

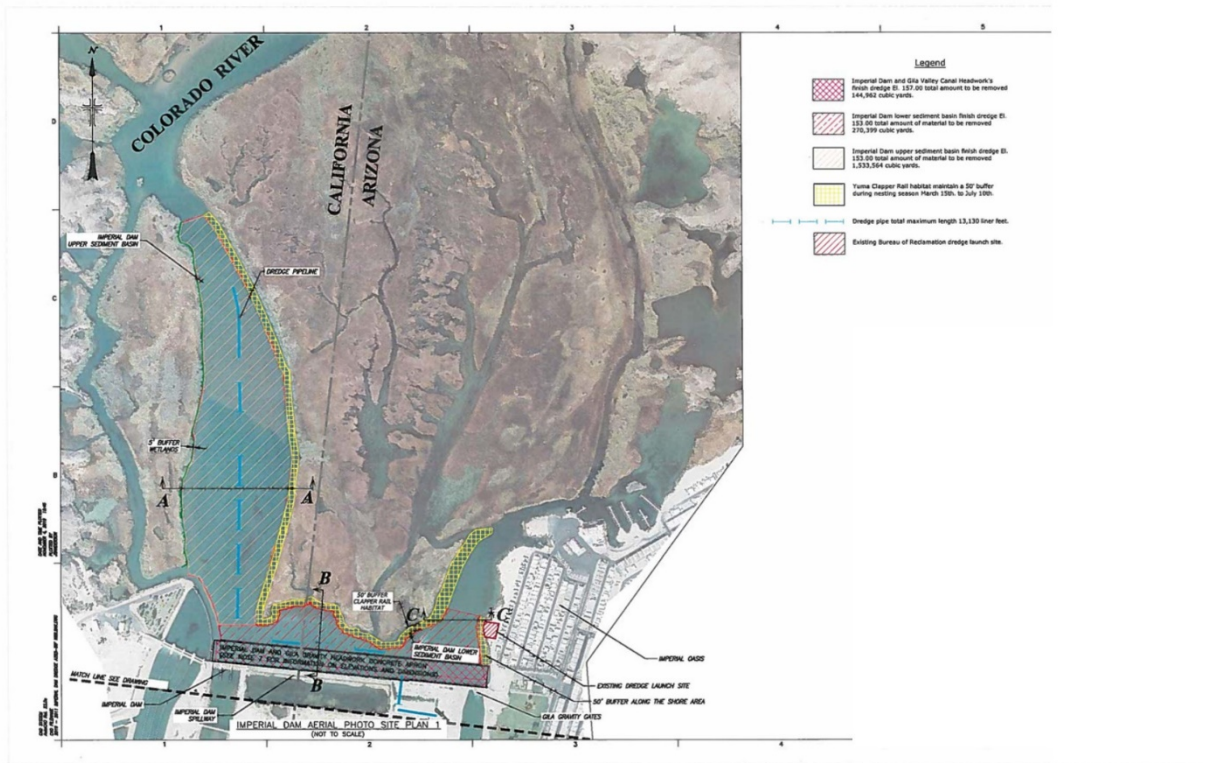
## Example of Sediment Removal Site – Imperial Reservoir

### Guardians of the Reservoir Sediment Removal Competition

- Location: On the Colorado River near Arizona/California border, 18 miles northeast of Yuma, Arizona.
- Reservoir Area: 69 surface acres to be dredged (54 in CA, 15 in AZ)
- Reservoir Depth: Maximum reservoir depth is estimated to be ~28 feet when sediment is removed.
- Amount of Sediment: approximately 1.95 million cubic yards
- Sediment Type: Poorly graded sands and elastic silts. Sediment ranges from loose, easily erodible sediment within the top layers to hard packed sediment in the lower layers of sediment. See attached pdf with grain size distribution of samples taken from Imperial Reservoir.
- Sensitivity of Wildlife: Removal area is adjacent to protected Yuma Clapper Rail (avian species) habitat. Buffer zone of 50 feet implemented to prevent impact to protected area, especially during mating season (March 15<sup>th</sup> to August 1<sup>st</sup>).
- Seasonal nature of water flow: seasonal flow ranges from 3000 cfs during low flow, and 10,000 cfs during high flow. Average flow per month (rounded to nearest hundred cfs) for the previous 3 years seen below:

| Month     | Average Incoming Flows<br>(cfs) – reservoir gage |
|-----------|--------------------------------------------------|
| January   | 4500                                             |
| February  | 6200                                             |
| March     | 8000                                             |
| April     | 9800                                             |
| May       | 9300                                             |
| June      | 9100                                             |
| July      | 9000                                             |
| August    | 7800                                             |
| September | 7300                                             |
| October   | 6300                                             |
| November  | 5500                                             |
| December  | 3500                                             |

- Access to roads and power supplies: Roads along southern and western boundaries of reservoir can be used to provide access. Power lines run along many of these roads. See image below.



- Other relevant information:
  - Sedimentation present immediately adjacent to the dam. No cutterheads are allowed right next to dam, so special projects to remove sediment are implemented such as diver operated dredging.
  - Sluicing operations are currently ongoing, however these do not do enough to mitigate the sediment issues at Imperial Reservoir.
  - Removed material was previously placed at disposal sites about 1 mile south of dam.
  - Woody debris and human debris (i.e. small watercrafts) have been observed to be captured within the sediment.
  - Imperial Dam is a diversion dam and is not meant to be used for storage. Requirements to remove sediment is due to impact of sediment on operations and water quality downstream.