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# Riparian Reserves and Property Acquisition Activities

Elizabeth Bickmore

August 13, 2015

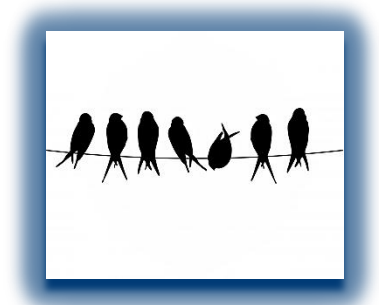




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## Outline

- MSHCP – Permit Condition K
- Riparian Management Plan
- Property Acquisition Activities
- Virgin River Management
- Muddy River Management
- Future Steps for the Riparian Reserves





## Permit Condition K

- Multiple Species Habitat Conservation Plan
- Permit Condition K
  - Acquire riparian lands to preserve as habitat for covered riparian birds
    - Muddy, Virgin Rivers and Meadow Valley Wash

### 6 covered riparian birds

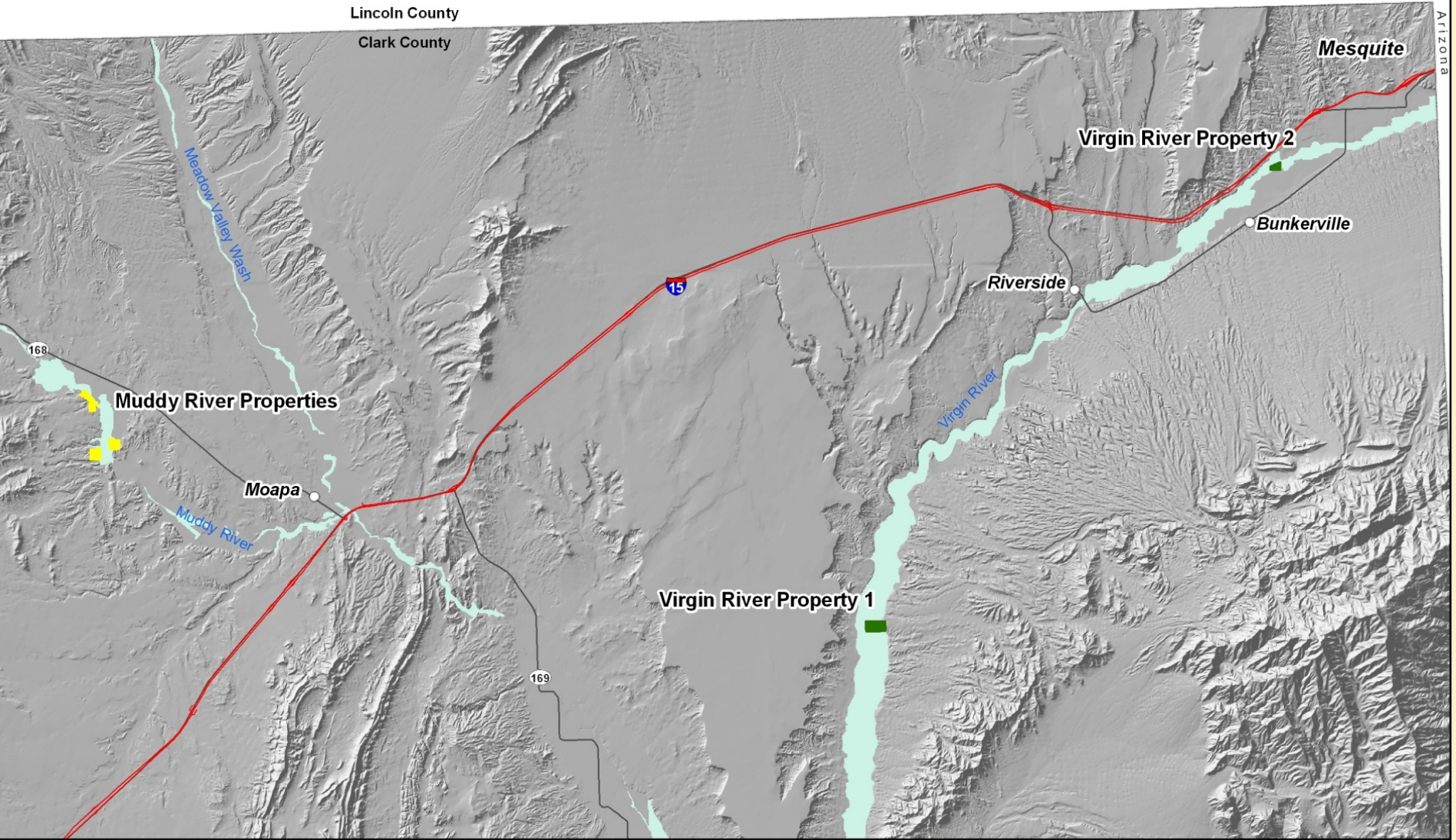
- Summer tanager
- Blue grosbeak
- Arizona Bell's vireo
- **Yellow billed cuckoo**
- **Southwestern willow flycatcher**
- Vermillion flycatcher



Lincoln County

Clark County

ARIZONA



## Desert Conservation Program Riparian Reserve Properties

Projection: Transverse Mercator  
Coordinate System: UTM Zone 11  
Datum: NAD83  
Date: 7/27/2011

This information is for display only.  
No liability is assumed as to the  
accuracy of the data provided  
hereon. (Draft - 7/27/11)  
Clark\_County\_riparian\_reserve.mxd

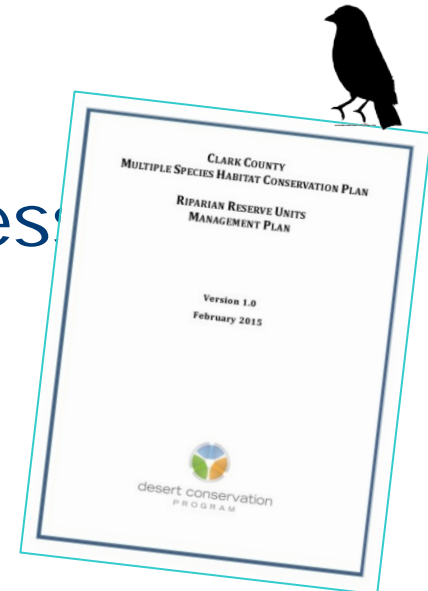




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# Riparian Reserve Units Management Plan

- Completed February 2015
- Goals, objectives, management actions
- Formalized reserve names
- History and background
- Guiding Documents
- Implementation and budget processes
- Reserve Unit description
  - Land use
  - Biological and physical resources





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## Property Acquisition Activities

### Land Acquisition

- Virgin River 2 Expansion
  - Acquired December 2014
  - 4 parcels
  - ~67 acres
  - ~88 contiguous parcels



Mesquite

Casablanca Golf Course

Virgin River Reserve Unit  
Subunit 2

2-A

2-B

2-C

2-D

2-E

170

15

15



## Lands Acquired

Muddy River	118 acres
Virgin River	101 acres
Virgin River expansion	67 acres
<u>Meadow Valley Wash</u>	<u>-</u>
TOTAL	286 acres





## Cadastral Survey

- Properties below Riverside Bridge
- Pending

## Continue Property Evaluations

- Muddy River
  - Moapa area
  - 2 parcels, 20 acres
- Virgin River
  - Bunkerville area
  - 8 parcels, ~213 acres



00222

00223

00224

00227

00226

00225

Bowler, J

00234

00235

00236

Riverside

600m  
2000ft

GISMO



Mesquite

Casablanca Golf Course

Virgin River Reserve Unit  
Subunit 2

2-A

2-B

2-C

2-D

2-E

170

15

15



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## Virgin River Activities

### Limited Access

- Virgin River 1
  - Photo monitoring
  - Maintaining cattle exclusion fencing



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Photo monitoring

Virgin River 1

Site B

7/16/2014 After Planting





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## Photo monitoring

### Virgin River 1 Site B 4/24/2015



Willow  
Cottonwood  
Arrowweed  
Yerba mansa  
Juncus  
Alkali helitrope  
*Pluchea odorata*



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## Muddy River Activities

### Continued Property Maintenance

- Weekly site visits and reports
- Minor fence maintenance
- Clean up
- Fire breaks
- Palm tree trimming
- Pond level





## Continued Weed Management (NPS)

- Survey and map location and extent of weeds
- Treat annual and perennial weeds

### Noxious Weeds

- Malta star thistle –high potential to expand
- Puncture vine
- Australian saltbush
- African mustard
- Russian knapweed







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## Muddy River Activities cont.

- Catastrophic flooding September 2014
  - Frog Refugia breached
  - Cancel Agreement with NDOW



Courtesy of Kevin Guadalupe,  
NDOW



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## Muddy River Activities cont.

### Irrigation Ditch

- Repaired bank under irrigation ditch
- Installed and buried pipe full length of irrigation canal
  - April 2015





- Perkins Pilot Riparian project ~ 3 ACRES
  - Planning Phase
    - Geotechnical Assessment (Stillwater Sciences)
      - Soil cores
      - Depth to groundwater
      - Soil characterization
      - Groundwater well piezometers
    - Grading Plan
  - Construction Fiscal Year 2017
- Potential Upstream Terrace
  - ~12 acres
  - Incorporate high flow events



**Upstream Riparian Terrace**

**Pilot Riparian Site**



## ■ Perkins Pond

- ~ 1/2 acre
- Incorporate into the pilot site
- Nursery site





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# Muddy River Activities cont.



## Flood Channel Improvement



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## Future Steps - Riparian Reserves

- Initiate baseline bird surveys on Riparian Reserves
- Continue riparian property acquisition
- Website updates



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# Future Steps - Virgin River Reserve

- Initiate weed management/ botanical inventory on Virgin River
- Continue restoration Virgin River 1
  - Additional plantings
  - Monitoring
  - Fence improvements
- Restoration Project, Rd 15 SNPLMA





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## Future Steps - Muddy River

- Continue weed management and property maintenance projects
- Tamarisk control and restoration project
- Muddy River Restoration (SNPLMA 14)
  - Continue Perkins Pilot Riparian project



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Questions?