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# Muddy and Virgin River Reserve Update

Elizabeth Bickmore

August 16, 2012

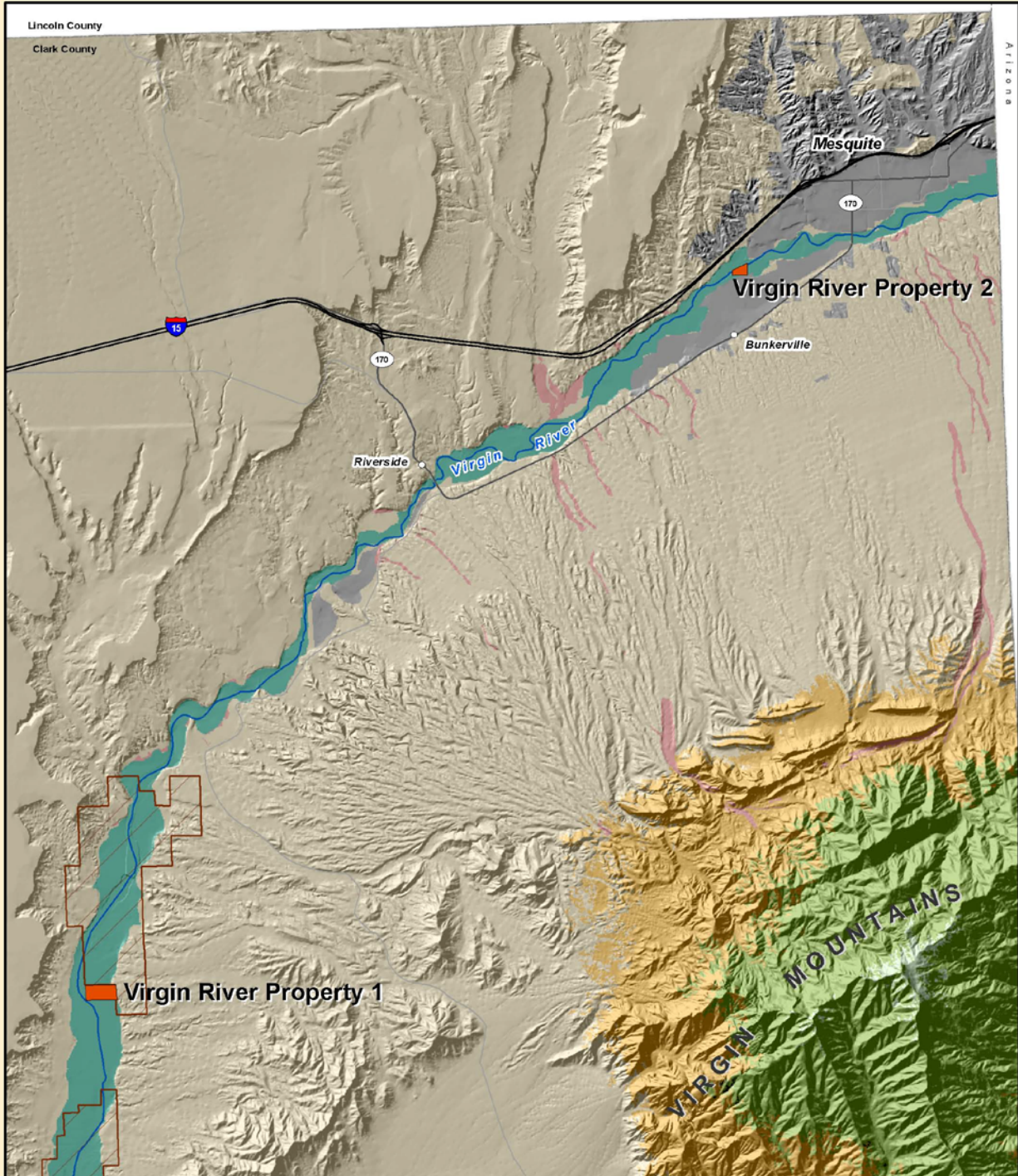




## Permit Requirement Condition K

- Acquire lands on the Virgin and Muddy Rivers to preserve as habitat for riparian birds covered by the Muddy River
  - Virgin River, 101 acres
  - Muddy River, 118 acres

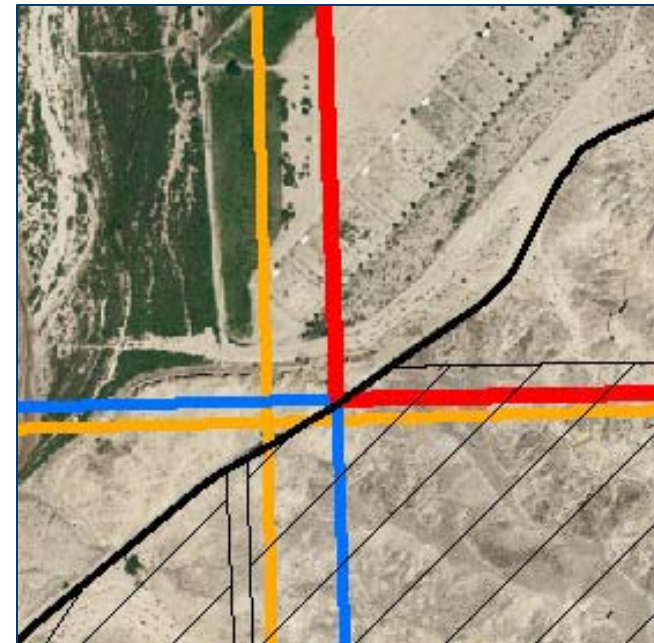






## Suspended townships in Virgin River area

- Legal boundaries could not be defined
- Cadastral survey needed to establish boundaries
  - BLM wait list





## Cadastral Survey

- Project Goals
  - Conduct surveys to define federal lands
  - Create "New Official BLM Cadastral Survey Plats" to delineate findings and identify federal land interest
- Benefit to all landowners
  - Clear title for parcels

Cadastral Survey

2009-BLM-805H

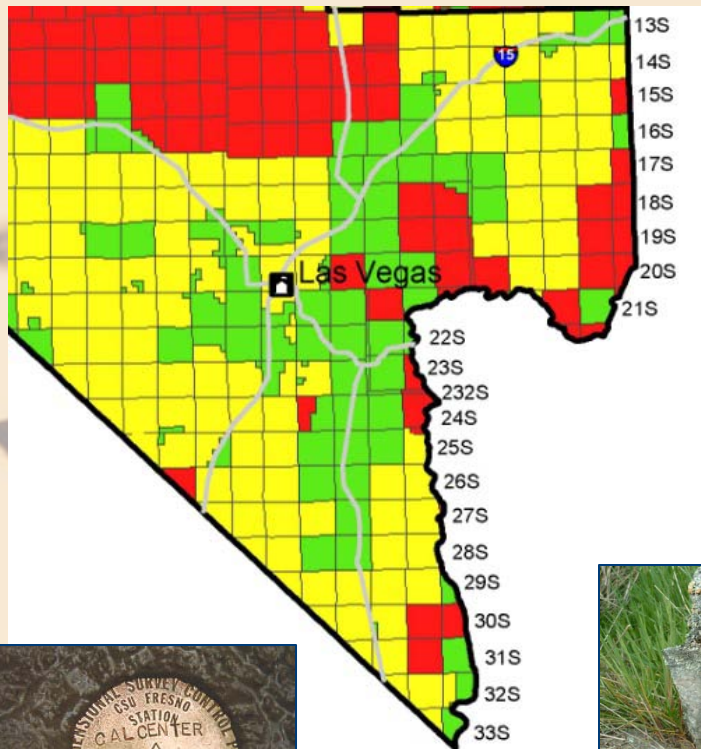
6/21/2011–12/31/2012

\$105,000 Section 10



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# Virgin River



## Re-surveys in Township and Range Sections:

T14S R69E Sections: 12, 13, 14, 23, 28, 32, 33

T14S R70E Section 7, if sufficient funds remain



Brass cap,  
post 1910



Wood post/stone,  
pre 1910



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Virgin River

## Completed to date

- Investigation of project area
  - Surveyed for original monuments
  - Surveyed for controls
- Contacted land owners
  - Knowledge of original evidence and/or corner locations





## Next Steps

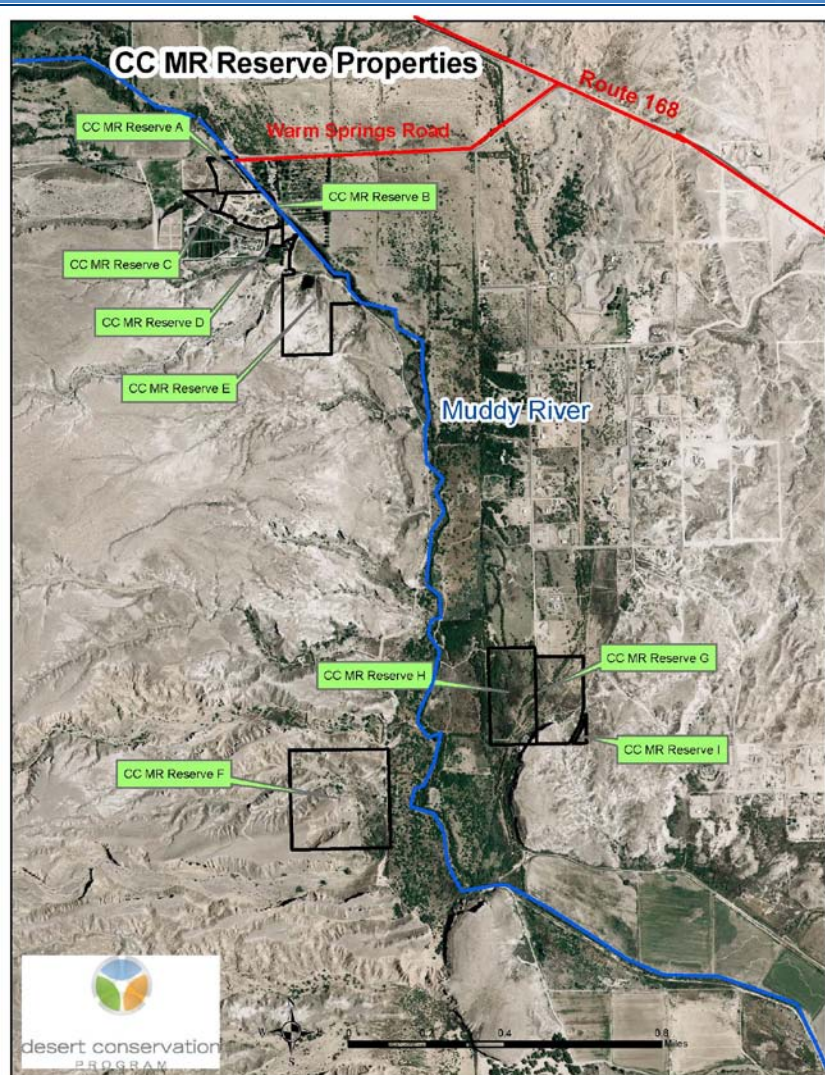
- Set corners based on local input and original evidence found
- Prepare the "New Official BLM Cadastral Survey Plats"





## Property Management and Restoration

- Protection and enhancement of habitat for covered riparian birds
- Properties A – I





## Maintenance of Property Features

- Replaced irrigation clock and pipe
- Installed backflow device on municipal water
- Repaired fence
- Created and maintained fuel breaks
- Removed six dumpsters of debris and trash



Annual Property  
Maintenance

2009-ATS-805M

1/30/2012–2/28/2013

\$19,240 Section 10



## Botanical Inventory, Weed Treatment & Mapping

- Mapped location and extent of weeds
- Developed native & nonnative plant lists
  - Russian knapweed and Malta starthistle
  - Alkali sacatone, saltgrass
- Developed weed treatment schedule



Botanical Weed  
Treatment & Mapping

2005-NPS-561N

1/3/2012–2/1/2012

\$20,000 SNPLMA



## Revegetation

- Mulched bank
- Pole cuttings
  - Goodings willow, cottonwood
- Willow wattles
  - Coyote willow
- Plugs
  - Salt grass, yerba mansa, scratch grass, spikerush



Habitat Restoration

2005-NDF-561K

11/21/2011–1/31/2012

\$24,000 SNPLMA





## Soil and Water Analysis

- Consulted with NRCS
- 58 soil samples (4, 8, 24" depths)
- Three water samples
  - Stream, groundwater source and pond



Sample Analysis

2005-UNLV-561J

11/21/2011–1/31/2012

\$6,131 SNPLMA



## Next Steps

- Review soil results with Soil Scientist
- Develop recommendations for future restoration efforts based on results
- Update Management Plan
- Conduct additional weed treatments
- Conduct additional restoration