

**From:** [Harden, Tasha](#)  
**To:** [Radke, Bill](#)  
**Cc:** [Walker, Cassondra M](#)  
**Subject:** San Bernardino NWR Periodic Hydrologic Monitoring Update 01/ 21 /2020  
**Date:** Tuesday, January 21, 2020 9:43:55 AM  
**Attachments:** [SBNWR Pond Well Update 13-17Jan20.docx](#)

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**During the week of January 17, 2020:**

*\*Monitoring wells checked and data recorded, pressure logs pulled and sent to water resources, pond inlet flows recorded in survey123 and sent to water resources, pond levels recorded in survey123. Water resource developed survey123 not utilized, still issues\**

The protocol for collecting all the needed data and the associated survey123 that water resources is designing are still not finalized.... Refuge staff feel at this point (~2 months down the road) that the individuals designing the protocol and survey need to be onsite and able to test their methods in order to 1. finalize the protocol and 2. collect the data needed to complete the flow model.... all prior to spring/summer when evaporation amps up and the refuge will likely have to turn on well pumps which will add yet another factor that alters flow and will have to be accounted for...

- 13 Jan – Hay Hollow ponds low, water turned on to ponds, pressure monitoring maintained
- 13 Jan – Bucket flow test for Hay Hollow well, Bunting well, Twin well
- 13 Jan: Phoenix zoo provided with existing refuge water quality reports of goat tank and snail spring (spring snail habitats)
- 13 Jan: Phoenix zoo provided refuge staff with funding needs related to housing/establishing spring snails at the zoo.
- 13 Jan: Refuge staff noticed that Black Draw crossing (on the border road, on SBNWRs southern boundary) was modified with a high concrete crossing incorporating one culvert pipe for water flow. With knowledge of the area and flash flood events, staff estimate that the structure will dam up water, causing back flooding and damage on refuge, until eventually the water cuts around the structure finding a path to continue downstream which will damage the road and potentially the existing bridge immediately south of the concrete structure.
- 14 Jan – 23 Shiner moved to Arizona Sonora Desert Museum (all salvaged from Magoffin)
- 14 Jan: Spring snail initial survey moved up to February 12-13 with knowledge of spring snail depth to water level changing from ~32 feet to ~34 feet over one month.
- 17 Jan: Spring snail well depth to water was measured at 41.11 feet
- 17 Jan – Water off to Hay Hollow ponds pressure monitoring maintained
- 17 Jan – Water on at Yaqui pond for bucket test at Mitigation
- 17 Jan – Water on to North pond, pressure monitoring maintained at Bunting
- 17 Jan – Water on to Twin 1, pressure monitoring maintained at Twin Well

***Biology weekly report attached***  
***Photos of new Black Draw crossing attached***

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Tasha Harden  
Assistant Manager

San Bernardino & Leslie Canyon NWRs  
PO Box 3509  
7628 N Hwy 191  
Douglas AZ 85608  
Office: 520-364-2104 x106  
Cell: 520-368-6004  
Fax: 520-364-2130