Biological Opinion Trigger Update: January 2015

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Adult and Sub-Adult Humpback Chub Abundance Estimates

Abundance estimates for adults (age 4+): > 7,000 adult Humpback Chub. Uncertainty likely considerably underestimated.

Abundance estimates for sub-adults (age 2+):
Adult Humpback Chub Abundance Estimates: Multistate Population Model

Suggests adult Humpback Chub abundance stable from 2009 – 2012. Confidence intervals provide reasonable estimates of uncertainty.
Annual spring abundances of humpback chub ≥ 150 mm and ≥ 200 mm in lower 13.6 km of LCR

2014 spring estimates indicate Humpback Chub abundance stable in the LCR

(Preliminary Data from VanHaverbeke et al. 2014, Do Not Cite)
Juvenile humpback chub survival increased over 2012-2013 interval. 2013-2014 estimate approximately equal to 2012-2013 value.
2014 Water Temperatures: Colorado River near Little Colorado River Confluence

12 °C threshold met or exceeded in each month from April through December

(UGSG gage 09383100: http://www.gcmrc.gov/discharge_qw_sediment/station/GCDAMP/09383100)
Spring LCR 150-199 mm humpback chub abundance estimates

2014 spring abundance estimate of 150-199 mm HBC = 2175 (95% CI: 1861-2489)

(Preliminary Data from VanHaverbeke et al. 2014, Do Not Cite)
Rainbow Trout Abundance By Reach

I – Glen Canyon/Lees Ferry
II – House Rock
III – Buck Farm
IVa – Upstream of LCR
IVb – Downstream of LCR

(Preliminary Data from Korman and Yard 2015. Do Not Cite.)

Three of four 2014 abundance estimates exceed BiOp trigger level (presented as fish/km).
Brown Trout Catches: Below the Little Colorado River Reach

Catches peaked in April 2013, lower levels in 2014 than in 2013

(Preliminary Data from Yard and Korman 2015, Do Not Cite)
2011 USFWS Biological Opinion
Non-native Fish Control Trigger

- Adult humpback chub <7000 fish?  No
- OR
- ALL THREE?  No
  - 3 of 5 years 150-199 mm humpback chub in the LCR drops below 910?  No
  - Temperature <12° C for 2 consecutive years at LCR?  No
  - Annual survival of 40-99 mm humpback chub in JCM drops 25% from preceding year?  No

USGS
2011 USFWS Biological Opinion
Non-native Fish Control Trigger

- AND

- Rainbow trout abundance over 760?  Yes
  Open model estimates exceed threshold for three of four trips in 2014
  (Korman and Yard, preliminary data)

- AND

- Brown trout abundance over 50?  Unknown
  2014 catches lower than in 2013, only 5 total caught in Sept. 2014 – catches too low to generate abundance estimate
  (Yard and Korman, preliminary data)