



# Little Colorado River PIT tag antenna update

CRAB meeting January 2013

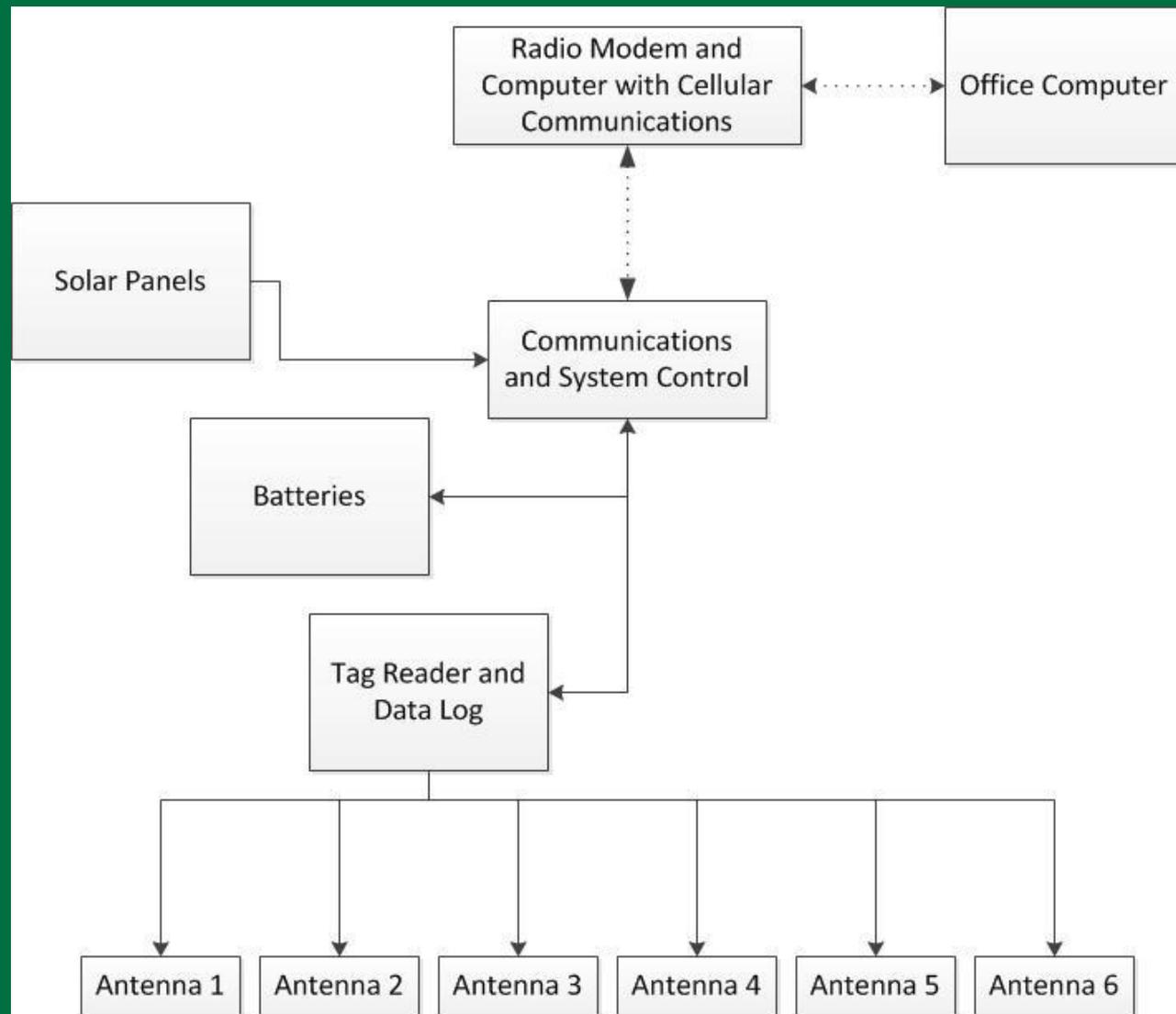
William Persons

USGS Grand Canyon Monitoring and Research Center

# Number of unique fish implanted with PIT tags, Colorado River and Little Colorado River 1985-2012.

Species	Total
Black bullhead	25
Bluehead sucker	18,933
Brown trout	3,074
Channel catfish	89
Carp	1,394
Flannelmouth sucker	24,270
Humpback chub	44,534
Total	92,319

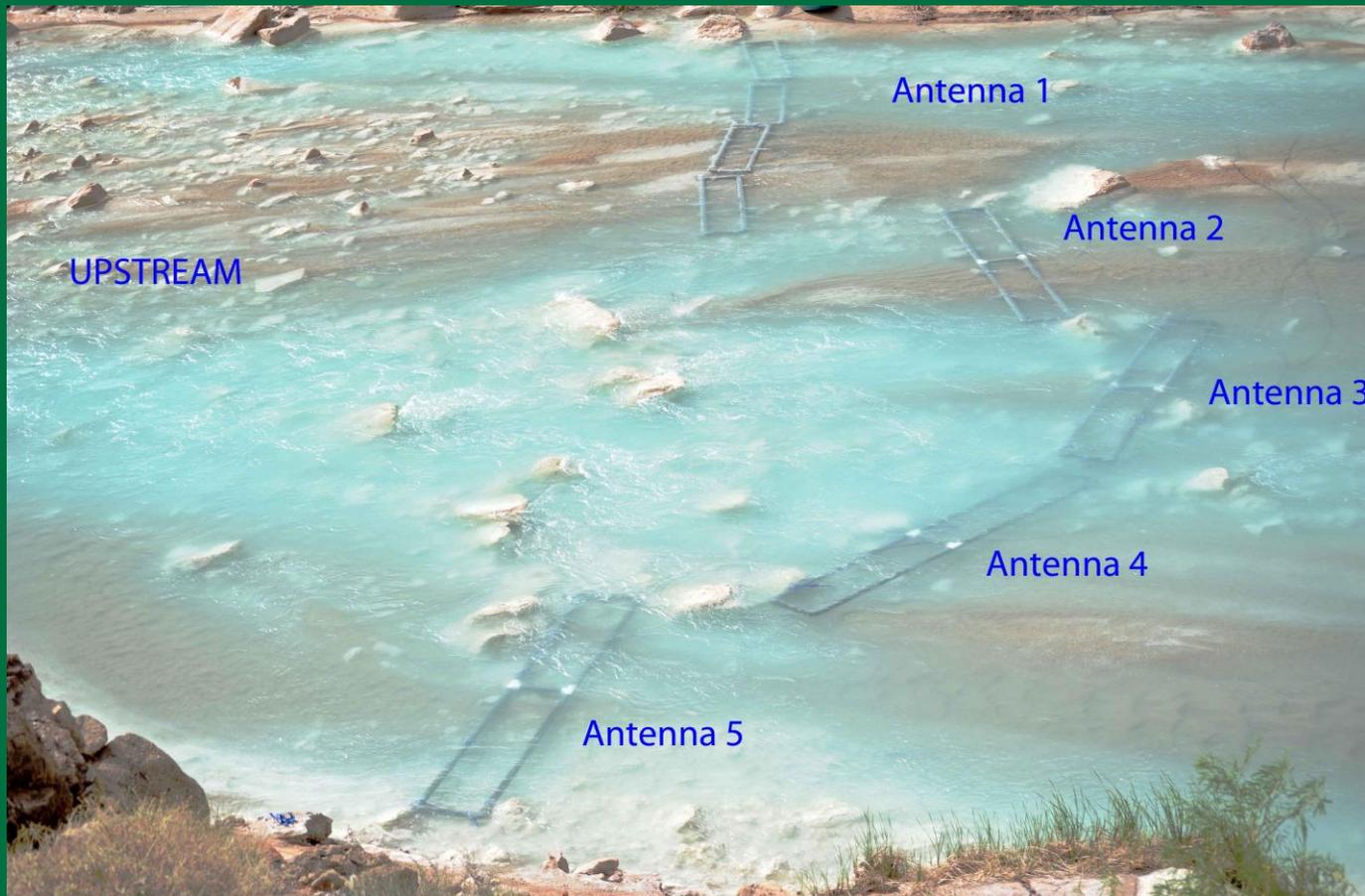
# Schematic of PIT antenna system







# Upstream Antenna Array 2011-12





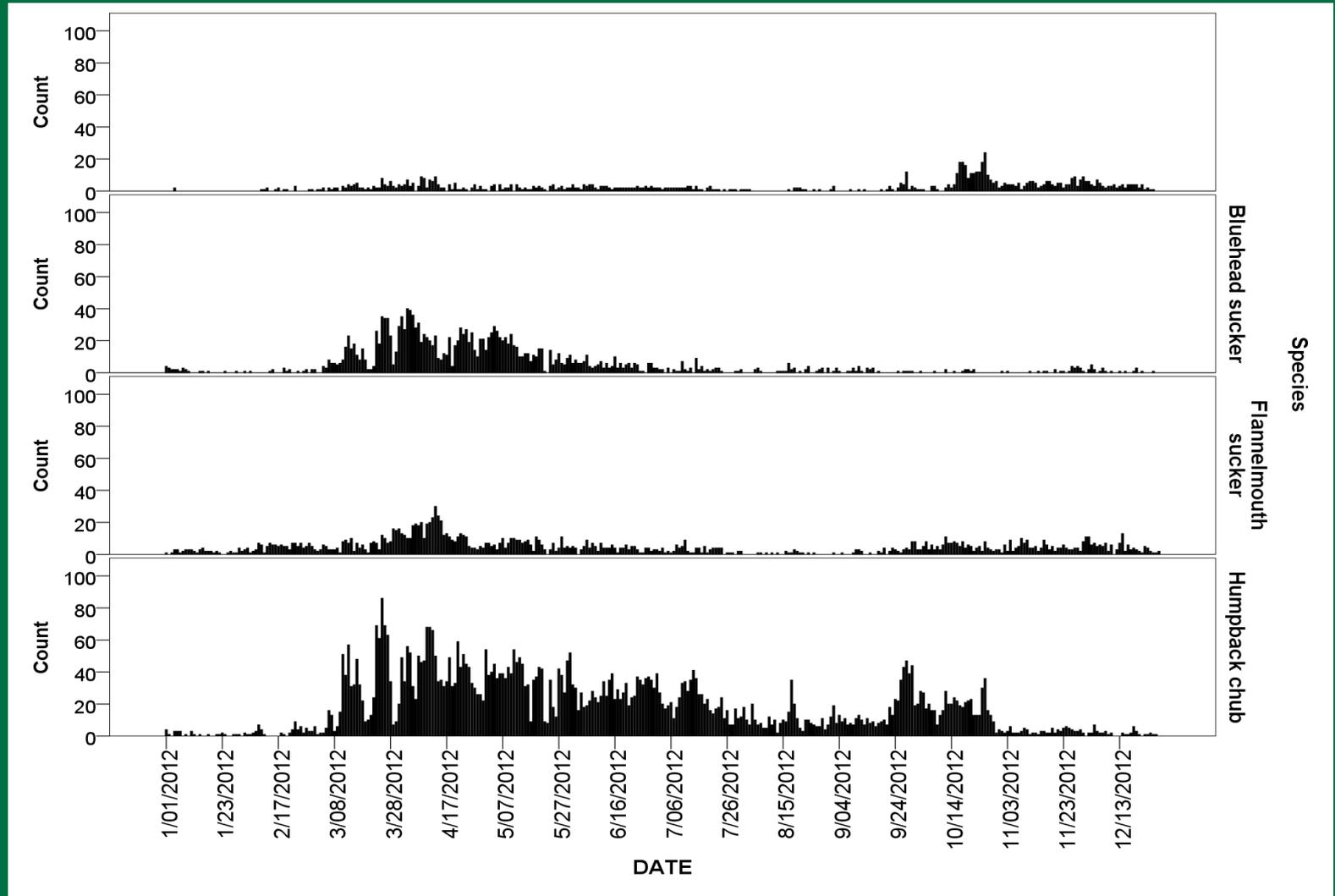




Remote relay station 2012

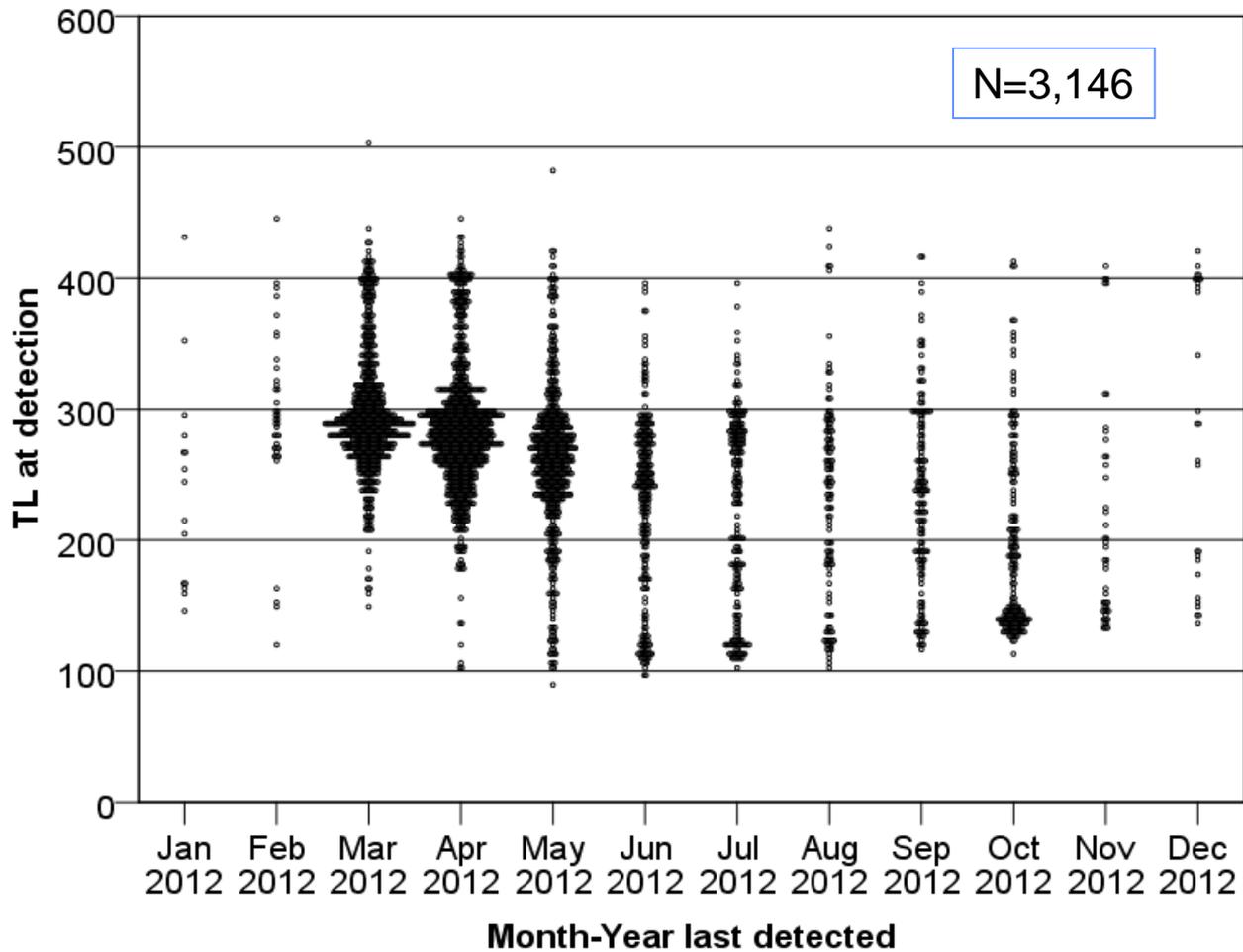
Number of unique fish detected, and percent of total detections  
LCR PIT tag antenna array, January 1 – November 30, 2012.

<b>Species</b>	<b>Number</b>	<b>Percent</b>
<b>Missing<sup>1</sup></b>	388	6.7%
<b>Black bullhead</b>	1	0.0%
<b>Bluehead sucker</b>	1,372	23.8%
<b>Channel catfish</b>	6	0.1%
<b>Common carp</b>	1	0.0%
<b>Flannelmouth sucker</b>	846	14.7%
<b>Humpback chub</b>	3,146	54.5%
<b>Unresolved/unidentified</b>	8	0.1%
<b>Total</b>	<b>5,768</b>	<b>100.0%</b>

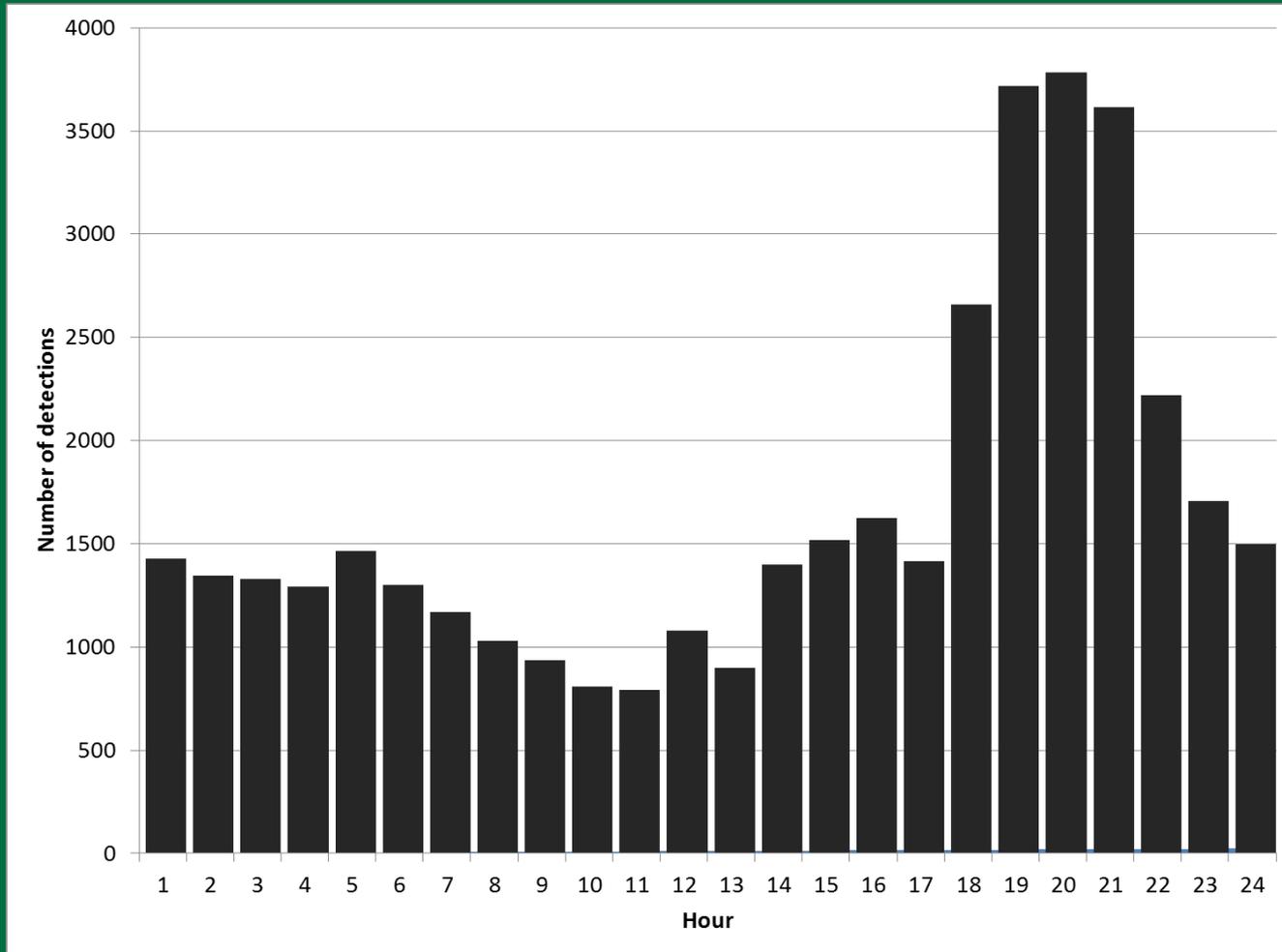


**Number of unique fish detected per day, 2012.**





**Estimated size of humpback chub detected by PIT antenna array, 2012.**



**Number of fish detected by hour of day, LCR 2012.**



 USGS

May 2012





# Acknowledgements

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- **GCMRC: Tim Andrews, Glenn Bennett, Luke Avery, Tim Dealy, Dave Foster, Seth Felder, Ron Griffiths, Tom Gushue, Tom Sabol, Bob Tusso,**
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