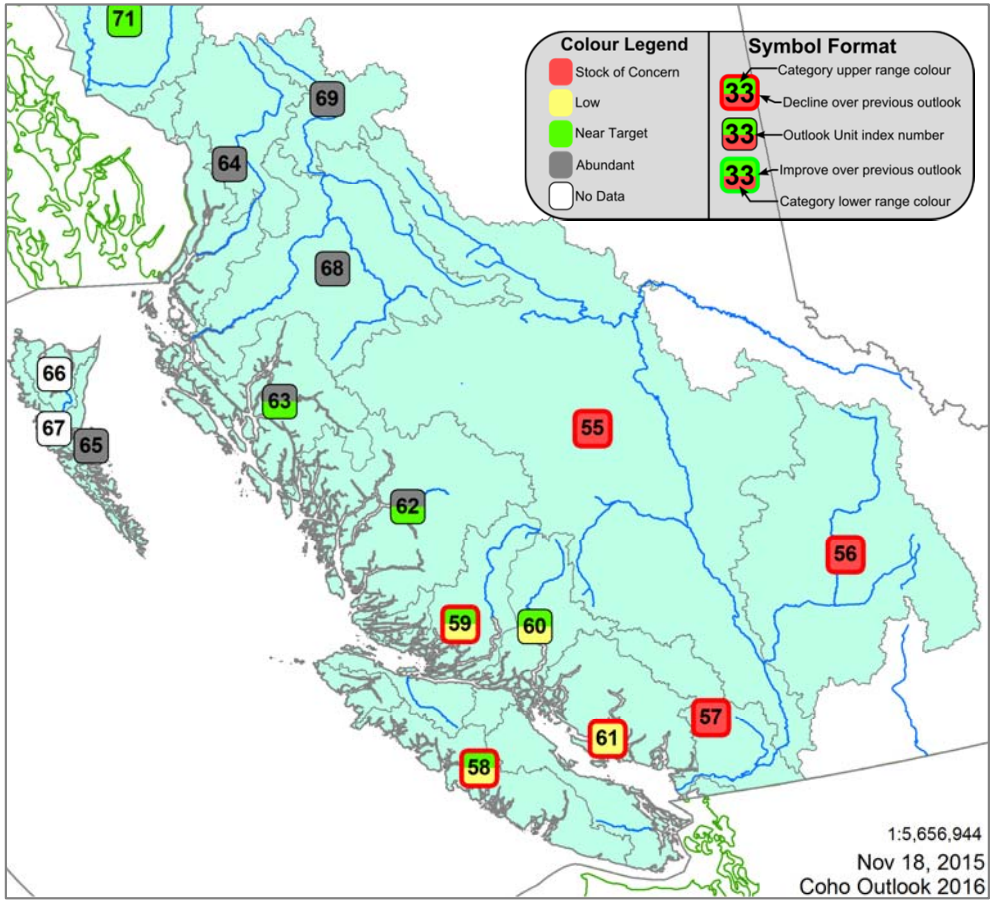
- 21 Outlook Units; 74 CUs
- Northern BC: average or variable
- Southern BC: remain low
- Yukon: below average



Coho 2016 Outlook

Category	Count
1, 1/2, 1/3, 1/4	3
2, 2/3, 2/4	4
3 & 3/4	5
4	4
No Data	3

- 19 Outlook Units; 43 CUs
- Northern BC: uncertain but directed harvest expected
- Southern BC: remain low; restrictions for all fisheries



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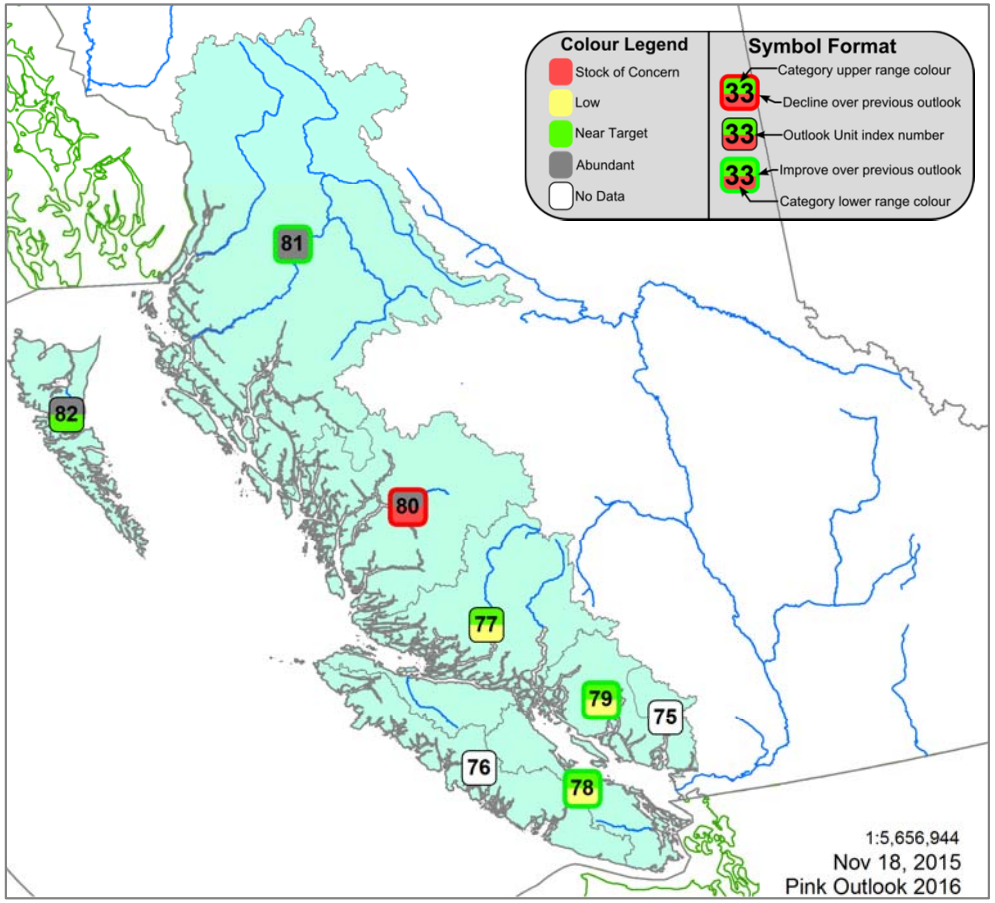
Pink 2016 Outlook

Category	Count
1, 1/2, 1/3, 1/4	1
2, 2/3, 2/4	3
3 & 3/4	1
4	1
No Data	2
Not Applicable	1

- 9 Outlook Units; 31 CUs
- Northern BC: good returns in some areas; directed harvests
- Southern BC: minimal Fraser; some others abundant



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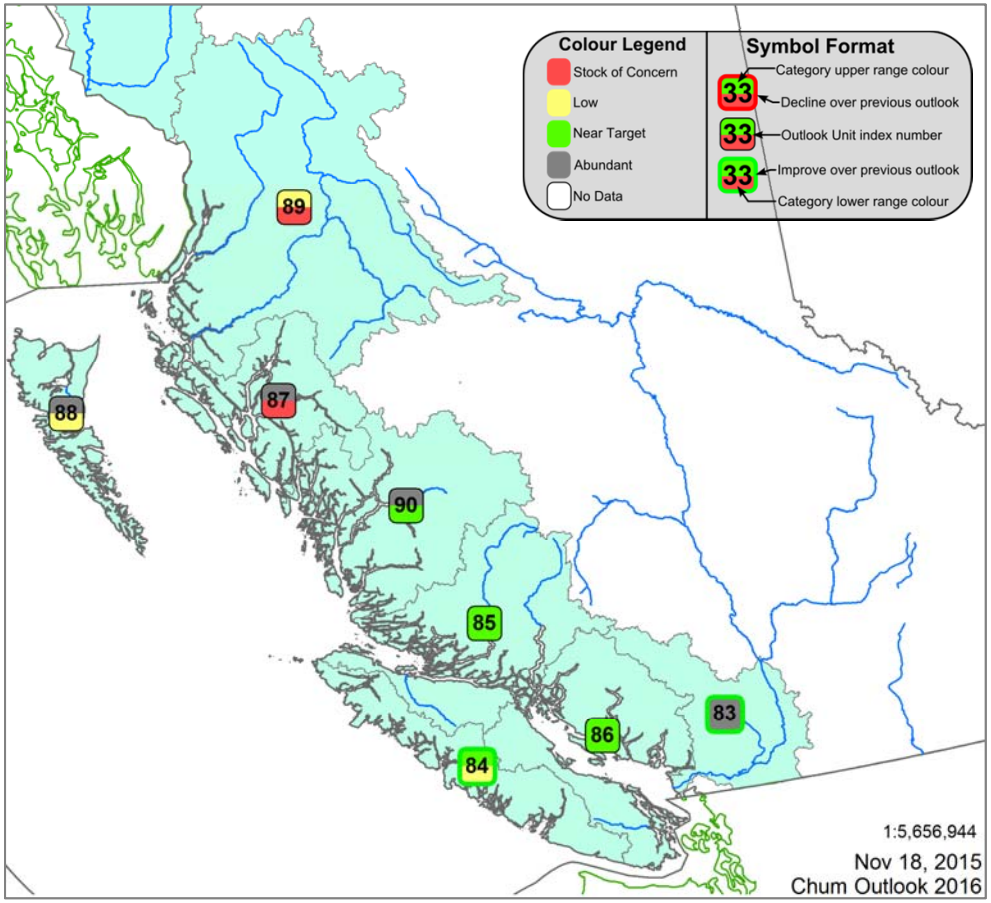
Chum 2016 Outlook

Category	Count
1, 1/2, 1/3, 1/4	2
2, 2/3, 2/4	4
3 & 3/4	4
4	1

- 11 Outlook Units; 37 CUs
- Northern BC: continued poor returns
- Southern BC: some fisheries expected; Fraser abundant



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Considerations for 2016 Outlook

- Outlook is still very preliminary
- Official forecasts are currently not available
  - sockeye in February
  - chinook & coho in March
- Some assessments programs still on-going (coho & chum); 2015 escapement estimates & age information are not yet available
- Marine survival conditions at ocean entry year:
  - 2012 ocean indicators: sea surface cooler than 2010 and 2011
  - 2013 ocean indicators: sea surface variable but warmer than 2012 on average
  - 2014 ocean indicators: 1st half 2014, BC coast cooler water, but in 2nd half of 2014 record warm temperatures continuing- 2015; sea surface Gulf Alaska 3^0 above normal
- Many BC salmon populations remain depressed due to low numbers of brood-year spawners, partially attributed to poor survival and production during the mid 2000s.

Questions?

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