

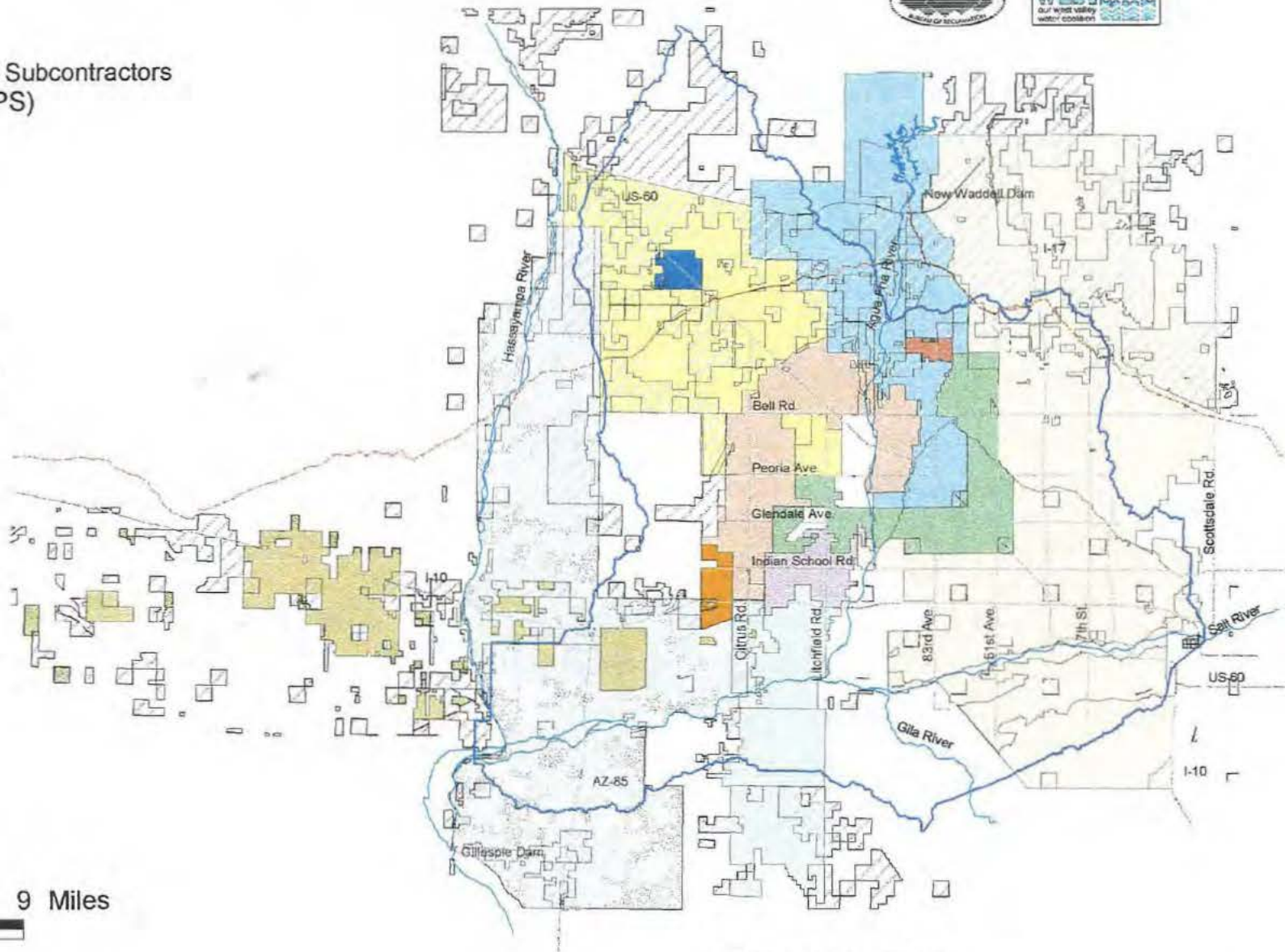
WESTCAPS

Key Strategic Issues

West Salt River Valley Subcontractors (WESTCAPS)



- Roads
- CAP Canal
- Rivers
- West Salt River Valley Sub-basin
- State Land
- WESTCAPS**
- Az. Water Co. White Tanks CC&N
- Buckeye WPA
- Citizens Water Resources CC&N
- Glendale WPA
- Goodyear WPA
- LPSCO CC&N
- Peoria WPA
- Phoenix WPA
- Sunrise CC&N
- Surprise WPA
- West End CC&N
- West Maricopa Combine CC&N



Phoenix Metropolitan Area

*State Lands near WESTCAP Water Planning Areas only

WESTCAPS KEY STRATEGIC ISSUES

TABLE OF CONTENTS

1. Process
2. Strategy Considerations
3. Summary of Key Issues
4. State & Federal Negotiations
5. Reallocation of CAP
6. State and Federal Laws and Regulations
7. ACC Policy and Direction
8. Institutional Infrastructure
9. Promote Recharge
10. Declining Groundwater Levels
11. Poor Quality Groundwater
12. Renewable Resources
13. Water Infrastructure
14. Financing Capability
15. Planning Areas

1. PROCESS

Process

Conduct Strategic Research

Groundwater Modeling & Water Budgets
WTP & WWTP Database & Mapping
Recharge Site Database & Mapping
Canals & Pipeline Database & Mapping
Water Quality Database & Mapping
Institutional Issues Paper

Identify Key Strategic Issues

Set Strategic Priorities

Set Critical Success Factors

We Are Here



Process (Cont.)

6/11/99

— Develop Evaluation Criteria



Brainstorm Options



7/09/99

— Evaluate Options



Analyze Potential Solutions



6/2000

— Rank Potential Solutions

2. STRATEGY CONSIDERATIONS

Strategy Considerations

- Which of the key strategic issues should receive priority attention from WESTCAPS over the next 2 - 3 years?
- On a scale of 1 to 9 what is the probability that WESTCAPS can affect this issue?
- Should WESTCAPS address this issue?

Strategic Issue Considerations

- Identify all major issues that could affect WESTCAPS' ability to fulfill its mission and goals

WESTCAPS Mission

To develop workable alternatives for its members to provide their customers with a cost effective, sustainable, reliable, & high quality water supply through partnerships & cooperative efforts in regional water resource planning & management, emphasizing CAP utilization.

WESTCAPS Outcome Goals

- Protect, preserve & enhance CAP allocations
- Maximize efficient use of CAP and other renewable resources available to WSRV
- Understand & influence water & wastewater policy related to the WSRV
- Develop long-term, sustainable, regional water resource management, infrastructure & implementation strategies

Existing Critical Success Factors

- Number of members who have been provided with workable solutions for addressing their water resource needs
- The degree to which renewable supplies are increased
- The degree to which efficient use of existing CAP allocations are maximized
- The level of member and public acceptance

Possible Additional Critical Success Factors

- The degree to which declining groundwater levels in the NW SRV are mitigated
- The degree to which the use of non-CAP renewable supplies have been increased
- The degree to which the proposed solution meets existing regulatory requirements

3. SUMMARY OF KEY ISSUES

Drivers, Mission, Goals & Issues



Summary Of Key Strategic Issues

WESTCAPS Goal: Protect, preserve & enhance CAP allocations

- **State / Federal Negotiations:** *The Secretary of the Interior may decide to use a significant amount of CAP water currently earmarked for the West Salt River Valley and other surface water resources to resolve Indian water right and Colorado River (California & Nevada) issues. This action could limit available renewable water supplies to WESTCAPS participants and increase competition between participants for remaining surface water supplies. The opportunity also exists for WESTCAPS members to negotiate additional supply.*
- **Reallocation Of Additional Supply:** *Reallocation of CAP supplies from subcontracts that were either declined or terminated has not been completed. WESTCAPS participants currently do not have enough renewable water supplies to meet forecasted water demands.*

WESTCAPS Goal: Influence water & wastewater policy

- **Flexible State & Federal Laws & Regulations:** *Water quantity (ADWR) and quality (ADEQ) regulation will continue to become more stringent and limit the ability of WESTCAPS participants to use groundwater or recovered effluent in the West Salt River Valley and potentially curtail urban development. WESTCAPS may want to influence the regulatory process to develop more flexible policy to facilitate practical water management decisions.*
- **Arizona Corporation Commission (ACC) Policy & Direction:** *ACC approval is critical to private water company participation in a regional solution. The uncertainty of cost recovery for CAP water may force, private water companies to relinquish their CAP allocations and those allocations would be reassigned to other water providers or lost in the CAP / DOI litigation.*
- **Insufficient Institutional Infrastructure:** *The institutional framework may not be in place to allow WESTCAPS participants to implement the most efficient water management solution.*
- **Opportunity To Promote Recharge In WSRV:** *The potential exists to encourage the AWBA and the CAGR to store renewable supplies in the West Salt River Valley. WESTCAPS participants do not have enough renewable water supplies to mitigate declining groundwater levels.*

WESTCAPS Goal: Maximize use of CAP & other renewable supplies

WESTCAPS Goal: Develop long-term, sustainable, regional, water resource, infrastructure & implementation strategies

- **Declining Groundwater Levels:** *Groundwater mining by municipal, industrial, and agricultural users in the West Salt River Valley have and will continue to cause significant decline in groundwater levels and associated impacts in the northwest Salt River Valley.*
- **Poor Quality Groundwater:** *Poor quality groundwater throughout the WSRV in general and, more specifically, in the mid to southern WSRV limits the use of untreated groundwater for potable water uses.*
- **Insufficient Renewable Resources:** *Current modeling indicates that WESTCAPS participants do not have enough CAP or other renewable water supplies to meet forecasted water demands or mitigate declining groundwater levels. Additional renewable resources will be needed.*
- **Insufficient Water Infrastructure:** *Additional water conveyance, treatment, and storage infrastructure will be needed in the WSRV to meet anticipated future demands with renewable supplies and to mitigate declining groundwater levels.*
- **Lack Of Financing Capability:** *Currently, the cost of obtaining additional renewable resources and constructing new water infrastructure places a large financial burden on individual WESTCAPS participants.*

4. STATE & FEDERAL NEGOTIATIONS

State & Federal Negotiations

- CAP / DOI settlement
- CA, AZ, NV Colorado River issues
- Adjudication of Indian water rights

- Potential to lose supply in settlements
- Potential to negotiate with tribes for additional supply

5. REALLOCATION OF CAP

Reallocation Of CAP

- Reallocation of CAP not complete
- Potential additional supply for WSRV

**6. STATE AND FEDERAL
LAWS AND REGULATIONS**

State & Federal Laws & Regs

- Regulation becoming more stringent
- More flexible water policy needed

- Potential to limit use of groundwater & recovered effluent
- Potential to curtail urban development

7. ACC POLICY AND DIRECTION

ACC Policy & Direction

- ACC approval critical to private water company participation in a regional solution
- To date ACC has not approved CAP related rate recovery
- Private water companies may be forced to relinquish their CAP allocations

8. INSTITUTIONAL INFRASTRUCTURE

Insufficient Institutional Infrastructure

- Wheeling
- Financing
- Governance / Management
- Joint Use Of Facilities
- Additional Water Entitlements

9. PROMOTE RECHARGE

Opportunity To Promote Recharge In The WSRV

- AWBA
- CAGRD

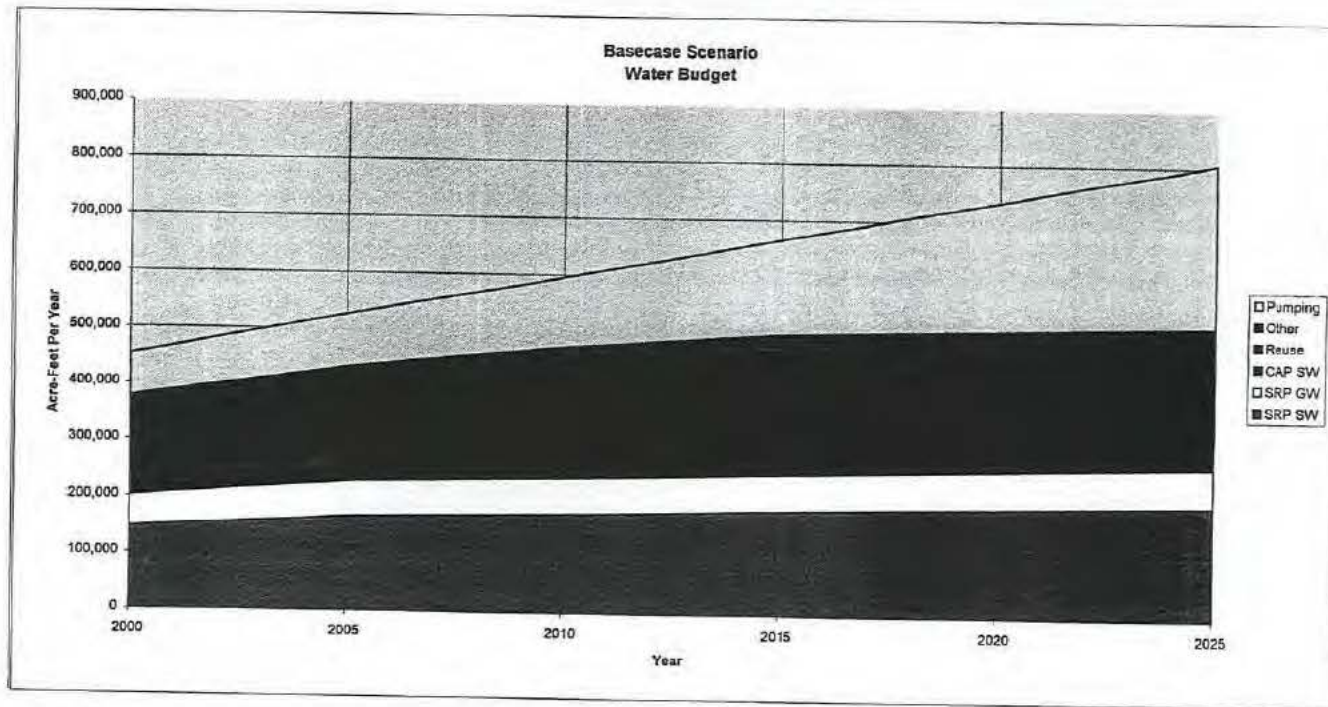
10. DECLINING GROUNDWATER LEVELS

Declining Groundwater Levels

- From 2000 to 2025 WESTCAPS pumping is projected to increase from 74 KAF to 287 KAF
- Groundwater levels will continue to decline in the NW SRV
- In some areas depth to groundwater would reach 600 feet in 2025 and below 1000 feet by 2100

Basecase Assumptions

- Revised Water Planning Areas
- Revised resource allocation by WPA
- Modified 1997 MAG R.U. projections
- Revised municipal demand multiplier
- Revised industrial / turf demand multiplier
- Only current permitted recharge activities
- Only current CAP allocations
- 2100 projection based on 2025 assumptions



Water Budget Projections (Acres-Feet Per Year)						
Water Source	Year					
	2000	2005	2010	2015	2020	2025
SRP SW	146,019	167,901	175,859	185,278	194,208	202,293
SRP GW	55,722	62,023	63,419	64,856	65,918	66,705
CAP SW	175,482	200,725	220,194	221,016	221,284	221,284
Reuse	0	1,377	5,909	6,641	6,641	6,641
Other	0	0	6,717	21,000	21,000	21,000
Pumping	74,220	94,577	123,893	167,029	227,434	287,132
Total	451,443	526,603	595,991	665,820	736,485	805,055



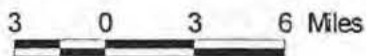
West Salt River Valley Groundwater Study

Depth to Water in the Year 2025 Middle Alluvial Unit Base Case - Scenario 17

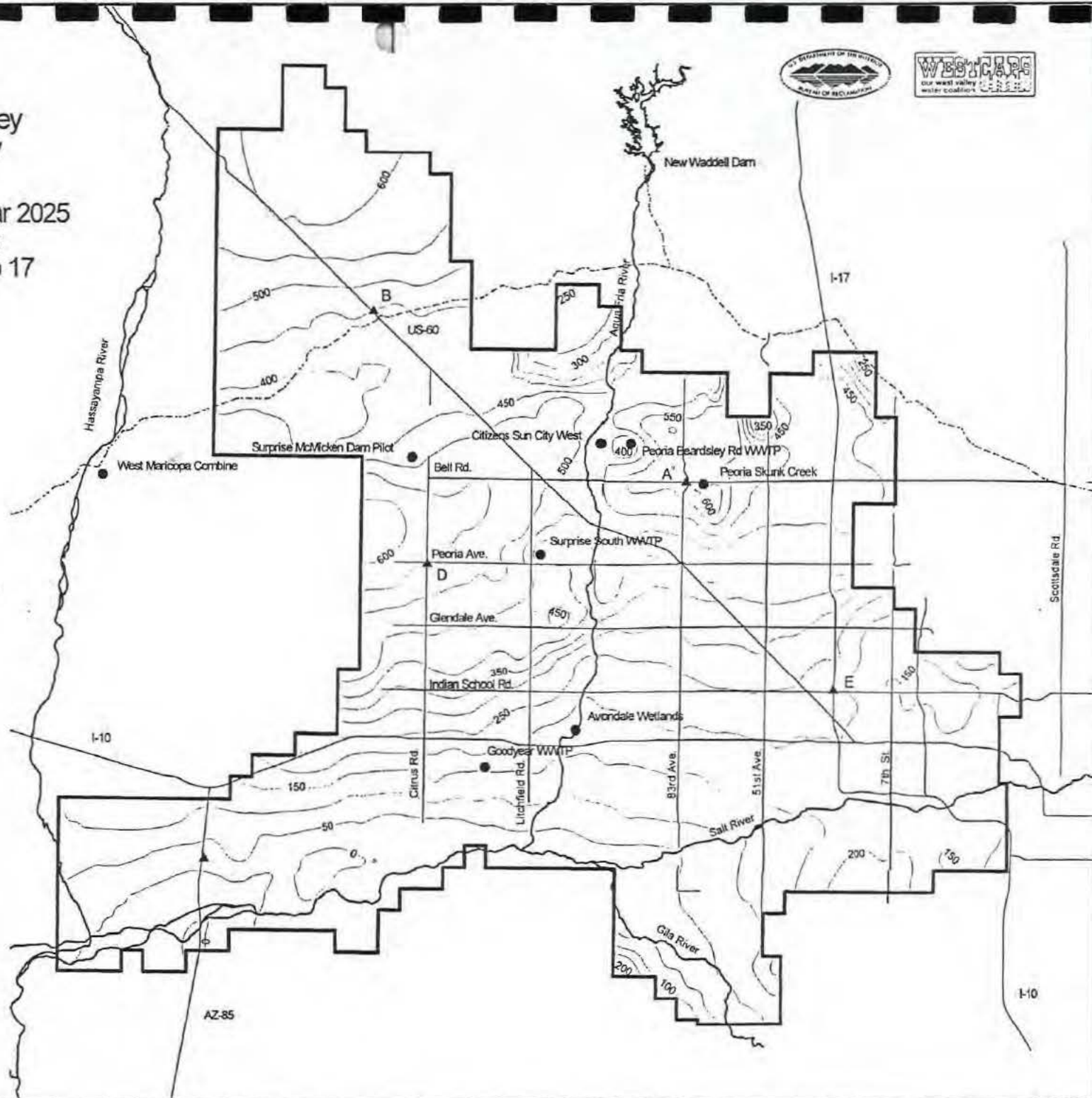
Location of Hydrographs

- ▲ A. Bell & 83rd
- ▲ B. CAP Canal & US-60
- ▲ C. Buckeye (AZ-85)
- ▲ D. Luke Cone
- ▲ E. I-17 & Indian School
- Underground Water Facilities
- ~ Rivers
- Roads
- - - CAP Canal
- ▭ Model Boundary
- ~ Depth to Water from Ground Surface

Contour Interval: 50ft.



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West Salt River Valley Groundwater Study

Depth to Water in the Year 2100
Middle Alluvial Unit
Base Case - Scenario 17



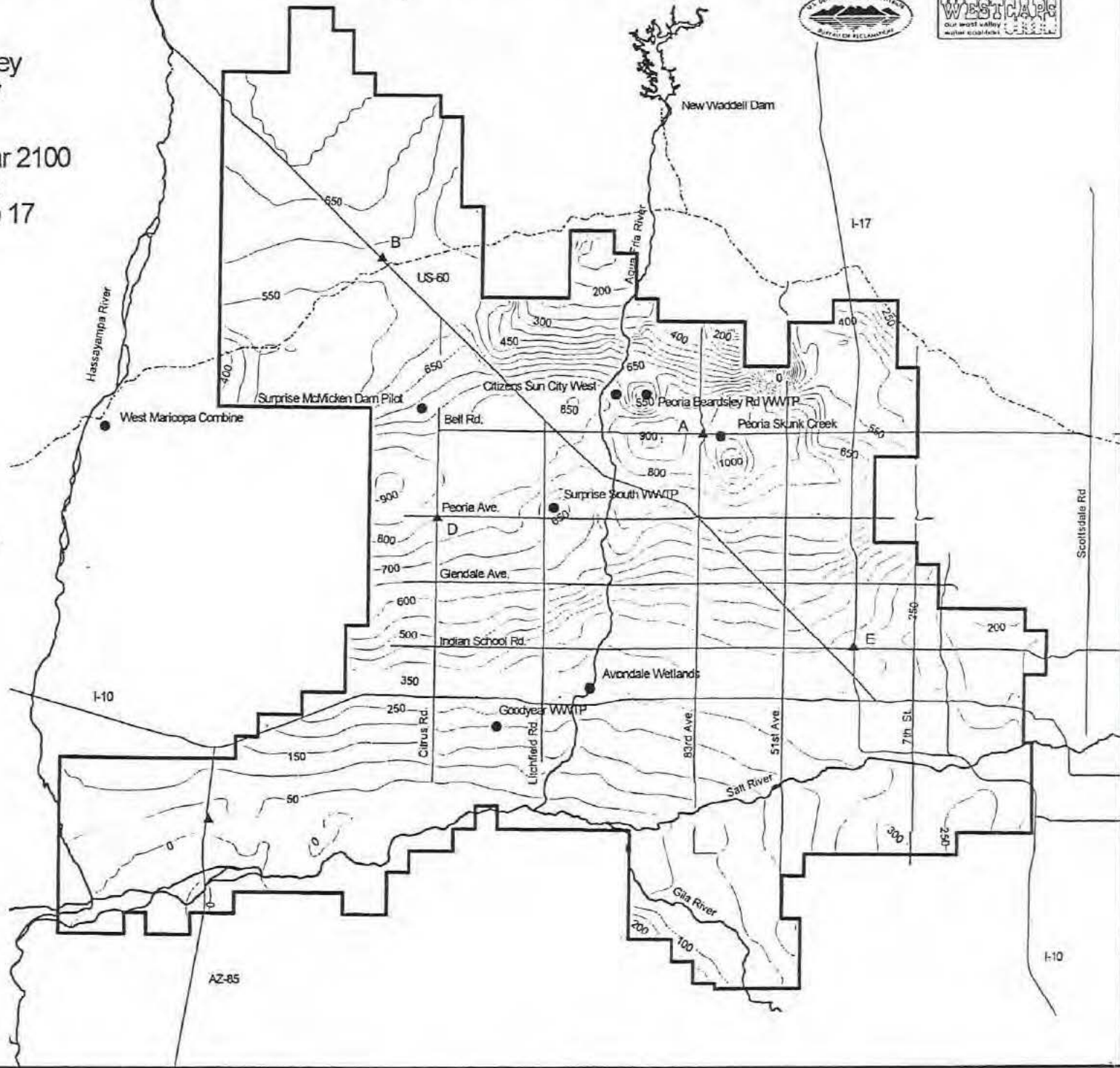
- Location of Hydrographs
- ▲ A. Bell & 83rd
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 - ▲ E. I-17 & Indian School
 - Underground Water Facilities
 - ~ Rivers
 - ~ Roads
 - ~ CAP Canal
 - ▭ Model Boundary
 - ~ Depth to Water from Ground Surface

Contour Interval: 50ft.



3 0 3 6 Miles

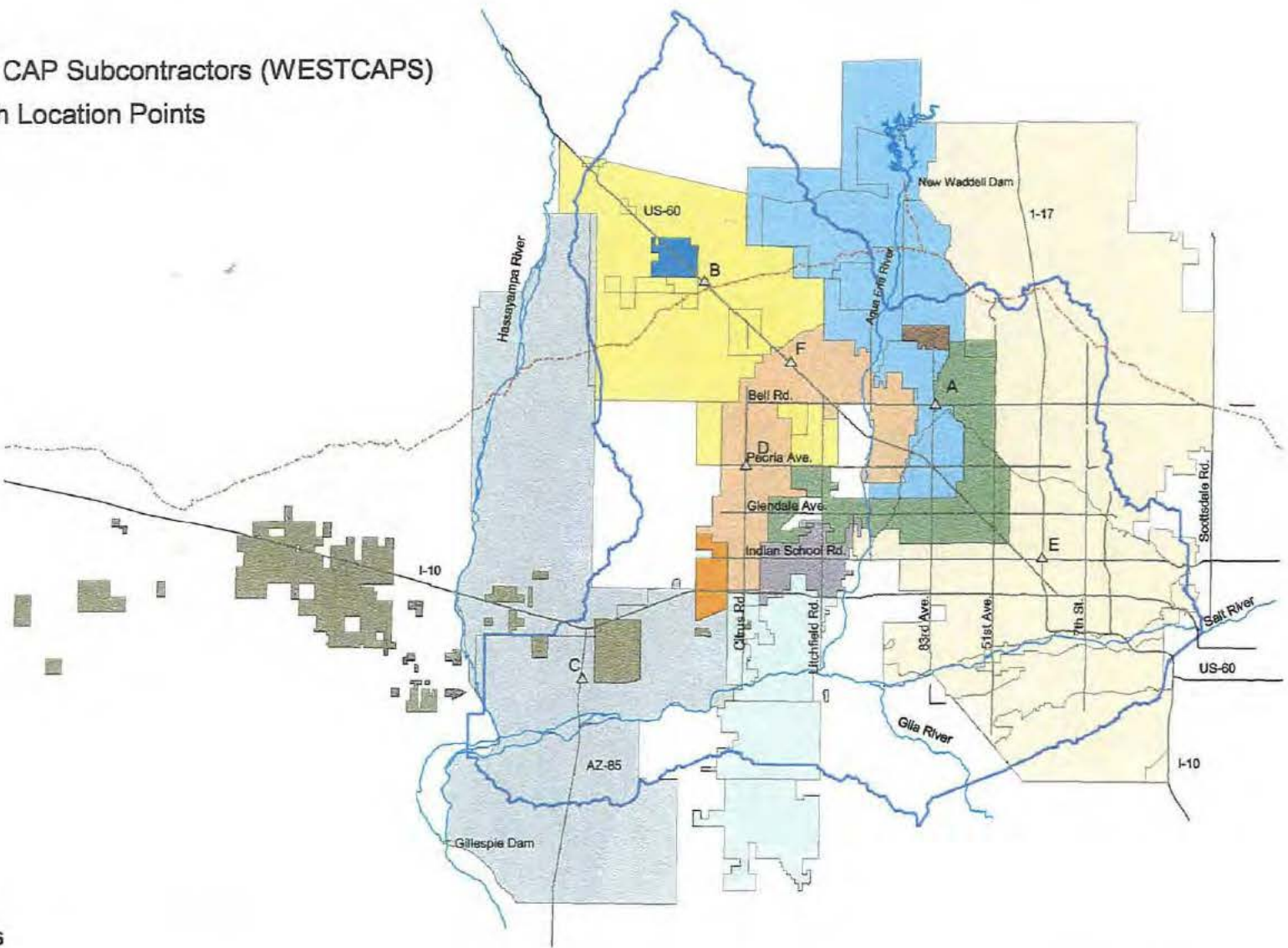
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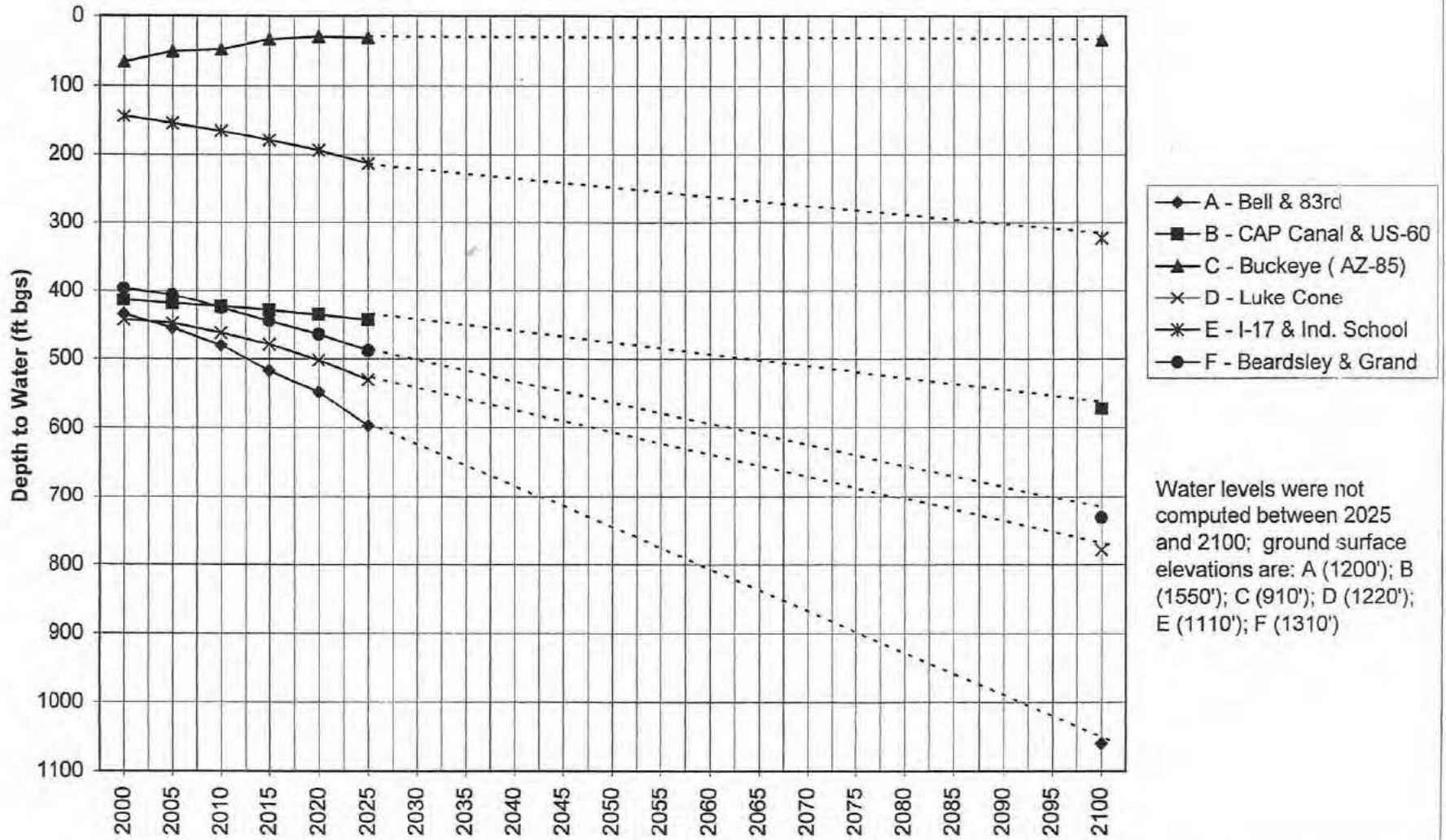


West Salt River Valley CAP Subcontractors (WESTCAPS) Hydrograph Location Points

- Hydrographs.shp
- △ A. Bell & 83rd
 - △ B. CAP Canal & US-60
 - △ C. Buckeye (AZ-85)
 - △ D. Luke Cone
 - △ E. I-17 & Indian School
 - △ F. Beardsley & Grand
- CAP Canal
 Roads
 Rivers
 West Salt River Valley Sub-basin
- WESTCAPS
- Az. Water Co. White Tanks CC&N
 - Buckeye WPA
 - Citizens Water Resources CC&N
 - Glendale WPA
 - Goodyear WPA
 - LPSCO CC&N
 - Peoria WPA
 - Phoenix WPA
 - Sunrise CC&N
 - Surprise WPA
 - West End CC&N
 - West Maricopa Combine CC&N



Scenario 17: Basecase
Middle Alluvial Unit - Simulated Depth to Water



11. POOR QUALITY GROUNDWATER

Poor Quality Groundwater

- High TDS and nitrate levels in the SW SRV limits use of groundwater
- Groundwater contamination in the SW SRV migrating towards the cones of depression in the NW SRV



West Salt River Valley CAP Subcontractors (WESTCAPS) Total Dissolved Solids (TDS)

TDS Well Results (mg/L) from Phoenix

▲ 500 - 1000

▲ 1001 - 2500

TDS Well Results (mg/L) from ADWR (GWSI)

● 500 - 1000

● 1001 - 2500

● 2501 - 5700

TDS Well Results (mg/L) from SRP

■ 500 - 1000

■ 1001 - 2500

--- CAP Canal

--- Roads

--- Rivers

--- West Salt River Valley Sub-basin

WESTCAPS

■ Az. Water Co. White Tanks CC&N

■ Buckeye WPA

■ Citizens Water Resources CC&N

■ Glendale WPA

■ Goodyear WPA

■ LPSCO CC&N

■ Peoria WPA

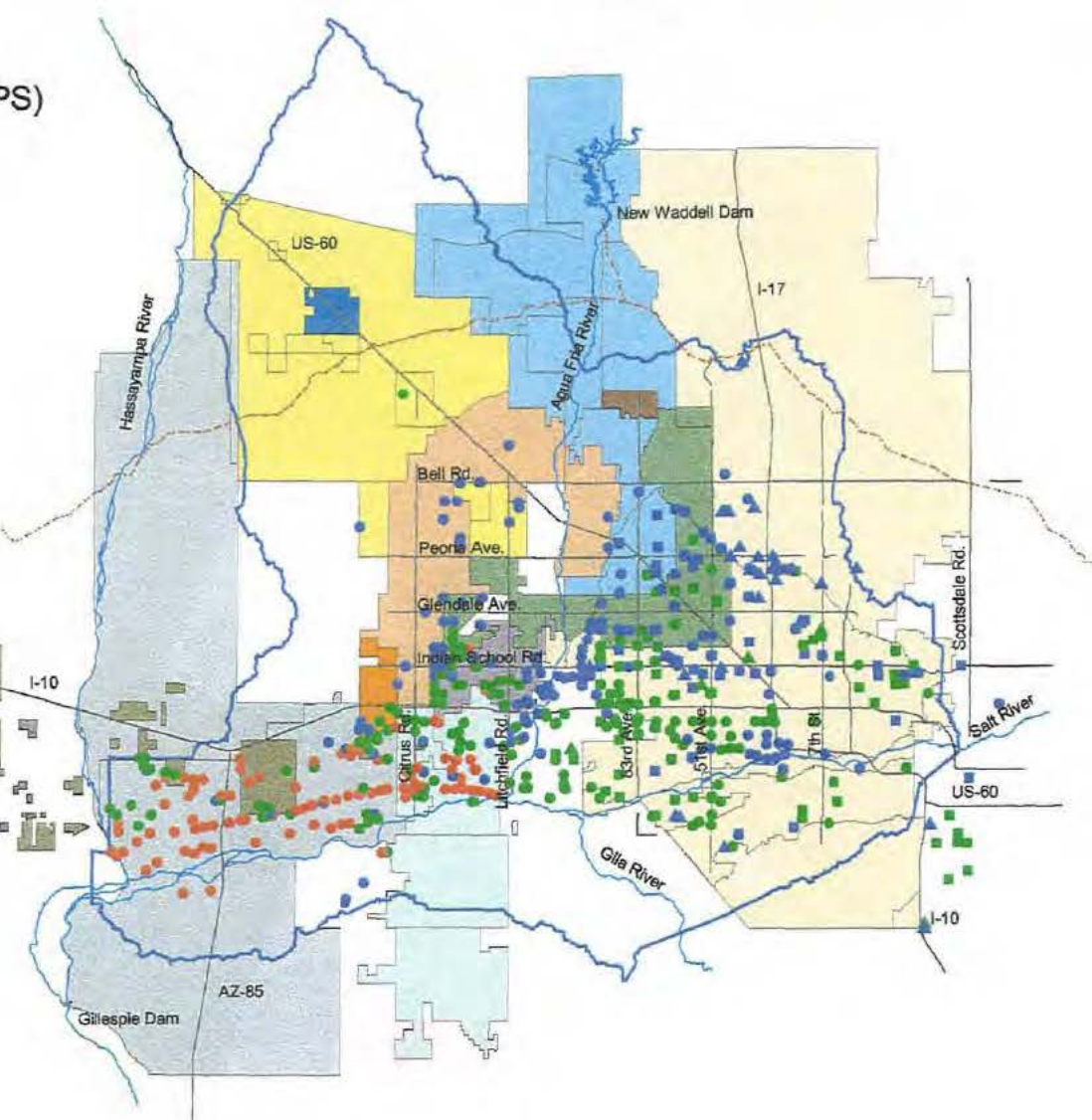
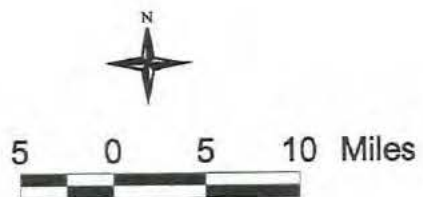
■ Phoenix WPA

■ Sunrise CC&N

■ Surprise WPA

■ West End CC&N

■ West Maricopa Combine CC&N





West Salt River Valley CAP Subcontractors (WESTCAPS) Nitrates

Nitrates Well Results (mg/L) from ADEQ*

◆ 5 - 9.9

◆ 10 - 50

Nitrates Well Results (mg/L) from Phoenix

▲ 5 - 9.9

▲ 10 - 50

▲ 50.1 - 224

Nitrates Well Results (mg/L) from ADEQ

● 5 - 9.9

● 10 - 50

● 50.1 - 224

Nitrates Well Results (mg/L) from USGS & EPA

● 5 - 9.9

● 10 - 50

● 50.1 - 224

Nitrates Well Results (mg/L) from SRP

■ 5 - 9.9

■ 10 - 50

■ 50.1 - 224

WESTCAPS

■ Az. Water Co. White Tanks CC&N

■ Buckeyes WPA

■ Citizens Water Resources CC&N

■ Glendale WPA

■ Goodyear WPA

■ LPSCO CC&N

■ Peoria WPA

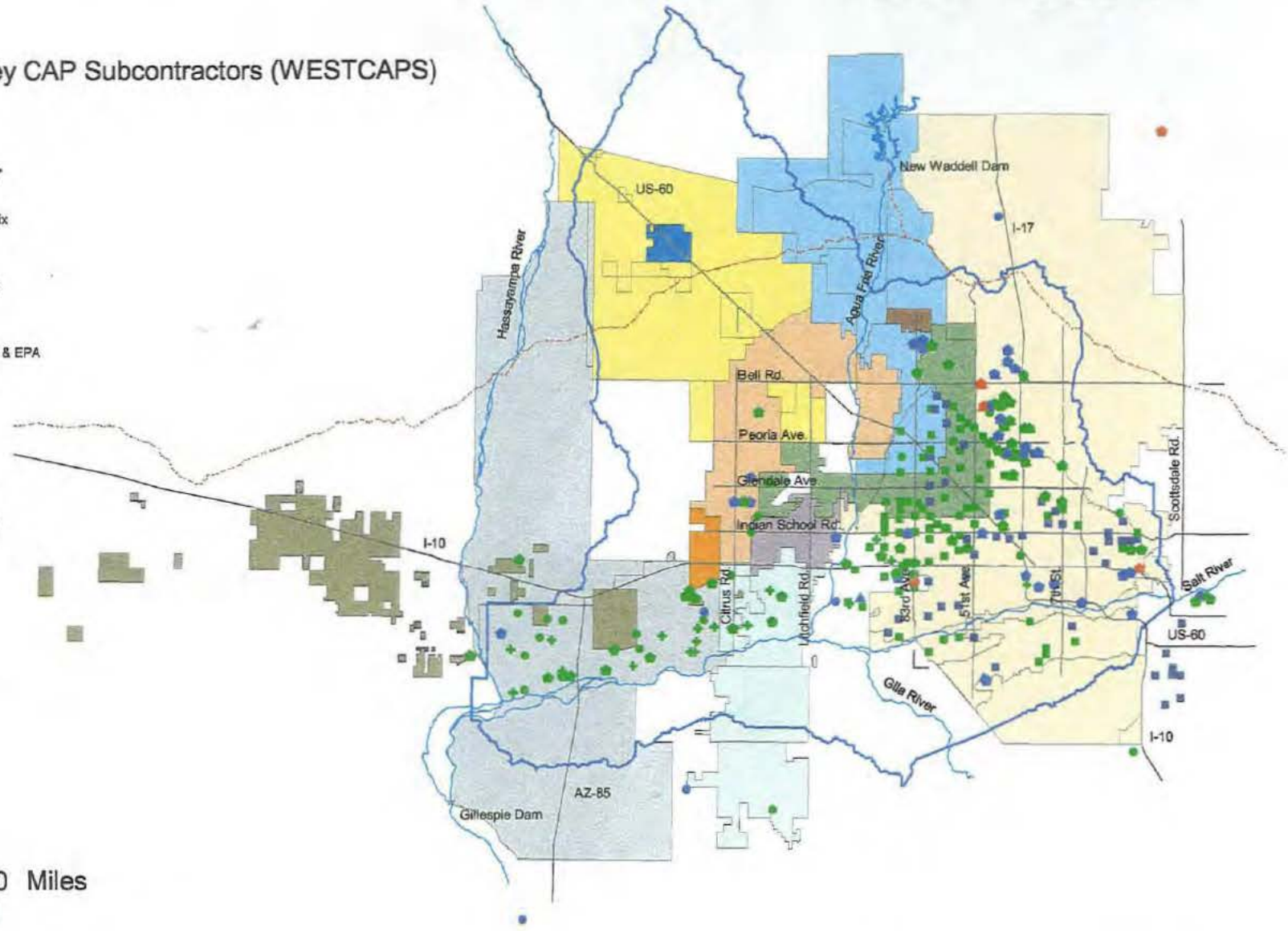
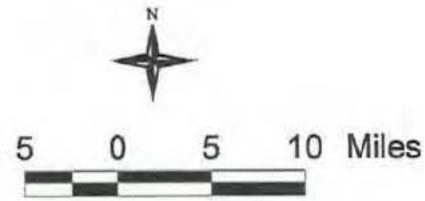
■ Phoenix WPA

■ Sunrise CC&N

■ Surprise WPA

■ West End CC&N

■ West Maricopa Combine CC&N



Time Period: 5/88 - 2/98

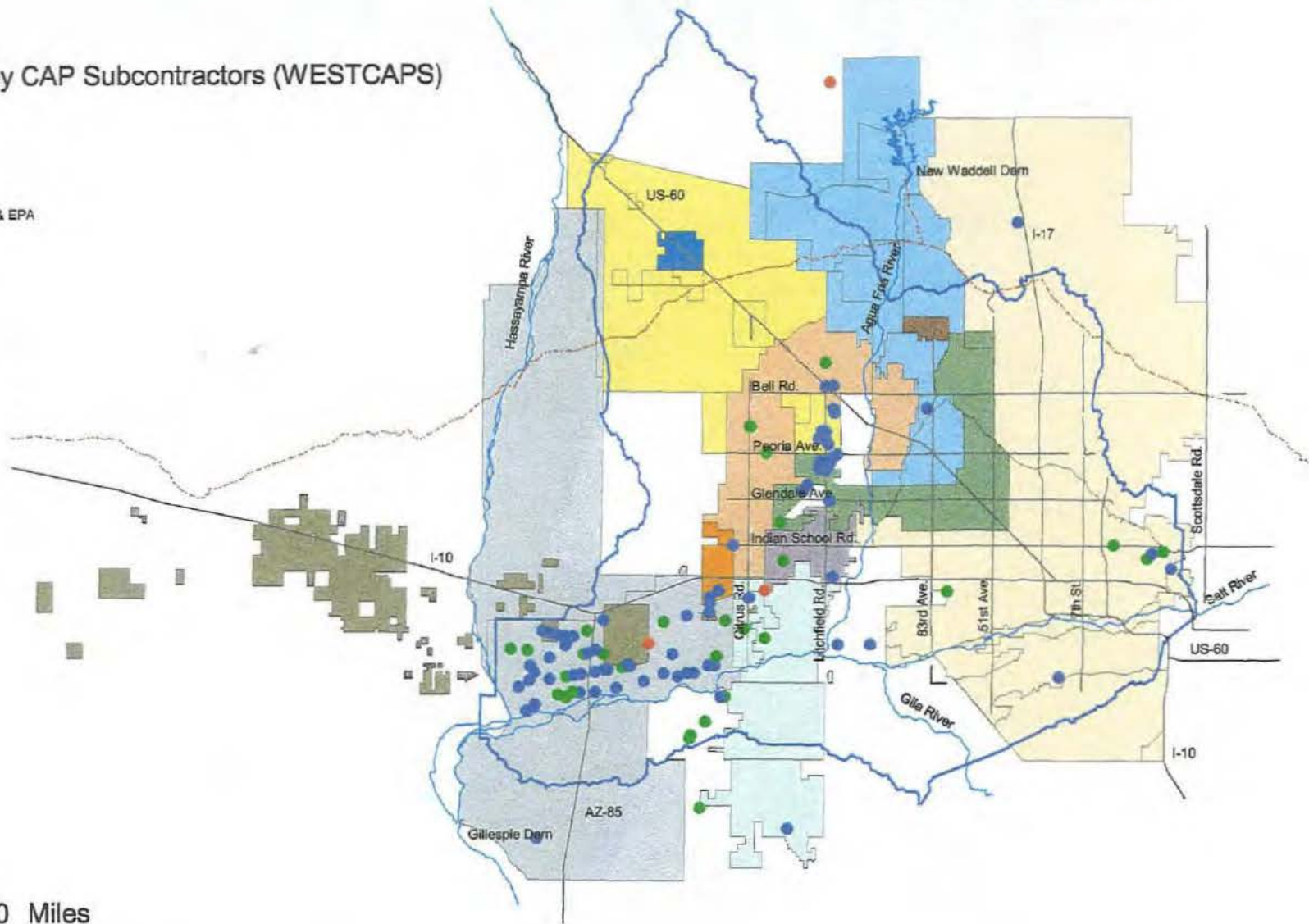
*Well locations computed to nearest 10 acres



West Salt River Valley CAP Subcontractors (WESTCAPS) Fluoride

Fluoride Well Results (mg/L) from USGS & EPA

- 2 - 4
- 4.1 - 10
- 10.1 - 20
- CAP Canal
- Roads
- Rivers
- West Salt River Valley Sub-basin
- WESTCAPS
 - Az. Water Co. White Tanks CC&N
 - Buckeye WPA
 - Citizens Water Resources CC&N
 - Glendale WPA
 - Goodyear WPA
 - LPSCO CC&N
 - Peoria WPA
 - Phoenix WPA
 - Sunrise CC&N
 - Surprise WPA
 - West End CC&N
 - West Maricopa Combine CC&N



Time Period: 7/88 - 11/97



West Salt River Valley CAP Subcontractors (WESTCAPS) Metals

Arsenic Well Results (ug/L) from ADEQ

50 - 100

101 - 198

Cadmium Well Results (ug/L) from ADEQ

6 - 10

Chromium Well Results (ug/L) from ADEQ

100 - 200

201 - 1210

CAP Canal

Roads

Rivers

West Salt River Valley Sub-basin

WESTCAPS

Az. Water Co. White Tanks CC&N

Buckeye WPA

Citizens Water Resources CC&N

Glendale WPA

Goodyear WPA

LPSCO CC&N

Peoria WPA

Phoenix WPA

Sunrise CC&N

Surprise WPA

West End CC&N

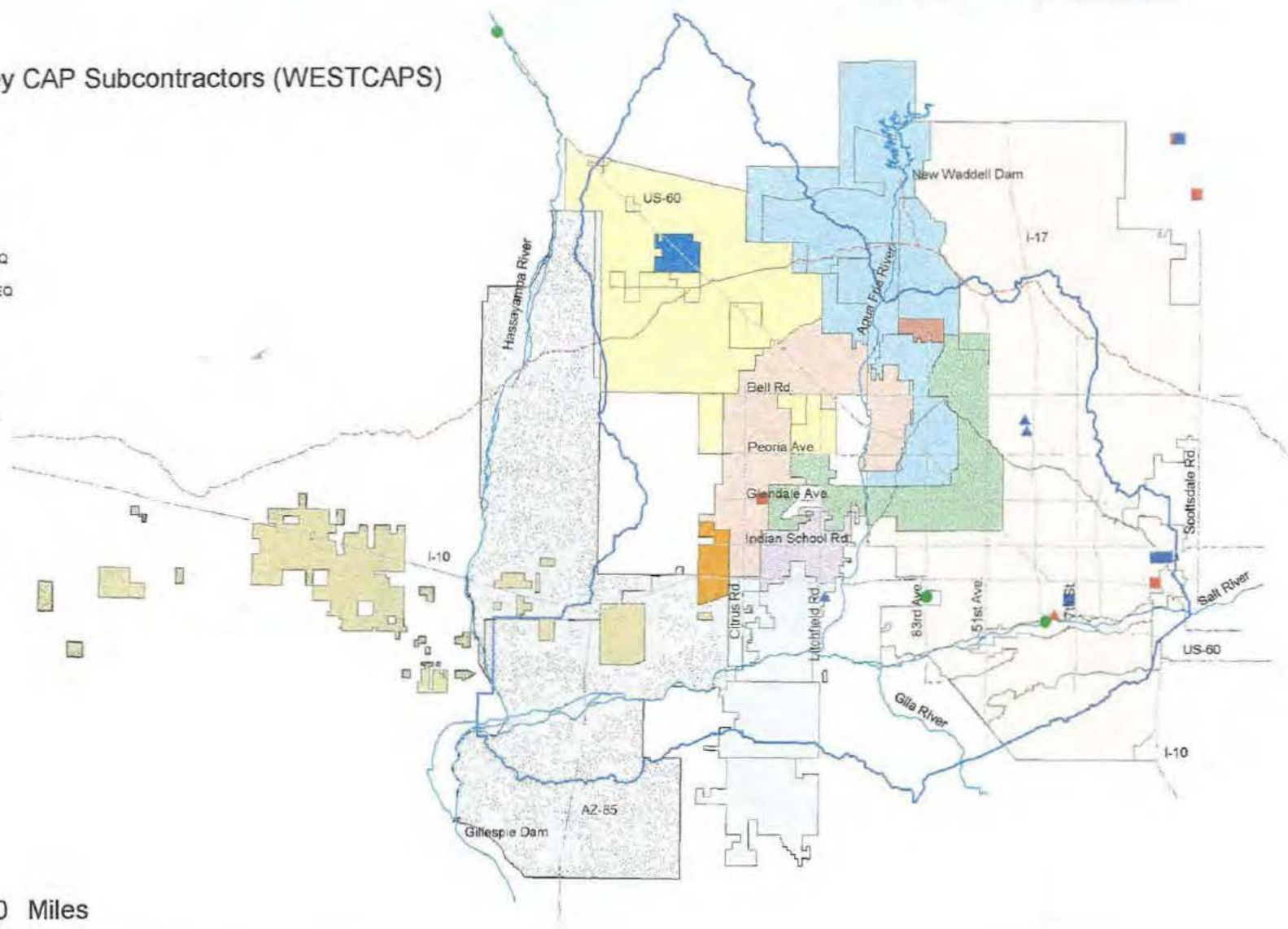
West Maricopa Combine CC&N



5 0 5 10 Miles

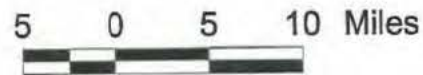
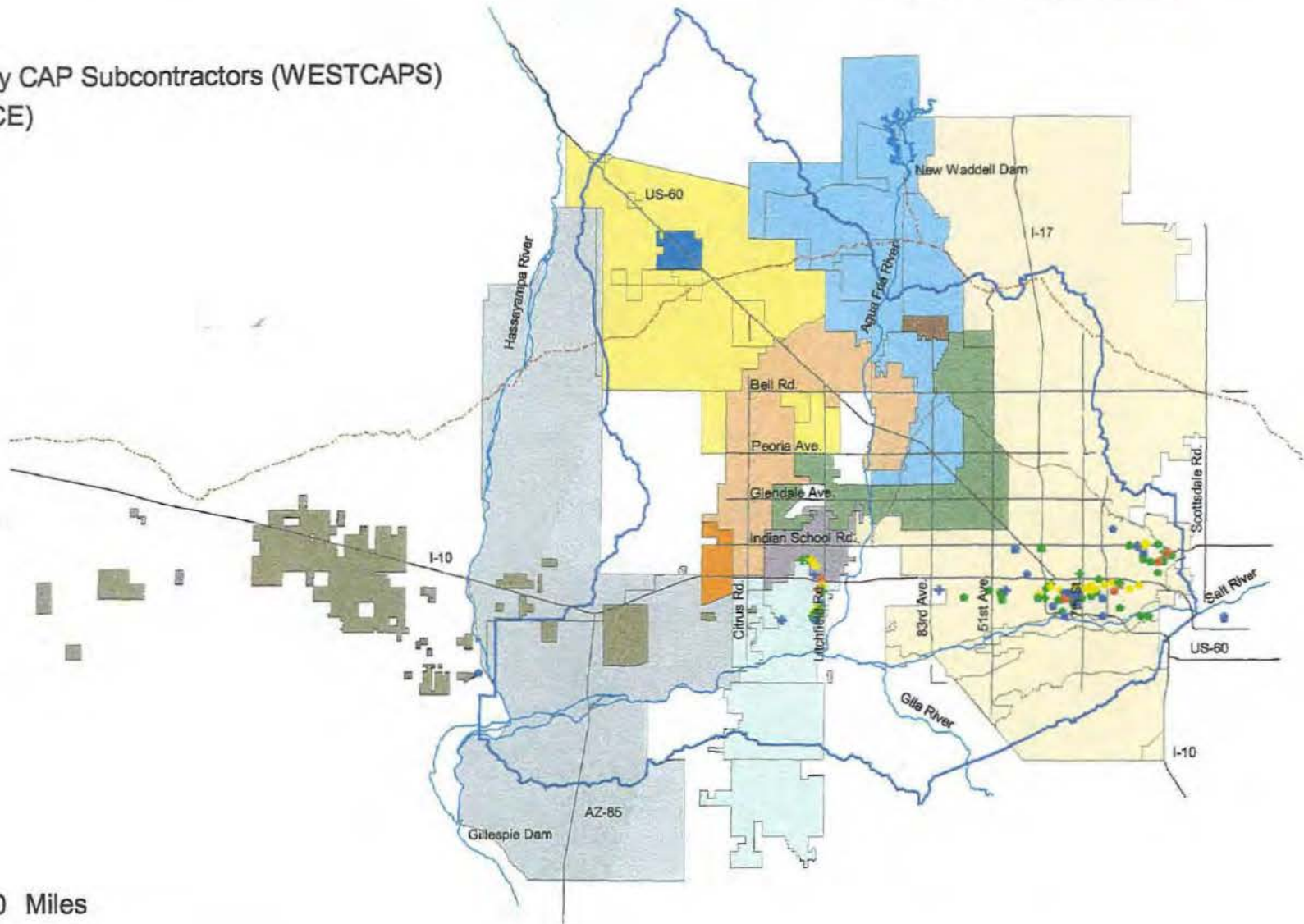
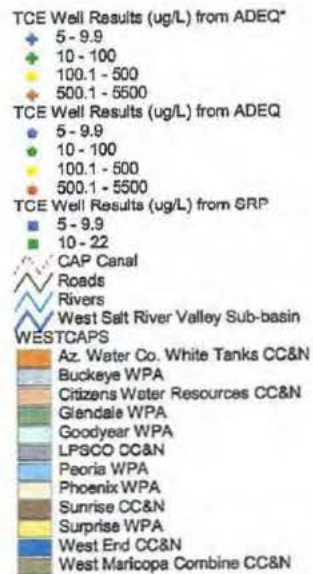


Time Period: 5/86 - 6/96





West Salt River Valley CAP Subcontractors (WESTCAPS) Trichloroethylene (TCE)



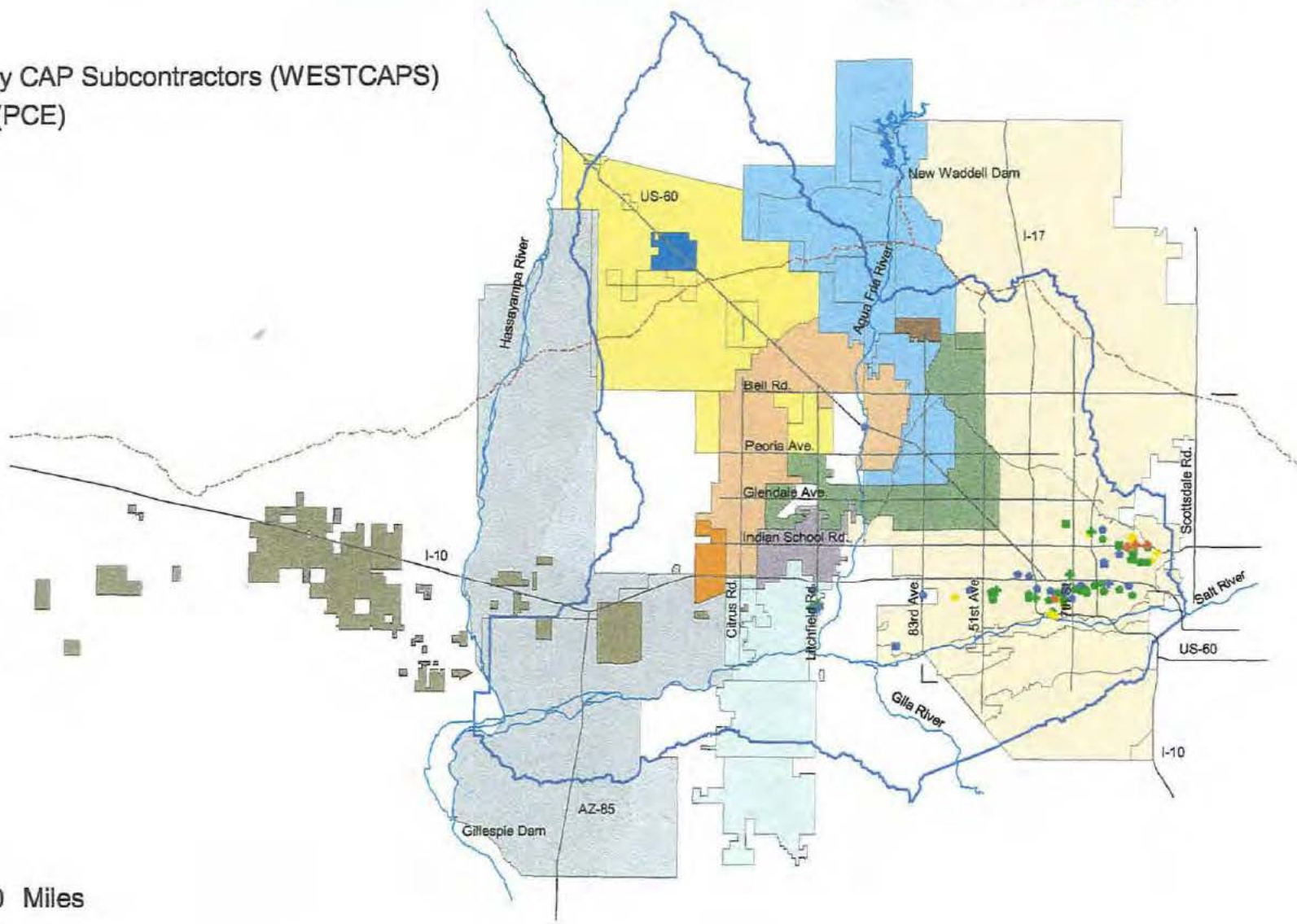
Time Period: 2/88 - 11/97

*Well locations computed to nearest 10 acres



West Salt River Valley CAP Subcontractors (WESTCAPS) Tetrachloroethylene (PCE)

- PCE Well Results (ug/L) from ADEQ***
- ◆ 5 - 9.9
 - ◆ 10 - 100
 - ◆ 101 - 500
 - ◆ 501 - 34000
- PCE Well Results (ug/L) from ADEQ**
- 5 - 9.9
 - 10 - 100
 - 101 - 500
 - 501 - 34000
- PCE Well Results (ug/L) from SRP**
- 5 - 9.9
 - 10 - 82
- CAP Canal
 - Roads
 - Rivers
 - West Salt River Valley Sub-basin
- WESTCAPS**
- Az. Water Co. White Tanks CC&N
 - Buckeye WPA
 - Citizens Water Resources CC&N
 - Glendale WPA
 - Goodyear WPA
 - LPSCO CC&N
 - Peoria WPA
 - Phoenix WPA
 - Sunrise CC&N
 - Surprise WPA
 - West End CC&N
 - West Maricopa Combine CC&N



Time Period: 4/89 - 9/97
 *Well locations computed to nearest 10 acres

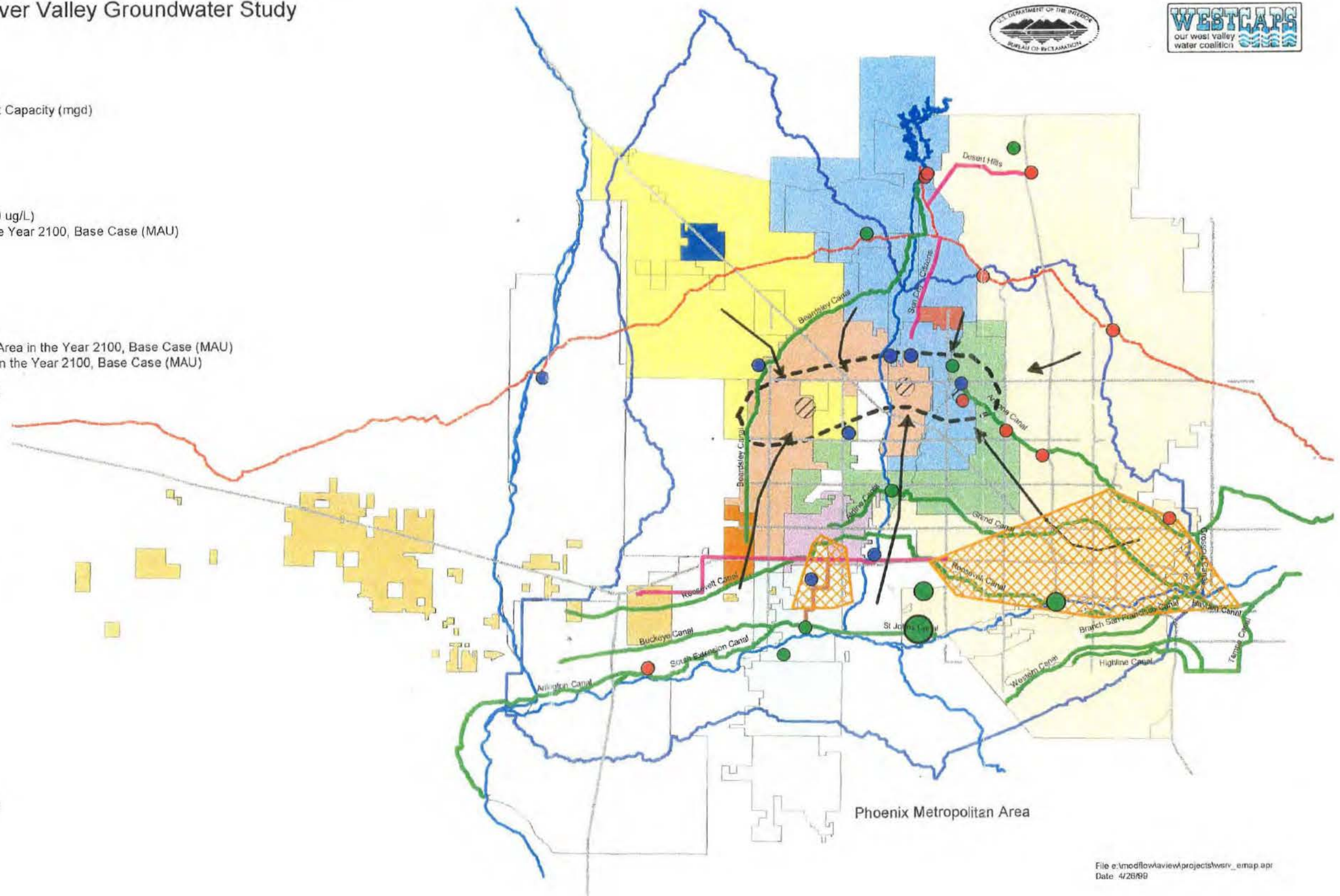
West Salt River Valley Groundwater Study



- Underground Storage Facilities
- Water Treatment Plants
- Waste Water Treatment Plants - Current Capacity (mgd)
- 0 - 10
- 11 - 100
- 101 - 153.75
- TCE & PCE Well Results (5-5500 ug/L)
- Ground Water Flow Direction in the Year 2100, Base Case (MAU)
- Effluent Pipelines
- Raw Water Pipelines
- Raw Water Canals
- CAP Canal
- Roads
- Rivers
- West Salt River Valley Sub-basin
- Approximate Cone of Depression Area in the Year 2100, Base Case (MAU)
- Approximate Cone of Depression in the Year 2100, Base Case (MAU)
- WESTCAPS
- Az. Water Co. White Tanks CC&N
- Buckeye WPA
- Citizens Water Resources CC&N
- Glendale WPA
- Goodyear WPA
- LPSCO CC&N
- Peoria WPA
- Phoenix WPA
- Sunrise CC&N
- Surprise WPA
- West End CC&N
- West Maricopa Combine CC&N



3 0 3 6 Miles



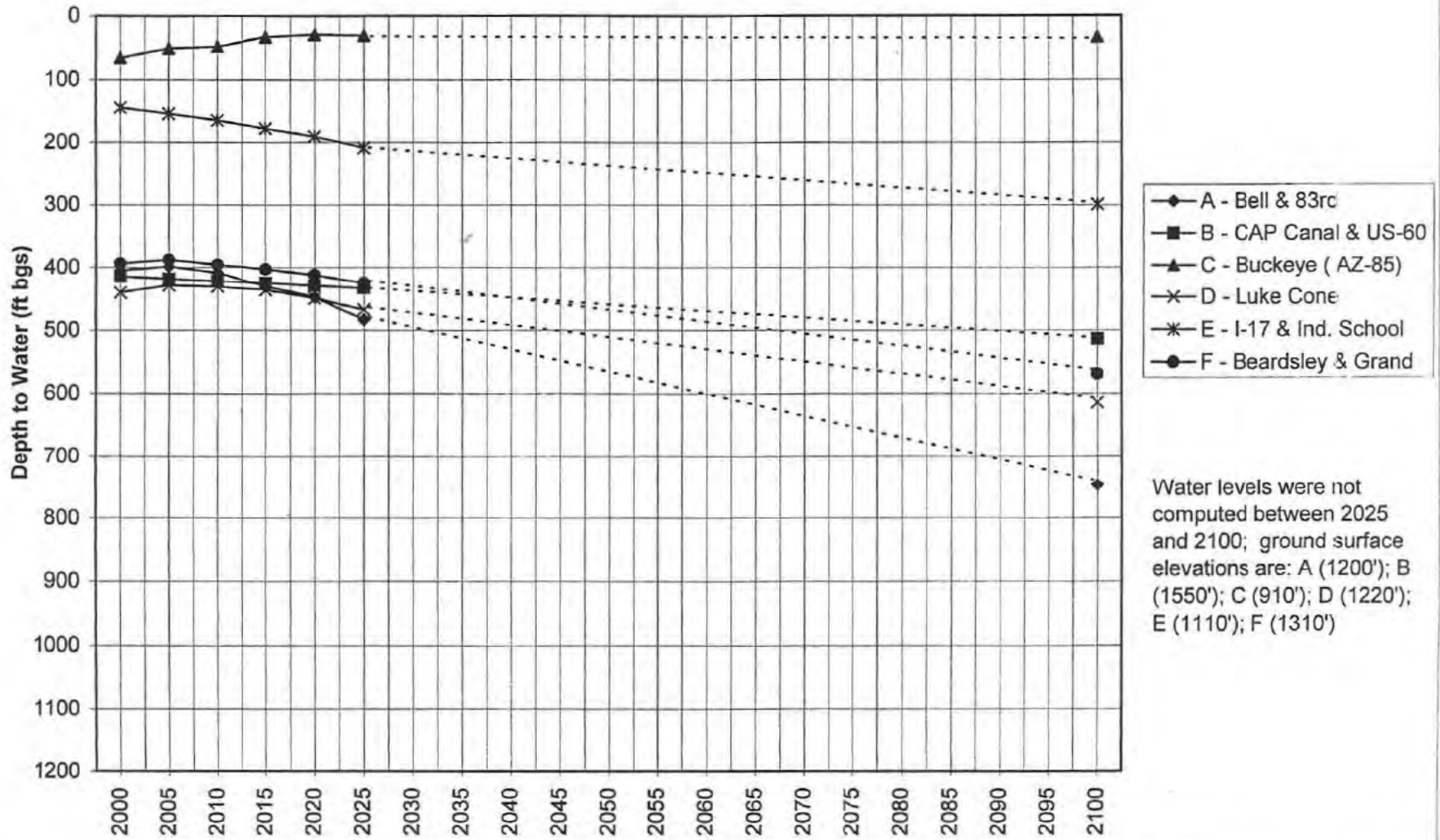
Phoenix Metropolitan Area

12. RENEWABLE RESOURCES

Insufficient Renewable Resources

- Even with full direct use of current CAP allocations, groundwater levels in the NW SRV would continue to decline
- Approximately 235 KAF/Yr of additional renewable supply would be needed by 2025

**Scenario 18: Full Direct Use Of CAP Allocations
Middle Alluvial Unit - Simulated Depth to Water**



West Salt River Valley Groundwater Study

Depth to Water in the Year 2025
Middle Alluvial Unit
Scenario 18_c



Location of Hydrographs

- ▲ A. Bell & 83rd
- ▲ B. CAP Canal & US-60
- ▲ C. Buckeye (AZ-85)
- ▲ D. Luke Cone
- ▲ E. I-17 & Indian School
- ▲ F. Beardsley & Grand
- Underground Water Facilities

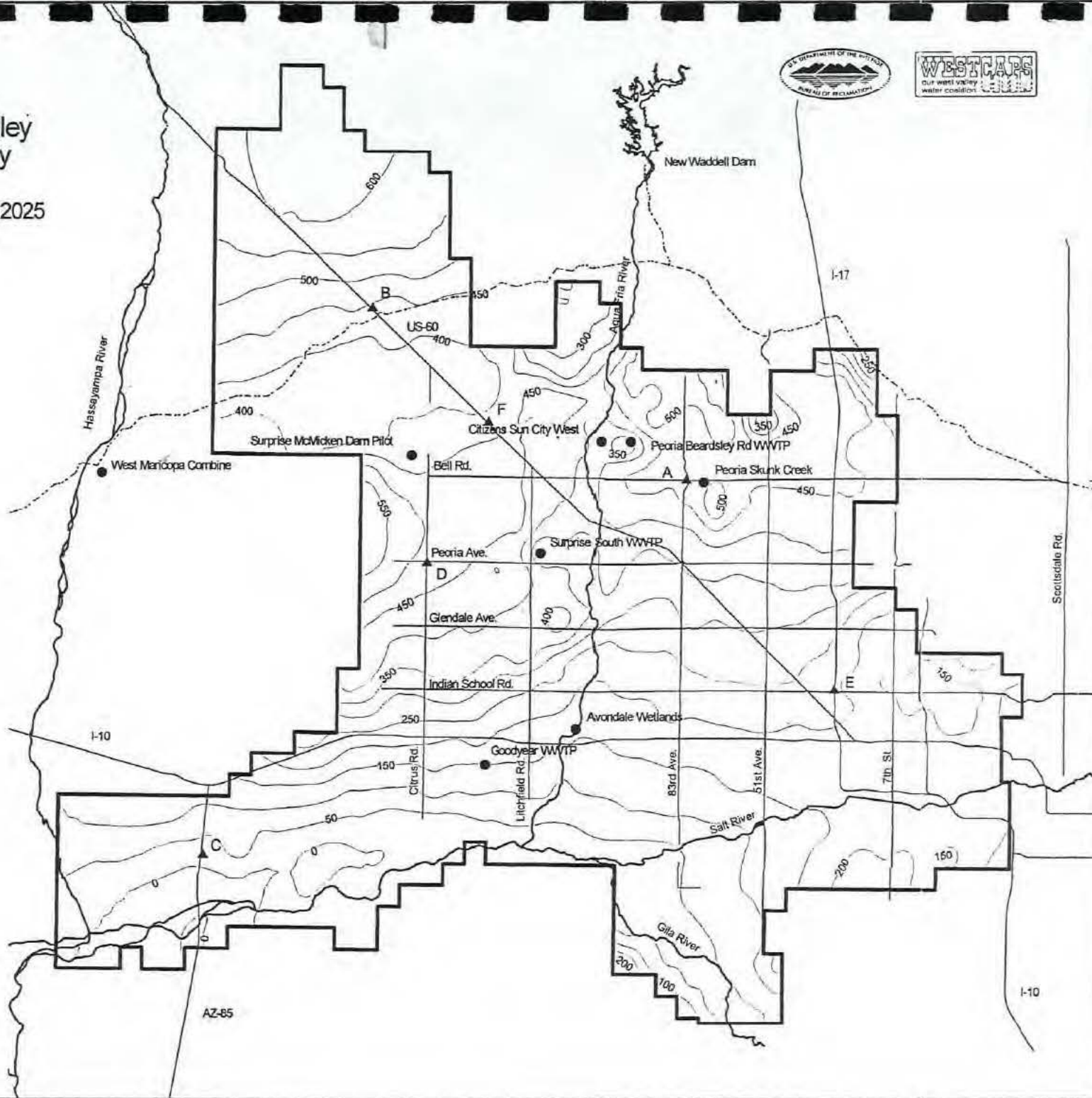
- ~ Rivers
- Roads
- - - CAP Canal
- ▭ Model Boundary
- ∇ Depth to Water From Ground Surface

Contour Interval: 50ft.



3 0 3 6 Miles

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West Salt River Valley Groundwater Study

Depth to Water in the Year 2100
Middle Alluvial Unit
Scenario 18_c



Location of Hydrographs

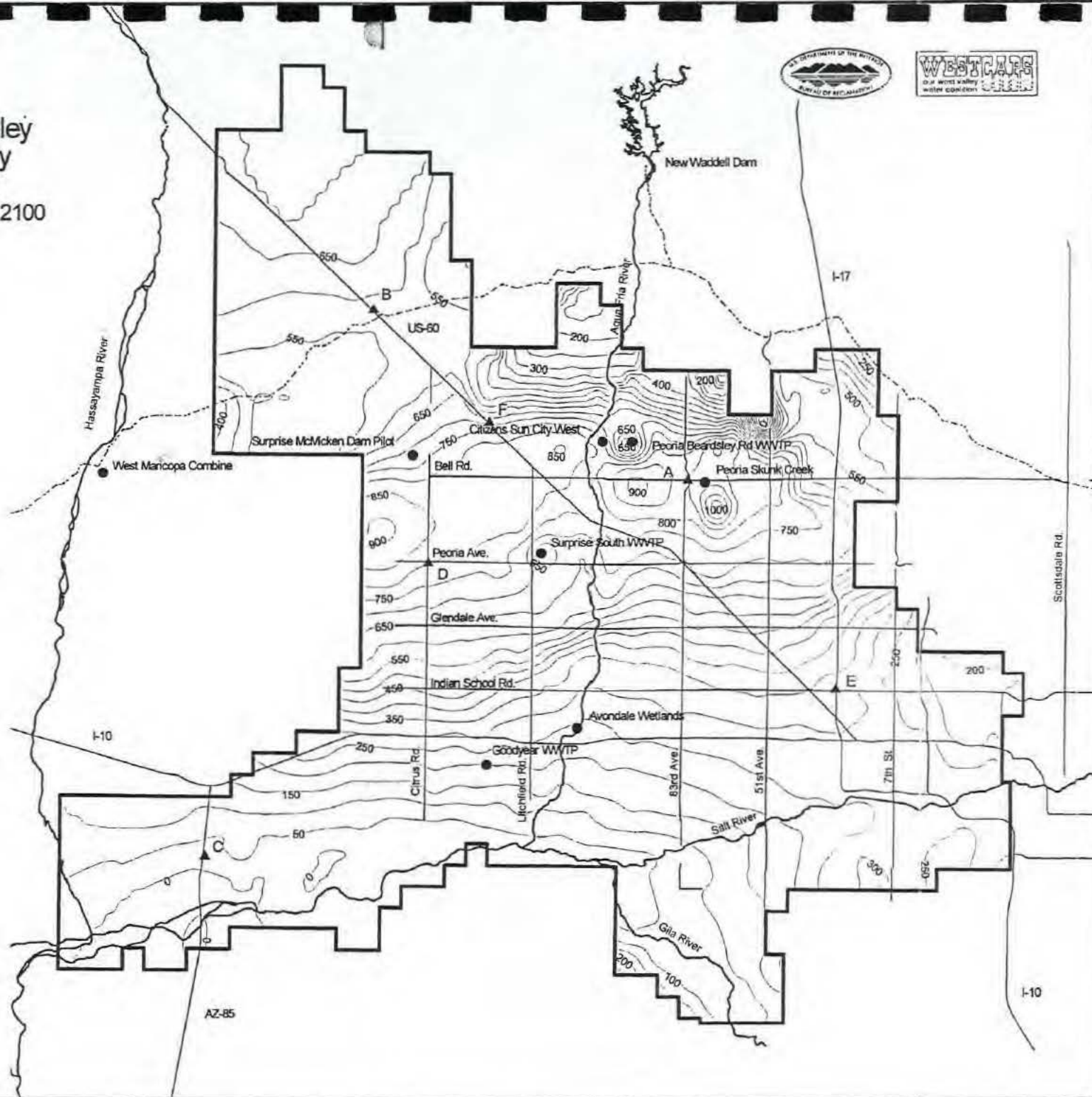
- ▲ A. Bell & 83rd
- ▲ B. CAP Canal & US-60
- ▲ C. Buckeye (AZ-85)
- ▲ D. Luke Cone
- ▲ E. I-17 & Indian School
- ▲ F. Beardsley & Grand
- Underground Water Facilities
- ~ Rivers
- Roads
- - - CAP Canal
- ▭ Model Boundary
- ▽ Depth to Water From Ground Surface

Contour Interval: 50ft.

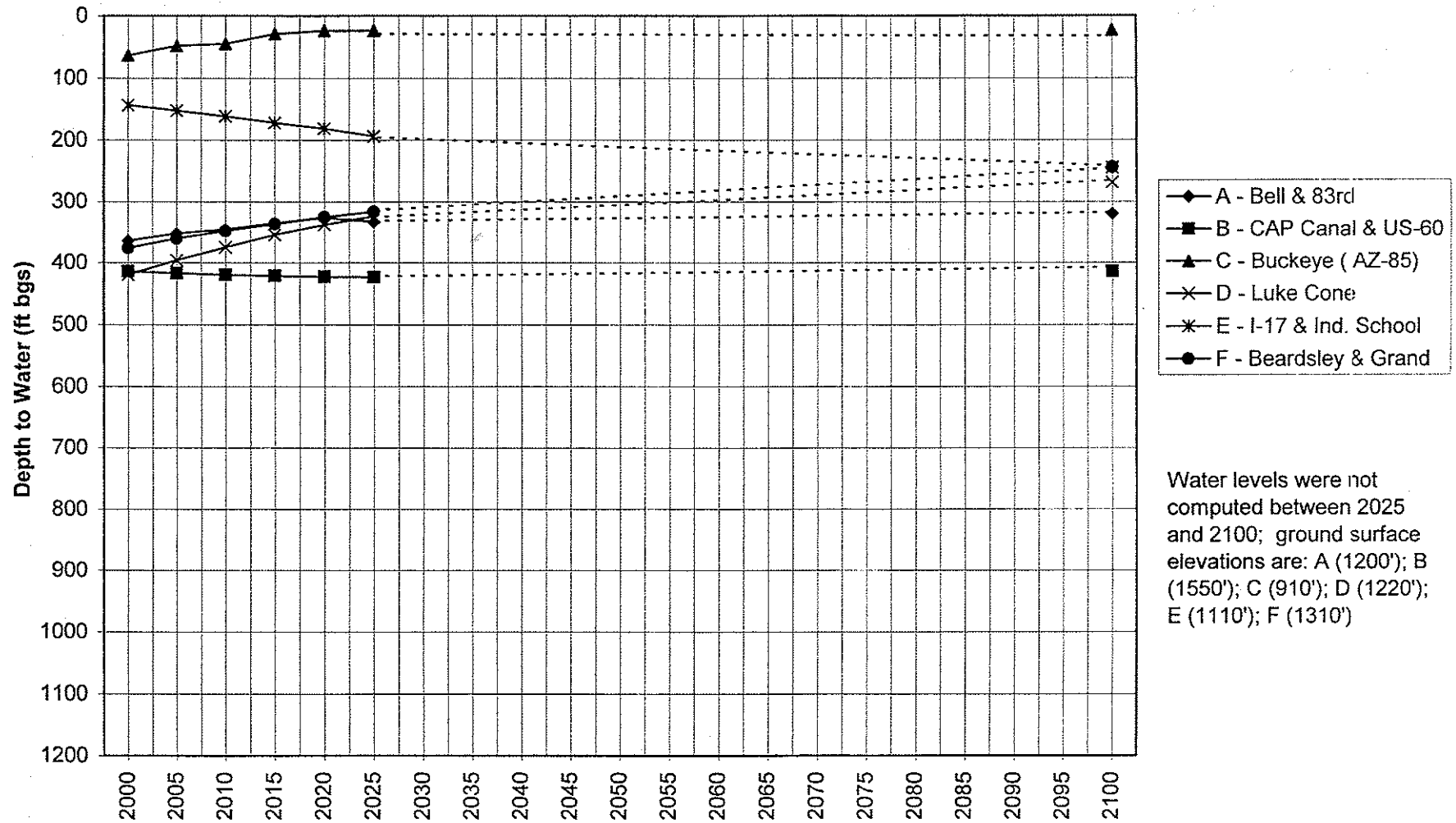


3 0 3 6 Miles

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Map 41, ctour159.shp



Scenario 19: Full Direct Use Of Renewable Supplies (No Groundwater Pumping)
Middle Alluvial Unit - Simulated Depth to Water



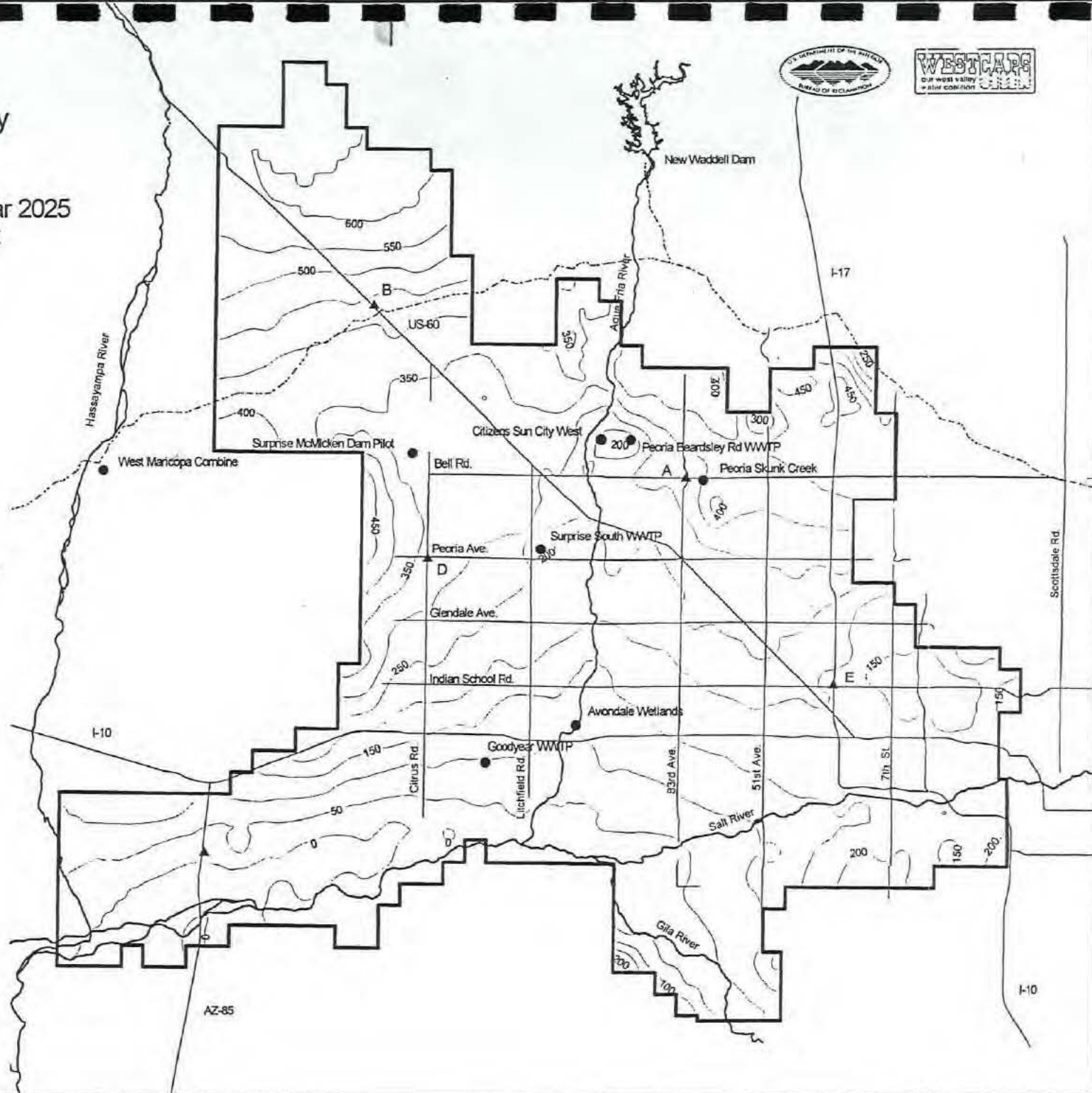
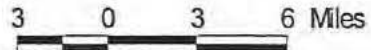


West Salt River Valley Groundwater Study

Depth to Water in the Year 2025 Middle Alluvial Unit Scenario 19

- Location of Hydrographs
- ▲ A. Bell & 83rd
 - ▲ B. CAP Canal & US-60
 - ▲ C. Buckeye (AZ-85)
 - ▲ D. Luke Cone
 - ▲ E. I-17 & Indian School
 - Underground Water Facilities
- Rivers
 - Roads
 - CAP Canal
 - Model Boundary
 - Depth to Water from Ground Surface

Contour Interval: 50ft.



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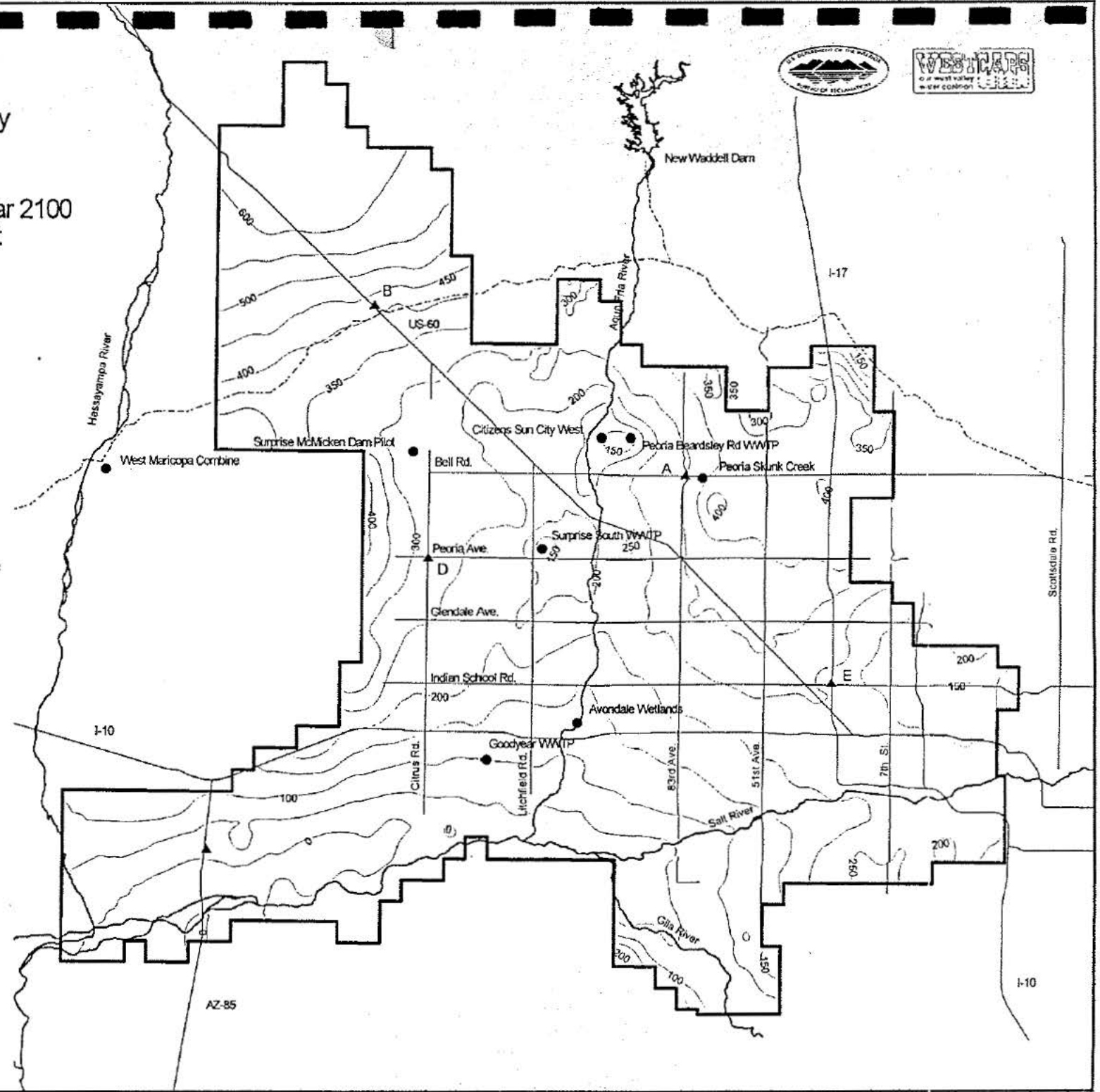
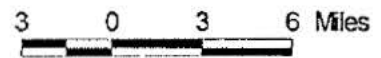


West Salt River Valley Groundwater Study

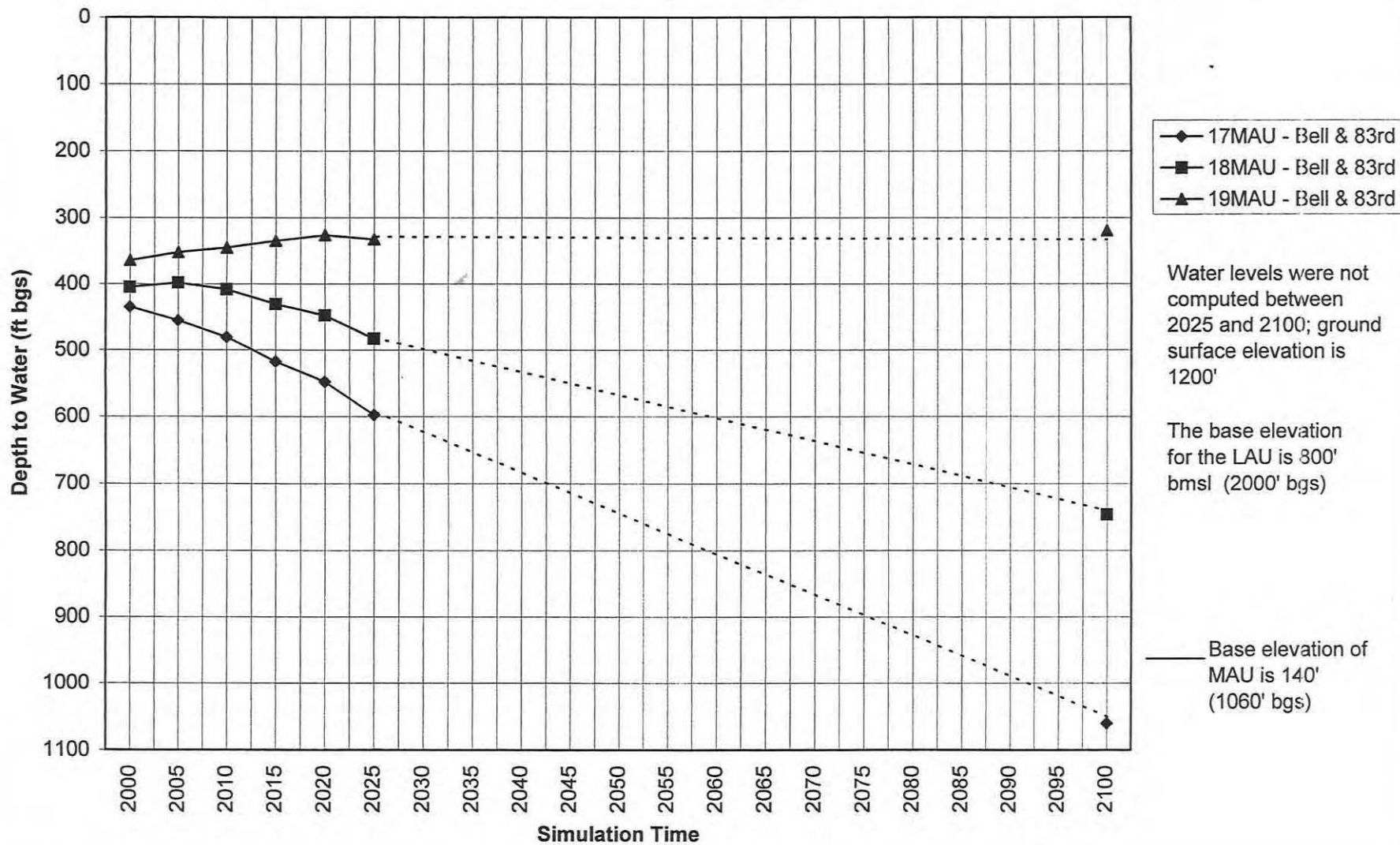
Depth to Water in the Year 2100 Middle Alluvial Unit Scenario 19

- Location of Hydrographs
- ▲ A. Bell & 83rd
 - ▲ B. CAP Canal & US-60
 - ▲ C. Buckeye (AZ-85)
 - ▲ D. Luke Cone
 - ▲ E. I-17 & Indian School
 - Underground Water Facilities
- ~ Rivers
 - Roads
 - - - CAP Canal
 - ▭ Model Boundary
 - ~ Depth to Water from Ground Surface

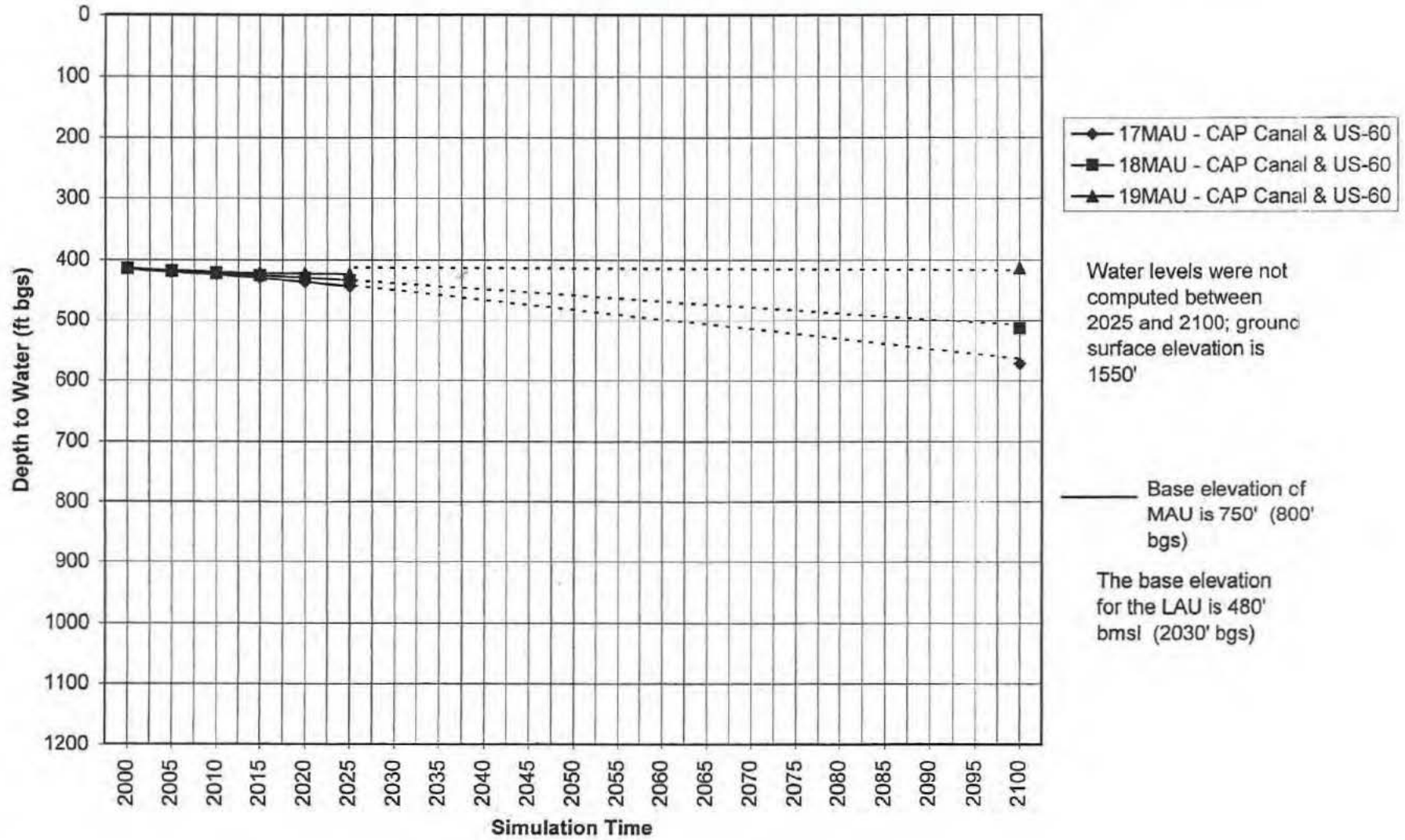
Contour Interval: 50ft.



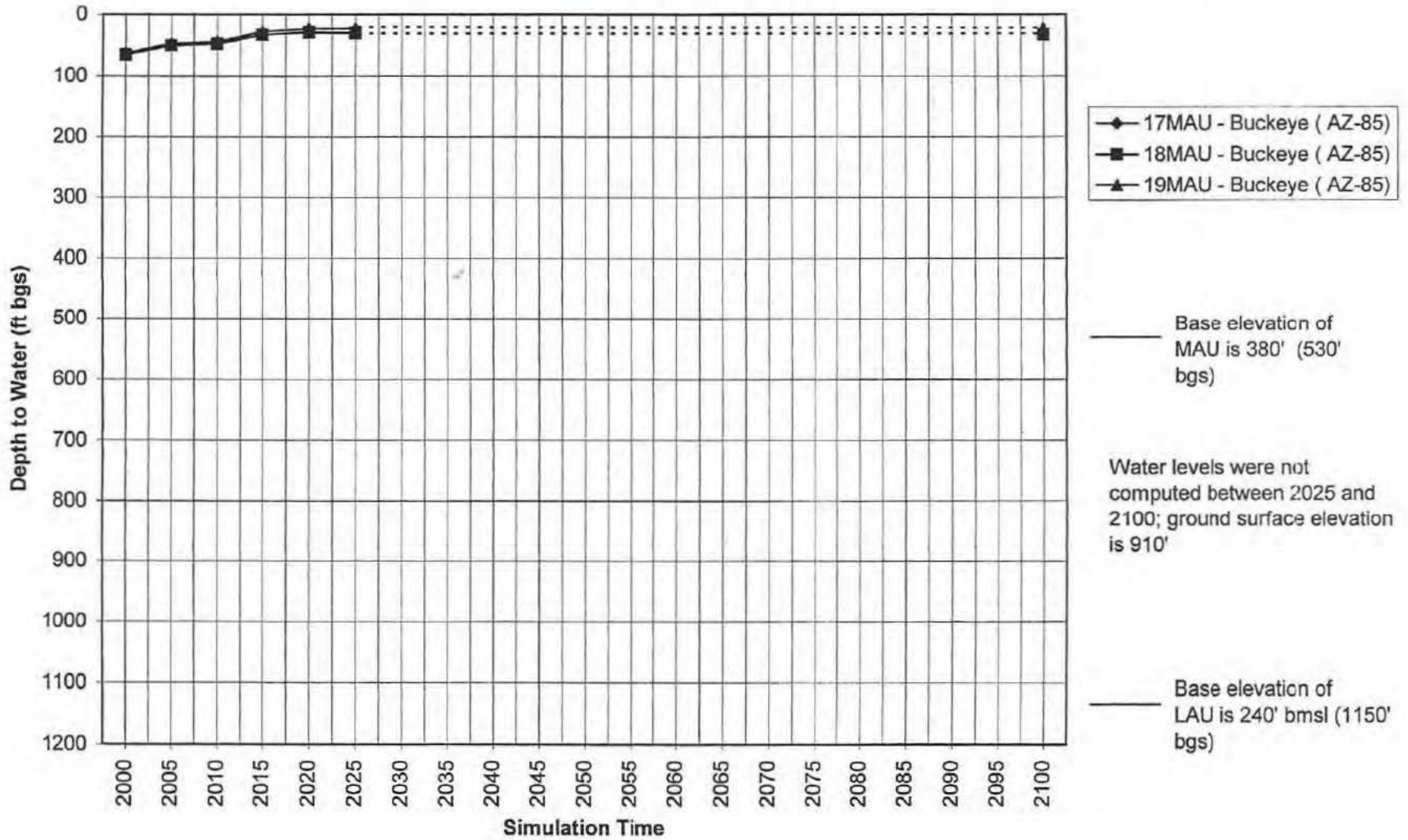
Comparison Among Scenarios 17, 18, & 19 - Middle Alluvial Unit - Simulated Depth to Water Bell & 83rd (Area A)



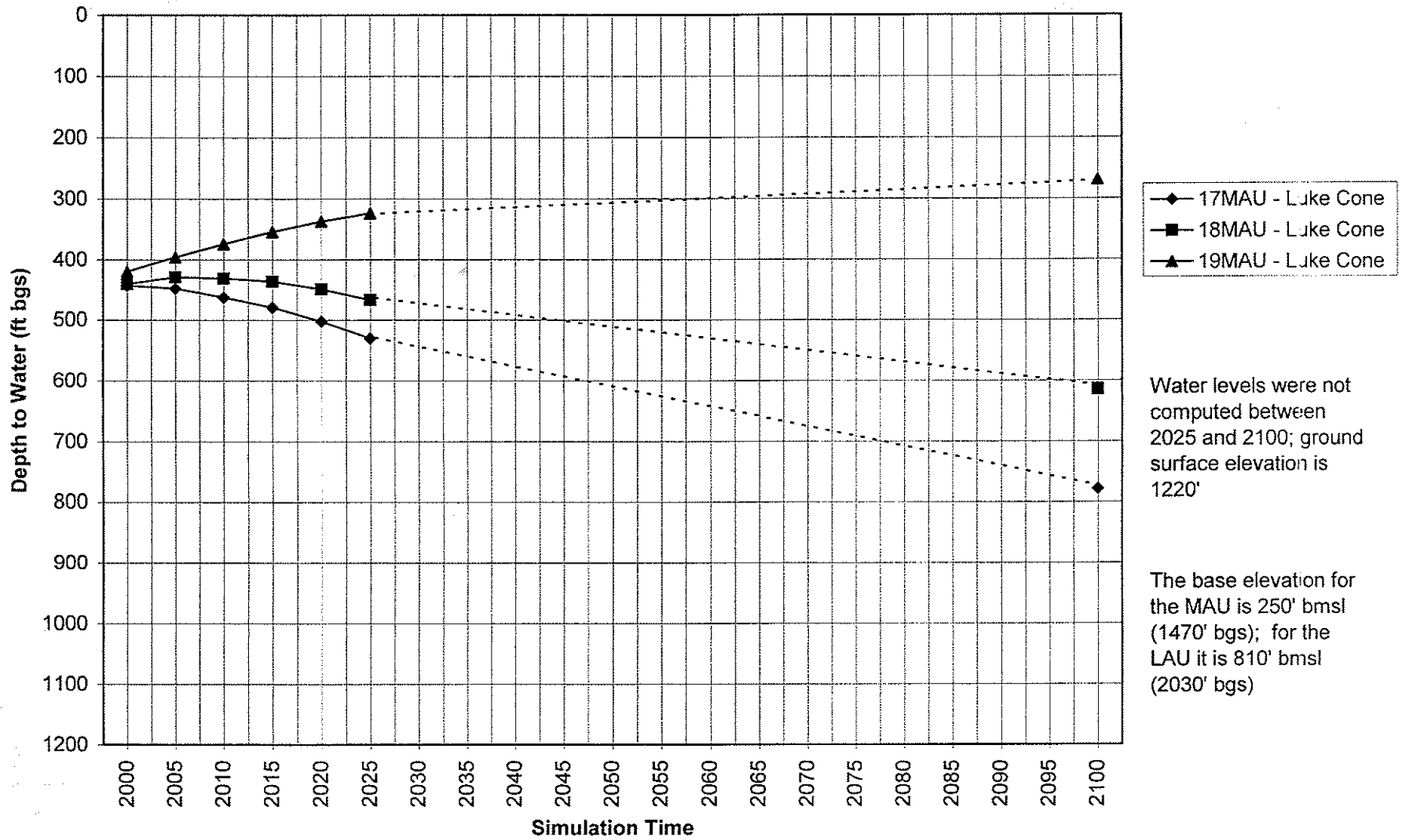
**Comparison Among Scenarios 17, 18, & 19 - Middle Alluvial Unit - Simulated Depth to Water
CAP Canal & US-60 (Area B)**



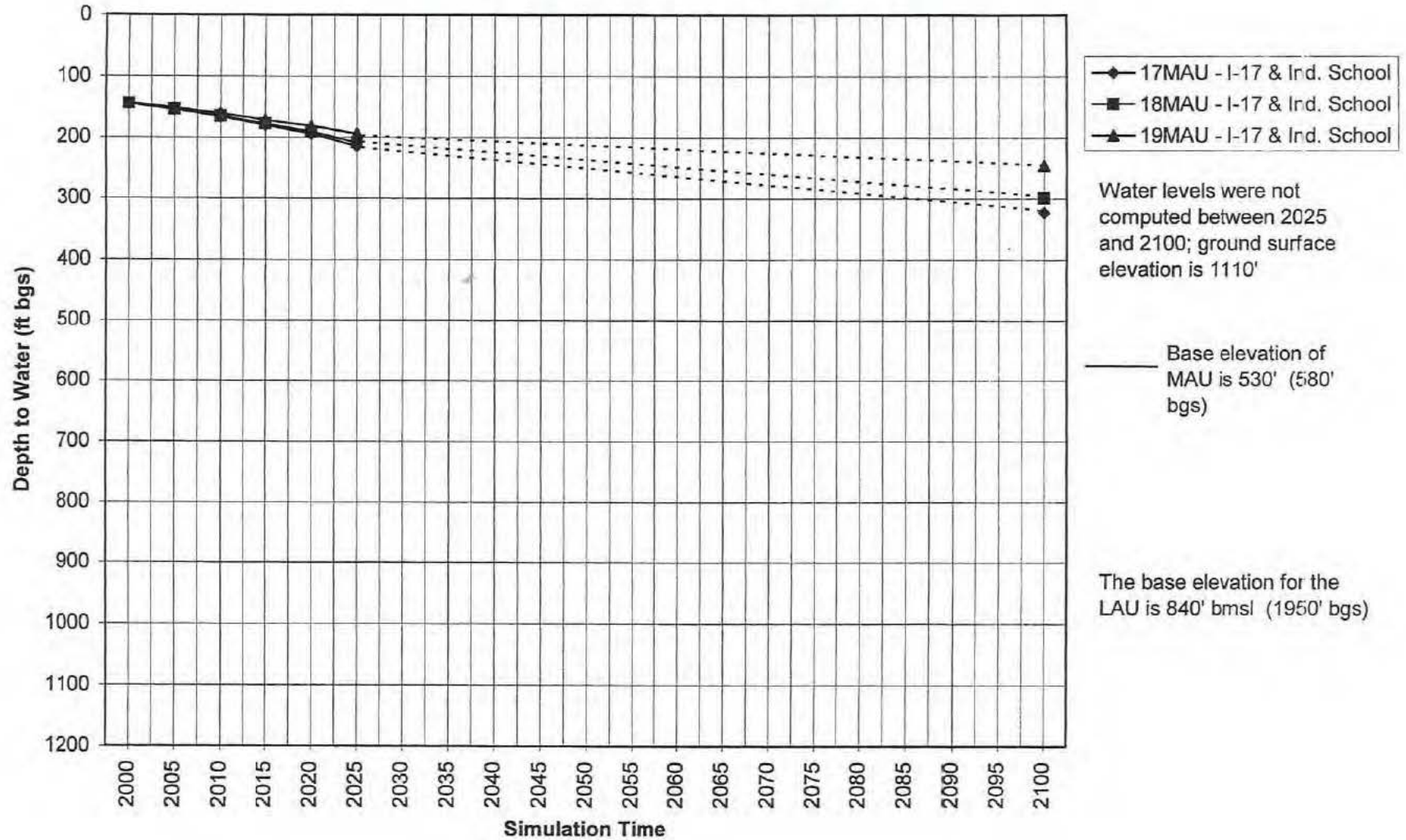
**Comparison Among Scenarios 17, 18, & 19 - Middle Alluvial Unit - Simulated Depth to Water
Buckeye (AZ-85) (Area C)**



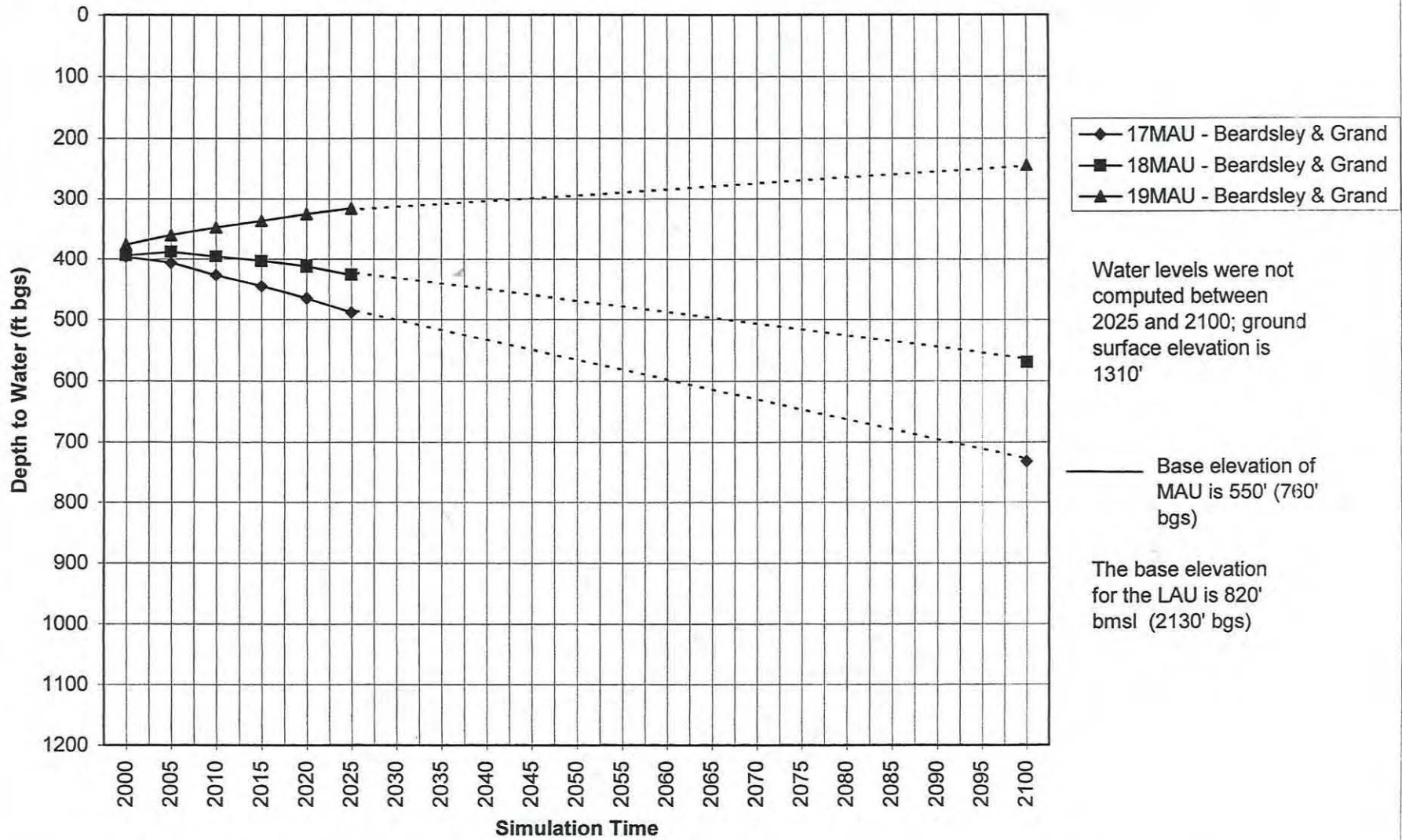
Comparison Among Scenarios 17, 18, & 19 - Middle Alluvial Unit - Simulated Depth to Water
 Luke Cone (Area D)



**Comparison Among Scenarios 17, 18, & 19 - Middle Alluvial Unit - Simulated Depth to Water
I-17 & Indian School Rd. (Area E)**



Comparison Among Scenarios 17, 18, & 19 - Middle Alluvial Unit - Simulated Depth to Water Beardsley & Grand Avenue (Area F)



13. WATER INFRASTRUCTURE

Insufficient Water Infrastructure

- Additional water conveyance, treatment, and storage infrastructure will be needed to meet anticipated future demands and to mitigate declining groundwater levels



West Salt River Valley CAP Subcontractors (WESTCAPS) Current and Future Water Treatment Plants

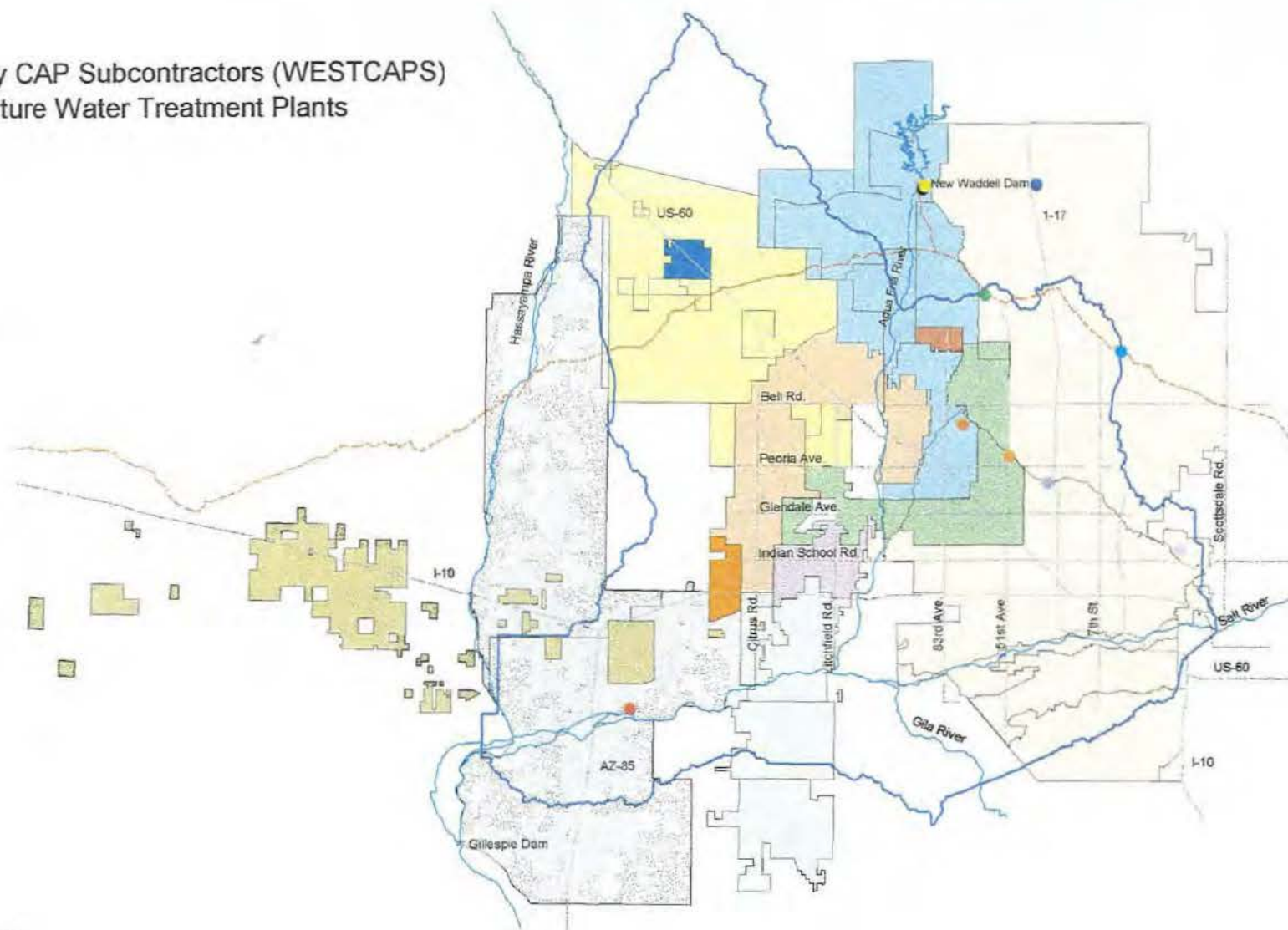
Water Treatment Plants

- Buckeye - EDR GW WTP
- Citz - Phoenix Anthem
- Glendale - Cholla
- Glendale/Peoria - Pyramid Peak
- Peoria - Lake Pleasant (future)
- Phx - Deer Valley
- Phx - Lake Pleasant (future)
- Phx - Squaw Peak
- Phx - Union Hills
- Peoria - Greenway (future)

- CAP Canal
- Roads
- Rivers
- West Salt River Valley Sub-basin

WESTCAPS

- Az. Water Co. White Tanks CC&N
- Buckeye WPA
- Citizens Water Resources CC&N
- Glendale WPA
- Goodyear WPA
- LPSCO CC&N
- Peoria WPA
- Phoenix WPA
- Sunrise CC&N
- Surprise WPA
- West End CC&N
- West Maricopa Combine CC&N



4 0 4 8 Miles



WESTCAPS
Water Treatment Plants

Facility Name	Users	Current Capacity (mgd)	Planned Expansion (mgd)	Startup / Expansion Date	Ultimate Capacity (mgd)	Source
EDR GW WTP	Buckeye	1	none	none	1	Joe Blanton
Phoenix Anthem	Citizens	1	7	2013	7	Citizens Staff
Cholla	Glendale	30	42	2001	60	Harold Goodman
Pyramid Peak	Glendale Peoria	20 6			95	Harold Goodman
Greenway	Peoria	NA	16	2002	32	AWS Application
Lake Pleasant	Peoria	NA	35		unknown	AWS Application
Lake Pleasant	Phoenix	NA	80	2004	320	Keith Larson
Squaw Peak	Phoenix	140	none	none	140	Keith Larson
Union Hills	Phoenix	160	none	none	160	Keith Larson
Val Vista [not mapped]	Phoenix Mesa	130 90	50 10	2015	180 100	Keith Larson
Verde [not mapped]	Phoenix	50	none	none	50	Keith Larson
Deer Valley	Phoenix	150	none	none	150	Keith Larson

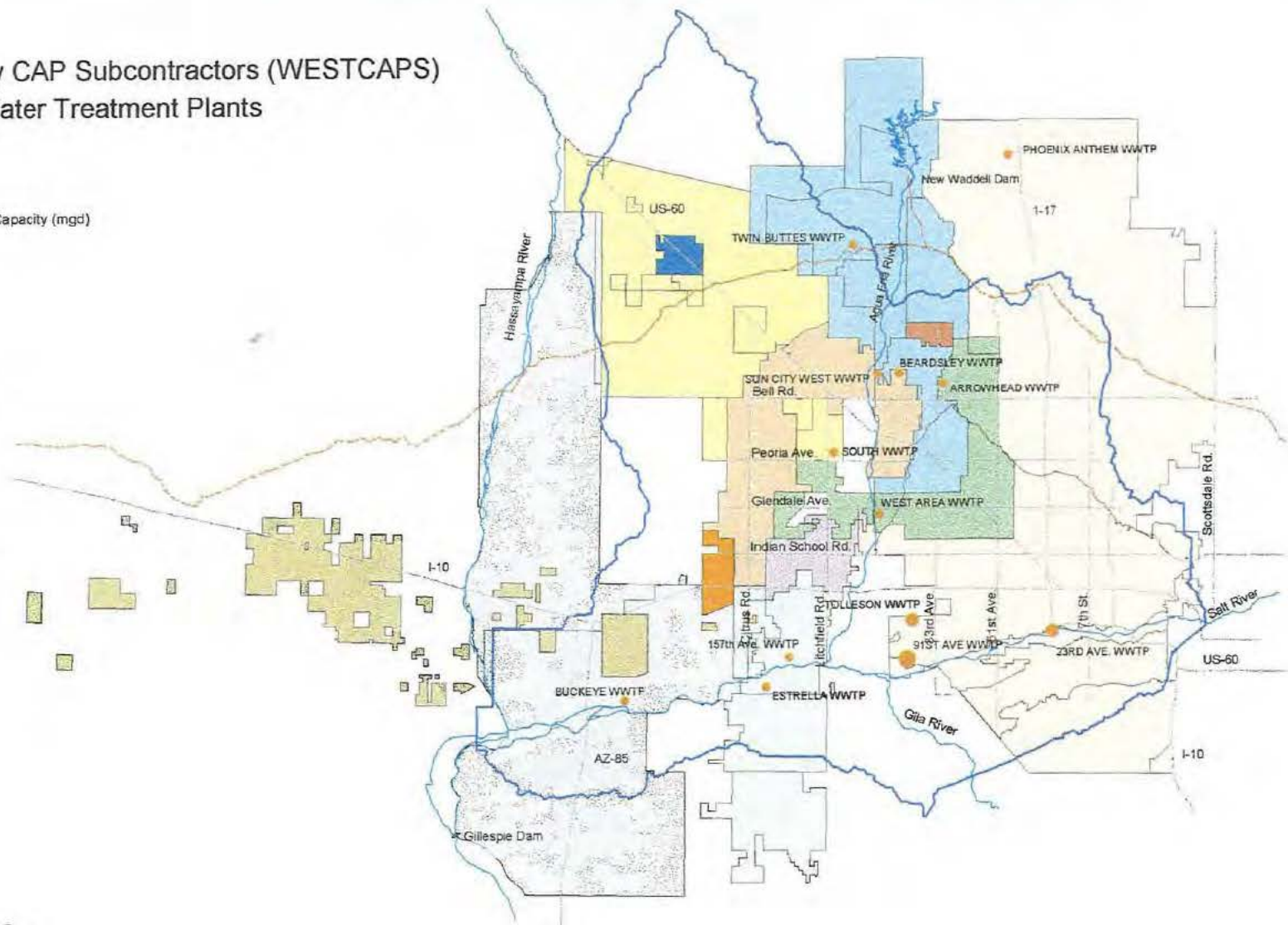
Poulson
Thomas
10/7/98



West Salt River Valley CAP Subcontractors (WESTCAPS) Waste Water Treatment Plants

Waste Water Treatment Plants - Current Capacity (mgd)

- 0 - 10
- 11 - 100
- 101 - 153.75
- CAP Canal
- Roads
- Rivers
- West Salt River Valley Sub-basin
- WESTCAPS
- Az Water Co. White Tanks CC&N
- Buckeye WPA
- Citizens Water Resources CC&N
- Glendale WPA
- Goodyear WPA
- LPSCO CC&N
- Peoria WPA
- Phoenix WPA
- Sunrise CC&N
- Surprise WPA
- West End CC&N
- West Maricopa Combine CC&N



WESTCAPS
Wastewater Treatment Plants

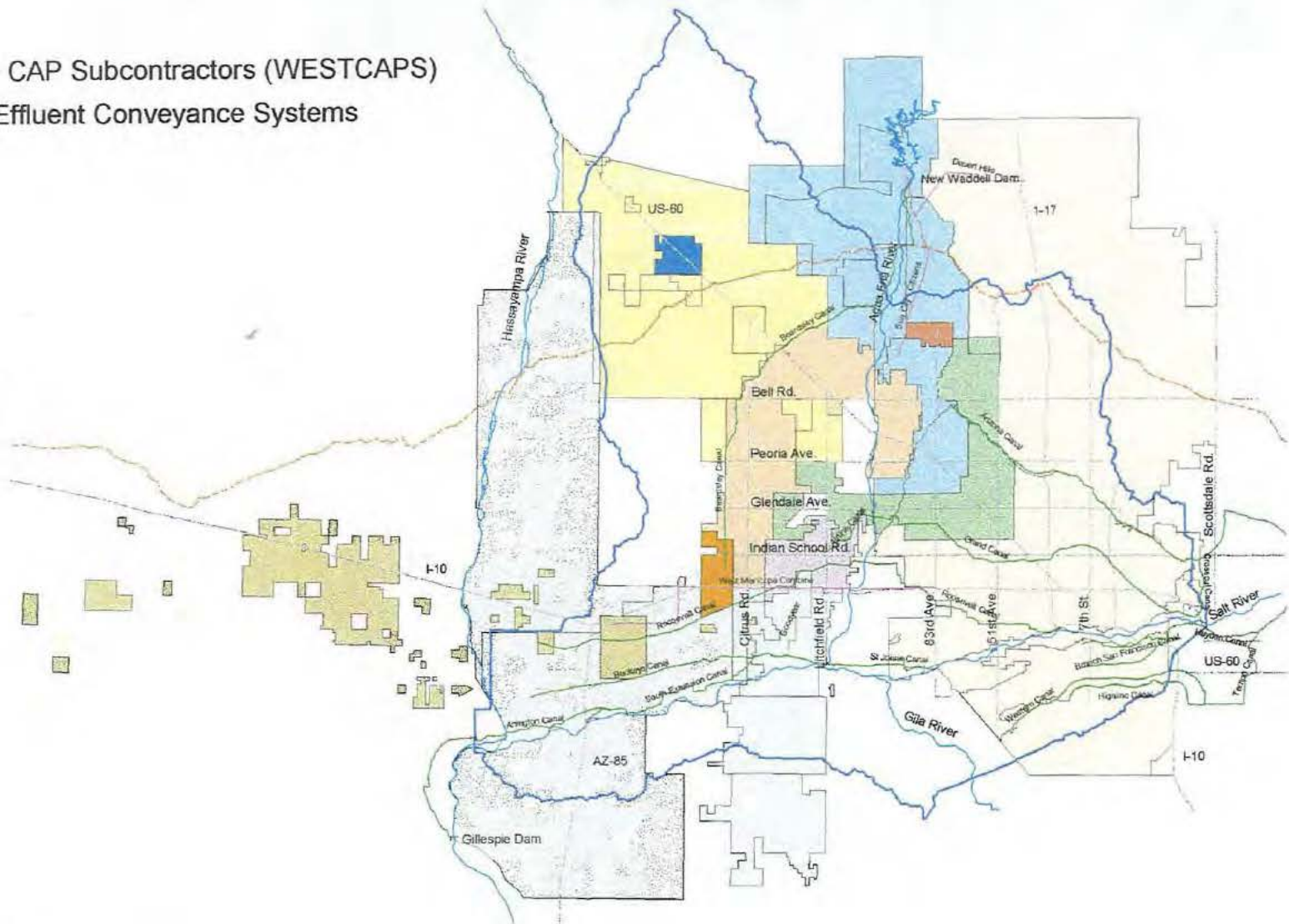
Facility Name	Users	Current Capacity (mgd)	Planned Expansion (mgd)	Startup / Expansion Date	Ultimate Capacity (mgd)	Disposition Effluent Present	Disposition Effluent Future	Source
Buckeye WWTP	Buckeye	1.2			1.8	Arlington Canal		Plant Personnel
Phoenix Anthem WWTP	Citizens	1	4.5	on going	4.5	direct use recharge	direct use recharge	Citizens Staff
Sun City West WWTP	Citizens	3.2	none	none	3.2	recharge	recharge	Citizens Staff
Arrowhead WWTP	Glendale	2.5	4.5	1999				Harold Goodman
Tolleson WWTP	Tolleson Peoria Sun City Glendale	17.5			24.9	PVNGS		Drenan Dudley
157 Ave. WWTP	Goodyear LPSCO	3			21	recharge	direct use recharge	Water Master Plan
Estrella WWTP	Goodyear	0.8			2.4	Corgett Wash	Corgett Wash	Water Master Plan
West Area WWTP	Glendale	4.3	15					Harold Goodman
Beardsley WWTP	Peoria	3	16	on going	16	recharge		Brad Hill
Twin Buttes WWTP	Peoria	NA	1	2005	6.7		direct use	Brad Hill
23rd Ave. WWTP	Phoenix	57				RID Canal		Water Resource Plan
91st Ave. WWTP	Phoenix Mesa Tempe Scottsdale Youngtown Glendale	153.75	183.75			PVNGS & Salt River		Plant Personnel
South WWTP	Surprise	3.2	unknown	unknown	24	direct use recharge	recharge	James Swanson

Poulson
Thomas
9/17/98



West Salt River Valley CAP Subcontractors (WESTCAPS) Raw Water and Effluent Conveyance Systems

- Effluent Pipelines
- Raw Water Pipelines
- Raw Water Canals
- CAP Canal
- Roads
- Rivers
- West Salt River Valley Sub-basin
- WESTCAPS**
- Az. Water Co. White Tanks CC&N
- Buckeye WPA
- Citizens Water Resources CC&N
- Glendale WPA
- Goodyear WPA
- LPSO CC&N
- Peoria WPA
- Phoenix WPA
- Sunrise CC&N
- Surprise WPA
- West End CC&N
- West Maricopa Combine CC&N



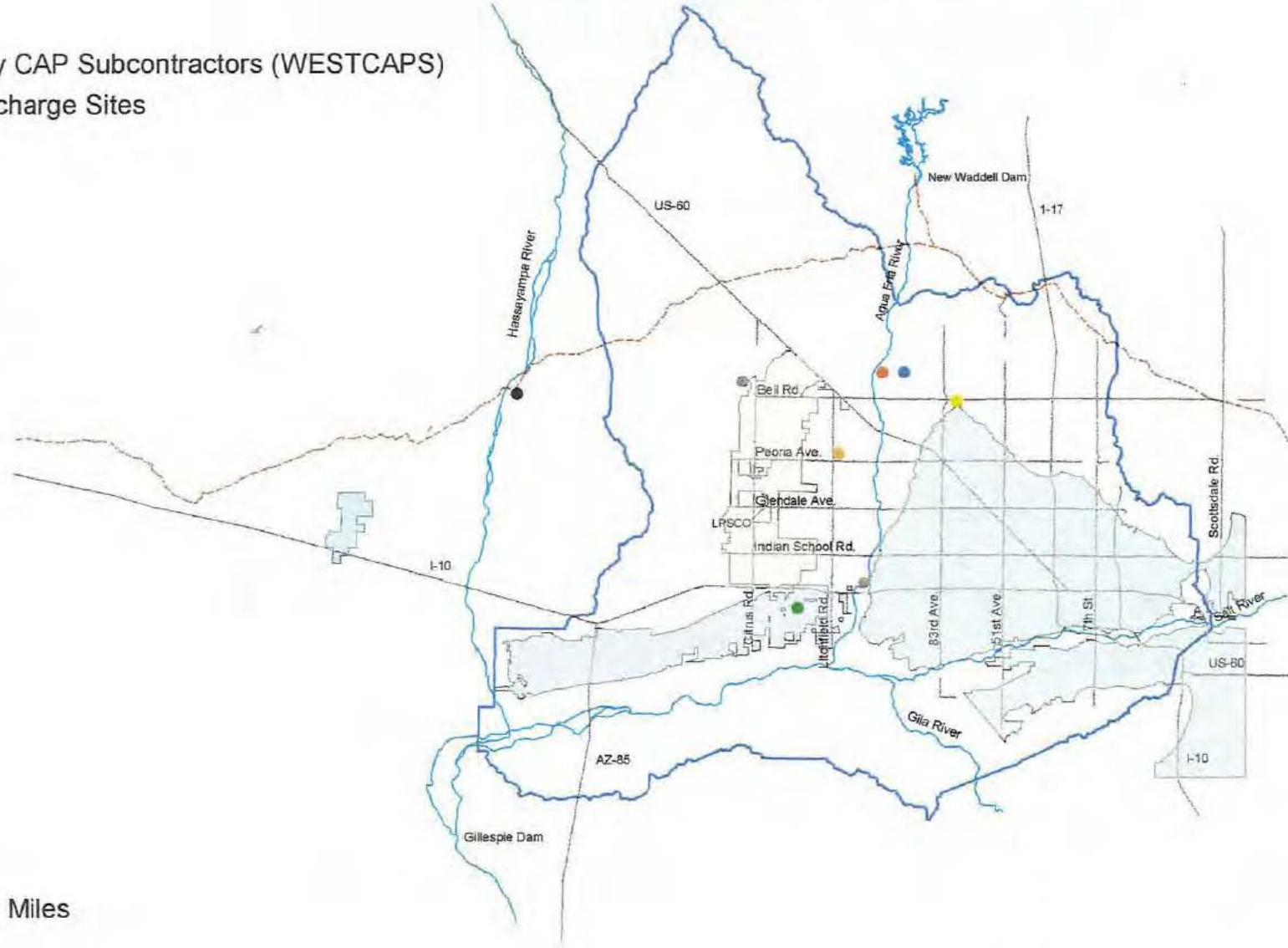
4 0 4 8 Miles





West Salt River Valley CAP Subcontractors (WESTCAPS) Recharge Sites

- Underground Storage Facilities**
 - Citizens Sun City West
 - Goodyear WWTP
 - Peoria Beardsley Road WWTP
 - Peoria Skunk Creek
 - Surprise McMicken Dam Pilot
 - West Maricopa Combine
 - Avondale Wetlands
 - Surprise South WWTP
- Infrastructure**
 - CAP Canal
 - Roads
 - Rivers
 - West Salt River Valley Sub-basin
- Groundwater Savings Facilities**
 - MWD
 - Roosevelt ID
 - SRP
 - LPSCO
 - Tonopah ID



WESTCAPS
Permitted Underground Storage Facilities

Facility Name	Permit Holder	Quantity (acre-ft / yr.)	Quantity life of Project (acre-ft)	Water	Permit Duration	Comments	Source
Sun City West	Citizens	3042		effluent	1993 to 2043	infiltration basins	TS Rossi
Skunk Creek	Peoria	NA	10,000	CAP Skunk Creek Salt & Verde	1998 to 2000	Injection well	ADWR Quarterly Report
McMicken Dam Pilot Project	Surprise	NA	2,000	CAP	1996 to 1998	infiltration	ADWR Quarterly Report
Beardsley Road WWTP	Peoria	2470		effluent	1996 to 2016	infiltration	ADWR Quarterly Report
Goodyear WWTP	Goodyear	3360		effluent	1998 to 2018	infiltration	ADWR Quarterly Report
Avondale Recharge Facility	Avondale Wetlands	10,000	200,000	CAP SRP	1995 to 1997 (expired) new permit under ADWR review	wetlands	ADWR Quarterly Report
Hassayampa River & Hayden Rhodes Aqueduct	West Maricopa Combine	25,000		CAP	1999 to 2019	infiltration (river bed)	John Mihlik
South WWTP	Surprise	3,300		CAP	1998 to 2018	infiltration	James Swanson

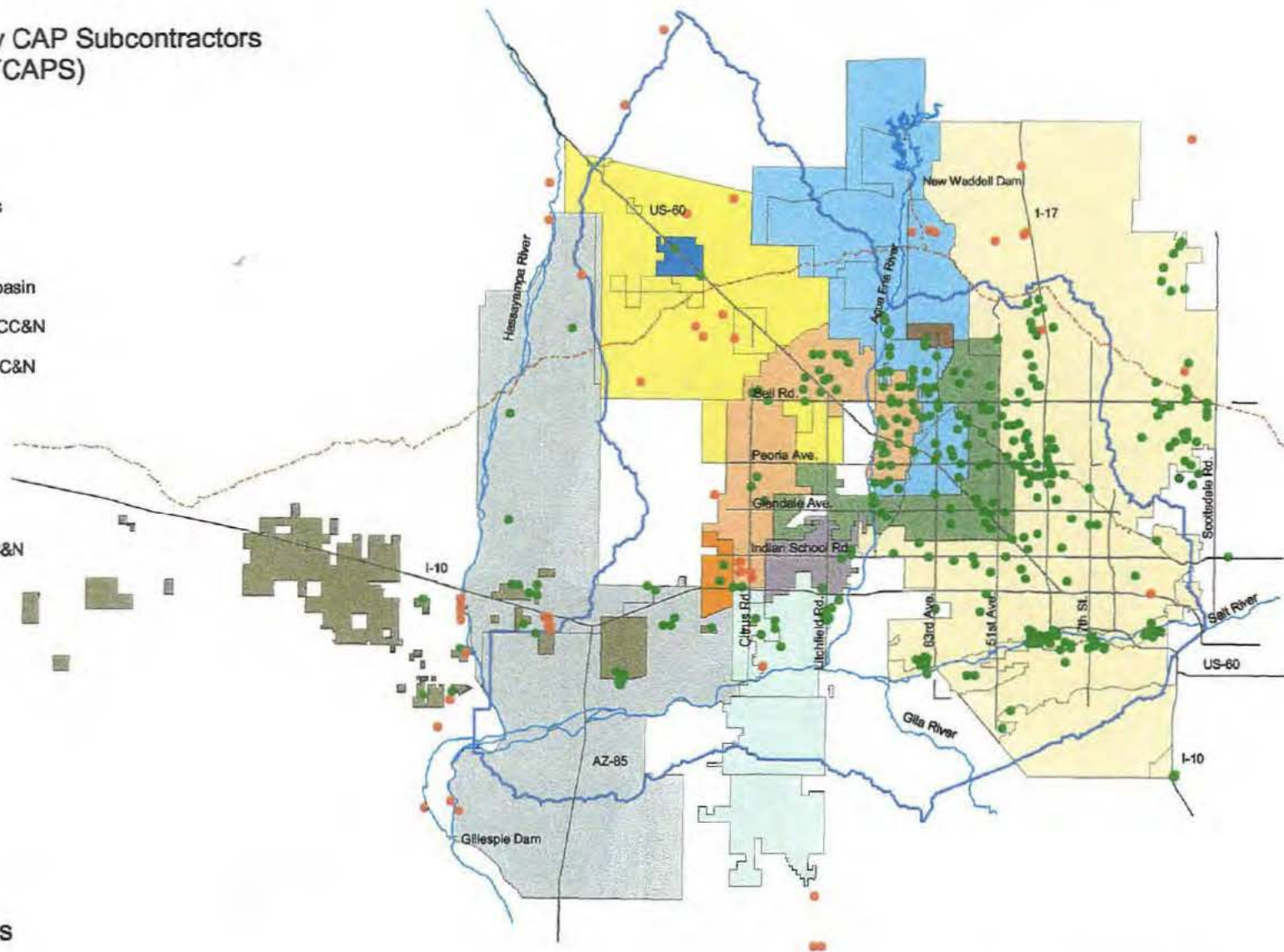
WESTCAPS
Permitted Groundwater Savings Facilities

Facility Name	Permit holder	Quantity (acre-ft / yr.)	Quantity Life of Project (acre-feet)	Water	Permit Duration	Comments	Source
Tonopah ID	Tonopah ID	15,000	NA	CAP	1996 to 2006		ADWR Quarterly Report
MWD	MWD	40,000	NA	CAP	1998 to 2003		ADWR
LPSCO	LPSCO	840	NA	effluent	1992 to 2022		ADWR Quarterly Report
SRP	SRP	200,000	NA	CAP	1996 to 2005	Associated water permit holders: Peoria Scottsdale Tempe Del Web CAWCD Mesa Phoenix Glendale Chandler	ADWR Quarterly Report



West Salt River Valley CAP Subcontractors (WESTCAPS)

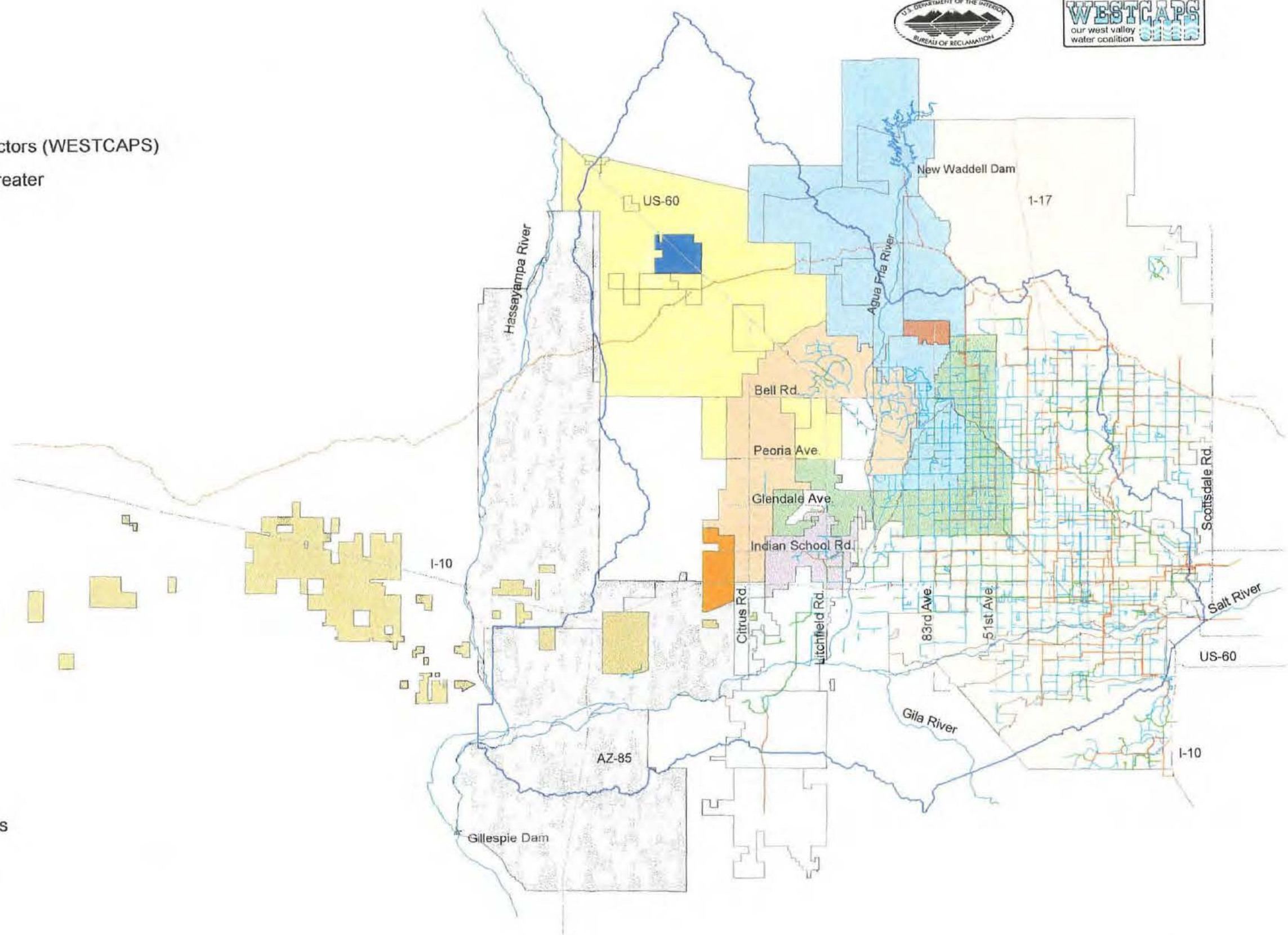
- Wells**
- Az. State Land Dept.
 - Other WESTCAPS Members
- Infrastructure**
- CAP Canal
 - Roads
 - Rivers
 - West Salt River Valley Sub-basin
- WESTCAPS**
- Az. Water Co. White Tanks CC&N
 - Buckeye WPA
 - Citizens Water Resources CC&N
 - Glendale WPA
 - Goodyear WPA
 - LPSCO CC&N
 - Peoria WPA
 - Phoenix WPA
 - Sunrise CC&N
 - Surprise WPA
 - West End CC&N
 - West Maricopa Combine CC&N





West Salt River Valley CAP Subcontractors (WESTCAPS)
Potable Water Mains 12" or Greater

- Pipes**
- 12 - 15 inches
 - 16 - 23 inches
 - 24 - 90 inches
 - CAP Canal
 - Roads
 - Rivers
 - West Salt River Valley Sub-basin
- WESTCAPS**
- Az. Water Co. White Tanks CC&N
 - Buckeye WPA
 - Citizens Water Resources CC&N
 - Glendale WPA
 - Goodyear WPA
 - LPSCO CC&N
 - Peoria WPA
 - Phoenix WPA
 - Sunrise CC&N
 - Surprise WPA
 - West End CC&N
 - West Maricopa Combine CC&N



14. FINANCING CAPABILITY

Lack Of Financing Capability

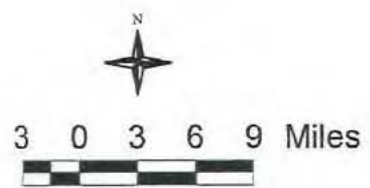
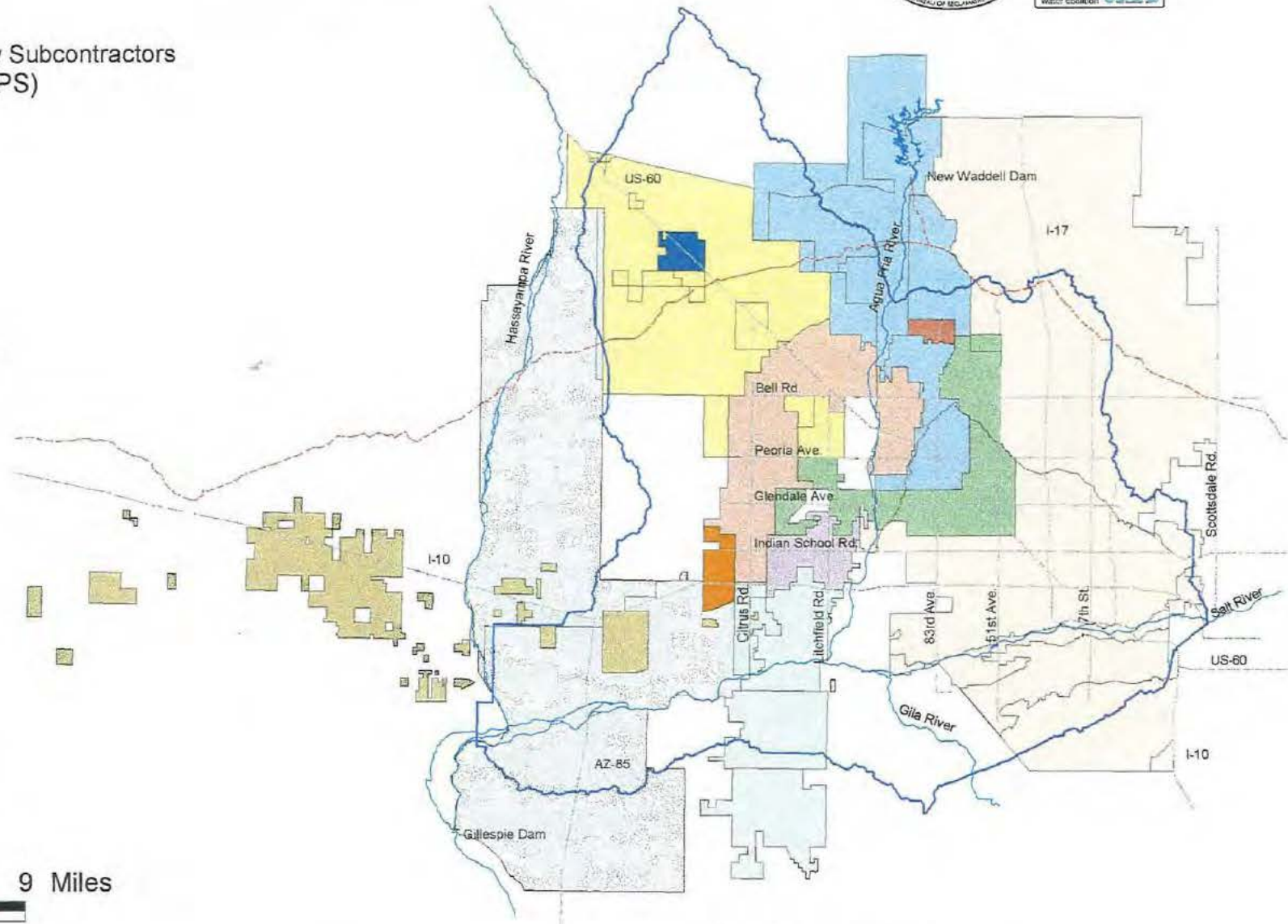
- Cost of obtaining additional renewable resources and constructing new water infrastructure places a large financial burden on individual WESTCAPS participants

15. PLANNING AREAS



West Salt River Valley Subcontractors (WESTCAPS)

- Roads
- CAP Canal
- Rivers
- West Salt River Valley Sub-basin
- WESTCAPS**
- Az. Water Co. White Tanks CC&N
- Buckeye WPA
- Citizens Water Resources CC&N
- Glendale WPA
- Goodyear WPA
- LPSCO CC&N
- Peoria WPA
- Phoenix WPA
- Sunrise CC&N
- Surprise WPA
- West End CC&N
- West Maricopa Combine CC&N

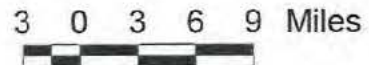
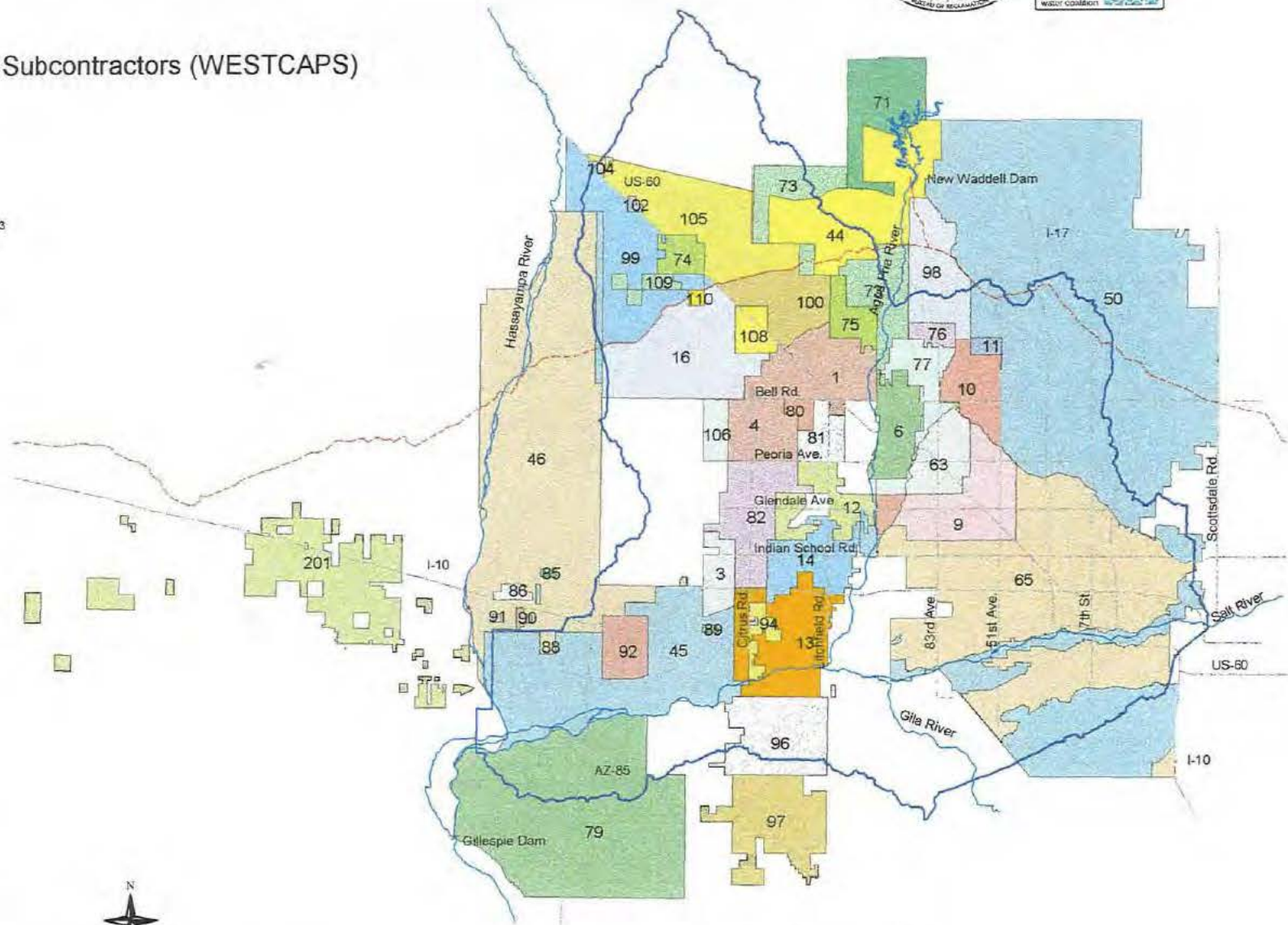


Phoenix Metropolitan Area



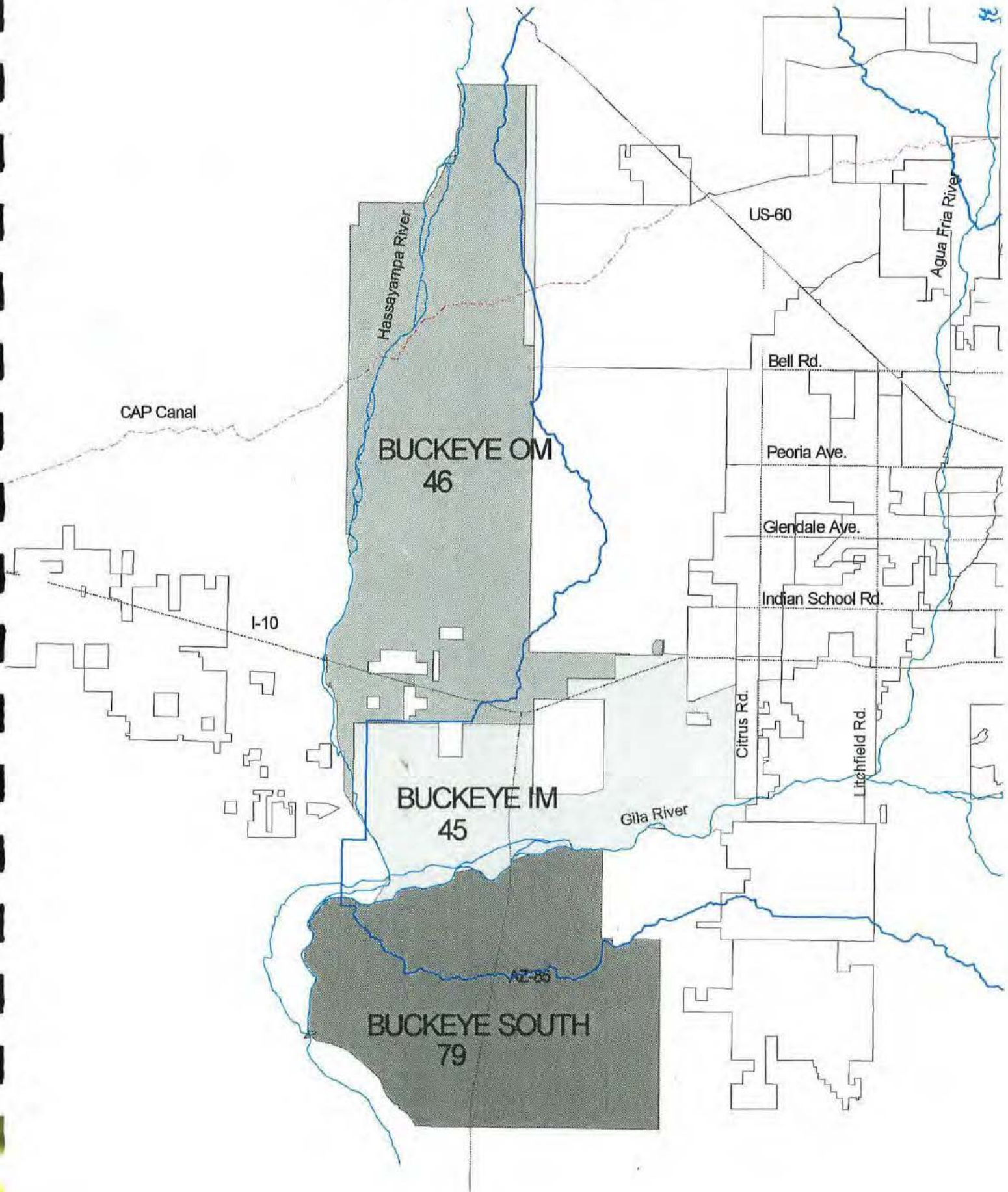
West Salt River Valley Subcontractors (WESTCAPS)

- Roads
- CAP Canal
- Rivers
- West Salt River Valley Sub-basin
- WESTCAPS
 - ARIZONA WATER CO. WHITE TANKS WPA-3
 - BUCKEYE IM WPA-45
 - BUCKEYE OM WPA-46
 - BUCKEYE SOUTH WPA-79
 - CITIZENS AGUA FRIA WPA-4
 - CITIZENS AGUA FRIA # 2 WPA-82
 - GLENDALE IM WPA-10
 - GLENDALE OM WPA-11
 - GLENDALE OUT OF SERVICE WPA-12
 - GLENDALE SRP WPA-9
 - GOODYEAR # 2 WPA-13
 - GOODYEAR # 3 WPA-95
 - GOODYEAR # 4 WPA-97
 - GOODYEAR OUTSIDE WPA-94
 - LPSGO WPA-14
 - PEORIA # 2 WPA-98
 - PEORIA # 2A WPA-77
 - PEORIA # 3 WPA-44
 - PEORIA # 5 WPA-73
 - PEORIA # 6 WPA-75
 - PEORIA - YAV CO WPA-71
 - PEORIA SRP WPA-63
 - PHOENIX WPA-50
 - PHOENIX SRP WPA-65
 - SUN CITY WATER CO. WPA-6
 - SUN CITY WEST WPA-1
 - SUNRISE WPA-76
 - SURPRISE # 1 WPA-80
 - SURPRISE # 10 WPA-102
 - SURPRISE # 11 WPA-103
 - SURPRISE # 12 WPA-104
 - SURPRISE # 13 WPA-110
 - SURPRISE # 2 WPA-81
 - SURPRISE # 3 WPA-100
 - SURPRISE # 4 WPA-105
 - SURPRISE # 5 WPA-99
 - SURPRISE # 6 WPA-16
 - SURPRISE # 7 WPA-105
 - SURPRISE # 8 WPA-108
 - SURPRISE # 9 WPA-109
 - WEST END WPA-74
 - WEST MARICOPA COMBINE WPA-85
 - WEST MARICOPA COMBINE WPA-86
 - WEST MARICOPA COMBINE WPA-87
 - WEST MARICOPA COMBINE WPA-88
 - WEST MARICOPA COMBINE WPA-89
 - WEST MARICOPA COMBINE WPA-90
 - WEST MARICOPA COMBINE WPA-91
 - WEST MARICOPA COMBINE WPA-92
 - WEST MARICOPA COMBINE WPA-95
 - WMC TONOPAH WPA-201

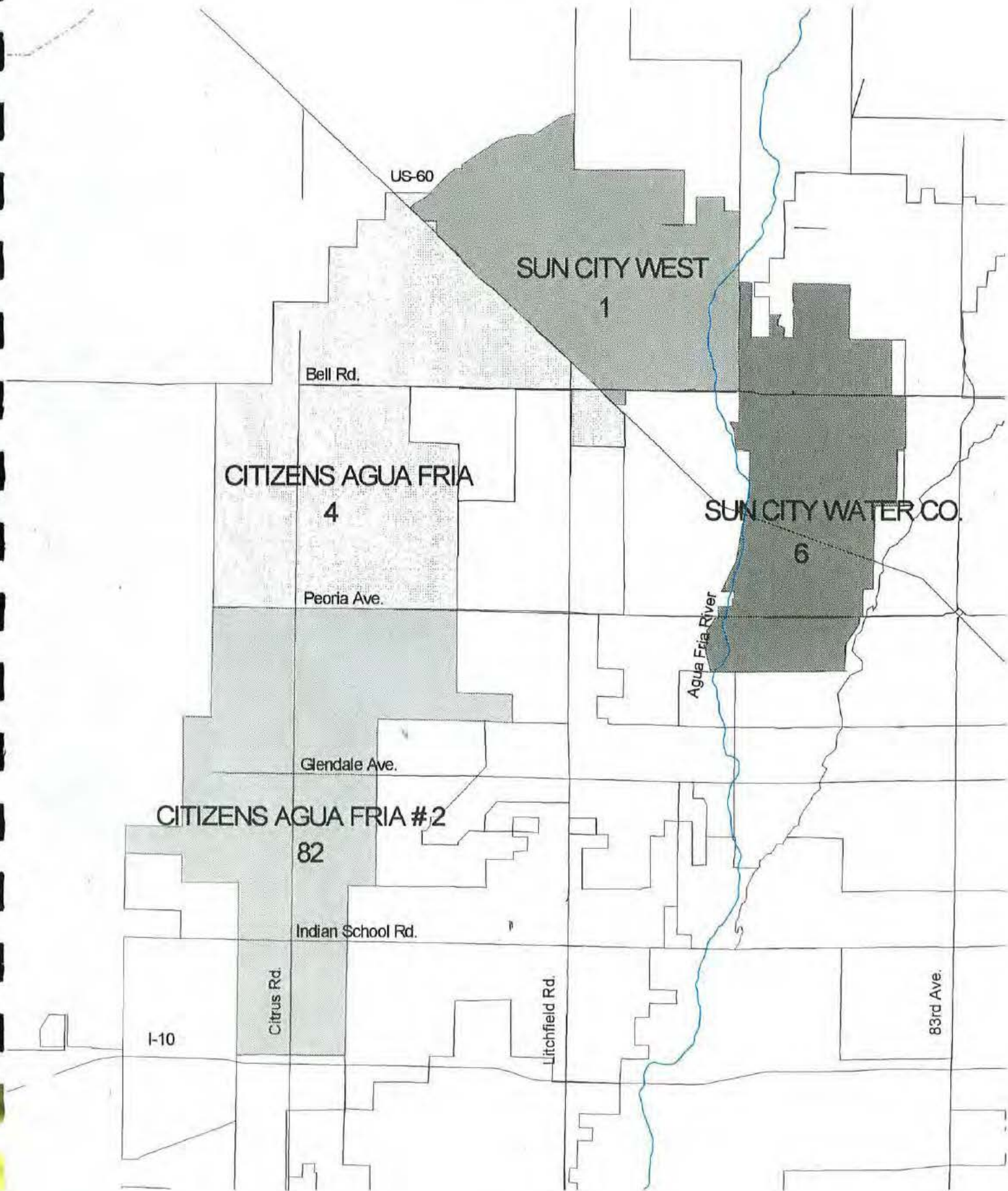


Phoenix Metropolitan Area

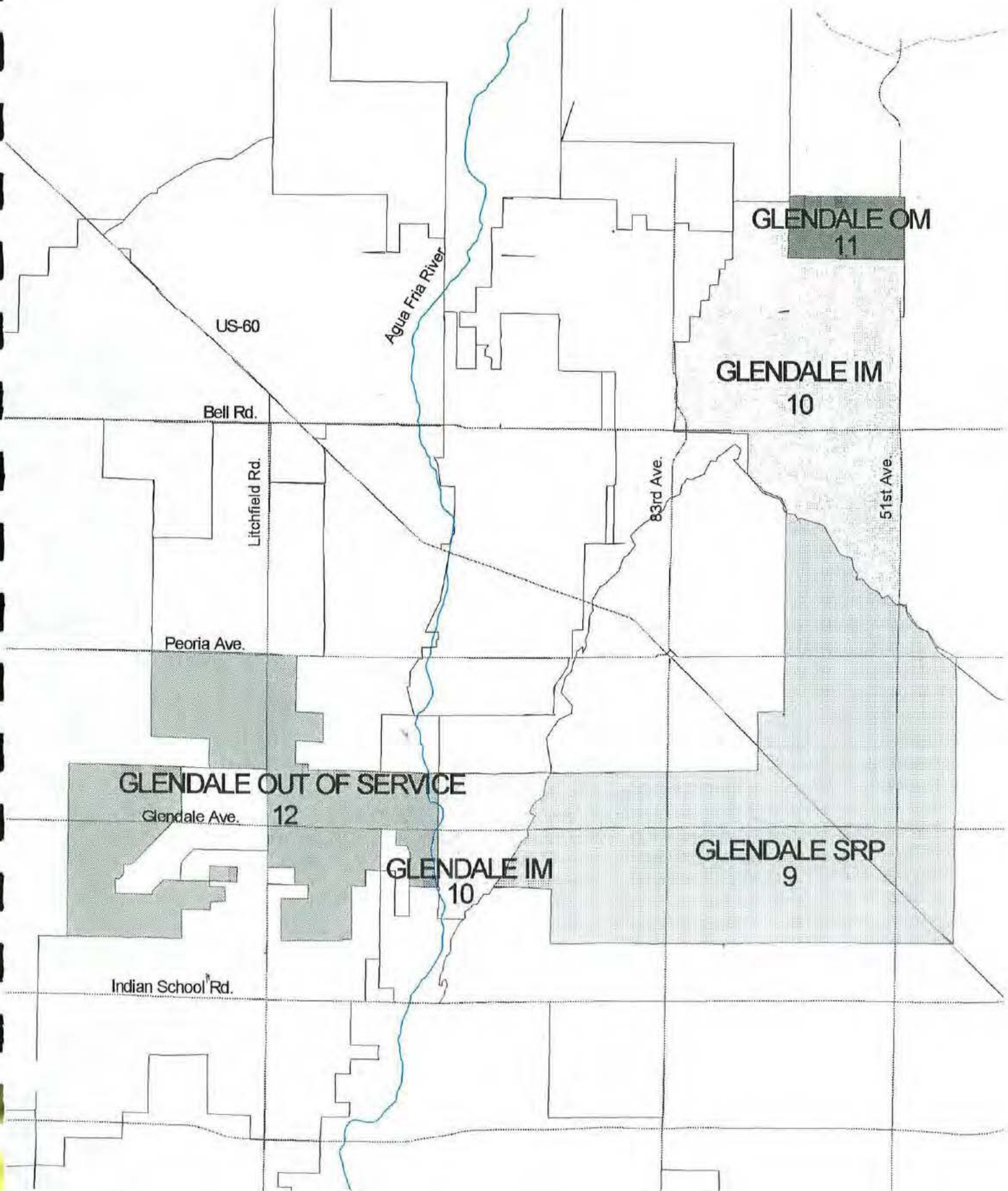
Buckeye Water Planning Area



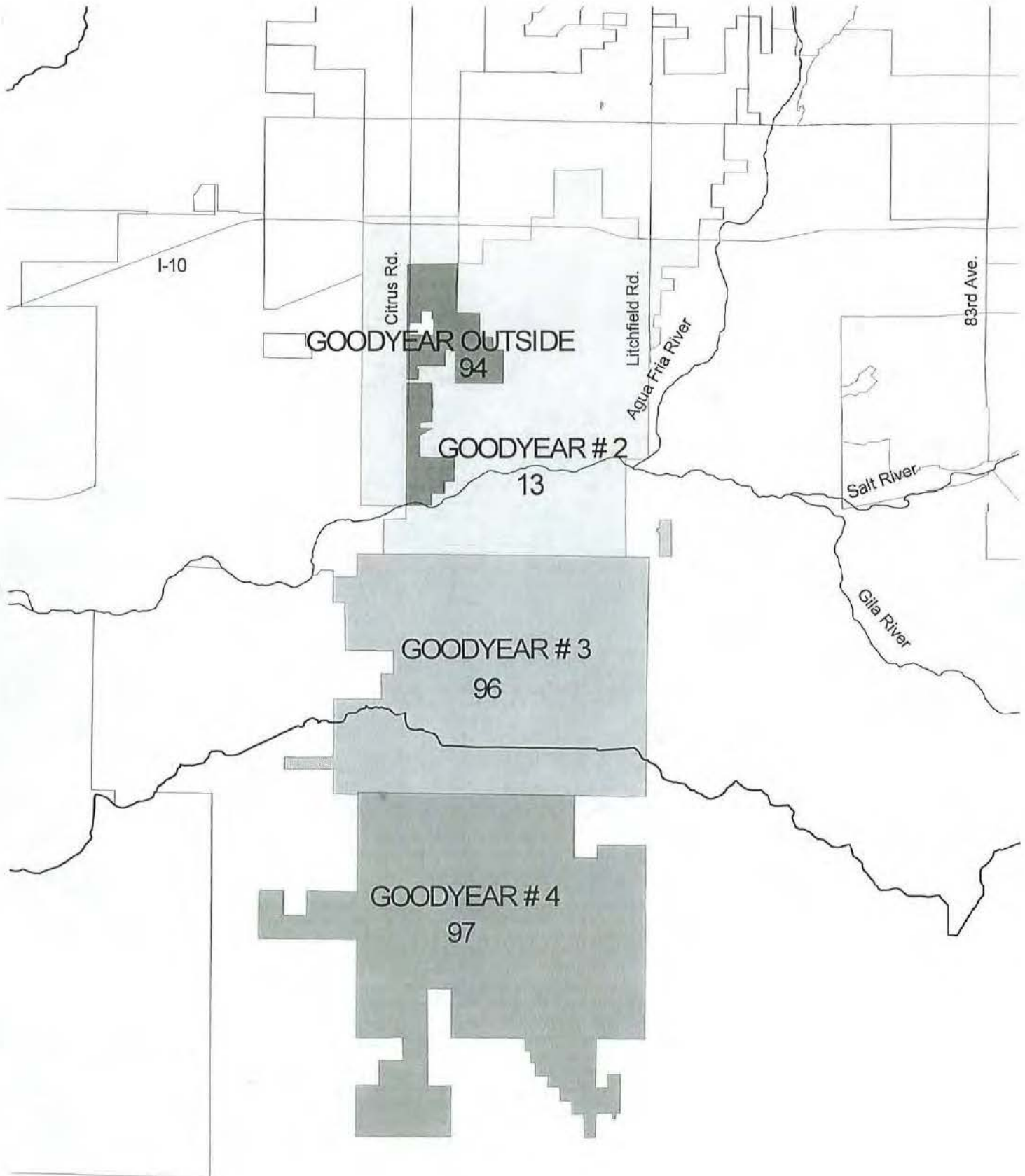
Citizens Water Planning Area



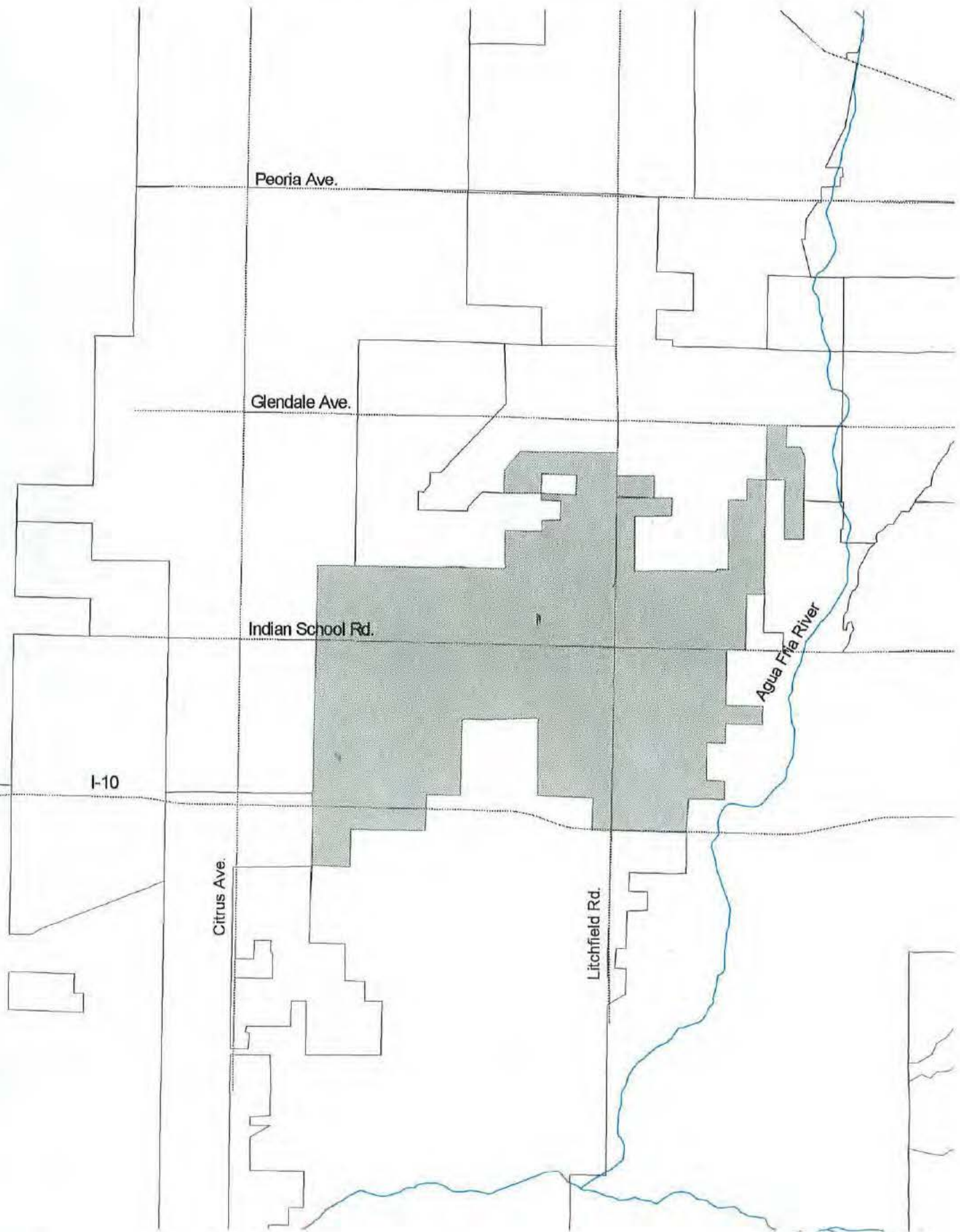
Glendale Water Planning Area



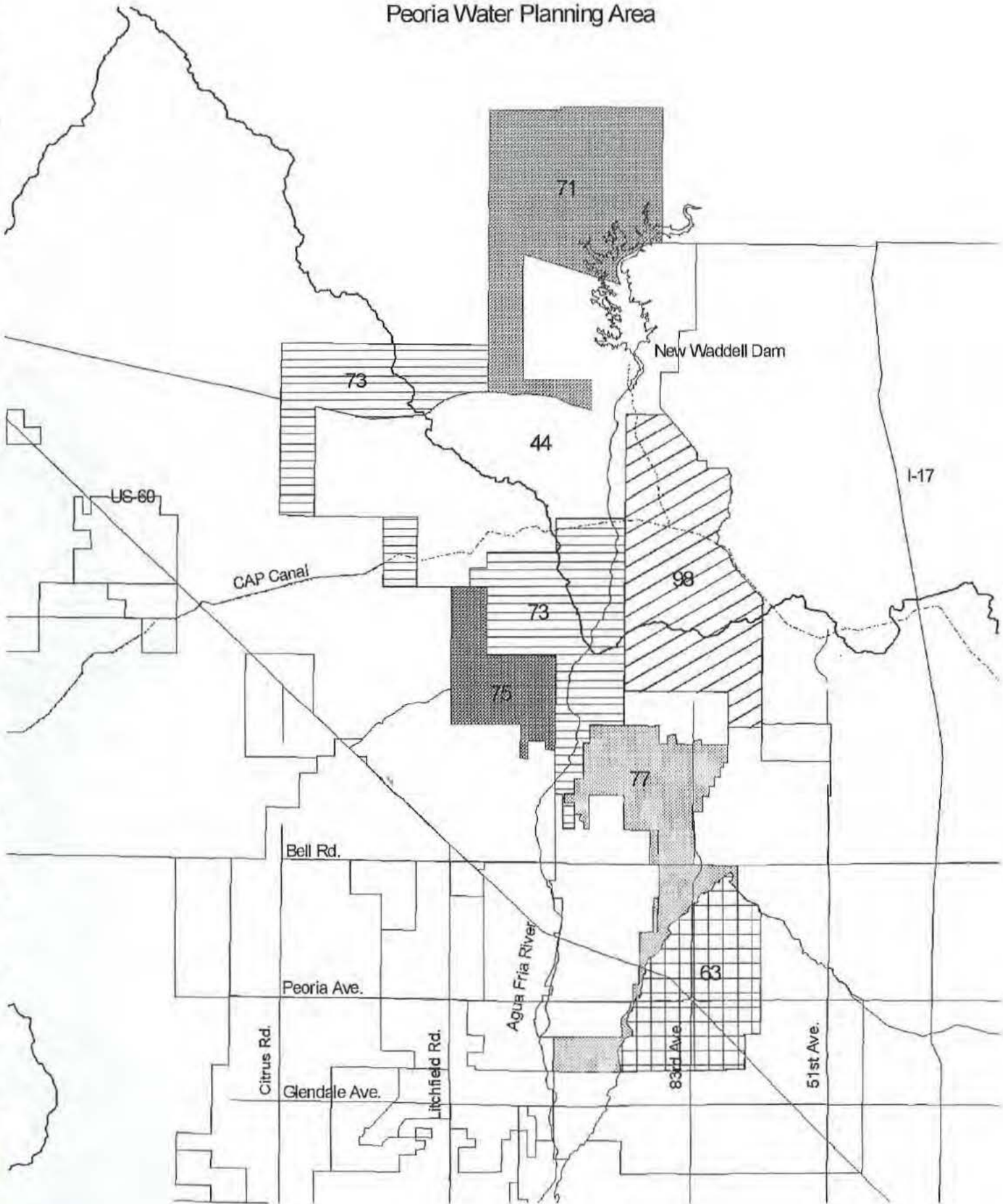
Goodyear Water Planning Area



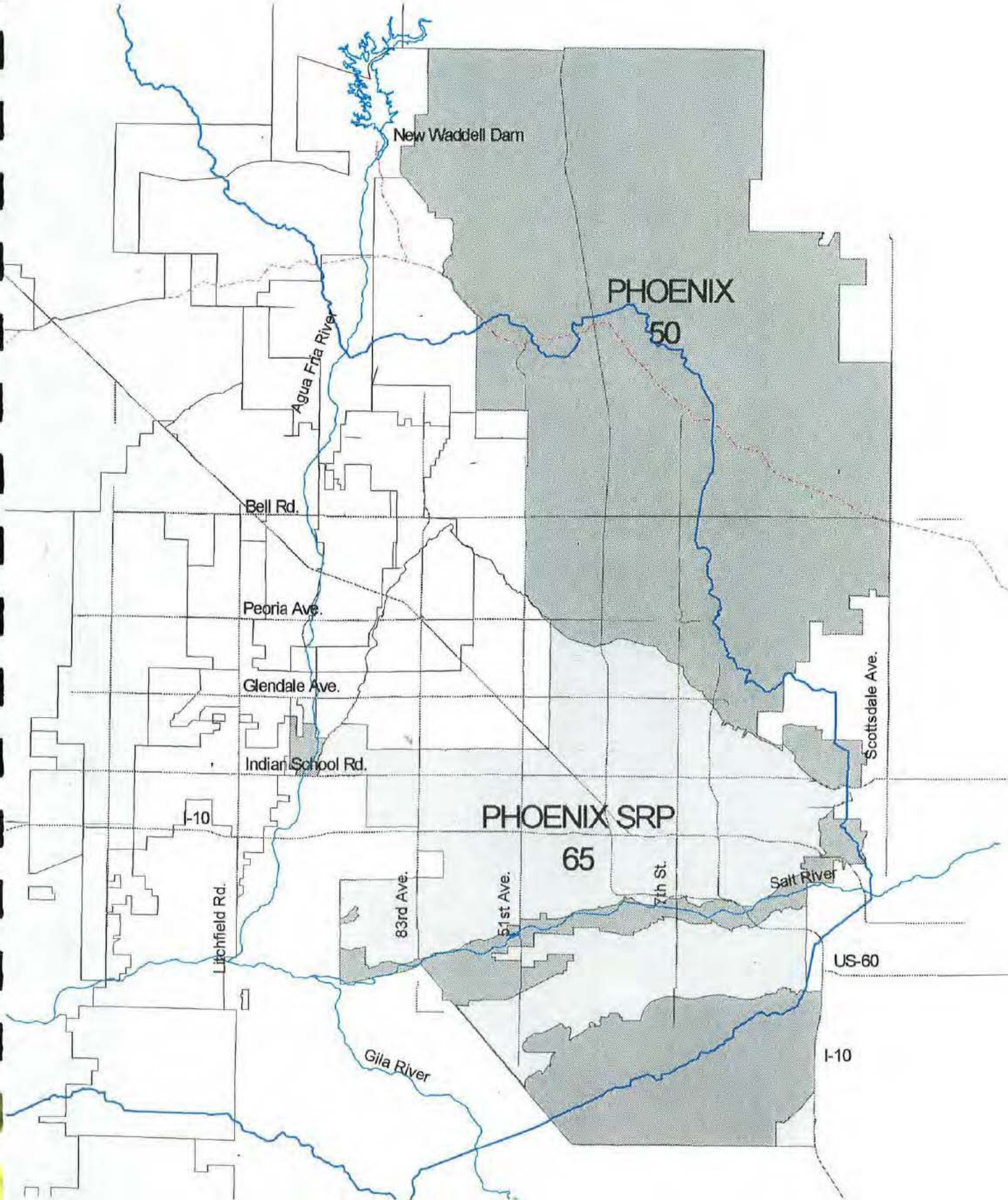
LPSCO Water Planning Area #14



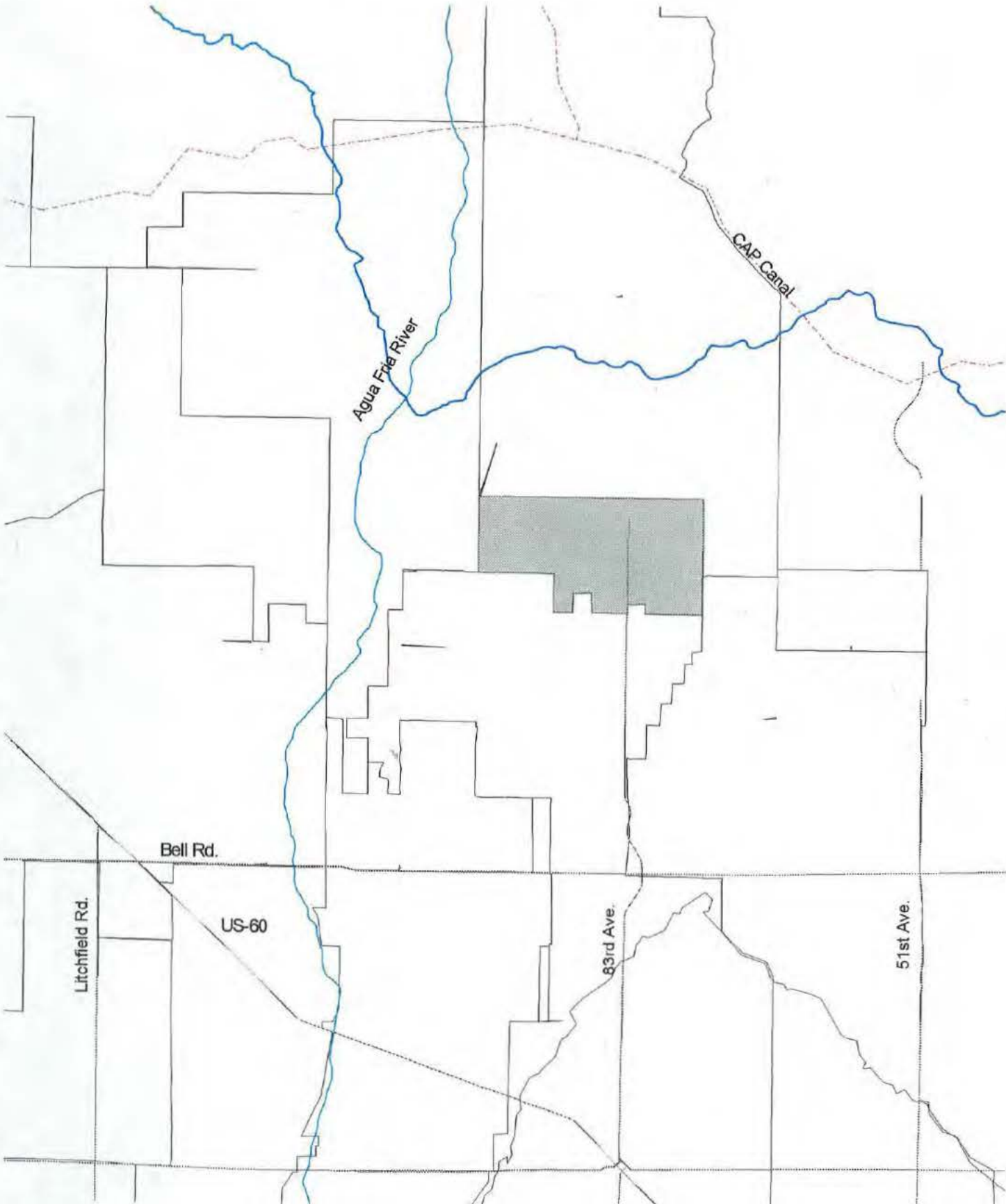
Peoria Water Planning Area



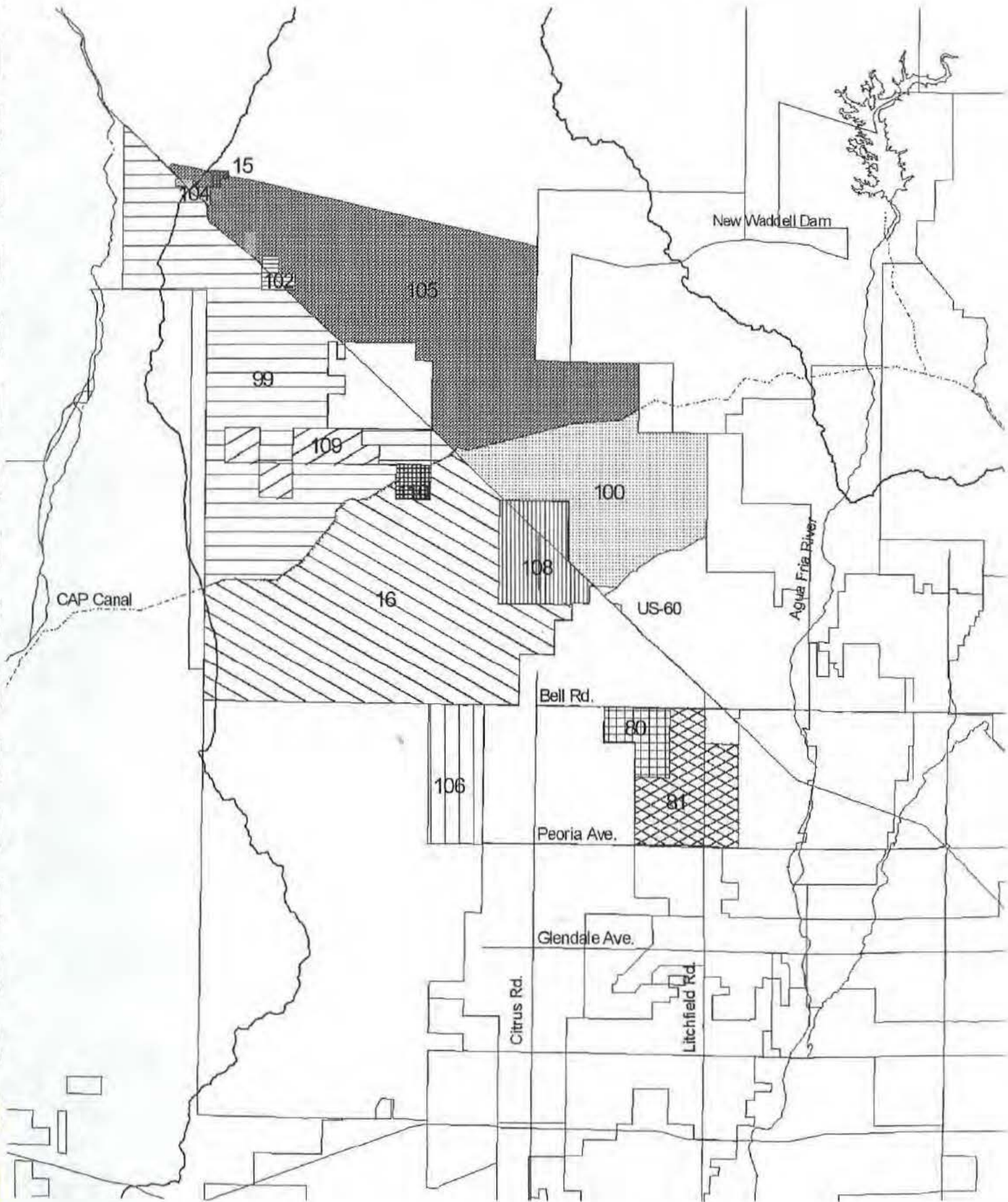
Phoenix Water Planning Area



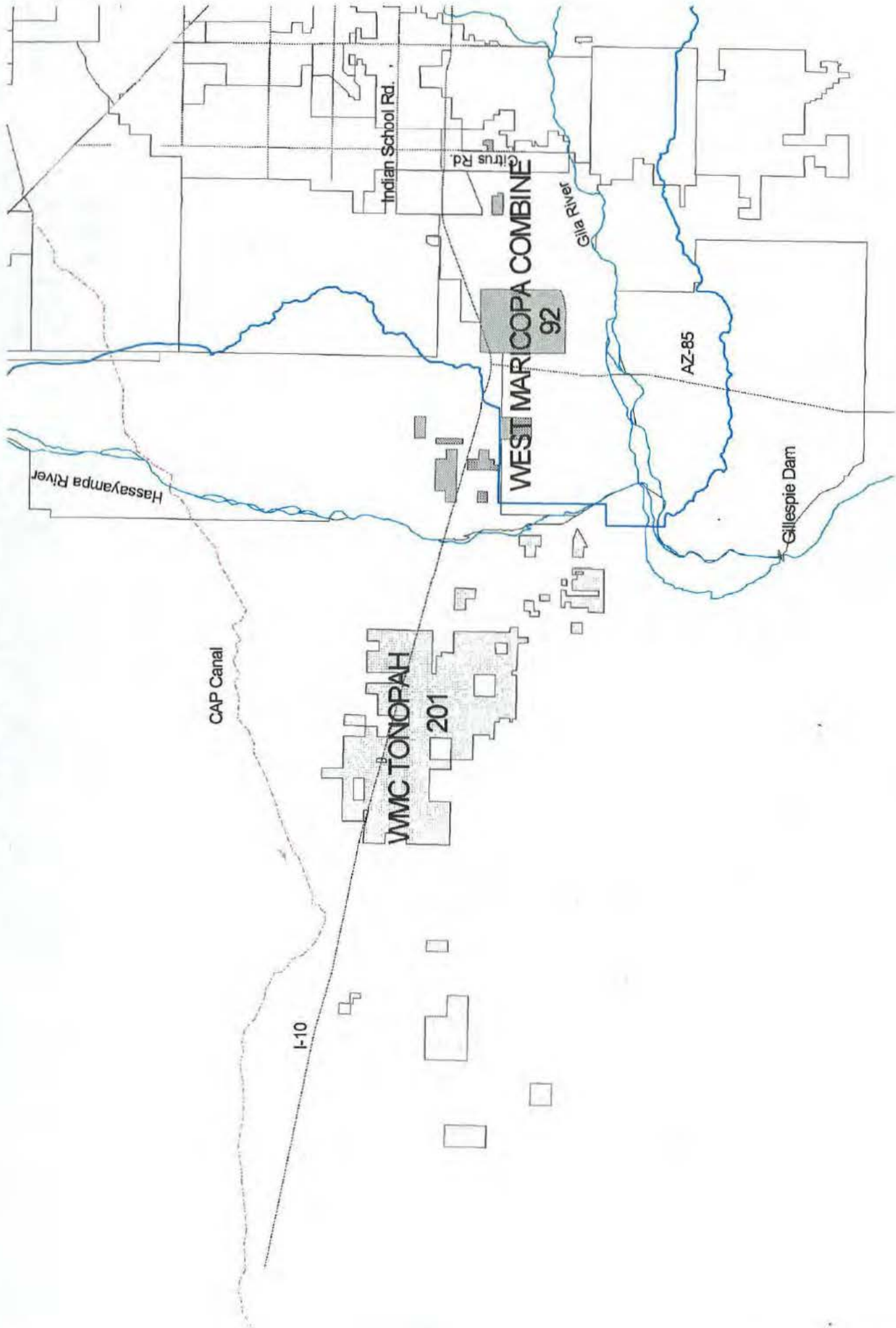
Sunrise Water Planning Area #76



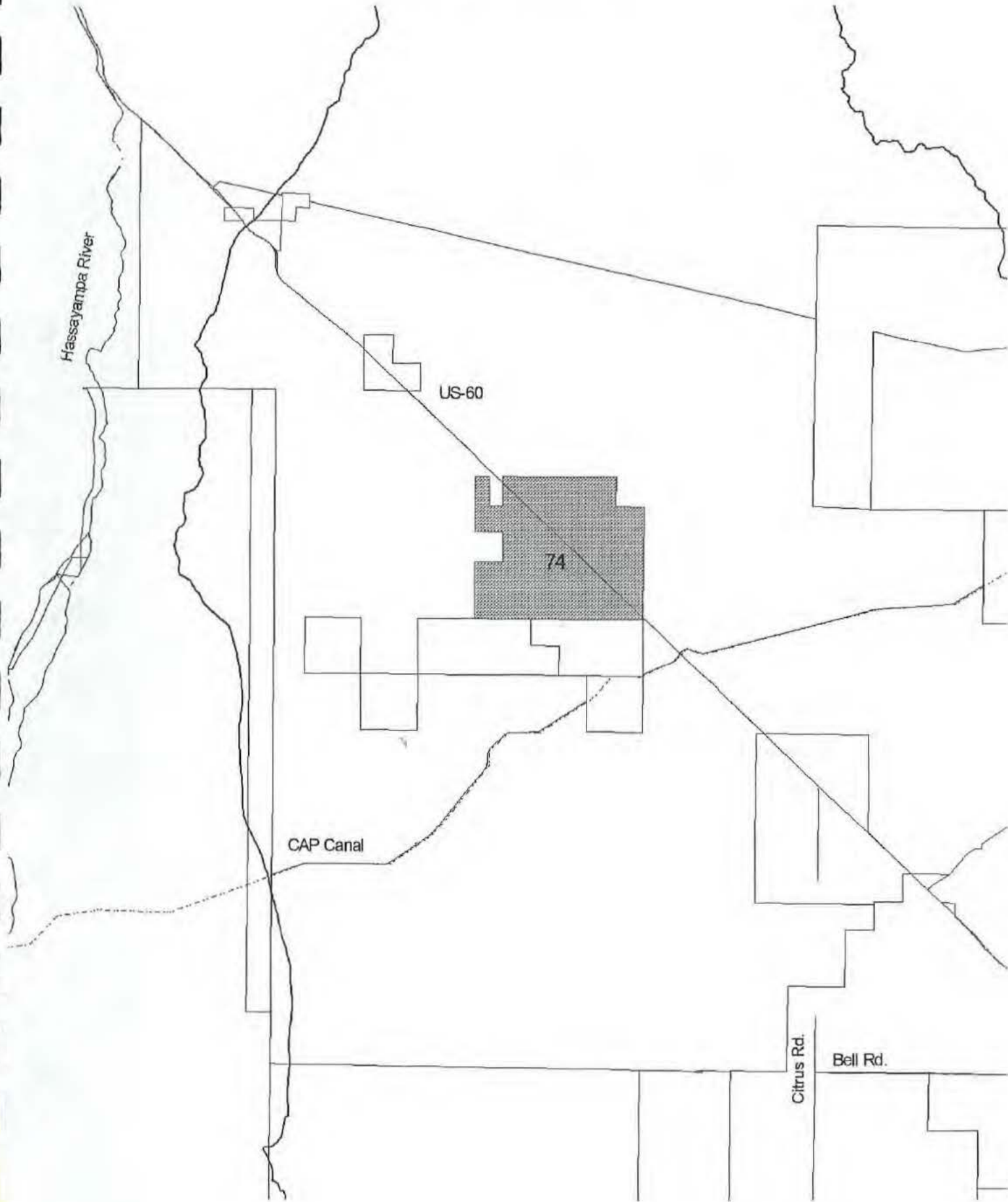
Surprise Water Planning Area



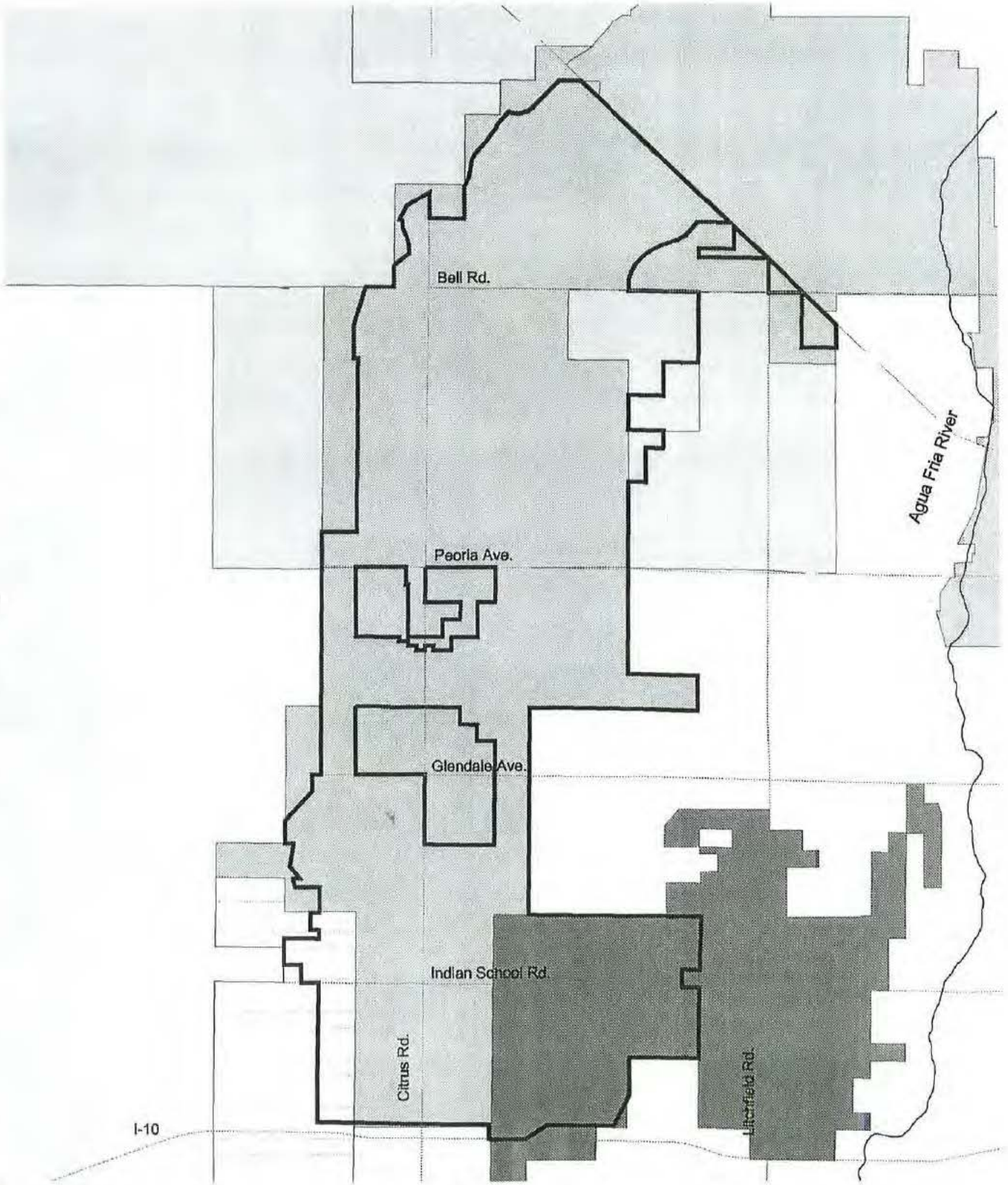
West Maricopa Combine Water Planning Area



West End Water Planning Area #74



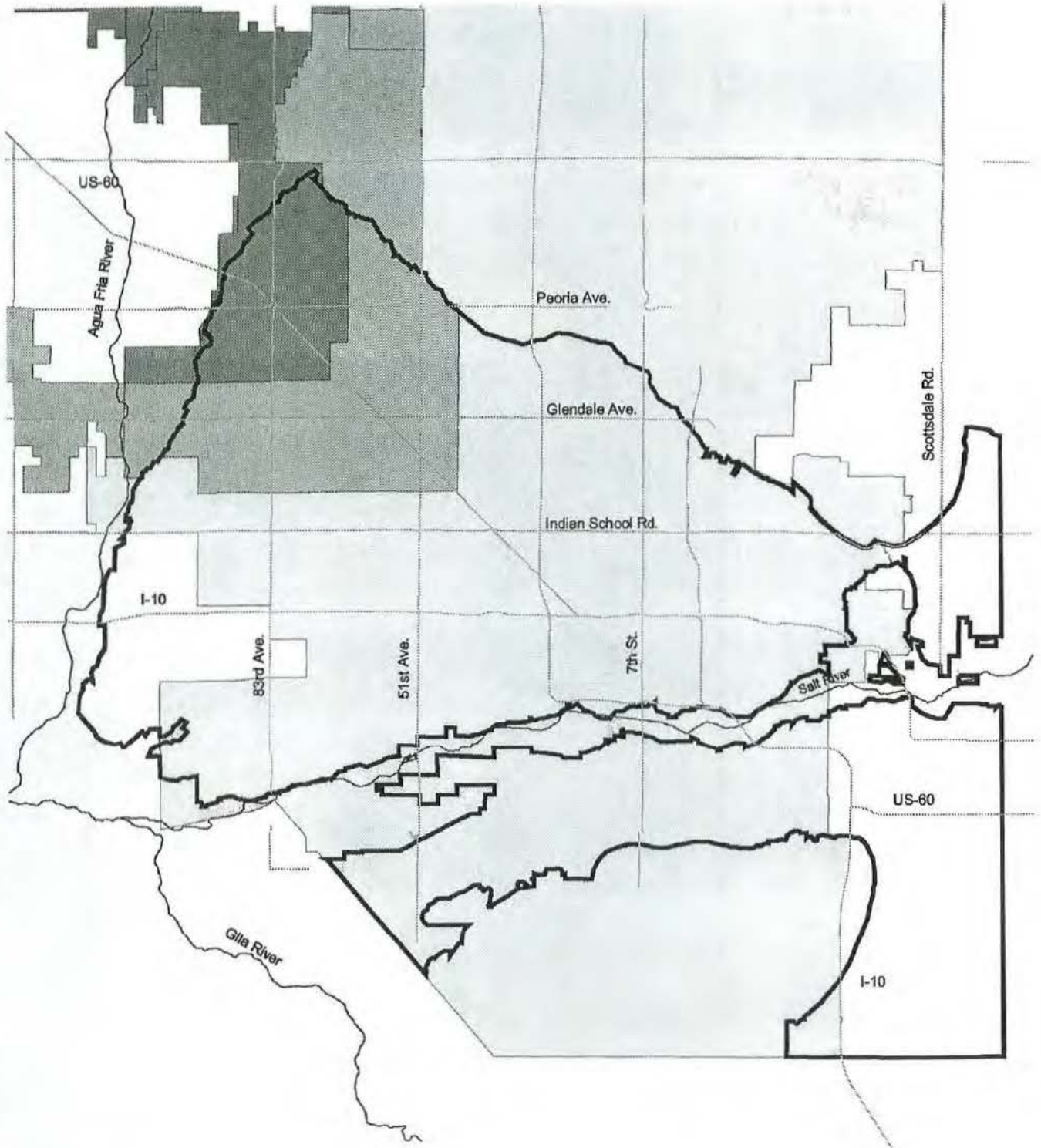
Maricopa Water District



- Roads
- Rivers
- Groundwater Savings Facilities
- MWD
- WESTCAPS
- Az. Water Co. White Tanks CC&N
- Citizens Water Resources CC&N
- LPSCO CC&N
- Surprise WPA



Salt River Project



- Roads
- Rivers
- Groundwater Savings Facility
- SRP
- WESTCAPS
 - Glendale WPA
 - Peoria WPA
 - Phoenix WPA

