CREATION OF A NEW BONYTAIL BROODSTOCK – AN UPDATE

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BACKGROUND

- *Gila elegans* broodstock at one facility
- Multiple stocks needed to prevent loss of species due to catastrophic event at any one facility
  - Large Mouth Bass Virus at facility in 2010
  - Multi-agency meeting in 2011 – prioritize secondary broodstock for Colorado River fishes, *G. elegans* was at top of the list
  - New broodstock would be located at additional facility
- Aim: 50 paired spawns to produce 1,000 individuals for future broodstock
  - 20 individuals (10 M and 10 F) per family
METHODS

- Secondary broodstock started in 2012 last spawns in 2014
- 1,349 individuals were genotyped at 18 microsatellite loci
  - All Individuals from two broodstock ponds
- Pairwise relatedness was calculated to find “unrelated” pairs
- Individuals were also chosen to:
  - Maintain allele frequencies between new (F3) and F1 and F2 stocks
  - Preserve rare alleles
RESULTS AND PROGRESS

- Limited space (15 TE species on station)
- Multi-year process
  - Grow outdoors – faster growth (7 months) early PIT marking
  - Contrast indoors – 12 months before PIT marking
- 50 pairs have been spawned
  - Last spawned in spring 2014
- Each family lot kept in separate pond or tank until PIT tagging
- To be kept at a yet to be determined facility
  - Facility visits and inspections will continue in 2015
## Allele Frequency of Future Broodstock

<table>
<thead>
<tr>
<th>Locus</th>
<th>Allele</th>
<th>Future Brood Used in Recruitment Study</th>
<th>Current Brood Year 1</th>
<th>Current Brood Year 2</th>
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<tbody>
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<td>221</td>
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</table>
CONCLUSIONS

• Spawning of 50 bonytail for future broodstock is complete
• Selection of new facility is forthcoming – need facility reviews and inspections
THANK YOU

CHUCKIE D' SAYS:
EMBRACE
YOUR INNER FISH

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