

**INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO
UNITED STATES SECTION
UPPER RIO GRANDE FIELD OFFICE**

**2016-2017 Sediment
Removal Activities**



April 2017



GOALS & OBJECTIVES

- Maintain efficient water deliveries to:
 - U.S. Irrigation Districts
 - Municipalities
 - Mexico
- Improve Operations at Diversion Dams
- Increase Flood Control Capability



NO ACTION IMPACTS

- Reduction in Channel Carrying Capacity
 - Reduce water delivery efficiency
 - Create backwater conditions = drainage problems
- River bank instability
 - Bank failure/Lateral migration
 - May impact maintenance roads
 - May impact flood protection levees
- Diversion Dams – Reduction in carrying capacity of irrigation canals with increase sediment loads



CHANNEL MAINTENANCE ACTIVITIES

- Bank Stabilization
 - Using rock riprap and woody vegetation
- Arroyo Sediment Removal
- Arroyo Realignment
- River Channel Sediment Removal

2016/17 SEDIMENT REMOVAL SITES



LOCATION	VOLUME EXCAVATED (CYs)
Rincon Siphon	952
Rincon Arroyo	8,581
Reed Arroyo	5,945
Tonuco Drain	15,660
Horse Canyon	11,508
Canutillo Bridge	4,616
American Dam	30,000
International Dam	20,000
Fort Quitman	15,000
Guayuco Arroyo	34,372
Total to Date	146,634

CANALIZATION PROJECT

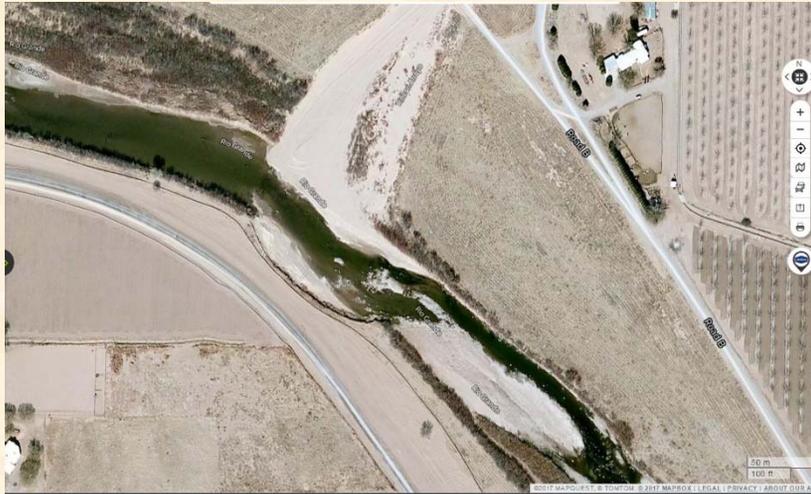
Rincon Siphon



This year 952 cubic yards of material was removed from this site.

CANALIZATION PROJECT

Rincon Arroyo



The Rincon Arroyo deposits large amounts of silt on a yearly basis. During the 2015/16 we removed approximately 40,000 cubic yard of material. During the 2016/17 we removed an additional 8,581 cubic yards.

CANALIZATION PROJECT

Reed Arroyo



This year 11,500 cubic yards of material was removed from this site.

CANALIZATION PROJECT

Tonuco Drain



Last year, approximately 50,000 cy of material was removed from this site. This year we removed 15,660 cy.

CANALIZATION PROJECT

Horse Canyon



This year 11,500 cubic yards of material was removed from this site.

CANALIZATION PROJECT

Canutillo Bridge



At the Canutillo Bridge we removed an island that was partially blocking the flow under the bridge. We removed approximately 4,600 cubic yards of material at this location

FIVE YEAR DAM INSPECTIONS



In order to perform the 5 year dam inspections it was necessary to remove all of the silt from the upstream and downstream aprons of the dams.



American Dam 30,000 cy of material was removed



International Dam 20,000 cy of material was removed

RECTIFICATION PROJECT

Fort Quitman



Removal of silt at this site was to improve the ability to accurately measure flow at the Fort Quitman gaging station site. Approximately 15,000 cubic yards of material was removed.

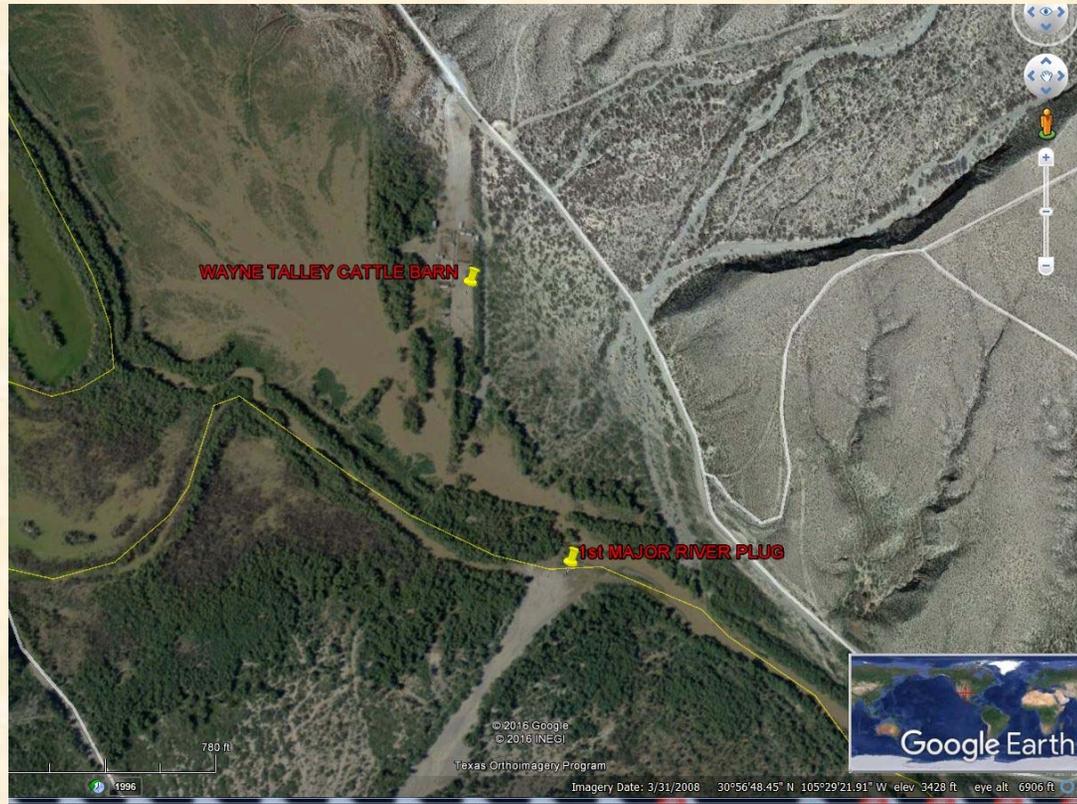
RECTIFICATION PROJECT

Guayuco Arroyo



From this site, 34,372 cubic yards have been removed.

PROJECT INITIATED THIS YEAR



Boundary Preservation Project – Arroyo Del Fraile

BOUNDARY PRESERVATION PROJECT

Arroyo Los Fraile



- Silt removal to clear the blockage is approximate 20,000 cubic yards and silt removal upstream of the blockage is approximate 60,000 cubic yards.
- We have obtained a disposal site for this work from one of the local farmers.

BOUNDARY PRESERVATION PROJECT

Arroyo Los Fraile



Following are various pictures of flooding caused by the plugging of the Arroyo Los Fraile.



RECTIFICATION PROJECT

Little Box Canyon



Following are various pictures of flooding caused by the plugging of Lower portion of the Rectification Project.





DESILTING CAPABILITY URGFO

- The average amount of silt removed by the URGF personnel the last two seasons was close to 160,000 cubic yards per year.
- According to the Tetra Tech Sediment Transport Study, the amount of silt entering the river in the Canalization Project is 409,000 cubic yards per year.
- This does not include the Rectification Project which probably contributes at least another 200,000 cubic yards per year.



ACCUMULATION OF SILT IN ONE YEAR



Upstream of Mesilla Dam April 2016



Upstream of Mesilla Dam February 2017



SEDIMENT DISPOSAL SITES

OWNER	LOCATION
Oswaldo Garcia	Arrey, NM.
Lack Farm	Rincon NM.
Ted Horner	Horse Canyon NM.
Sheriff Posee	Sunland Park, NM.
Wayne Talley	Sierra Blanca, TX
12 additional sites in process	



QUESTIONS?