

# RECLAMATION

*Managing Water in the West*

## Lower Portal Road Habitat Improvement Summary



U.S. Department of the Interior  
Bureau of Reclamation

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# General Overview

- **The Lower Portal Road is a multi-use area**
  - employee access into Hoover Dam and
  - permitted recreational activities with adventure tour vendors.
- **Hoover Dam Pupfish Refuge is found within the habitat area**
  - Constructed in 1974 to create a secondary refuge for endangered Devil's Hole pupfish (*Cyprinodon diabolis*)
  - Fed by a natural warm spring
  - Ideal habitat for tamarisk (*Tamarix spp.*)
  - Introduced relict leopard frog (*Rana onca*) population in 2003

# Purpose

- **Tamarisk removal proposal initiated as a fire management funded project**
  - Excess fuel as a result of tamarisk densities
  - Provide improved habitat for relict leopard frogs
  - Re-vegetate with native plants
- **Began in 2009 with assistance from National Park Service crews**

# Aerial View - Upper Portion



Photo circa 2011- after tamarisk removal

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# Aerial View - Lower Portion



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- Aerial view of habitat area



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# Phase 1- Upper Portion

2009- Pre removal



2011- Re-treatment



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# Upper Portion Photos

2012



2013



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# Phase 1- Upper Portion

- **Removed two 40-yard dumpsters full of tamarisk cuttings**
- **Cleared the drainage along the road for improvement of habitat for relict leopard frogs.**
- **After two years- Approximately 160 cubic yards of debris removed.**

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# Phase 2- Lower Portion

2011- Pre removal



Progress



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# Phase 2- Habitat Improvement

Creation of ponds

Fall 2011



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# Phase 2- Habitat Improvement

## Stream Channel



## Planting of Coyote Willow (*Salix exigua*)



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# Lower Portion - Overview

2009 – pre work



2011 – removal



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# Lower Portion- Then & Now

2012 – re-treat

2013



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# Phase 3- Old Building Foundation

2011- Pre removal

2011



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# Old Building Foundation

- 2011 – Initial removal



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# Access Road Drainage

2011- Pre removal

2011 – Post removal



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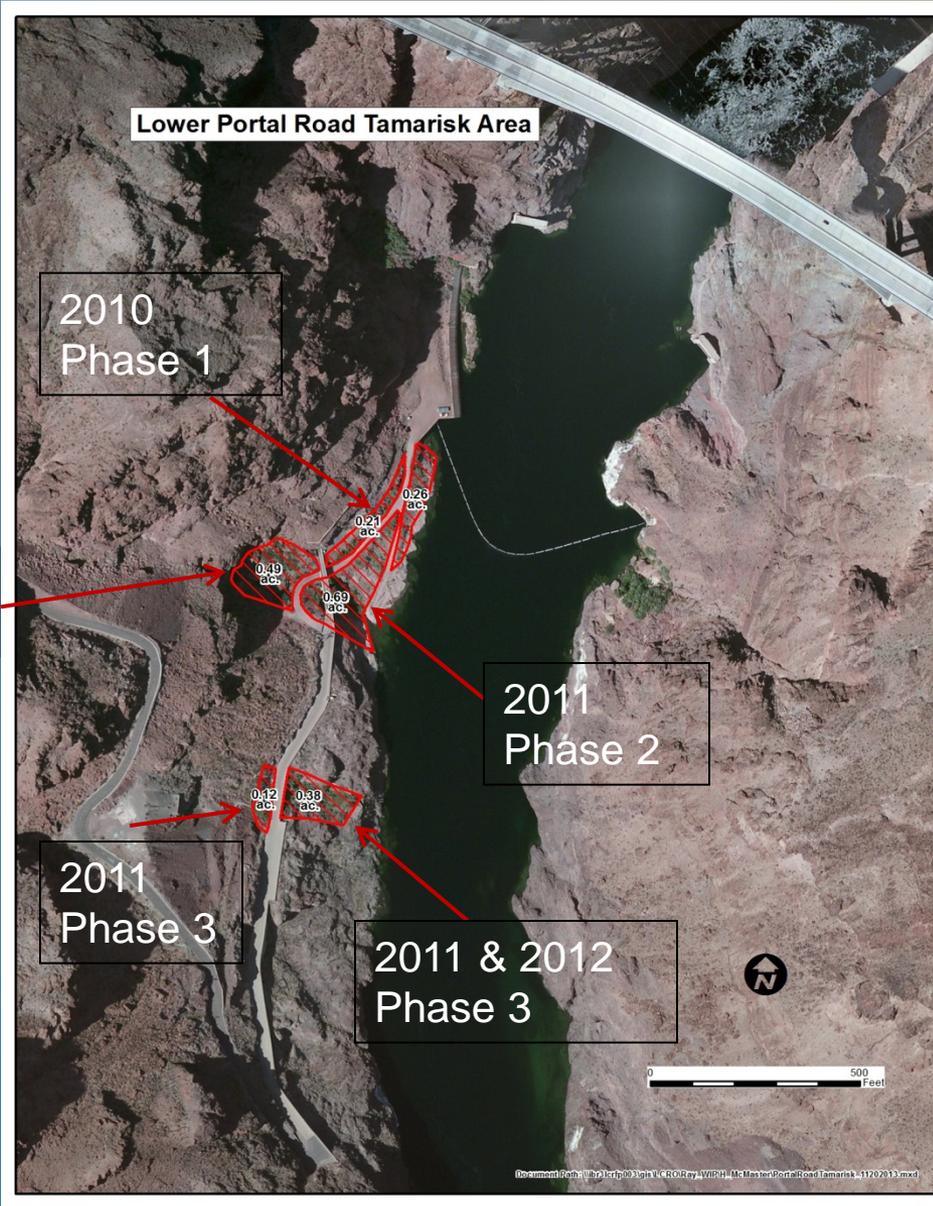
# Phase 4- Monitoring & Maintenance

- Check the site at least 2 times a month
- Hand water mesquite trees as needed from the spring
- Monitor willow clipping growth
  - Bighorn sheep predation
- Future habitat improvement opportunities

# Project Site Overview

~1.89 acres cleared

2009 & 2010  
Phase 1



# Mesquite Success

2012 - April



2012- August



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# Mesquite Success

2012 - December



2013 - August



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# Future Improvement Opportunities

- Re-treatment of tamarisk regrowth as needed.
- Planting of additional native trees
- Continue wildlife surveys



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# Conclusions

- **Approximately 1.89 acres of habitat improvement**
  - Removal of tamarisk
  - Planting of mesquite trees
  - Planting of coyote willow
  - Creation of small pools
- **Approximately 240 cubic yards of tamarisk removed from the site**
- **High survival rate of mesquite**
- **Low survival rate of willows**

# Acknowledgments

- US Bureau of Reclamation- Lower Colorado Dams Office
- University of Nevada, Las Vegas
- National Park Service- Lake Mead Exotic Plant Management Team
- National Park Service- Plant Nursery
- Ahakhav Native Plant Nursery
- Colorado Adventure Tours



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# Questions?

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