WRRC: “Arizona Runs on Water”
Gila River Indian Community: Innovative Solutions to Manage Multiple Water Resources

David H. DeJong, Ph.D.
Director, Pima-Maricopa Irrigation Project
Managing conjunctive water resources via managed aquifer recharge and utilization of groundwater.
P-MIP is being constructed on the shoulders of a 2,000 year history of irrigated agriculture in central Arizona.
Arizona Water Settlements Act of 2004

An Act

To provide for adjustments to the Central Arizona Project in Arizona, to authorize the Gila River Indian Community water rights settlement, to reauthorize and amend the Southern Arizona Water Rights Settlement Act of 1982, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION I. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Arizona Water Settlements Act”.

(b) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

TITLE I—CENTRAL ARIZONA PROJECT SETTLEMENT

Sec. 101. Short title.
Sec. 102. Findings.
Sec. 103. General permissible uses of the Central Arizona Project.
Sec. 104. Allocation of Central Arizona Project water.
Sec. 105. Firming of Central Arizona Project Indian water.
Sec. 106. Acquisition of agricultural priority water.
Sec. 107. Lower Colorado River Basin Development Fund.
Sec. 108. Effect.
Sec. 109. Repeal.
Sec. 110. Authorization of appropriations.
Sec. 111. Repeal on failure of enforceability date under title II.

TITLE II—GILA RIVER INDIAN COMMUNITY WATER RIGHTS SETTLEMENT

Sec. 201. Short title.
Sec. 202. Purpose.
Sec. 203. Approval of the Gila River Indian Community Water Rights Settlement Agreement.
Sec. 204. Water rights.
Sec. 205. Community water delivery contract amendments.
Sec. 206. Satisfactory of claims.
Sec. 207. Waiver and release of claims.
Sec. 208. Gila River Indian Community Water O&M&R Trust Fund.
Sec. 209. Subsidence remediation program.
Sec. 211. Reduction of water rights.
Sec. 212. New Mexico Unit of the Central Arizona Project.
Declining agricultural production in central Arizona

<table>
<thead>
<tr>
<th>County</th>
<th>Acres 1982</th>
<th>Acres 2012</th>
<th>Decline</th>
<th>Percent Drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maricopa</td>
<td>1,429,539</td>
<td>475,898</td>
<td>953,641</td>
<td>66.7%</td>
</tr>
<tr>
<td>Pinal</td>
<td>2,403,901</td>
<td>1,174,727</td>
<td>1,229,174</td>
<td>51.1%</td>
</tr>
</tbody>
</table>
The Pima-Maricopa Irrigation Project

- 135 miles completed
- 150 miles remaining
System improvements from this ...
To a start-of-art system
The Community has nine discrete sources of water:

- CAP NIA and Indian SRP Haggard Decree
- Groundwater
- SRP
- Chandler
- RWCD
- Mesa
- CAP NIA and Indian
- Gila River
Water Resources include

- Nine different sources of water with varying:
  - costs
  - quantity
  - quality
  - reliability

- Geographical delivery restrictions

- How to balance groundwater demands
Comprehensive Water Management Plan

Surface Water Model
(Water & salt balance & Economics)
- Estimates Demands
- Delivers water
- Estimates Recharge

Interface Manager
- GW Demand Recharge
- Pumping levels, GW availability, GW Quality

Groundwater Model
(Sat/UnSat Hydraulic Model & Salt Transport Model)
- Estimates pumping lift
- Pumped Volume Limits
- Salt Concentration
Goal

Protect the quantity and quality of Community land and water resources to ensure sustainable utilization for future generations via strategic groundwater recharge and utilization.
Olberg Dam Underground Storage Facility
January 1, 2015 (before introduction of water)
Over 25,000 AF stored since 2015
The second MAR site
MAR to protect groundwater

Simulated Hydrograph

Depth to Water (feet)

No MAR

Min Recharge

Max recharge

MAR to protect groundwater