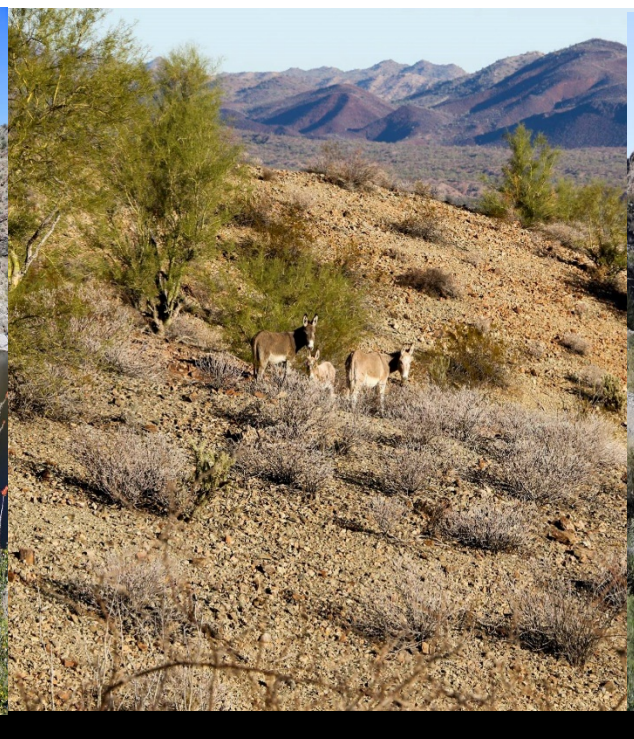
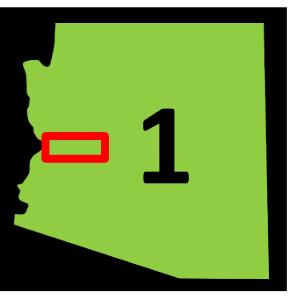


# Welcome
# to the
# Alamo Dam
# Water Control Plan Update
# Scoping Session


U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

# ALAMO DAM WATER CONTROL PLAN UPDATE
# LA PAZ AND MOHAVE COUNTIES, ARIZONA
## CURRENT OPERATIONS

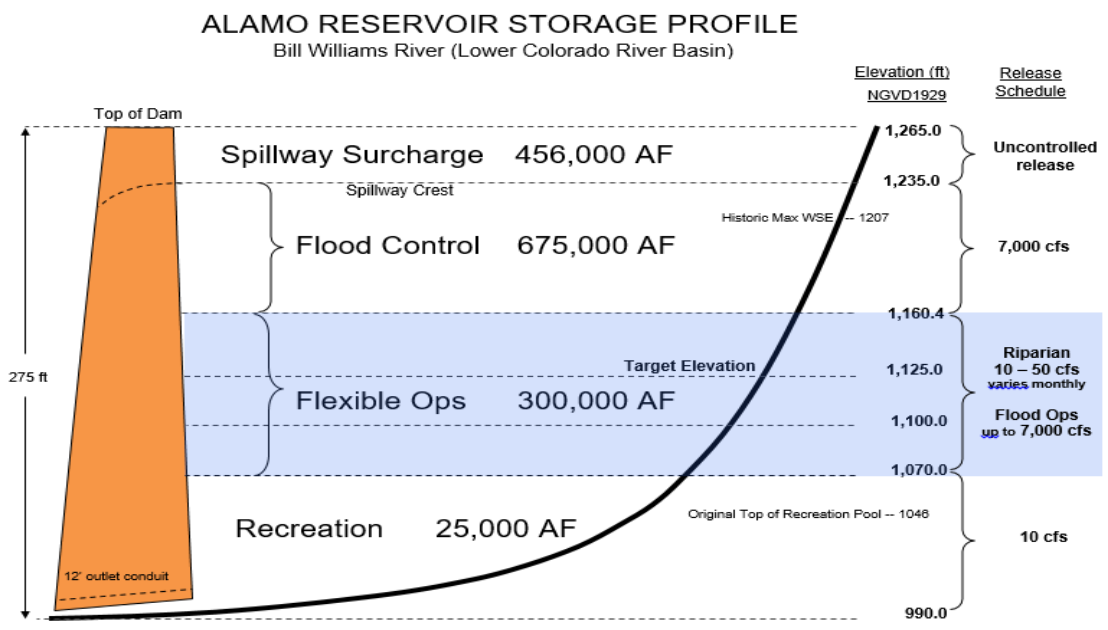



## CURRENT OPERATIONS

| Designated Purpose | Bottom WSE | Top WSE | Storage Volume [AF] | Releases [cfs] |
|---|---|---|---|---|
| **Flood Control** | 1160.4 | 1235 [spillway crest] | 673,600 | 7,000 |
| **Target Elevation** | 1125 | | 160,550 | 1,000 |
| **Water Conservation** | 1070 | 1160.4 | 297,350 | Riparian - 7,000 |
| **Recreation** | 990 [invert] | 1070 | 24,400 | Riparian |

**Riparian Release Schedule in CFS**

| Lake Elevation (ft) | Oct | Nov-Jan | Feb-Apr | May-Sept |
|---|---|---|---|---|
| **1100 - 1125** | 40 | 25 | 40 | 50 |
| **1070 - 1100** | 15 | 10 | 25 | 25 |
| **990 - 1070** | 10 | 10 | 10 | 10 |




The current operations and pools at Alamo Dam were developed in the 1999 Alamo Dam Feasibility Study and Environmental Impact Statement and implemented in the 2003 Water Control Plan. The upcoming analysis will consider whether any of these pools should be adjusted based on current conditions.

## POTENTIAL CHANGES TO OPERATIONS

See Poster 2 for issues related to current operations at Alamo Dam

1. Change target lake elevation:
   - a) Increase target lake elevation
   - b) Decrease target lake elevation
   - c) Leave target lake elevation the same
2. Changes to release pattern:
   - a) Shape releases to mimic natural flow patterns - high flow events during rainy season
   - b) Maintain existing release pattern
   - c) Higher flow events spread through out the year
3. Reallocate some storage space to flood control pool.
4. Lower water surface elevation to 1100 feet every 10 years to allow for inspection of the Dam's upper conduit.

**What changes would you like to see? How would you like to see those changes implemented?**
**What effects on Alamo Lake users and downstream users can you see resulting from any changes to operation?**

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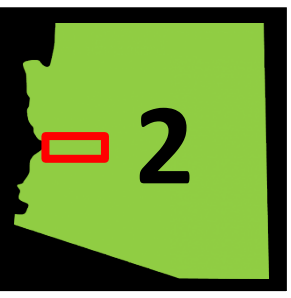
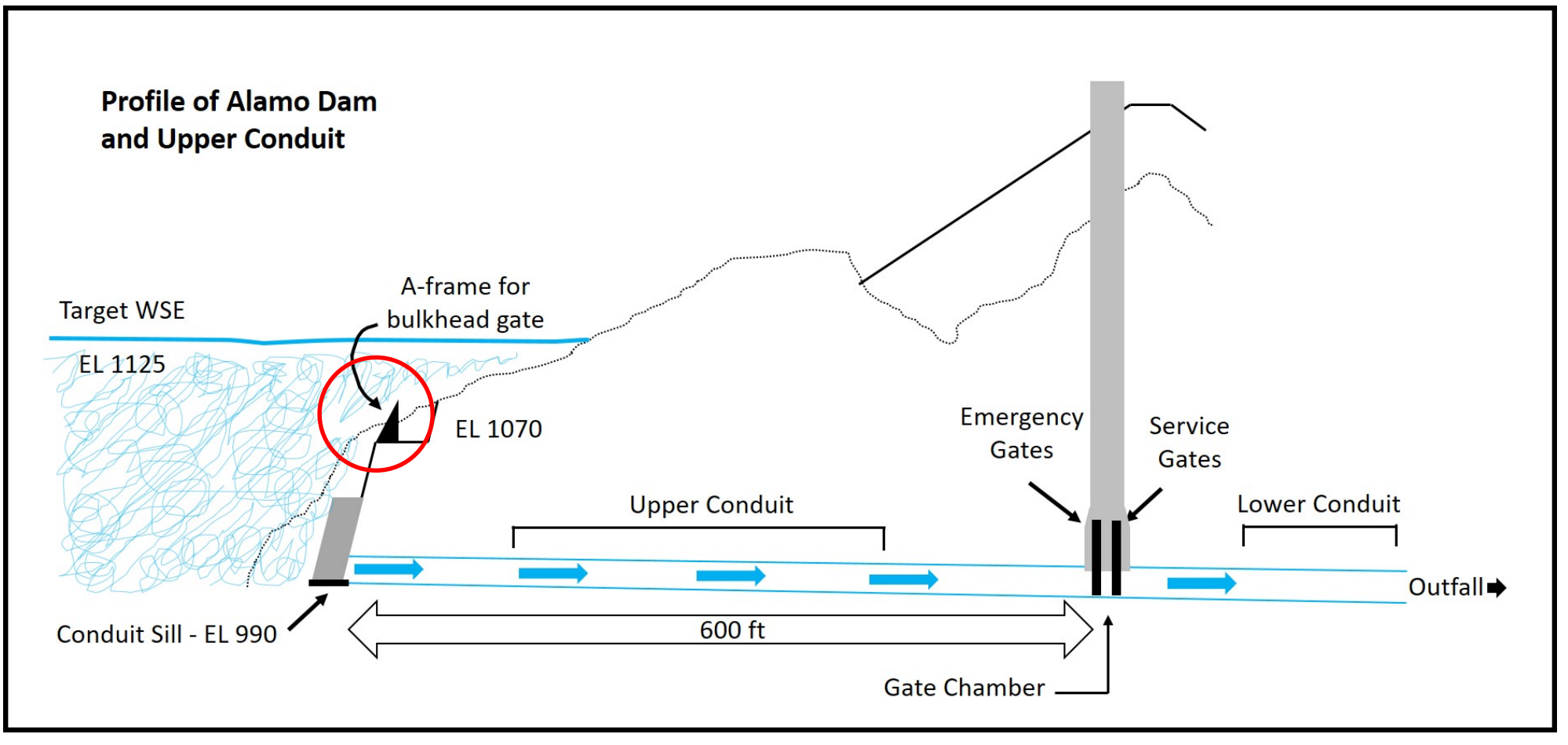
## WHY IS THE CORPS CONSIDERING A CHANGE?




## CURRENT OPERATIONAL PROBLEMS

Under existing operations, Alamo Dam has several ongoing issues:

- Based on updated knowledge, the probable maximum flood along the Bill Williams River would overtop the dam under current operations.
- Due to the lack of consistent flushing flows, sediment builds at the face of the dam, creating excess and dangerous hydrogen sulfide gas.
- Bulkhead gate access is problematic, and dewatering to use the gate is very challenging.
- Since 1999, several new species and habitats have been protected by the Endangered Species Act (see POSTER 5 for details).
- Current operations are very difficult to implement until the Corps completes required compliance efforts associated with the new listed species.
- In 2002, the Corps entered Alamo Dam into the Sustainable Rivers Program, a joint initiative with The Nature Conservancy.




# ALAMO DAM WATER CONTROL PLAN UPDATE
# LA PAZ AND MOHAVE COUNTIES, ARIZONA
# PROPOSED ACTION

## PROPOSED ACTION

Alamo Dam is currently operated under a Water Control Plan from 2003, and an Environmental Impact Statement (EIS) and Biological Opinion (BIOP) from 1999. Due to a number of new issues, the Corps has identified a need to re-evaluate existing operations at Alamo Dam in order to determine if changes to the Water Control Plan – and thus changes to how Alamo Dam is operated - are warranted.

## CONSTRAINTS

Constraints are items which cannot be changed as a part of the proposed action. Current constraints to the proposed water control manual update:

1. Maintain a minimum average release of 10 cfs for downstream water rights and riparian base flows.
2. Maximum controlled release possible is 7,000 cfs.
3. Once in the flood control pool, flood control releases are required, barring unusual downstream constraints.
4. Operation for fish and wildlife benefits not to reduce flood control or recreation benefits.
5. Bulkhead can only be placed when elevation ≤ 1110 ft.

Current base releases range from 20-50 cfs

Beyond this depth, pressure exerted by lake is too great

## CONSIDERATIONS

Considerations are important items which need to be considered when formulating the proposed water control manual update. Here's an example list of items the Corps would consider when updating the water control manual:

1. Increases in turbidity in Lake Havasu negatively affect Central Arizona Project's Lake Havasu intake.
2. During bass fishing season daily changes in WSE are best kept to 2" or less.
3. Inspections of the upper conduit are currently scheduled for every 5 years.
4. Long duration unfordable flows can cause hardship to downstream land owners and may need to be made intermittent.
5. Operating the A-Frame is best accomplished from a barge.
6. Hydrogen Sulfide gas build up within the dam outlet works is problematic for operations and increases wear on the dam structure.
7. Alamo Dam is part of the Sustainable Rivers Project and is subject to special considerations for operating in an environmentally friendly manner.

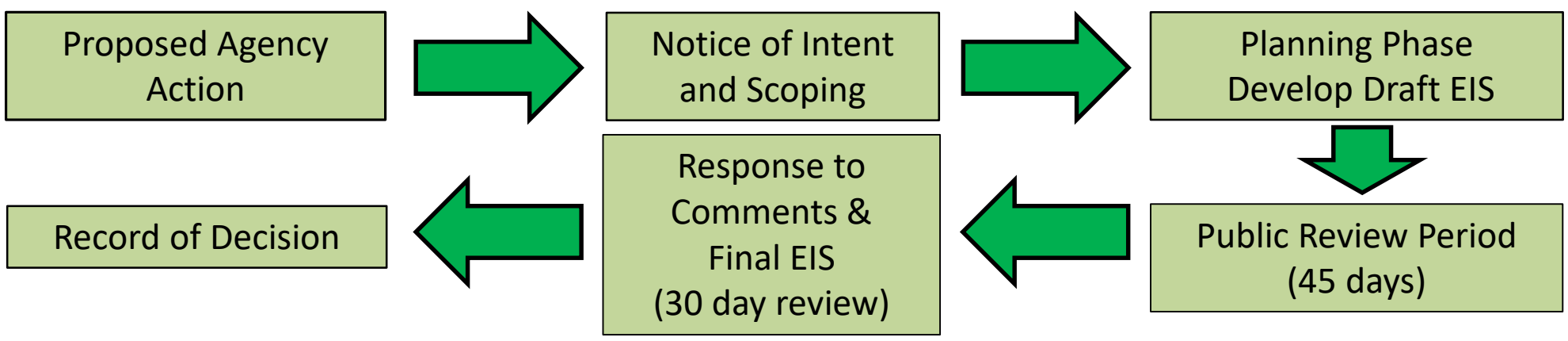
**8. What are your considerations? Please take the time to submit your considerations on the comment cards provided.**

# ALAMO DAM WATER CONTROL PLAN
# LA PAZ AND MOHAVE COUNTIES, ARIZONA
## THE NEPA PROCESS

## NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) is a federal law enacted in 1970 that requires federal agencies to assess the effects that proposed actions have on the human environment prior to making decisions. NEPA requires agencies to consider a reasonable range of alternatives and also provides for public and agency involvement and review.

## NEPA PROCESS




## CONSIDERATIONS UNDER NEPA

**Environmental Laws and Regulations**

Endangered Species Act
Clean Water Act
Clean Air Act
Fish and Wildlife Coordination Act
National Historic Preservation Act

**Potential Effects**

Direct Impacts
Indirect Impacts
Cumulative Impacts

**Resource Considerations**

Biological Resources
Recreational Resources
Socioeconomic Impacts
Water Resources
Earth Resources
Cultural Resources
Utility Impacts
Air Quality
Traffic and Transportation Impacts

## PURPOSE OF SCOPING

Scoping is completed after an agency determines the need and purpose for an action and before the agency begins drafting the NEPA document. The intent of Public Scoping is to identify subject of concern to review in the EIS and produce a list of key factors to be analyzed in the EIS.

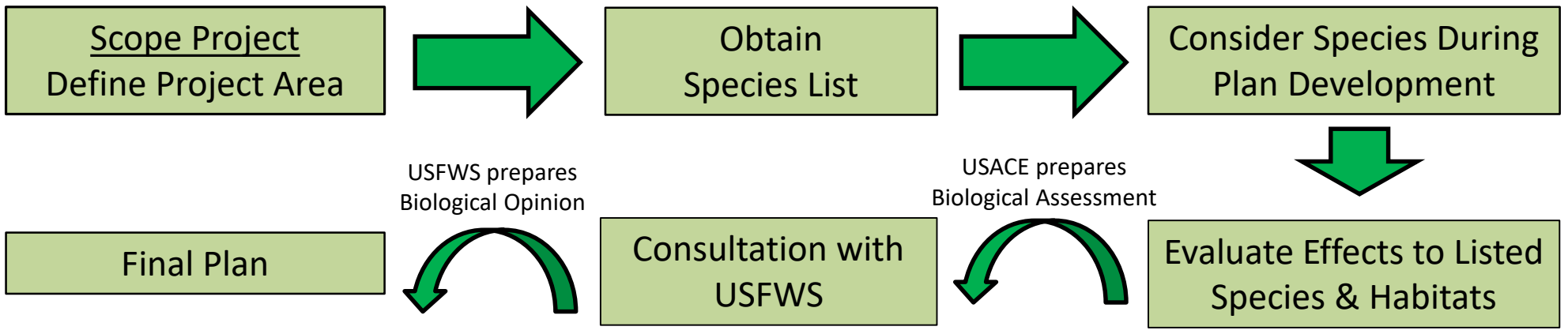
**How can you participate in Scoping?**
Submit your comments on the proposed action, alternatives that should be considered, issues, concerns, and opportunities using the comment cards provided, email your comments to AlamoDamSPL@usace.army.mil, or mail your comments to the address listed on the comment cards.

# ALAMO DAM WATER CONTROL PLAN
# LA PAZ AND MOHAVE COUNTIES, ARIZONA
## THE ENDANGERED SPECIES ACT PROCESS

## ENDANGERED SPECIES ACT OVERVIEW

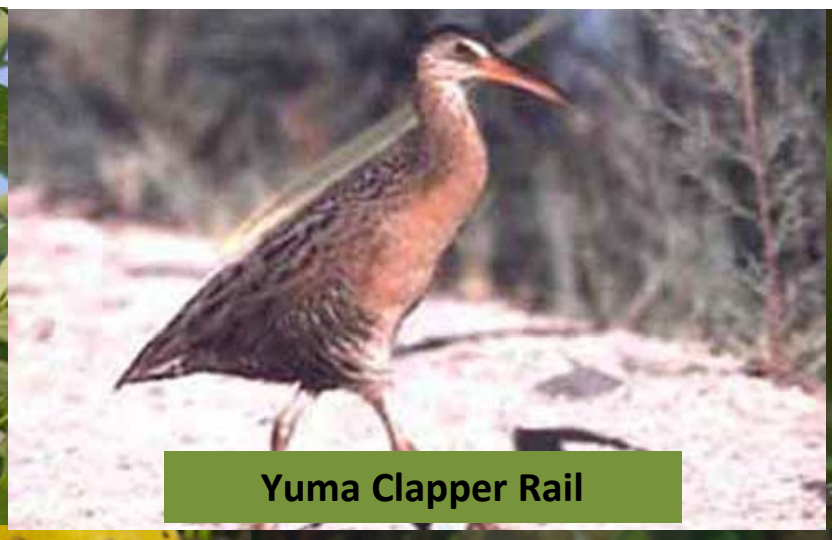
The Endangered Species Act (ESA) is a federal law enacted in 1973 designed to protect threatened and endangered species from becoming extinct. The ESA also provides for the protection of listed species' critical habitat. Section 7(a)(2) of the ESA requires Federal agencies to ensure, in consultation with USFWS, that any action they authorize, fund, or carry out is not likely to jeopardize any listed species or destroy or modify critical habitat.

## ENDANGERED SPECIES ACT PROCESS




## PROTECTED RESOURCES IN THE PROJECT AREA


Yellow-Billed Cuckoo


Yuma Clapper Rail

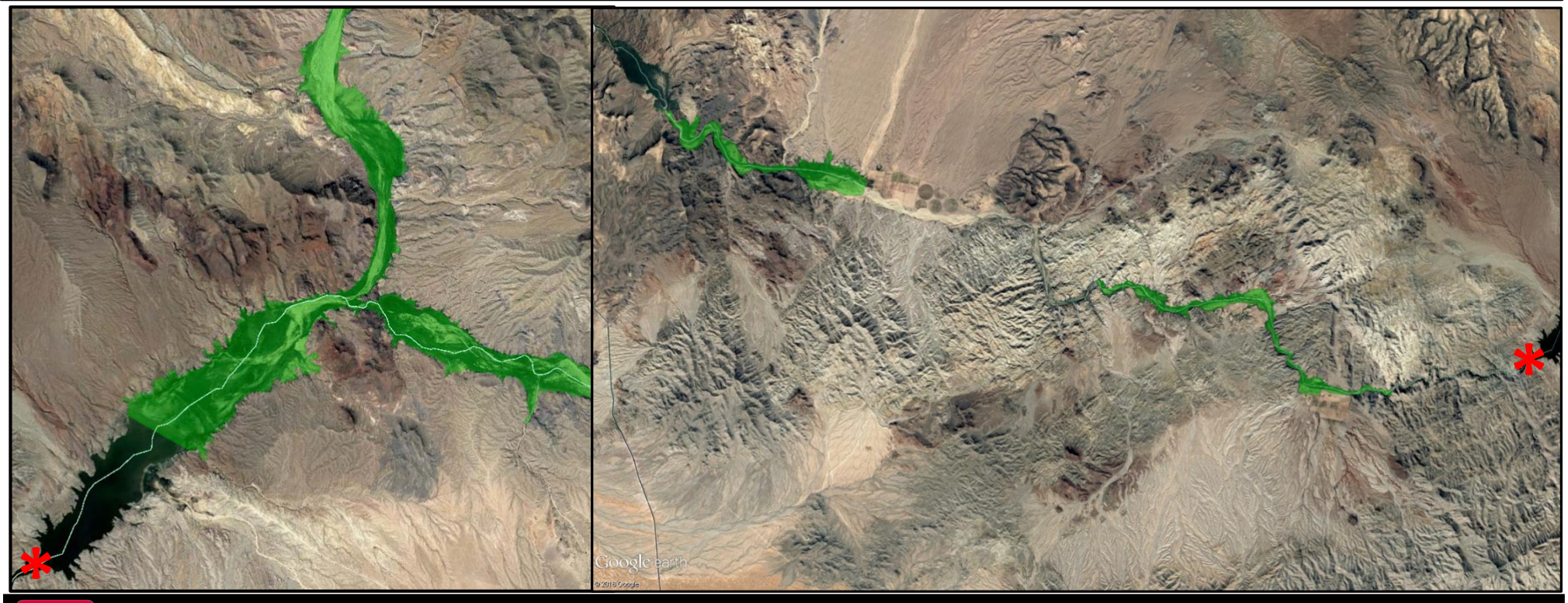

Willow Flycatcher


Northern Mexican Gartersnake


Bonytail Chub (above)

Razorback Sucker (left)

## DESIGNATED CRITICAL HABITAT AROUND ALAMO DAM

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