Presentation Outline

- The Team
- Project Site Map
- Objectives and Design Considerations
- Water Accounting
- Status Update
- Construction and Planting Plans
- Re-vegetation and Habitat
- Maintenance and Monitoring
The Laguna Project Team

- Provo Area Office
  - Earthwork, Construction, Planting, Design Support
- Yuma Area Office
  - Modeling, Earthwork/Design Support
- Natural Channel Design
  - Engineering and Design
- Fred Phillips Consulting
  - Planting Design and Weed Maintenance
- Bureau of Land Management
  - Access control, law enforcement
Project Site Map

• Project Area – 1200+ acres

• Reach Length – 4.3 miles

• Existing Conditions
  • Reach 1 completely cleared
  • Reach 2 clearing underway
Project Design Considerations

Up to 100 cfs available for project use

Habitat Targets:
- Open Water/Marsh: 50 – 100 ac
- Cottonwood/Willow: >200 ac
- Upland (mesquite): <500 ac
- Include specific habitat for T&E species

Provide hydrology to support habitats for 50 years or more

No detrimental effect on existing Mittry Lake or Old River Channel Habitats

Minimize impacts to existing operations (sluicing, dredge disposal, water delivery, etc.)

Minimize both initial construction and long-term operating costs
Target Habitats

Open Water/Marsh: 50 – 100 ac

Cottonwood/Willow: >200 ac

Upland (Mesquite): <500 ac
Target Species

- California Black Rail
- Yuma Clapper Rail
- Southwestern Willow Flycatcher
- Yellow Billed Cuckoo
- Yuma Hispid Cotton Rat
- Western Least Bittern
Water Accounting

100 cfs continuous flow is available from the Gila Settling Basin

- Looking at historical (1943 – 2009) monthly flow data of gauging station, USGS 0952250 Gila Gravity Main Canal at Imperial Dam, collected in the Main Canal.
- In the event of a water shortage to the Gila Main Canal, the Laguna Division Conservation Area has lower priority than downstream users and water supply to the Area may be limited.

Available Flow From Gila Basin from Historical Data

(cfs)

Max Gila Basin Releases  Available Surplus Release

General Project Update

- Clearing underway – will be completed by Fall 2013
- Construction of water control structures ongoing through May 2013
- First planting sequence will begin late Summer 2013
- Expect project completion by Summer 2015
Current Construction Plan: Overview

- Operate as a managed, riverine system to maximize limited water resource
- Use existing overflow channels through project area to minimize excavation
- Use “pulse flows” to provide irrigation to woody species
- Requires water control structures to manage water levels

REACH 1

“Pulse” WSE = 160.0
Normal WSE = 158.0
Channel Invert = 151.0

GILA WASTEWAY CANAL

WCS#1

REACH 2

“Pulse” WSE = 158.0
Normal WSE = 156.0
Channel Invert = 149.0-150.0

CONNECT TO THE OLD RIVER CHANNEL
Construction Components

- Water Delivery System from Gila Forebay
  - Headworks & Pipeline

- Site Preparation for Earthwork
  - Clearing/Grubbing of Salt Cedar

- Earthwork
  - Channels support water conveyance and vegetation/habitat
  - Minimize cut/fill and maximize pulse flow irrigated area
  - Reach 1 & 2 primary and secondary channels
  - Roads roads for access and firebreaks

- Water Control Structures
  - Manage water levels in Reaches 1 & 2, and historic river channel
  - Additional Mittry Lake turnout structure
Water Delivery System Overview

- Gravity system delivering high quality water from the Gila Forebay to the wetland restoration area
- Pipeline headworks at the Gila Forebay
- 4,000-FT, 48-IN. diameter pipeline
- Cross underneath the Gila Wasteway Canal with an inverted siphon
Water Delivery System: Headworks

Balancing Resource Use and Conservation
Water Delivery System: Headworks

Balancing Resource Use and Conservation
Water Delivery System: Pipeline

- 48-inch diameter, 4,000 Foot pipeline
  - Inverted siphon to cross underneath the Gila Wasteway Canal
  - Construction Completed in Spring 2012
Water Control Structures

Balancing Resource Use and Conservation

- Overshot Gates set in cast-in-place concrete bays
- Constructed in concert with earthwork operations
- Fully-automated
- Additional Mittry Lake turn-out structure
Earthwork Operations

- **Earthwork**
  - Roughly 2 Million Cubic Yards of excavation
  - Utilize excavated spoils to form levees and maintenance roads
  - Began Fall 2011
  - Scheduled completion in Fall 2013

- **Invasive weed management on-going**
Site Preparation for Planting
MSCP Laguna Restoration
Reach 1 Cross Sections
MSCP Laguna Restoration
Reach 2 Cross Sections

Date: 8/25/10

Scale: 1" = 120'
Plant Establishment

1. Marsh and Mesquite
   - Hand-planting of marsh plugs and deep pot mesquites
   - Marsh plants must establish before the transitional/cottonwood areas can be flooded
   - Mesquites irrigated by water trucks if needed

2. Cottonwood and Willow
   - Mass-planted with plugs and pole planting

3. Water level management
   - Frequent fluctuations the first two years during establishment
   - Once vegetation is established, maintain stable water levels
Channel Revegation
(Tidal irrigation with water control structures)

April 2006

June 2010
Marsh and Transitional Zone
(Tidal irrigation with water control structures)

October 2005

June 2010
Transitional Zone
(Tidal irrigation with water control structures)

October 2006

June 2010
Project Maintenance and Monitoring

- Follow-up contouring after test flooding and prior to planting
- Continued weed maintenance during plant establishment period
- Maintenance and operation of water control structures, roads and project infrastructure (50 years)
- Irrigation of upland mesquite re-vegetation
- Plant and wildlife monitoring
- Long-term weed, replanting and irrigation maintenance
Access

Multi Species Conservation Program

Colorado River Conservation Habitat

Common Wildlife of the Laguna Conservation Area

Laguna Division Conservation Area

Proposed Interpretive Signs

Date: 7/1/11

Designed By: PPC
Current Schedule

- Test flood Reach 1 (summer 2013)
- Plant Reach 1 marsh (fall 2013)
- Collect & plant poles in Reach 1 (Jan 2014)
- Plant mesquites in Reach 1 (Feb – Apr 2014)
- Plant riparian in Reach 1 (Feb – Apr 2014)
- Plant marsh in Reach 2 (April 2014)
- Collect & plant poles in Reach 2 (Jan 2015)
- Plant mesquites in Reach 1 (Feb – Apr 2015)
- Plant riparian in Reach 2 (Feb – Apr 2015)
Questions?

http://www.lcrmscp.gov/conservation/laguna.html