Update on Virgin River Restoration Investigation

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This area has been surveyed since 1996, and SWFL breeding habitat has shifted following standing water.

- SWFL habitat in 2000
- SWFL habitat in 2003
- SWFL Habitat in 2012
- SWFL Habitat in 1997
SWFL Habitat History along the Virgin River

- SWFL habitat has been highly dynamic reflecting the flow of water at the site.
- Birds have used both native and salt cedar.
- Access to the site by surveyors is difficult requiring ATVs and crossing the Virgin River. The river can flood in the spring and be dangerous.
- One of the most important breeding sites on the Virgin and the entire LCR watershed.
Impact of the Salt Cedar Beetle Virgin River Habitat

• *Diorhabda carinulata* (not *elongata*) was released in St. George, UT in 2006

• *D. carinulata* has spread south and reached the Mormon Mesa area in 2011, causing defoliation after breeding took place.

• In 2012, Defoliation occurred in late May before breeding and almost all breeding activity was restricted to “islands” of native habitat.

• Breeding success was similar to previous years, but much higher rates of nest abandonment and lower fecundity were recorded.
Future of the site with the salt cedar beetle

- The future is uncertain but monitoring at St. George may provide some insight into what to expect.

- At St George salt cedar ceased to be suitable as breeding habitat and all breeding shifted to native habitats.

- At St. George salt cedar was thinned and natives were planted to provide understory structure (Goodding’s willow and box elder).

- Some SWFL have breed in restored habitat, the hydrology is ideal for the species.
Restoration is the only likely long term solution

- The LCR MSCP cannot and will not be able to meet all the needs of SWFL at Mormon Mesa.

- Trespass cattle are strongly present at the site and present one of the biggest threats to the development of habitat at this site.
Lower Colorado River
Multi-Species Conservation Program

Balancing Resource Use and Conservation

Site Location
Site Description

- Located within a broad and densely vegetated reach of the Virgin River
- Vegetation is predominantly salt cedar with a few native stands present
Site Description

• Within the floodplain of a dynamic and flashy river system

Jan. 1, 1989 – 61,000 cfs (failure of Quail Creek Dam)
Jan. 11, 2005 – 37,000 cfs
Dec. 21, 2010 – 31,000 cfs

Figure of historical peak flows from Stillwater Sciences, 2012.
Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

1997  2004  2007  2010
Data Gaps

- Depth to groundwater is unknown
- Soil salinity
Known Challenges

• Work limited by river stage

• Site access is through the BLM’s Area of Critical Environmental Concern

• Cattle grazing
Positive Aspects of restoration on the Virgin River

• No additional water

• No annual management

• Creditable under the LCR MSCP
Questions