

Tischer, David P

From: Harden, Tasha
Sent: Monday, December 30, 2019 1:50 PM
To: Radke, Bill
Subject: San Bernardino NWR Periodic Hydrologic Monitoring Update 12/30/2019

During the week of Dec 20, 2019:

Monitoring wells checked and data recorded, pressure logs pulled and sent to water resources, pond inlet flows recorded in survey123, pond levels recorded in survey123.

- 20 Dec: Water to North pond was turned back on as the transducer (used to collect pressure readings) on Bunting well was malfunctioning and North pond was low (0.09).
- 20 Dec: Both Phd ponds showed low levels (Phd 1: 1.35, Phd 2: 1.06) and will be re-evaluated on 23 Dec.
- 20 Dec: 10 traps were used to continue shiner salvage efforts from Magoffin, three shiner were caught (shiner population is low and refuge is working with ASDM to establish a captive population).
- 20 Dec: Water pipe was connected to Glenn Hay Hollow Windmill Well, it was still not being utilized.

During the week of Dec 27, 2019:

**Monitoring wells checked and data recorded, pressure logs pulled and sent to water resources, pond inlet flows recorded in survey123, pond levels recorded in survey123. **

- 23 Dec: 5 new level trolls were purchased by water resources for pressure test, due to issues with the current older trolls.
- 23 Dec: Hay Hollow ponds water was turned off – pressure transducer started monitoring a new pressure test log.
- 23 Dec: Phd ponds were too low, Solar power pump on Bath House well was turned back on to raise pond levels back up; the pump will have to stay on to maintain pond levels. Artesian flow is no longer enough to maintain these pond levels. The exact point in time at which artesian flow became insufficient for these ponds is unknown (probable potential influencing factors include the recent Mexico Federal Hwy 2 improvements and the current border wall construction- both projects entail pumping very large amounts of water from the same aquifer).
- 23 Dec: Hay Hollow cultural sites assessed. Three sites were identified; one site appears to have recent erosion from flood events (pics attached).
- 27 Dec: North pond level was back up to 1.46 from 0.09, so the water was turned off and pressure monitoring at Bunting well was re-initiated with a different older transducer.
- 27 Dec: Phd2 pond level has risen from 1.06 to 1.27. Both PhD ponds

still need to increase. Normal pond level is ~1.5 for these ponds.

- 27 Dec: monitoring depth to ground water at Snail Spring well was initiated with a borrowed smaller piezometer from water resources.

- 27 Dec: Quote to update and standardize all flow meters on SB was sent to water resources for funding assistance (\$3,066.57).