Achii Hanyo
Native Fish Rearing Facility
2010 Station Update

Presented by Mark Yost II
We’ll Discuss...

- Achii Hanyo Introduction
- 2010 Winter Projects
- 2010 Growing Season Results
- Future Plans for 2011
Fish Cultured

- Bonytail  
  *(Gila elegans)*

- Razorback Sucker  
  *(Xyrauchen texanus)*
Water Temperature (°F)

2009

2010
2010 Winter Projects

New Kettle and Steps in Pond C

New Kettle and Steps in Pond B
2010 Winter Projects

New Steps in Pond 2 & Pond A

New Water Supply to Ponds A, B, & C
Pond Maintenance
Pond Maintenance

Disking

Grading
Increased Water Delivery
Improved Water Filtration

Sealed Canal Screen

Sealed Fish Screens
Polyethylene Micron Socks
Stocking Ponds in 2010
## Harvest Result for 2010

<table>
<thead>
<tr>
<th>Pond (Ac.)</th>
<th>Species / Year</th>
<th># Stocked</th>
<th>TL (mm)</th>
<th># Harvested</th>
<th>TL (mm)</th>
<th>% Survival</th>
<th>% &gt;300mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (0.42)</td>
<td>BTC ‘09</td>
<td>2378</td>
<td>166</td>
<td>2174</td>
<td>326</td>
<td>91</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>RBS ‘08</td>
<td>50</td>
<td>313</td>
<td>14</td>
<td>455</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td>2 (0.92)</td>
<td>BTC ‘09</td>
<td>2504</td>
<td>95</td>
<td>874</td>
<td>271</td>
<td>35</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>RBS ‘08</td>
<td>267</td>
<td>313</td>
<td>190</td>
<td>412</td>
<td>71</td>
<td>98</td>
</tr>
<tr>
<td>3 (1.36)</td>
<td>BTC ‘09</td>
<td>4996</td>
<td>168</td>
<td>2603</td>
<td>277</td>
<td>52</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>RBS ‘08</td>
<td>121</td>
<td>313</td>
<td>43</td>
<td>464</td>
<td>36</td>
<td>100</td>
</tr>
<tr>
<td>A (0.17)</td>
<td>BTC ‘09</td>
<td>808</td>
<td>80</td>
<td>685</td>
<td>254</td>
<td>85</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RBS ‘09</td>
<td>100</td>
<td>77</td>
<td>65</td>
<td>364</td>
<td>65</td>
<td>95</td>
</tr>
<tr>
<td>B (0.26)</td>
<td>BTC ‘09</td>
<td>1573</td>
<td>80</td>
<td>1403</td>
<td>234</td>
<td>89</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>RBS ‘09</td>
<td>119</td>
<td>77</td>
<td>57</td>
<td>382</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>C (0.83)</td>
<td>BTC ‘08</td>
<td>1906</td>
<td>258</td>
<td>1337</td>
<td>304</td>
<td>67</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>RBS ‘09</td>
<td>331</td>
<td>77</td>
<td>154</td>
<td>354</td>
<td>47</td>
<td>95</td>
</tr>
<tr>
<td>Totals</td>
<td>BTC</td>
<td>14165</td>
<td>9076</td>
<td></td>
<td></td>
<td>64</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>RBS</td>
<td>988</td>
<td>523</td>
<td></td>
<td></td>
<td>52</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>BTC ‘10</td>
<td></td>
<td>42000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tagging Fish $\geq 300\text{mm}$

- Bonytail: Wire Tagged - Left Pectoral
- Razorback: PIT Tagged - Right Pelvic
Above Lateral Line – Above Left Pectoral Fin
Stocking Bonytail
## Stocking Results for 2010

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Lot</th>
<th>#</th>
<th>TL (mm)</th>
<th>Tag Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/3/2009</td>
<td>La Paz Co. Park, Colorado River</td>
<td>BTC-LMD-08, 09-DEX-WIB</td>
<td>961</td>
<td>328</td>
<td>Wire – Left Pectoral</td>
</tr>
<tr>
<td>12/3/2009</td>
<td>Bill Williams River, Lake Havasu</td>
<td>BTC-LMD-08, 09-DEX-WIB</td>
<td>25</td>
<td>387</td>
<td>Sonic</td>
</tr>
<tr>
<td>12/3/2009</td>
<td>Bill Williams River, Lake Havasu</td>
<td>BTC-LMD-08, 09-DEX-WIB</td>
<td>7</td>
<td>387</td>
<td>PIT</td>
</tr>
<tr>
<td>12/3/2009</td>
<td>Bill Williams River, Lake Havasu</td>
<td>BTC-LMD-09-DEX-WIB</td>
<td>2100</td>
<td>335</td>
<td>Wire – Left Pectoral</td>
</tr>
<tr>
<td>12/7/2009</td>
<td>Willow Beach, Lake Mohave</td>
<td>RBS-LMW-08, 09-WIB</td>
<td>504</td>
<td>398</td>
<td>PIT – Right Pelvic</td>
</tr>
</tbody>
</table>

**Totals**

<table>
<thead>
<tr>
<th></th>
<th>BTC</th>
<th>RBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td>3093</td>
<td>504</td>
</tr>
<tr>
<td>TL (mm)</td>
<td>&gt;300</td>
<td>&gt;300</td>
</tr>
<tr>
<td>Tag Info</td>
<td>Wire – right dorsal</td>
<td>PIT – right pelvic</td>
</tr>
</tbody>
</table>
Brief Discussion

- **Survival**
  - Bonytail – **64%** (45% in 2009)
    - Smaller Ponds (<1/2 Acre), Better Survival (>85%)
  - Razorback Sucker – **52%** (91% in 2009)

- **Growth**
  - Bonytail – **34% >300mm** (48% in 2009)
    - ~86% of fish on station from 2009 year class in 2010
  - Razorback Sucker – **97% >300mm** (100% in 2009)
    - 45% >400mm

- **Polyculture**
  - Stock fish of similar size to avoid predation
    - Pond 2 – 95mm bonytail vs. 313mm razorbacks (35% bonytail survival)
  - Otherwise no apparent detriment to either species, provided densities don’t exceed carrying capacity
Rough Fish Control in 2010!
Plans for 2011

- Continue Refining Native Fish Polyculture
- Incorporate Pond Fertilization
- Reconstruct North Levee in Pond 4
- Possibly Expand Production Capacity
  - Install a new drain line
  - Build 1–4 new 0.25–0.33-acre ponds (6–8K fish)
  - Install kettles and concrete steps
  - Install a new water supply line
- Possibly Purchase and Install a Larger Pump
- Continue Clearing Overgrown Brush
- Grow Lots of Big Bonytail and Razorbacks
Acknowledgments

- CRIT
- USFWS
  - Willow Beach NFH
  - Dexter NFH & TC
  - Uvalde NFH
  - Parker AZCO
- USBR
- USBIA
- Marsh & Associates
- Many Others