Lower Colorado River Multi-Species Conservation Program

Balancing Resource Use and Conservation

LCR MSCP Program Goals and preliminary design for Restoration of Hart Mine Marsh

U.S. Department of the Interior
Bureau of Reclamation

Hart Mine Marsh

Located on Cibola National Wildlife Refuge

Partnership with the USFWS Cibola NWR and Reclamation's LCR MSCP office

Restoration will fulfill a portion of the LCR MSCP's habitat creation requirements while meeting goals identified in the USFWS's management plan for the lower Colorado River refuges

RECLAMATION

RECLAMATION

LCR MSCP Marsh Goals

- 512 acres of marsh total
- Creation of habitat for LCR MSCP covered species
- Reach 4
  - Yuma clapper rail
  - Western least bittern
  - Colorado River cotton rat

Yuma Clapper Rail

- Patches of bulrush and cattails with water depths of no greater than 12 inches
- Integrated mosaic of wetland vegetation types, water depths, and open water
- Creation of these habitats will also benefit Western least bittern and Colorado River cotton rat, as well as, California Black rail

Hart Mine Marsh Goals

- Expansion of covered species habitat

– minimum of 100 acres

– maximum?

RECLAMATION

Fish and Wildlife Service Wetland Review Process

- **Multidisciplinary Team of Wetland Scientists, Geologists, Ecologists, Hydrologists, Regulators, and Managers**
  - **Historical processes**
  - **Existing physical and biological features**
  - **Current management**

RECLAMATION

Fish and Wildlife Service Wetland Review Process

- Utilize existing geomorphological features
- Attempt to approximate historical conditions and some processes
- Have the ability to independently manage and control water levels in multiple management units

The Balancing Act

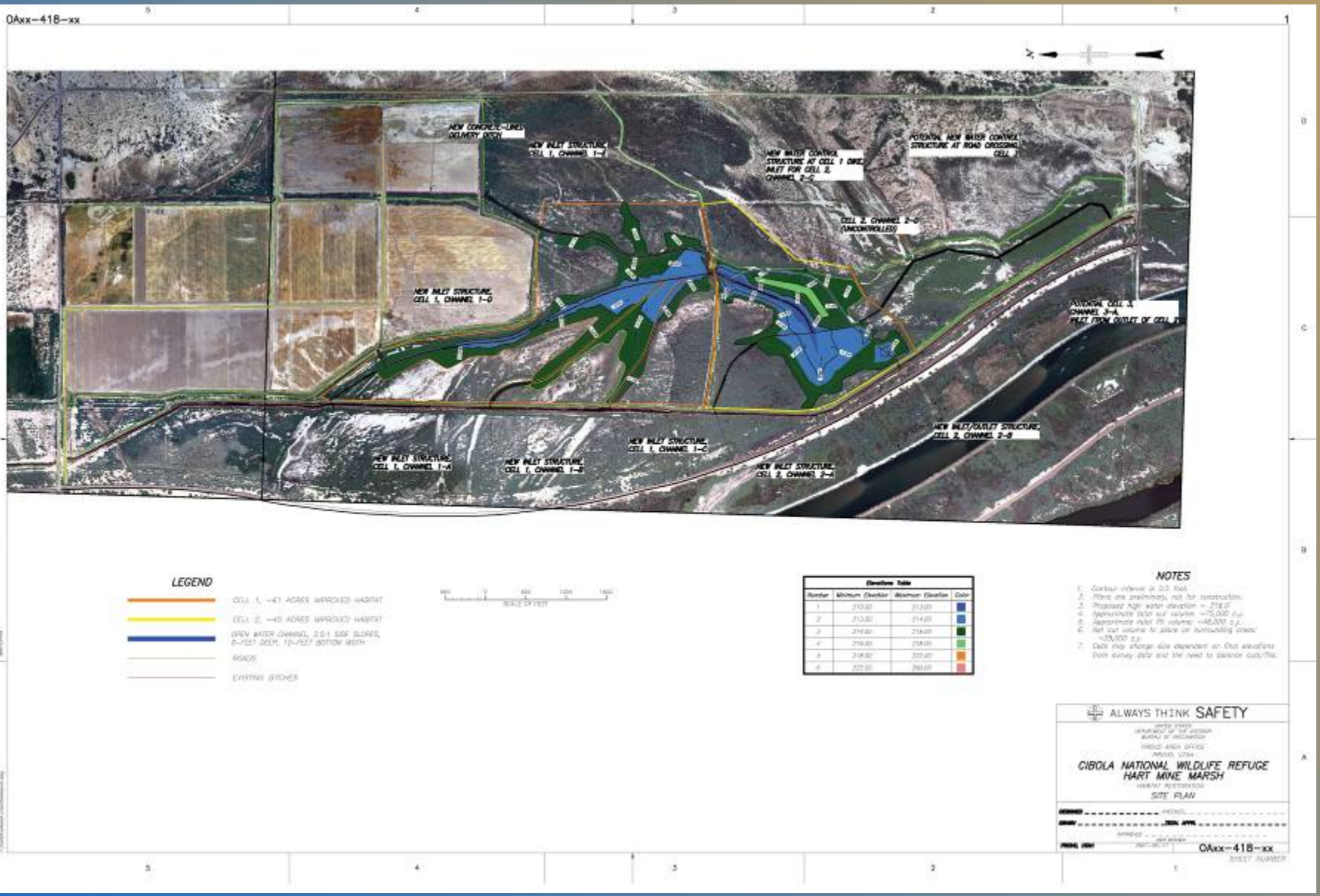
- **Incorporation of Wetland Review suggestions, but still meeting LCR MSCP program goals for habitat creation**

- **Determine what is possible based on site conditions, infrastructure, available water, and budget**

Hart Mine Marsh Goals

- Using existing geomorphology and topography in design
  - Reducing cut and fill
- Independently managed units constructed in a phased approach
  - Clearing/Excavation/Contouring
  - Control structures
  - Vegetation establishment
- Water management
  - System flow management
  - Water level management

RECLAMATION



RECLAMATION

Monitoring at Hart Mine Marsh

- **Physical site characterization**
  - **Existing conditions report**
  - **Hydrology, soils, water quality, and vegetation**
  - **Available online:**

    http://www.lcrmscp.gov/worktasks/conservationareas/E9/HartMineconditions.pdf

- **Pre-development marsh bird surveys**

RECLAMATION

Pre-development Monitoring

- Marsh bird surveys using tape playback method
- Call sequence of black rail, least bittern, Virginia rail, and Yuma clapper rail were played using a CD player and amplified speakers.
- Eight survey points were placed adjacent to patches of marsh vegetation
- Most survey points were reached by kayak or by foot where water levels were low

Results

2006 surveys

- March 21
- April 19
- May 23

2007 surveys

- April 6
- April 27
- May 11

Species	2006	2007
Yuma Clapper Rail	4 (2 pair)*	0
Least Bittern	2	3

*Clapper rails were detected at two different survey points on different survey days

RECLAMATION

Questions?

RECLAMATION