

**From:** Matthew O'Neill  
**Sent:** Wednesday, March 02, 2011 2:48 PM  
**To:** Tony Robinson; Clayton Crowder; Jeff Sorensen; Bill Stewart; RClarkson@usbr.gov  
**Subject:** BP Fish update

Gentlemen,

I want to give a quick update on the fish we have on hand at Bubbling Ponds and our plan for this spawning season. Please yell with questions or suggestions.

Matt

Fish counts (not including winter mortality, number in spring will be lower):

Gila river spikedace: 632

Aravaipa spikedace: 242 + 25 from least year's spawn

West fork Gila spikedace: 228

Aravaipa loach minnow: 470 + 25 from last year's spawn

Blue river loach minnow: 194

West fork Gila loach minnow: 52

Woundfin: 123 (plus two dozen experimental animals in the q facility)

Plan:

First, we have a ton of Gila spikedace. We will stock all of them into the five large fuel tank systems on the east side of the cage building with larvae draining into a common sump. That will give us roughly the fish density we wanted for those systems (about 125 fish per stream), so we anticipate a high number of Gila spikedace this year, hopefully similar to the Araviapa spawn last year (6000).

Our current numbers of Aravaipa spikedace are a little lower than last year's spawning population. I hope that we'll be able to go out in the near future and capture some more spikedace from Aravaipa, but disease concerns are delaying that. Worst case scenario is that we go out with the FWS survey in mid-April. Quarantine will mean that we won't get the fish into the tanks spawning until early May at the earliest, but I think they'll still spawn for us. They will go into the four very large streams on the west side of the cage.

We also expect to capture more west fork Gila river spikedace later this month to augment our current 200ish fish. Depending on how many fish we capture, the west fork fish will go into four or all eight of the new streams on the south side of the cage.

Loach minnow will again be spawned in the five shallow streams inside the cage facility. We currently have more loach minnow than we have good tanks for spawning, so I am moving the six recirc streams from the quarantine building outside so we can spawn more fish. As they're such a good replicate system, I also may try some hormone work to improve spawning, introduced via either food or water baths. David tried injections recently and

had very high mortality. I also hope that we'll be able to restock the aging Aravaipa stock and augment the west for stock.

Finally, we may try to spawn woundfin in either some of the new south bank of streams, a pond if the HBC get cleared out soon enough, or a stream down low.