

6.0 CONCLUSIONS

- Suspended sediment (sand load) has dropped by 80% since 1978 at the San Acacia gaging station.
- The channel was straight prior to channelization efforts in the 1950's, and continues to be mostly straight.
- Active channel width has decreased from an average of 1700 feet in 1918 to 460 feet in 1999.
- The channel bed has decreased in elevation approximately 13 feet near the dam, and 8 feet near Escondida Bridge.
- Two periods of degradation have been identified by analyzing terrace formation and survey data: 1918-1949 and 1985-1995. A series of distinct terraces define these periods of incision.
- Although the channel bed was historically sand bedded, bed samples dating back to 1988 indicate that the channel bed is converting to gravel.
- At present, much of the channel bed consists of a bi-modal sediment distribution: a 2-3 feet thick sand layer overlying a distinct layer of gravel.
- The dominant source of gravel sized sediment is arroyos.
- Gravel sized sediment, rather than the sand, appears to be quasi-stable at the current bed slopes.
- Sediment transport models indicate that within days, an average spring runoff can excavate the current deposits of sand found in the first 4 miles downstream of the dam.
- The channel pattern/morphology is changing: a meandering channel pattern has formed in the first third of the reach, and appears to be emerging in the remainder of the reach.
- The currently wide section of this reach (sub-reach 3) has begun to form a solid gravel layer beneath the sand, and appears to be converting to a meandering channel pattern.
- Arroyo de la Parida in sub-reach 4, is supplying gravel to the Rio Grande and creating a stable elevation point that is expected to stabilize incision.