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MEMORANDUM
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AUG 05 2003

TO: Colleen Ryan, Supervisor
Docket Control
Arizona Corporation Commission

FROM: Carol Gilbert, for
Chairman Laurie A. Woodall

DATE: August 5, 2003

RE: West Valley South - Docket 122

DOCKETED BY	<i>[Signature]</i>
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L-000000-03-0122

Colleen - please file the attached to be placed in public comment in the above-referenced matter. This is Westcaps Strategic Plan for using Central Arizona Project Water in the West Salt River Valley; filed by Maricopa Water District.

I am enclosing 26 copies with the original. Please date-stamp one copy and return with our runner.

Thank you.

Enclosures

242896

Cathy

To: laurie.woodall@ag.state.az.us

Subject: West Valley South 122

Ms. Woodall,

Pursuant to our recent telephone conversation, I am sending you by mail a copy of the WESTCAPS' Strategic Plan for using Central Arizona Project Water in the West Salt River Valley. MWD tried to e-mail this document to you, however, the document was too large for our e-mail system. Although this is only one component of the Maricopa Water District's long-term plans for its Beardsley Canal and the associated land rights, the plan illustrates the critical role of the Beardsley Canal in sustainable regional water resource management in the West Salt River Valley, and why MWD must maintain flexibility and control of the corridor for utilization of its highest and most productive use.

Please don't hesitate to contact me if I can be of further assistance.

Jim Sweeney
General Manager
Maricopa Water District

WESTCAPS

Strategic Plan
for using
Central Arizona Project Water
in the *West Salt River Valley*

2000 to 2025

Adjustments in the timing and location of these facilities are anticipated as this strategy is further developed and the ability and desire of the individual members to participate are determined.

May 14, 2001



ABBREVIATIONS AND ACRONYMS

ACC	Arizona Corporation Commission
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AMA	Active Management Area
ac-ft	acre-foot
ac-ft/day	acre-foot per day
ac-ft/yr	acre-foot per year, acre-feet per year
AWBA	Arizona Water Banking Authority
AWS	assured water supply
CAGR	Central Arizona Groundwater Replenishment District
CAP	Central Arizona Project
CAWCD	Central Arizona Water Conservation District
CC&N	Certificate of Convenience and Need
cfs	cubic feet per second
CRIT	Colorado River Indian Tribes
D/DBPR	Disinfectant/Disinfection By-Products Rule
DOI	Department of the Interior
EPA	Environmental Protection Agency
ESRV	East Salt River Valley
ESWTR	Enhanced Surface Water Treatment Rule
ft ³ /day	cubic feet per day
GRIC	Gila River Indian Community
LAU	lower alluvial unit
MAU	middle alluvial unit
M&I	municipal and industrial
MCL	maximum contaminant level
MF	microfiltration
mg/L	milligrams per liter
mg	million gallons
MGD	million gallons per day
MWD	Maricopa County Municipal Water Conservation District No. 1

NB-WTP	North Beardsley Water Treatment Plant
NCI	Navigant Consulting, Incorporated
O&M	operation and maintenance
OM&R	operation, maintenance and replacement
ppb	parts per billion
ppm	parts per million
psi	pounds per square inch
RID	Roosevelt Irrigation District
RO	reverse osmosis
RUS	Rural Utilities Service
SB-WTP	South Beardsley Water Treatment Plant
SRQG	Arizona Municipal Water Users Association Sub-Regional Operating Group
SRP	Salt River Project
SRV	Salt River Valley
TDS	total dissolved solids
THM	trihalomethanes
TOC	total organic carbon
UAU	upper alluvial unit
UF	ultrafiltration
USDA	U.S. Department of Agriculture
USDOI	U.S. Department of the Interior
WESTCAPS	coalition of West Valley Central Arizona Project Subcontractors
WMC	West Maricopa Combine
WTP	water treatment plant
WSRV	West Salt River Valley
WPA	water planning area

WESTCAPS WATER DELIVERY PLAN EXECUTIVE SUMMARY

Summary

The West Valley CAP Subcontractors (WESTCAPS) are 10 Central Arizona Project (CAP) subcontractors in the West Salt River Valley (WSRV) who formed a coalition to identify and evaluate options that will allow its members to use CAP water to which they are entitled. WESTCAPS membership consists of: Arizona State Land Department, Arizona Water Company, Town of Buckeye, Citizens Water Resources, City of Glendale, City of Goodyear, City of Peoria, City of Phoenix, City of Surprise, and West Maricopa Combine. WESTCAPS was formed in July 1997 through an intergovernmental agreement among the members. WESTCAPS receives funding through membership dues (\$75,000 per year), a grant from the Arizona Department of Water Resources (\$75,000 per year), and technical assistance (\$400,000 per year) from the Bureau of Reclamation, an agency of the U.S. Department of the Interior.

The WSRV is poised for rapid urbanization that will significantly increase water demand. State law requires new development in the Phoenix metropolitan area to demonstrate a 100-year assured water supply. Full use of CAP water is deemed critical to the continued development and prosperity of the WSRV.

A 1995 study authorized by the Arizona legislature showed that most of the WSRV has experienced significant groundwater decline, resulting in up to 17 feet of land subsidence in portions of the WSRV. Other portions of the West Valley are facing groundwater quality issues that will increase the cost of continued groundwater use. Some municipalities have made the transition and are primarily using renewable water resources; other WSRV water providers are still largely reliant on groundwater.

While Phoenix and Glendale have been using CAP allocations for 15 years, and more recently Peoria by its participation in the Glendale Pyramid Peak Water Treatment Plant, the majority of West Valley water providers are small municipalities and private water companies with limited financial resources and are located some distance away from the CAP canal. WESTCAPS members are concerned that CAP water may continue to be unused if regional solutions are not developed to allow for the treatment, storage, and delivery of CAP water.

WESTCAPS has developed a water delivery plan to shift the communities' reliance from groundwater to renewable water supplies by 2025. Groundwater supplies would be used in a peaking or reserve role. Referring to Figure 4, facilities included in this plan are:

- Use of nearly 4 million gallons per day (MGD) of available capacity in the planned Phoenix Lake Pleasant Water Treatment Plant (WTP)

- Two new WTPs with capacities of approximately 58 and 79 MGD
- Use of approximately 16 MGD of capacity in West Maricopa Combine's (WMC) recharge and recovery project

Staff analyzing these facilities envisioned them phased in over time: the first phase completed by year 2005, the second phase by year 2015, and the last phase by year 2025. Adjustments in the timing and location of these facilities are anticipated as this strategy is further developed and the ability and desire of the individual members to participate are determined.

Institutional and financing arrangements for funding infrastructure development were explored and are currently under discussion. Some of the institutional arrangements being considered are: joint powers of authority, simple contractual agreements, privatization, and a water authority.

WESTCAPS estimated that approximately 104,000 ac-ft per year of additional renewable water supply would have to be secured by 2025 to implement the proposed water delivery plan. Water cost and availability information was prepared to get a sense of the membership's ability to acquire the necessary supply. It was concluded that there are sufficient renewable supplies available to implement the proposed plan.

Background

The West Valley CAP Subcontractors (10 Central Arizona Project subcontractors in the WSRV) formed a coalition to assess how they can work together to utilize their CAP allocations. WESTCAPS consists of the following agencies: Arizona State Land Department, Arizona Water Company, Town of Buckeye, Citizens Water Resources, City of Glendale, City of Goodyear, City of Peoria, City of Phoenix, City of Surprise, and West Maricopa Combine. WESTCAPS is organized as shown in figure 1.

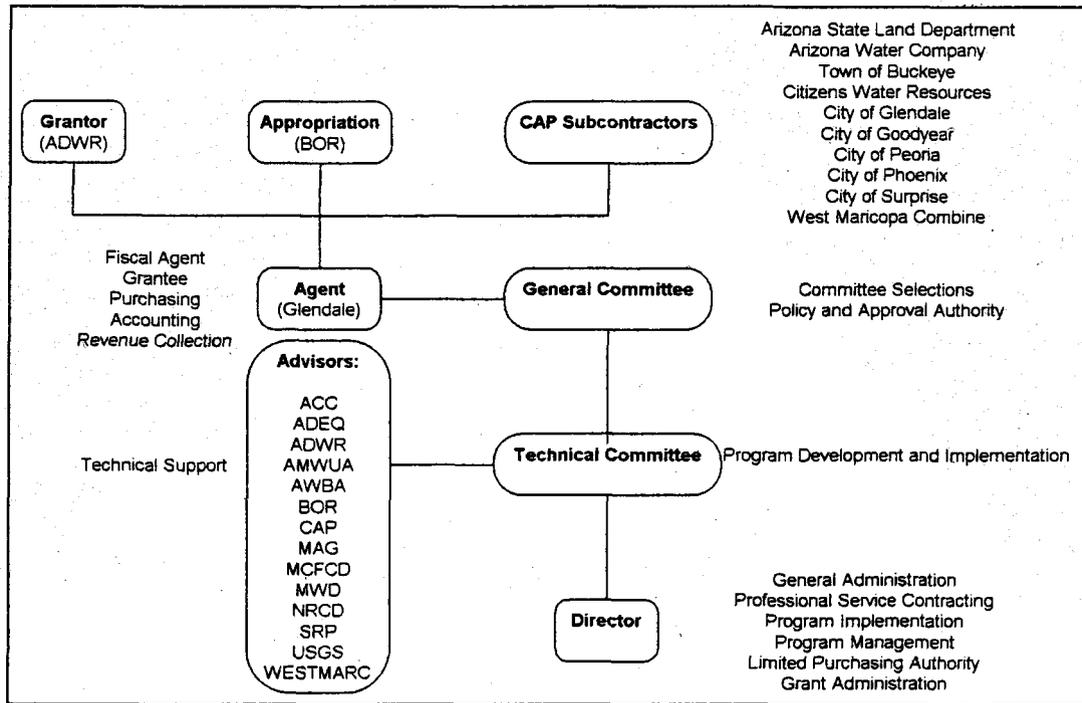


Figure 1.—West Valley CAP Subcontractors

The study area shown in figure 2 represents the geographic boundaries of the WESTCAPS water study area and includes both present and proposed WESTCAPS members' year 2025 service areas.

Problem Statement

Each water provider in the WSRV conducts its own water resources planning and management without much consideration for the plans and actions of neighboring communities. The WSRV communities all share the groundwater aquifer and local surface water supply systems. Water providers in the WSRV must work together to protect, preserve, and develop these shared resources and to respond to issues of increasing regulatory pressure, CAP water utilization, declining groundwater levels, groundwater quality, and land subsidence.

If no workable solution is implemented, certain water providers may be unable to obtain a designation of "Assured Water Supply," as defined by the State of Arizona. Growth and development in the area may become limited. As the aquifer is drawn down, the cost to pump groundwater will increase, water quality will degrade, land subsidence problems will worsen, and the area will not have enough supply to meet future demands.

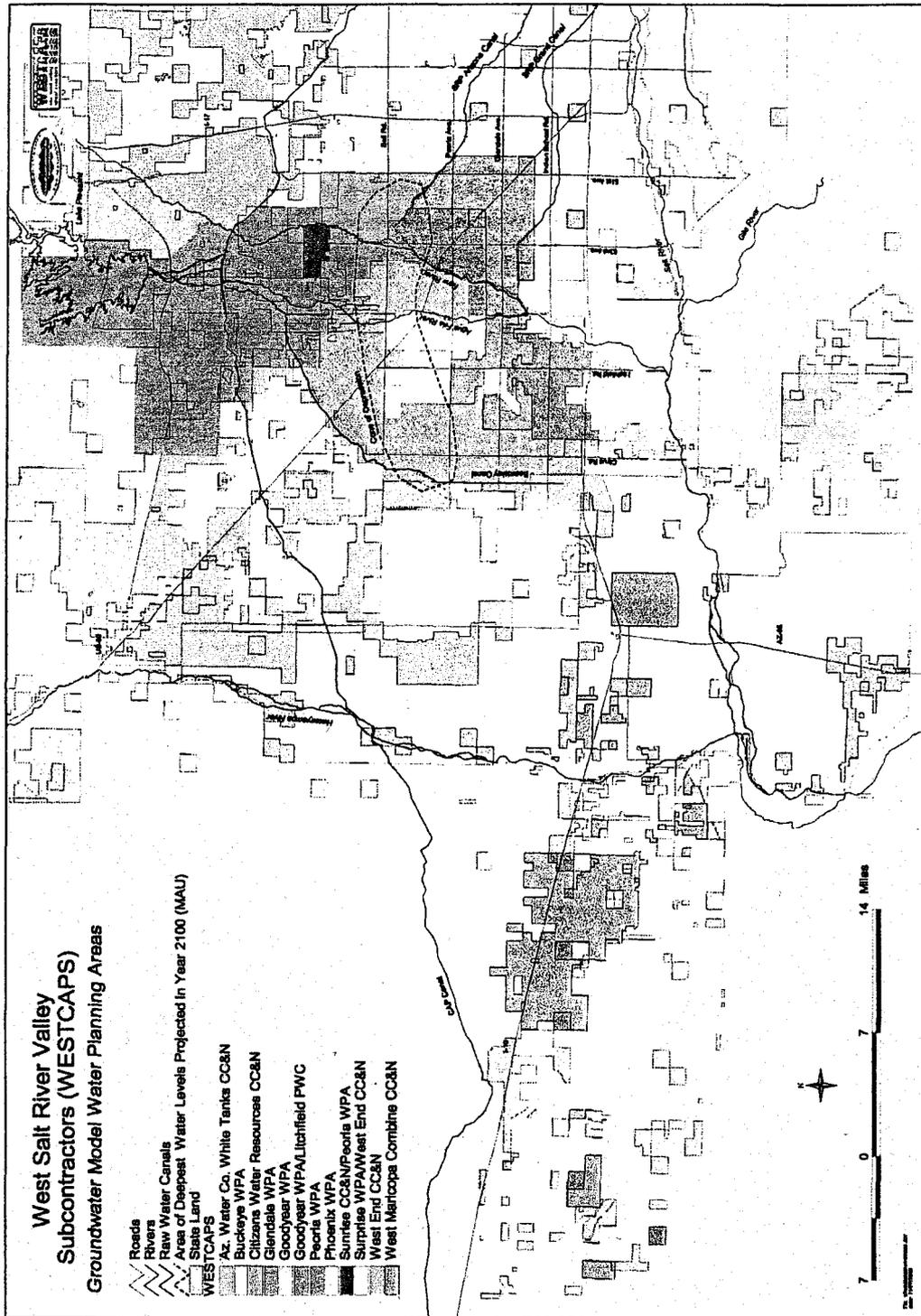


Figure 2.—WESTCAPS water supply study area.

WESTCAPS Mission and Goals

The following mission and goals were adopted by the WESTCAPS General Committee at its meeting on November 7, 1997.

"WESTCAPS is a coalition of CAP subcontractors most of whom serve drinking water to communities in the west SRV. WESTCAPS' mission is to develop workable alternatives for its members to provide their customers with a cost effective, sustainable, reliable, and high quality water supply through partnerships and cooperative efforts in regional water resource planning and management, emphasizing CAP utilization."

The primary goal of the planning process is to increase the efficient use of CAP water by WSRV entities possessing municipal and industrial subcontracts. In addition to this goal, WESTCAPS members expressed desired outcomes for both the planning process and what the process implementation. They are:

- Develop a plan that each WESTCAPS member can support
- Develop a common base of understanding of the issues and options
- Develop a mission statement and define the tenets for member involvement
- Protect, preserve, and enhance CAP allocations
- Maximize efficient use of CAP and other renewable resources available to the west SRV
- Understand and influence water policy in Arizona related to water and wastewater management in the WSRV (ADEQ, Arizona Department of Water Resources, Central Arizona Water Conservation District, and the Arizona Corporation Commission)
- Develop long-term, sustainable regional water resource management, infrastructure, and implementation strategies

Originally, the planning process was expected to take 4 to 5 years to complete. WESTCAPS now expects to complete the planning process within 4 years.

Strategic Research

The intent of the Strategic Research phase of the planning process is to identify and describe the factors that drive change by assessing the current situation facing water providers in the WSRV, considering

potential future outcomes, and summarizing the key strategic issues. For this planning effort, a strategic issue is a driving factor for change that will, or may, influence WESTCAPS' ability to use its CAP allocations. Strategic research helped WESTCAPS members develop a common understanding of the existing situation for each member and the region as a whole. The outcome from doing strategic research was: (1) a common basis for understanding, (2) an identification of key strategic issues, and (3) development of strategic priorities.

After the strategic research was completed and consensus was developed on the strategic issues, the next step of the planning process was for WESTCAPS to review the list of strategic issues and identify the issues of highest priority. This reduced list of strategic issues then became WESTCAPS' strategic priorities. WESTCAPS strategic priorities are:

1. Insufficient water infrastructure
2. Lack of financing capability
3. Insufficient renewable resources
4. Opportunity to promote recharge in the WSRV
5. Arizona Corporation Commission policy and direction

From this point forward in the planning process, WESTCAPS work efforts were focused on addressing these five strategic priorities.

Strategic Modeling

WESTCAPS identified all of its available options for using CAP and other renewable water supplies in the west Salt River Valley. From these options, WESTCAPS developed six potential infrastructure strategies. A groundwater model analysis was completed for each strategy. In addition, a present worth analysis was also developed for each strategy. It was the intent of WESTCAPS to select one of these strategies as its collective vision of the water infrastructure that should be in place by 2025 to meet projected water demands.

On June 30, 2000, the WESTCAPS General Committee met to consider a recommendation proposed by its Technical Committee to adopt a direct delivery strategy, known as the "WESTCAPS strategy," as the best plan to fulfill WESTCAPS goals (see figure 3).

The proposed WESTCAPS strategy is that by the year 2025, WESTCAPS members would primarily rely on renewable supplies to meet customer demands. Surface WTPs and related infrastructure would be in place by 2025 to meet projected demands, and groundwater supplies would be used in a peaking or reserve role. Buckeye and WMC would rely on recharge and recovery projects. Facilities included in this strategy are:

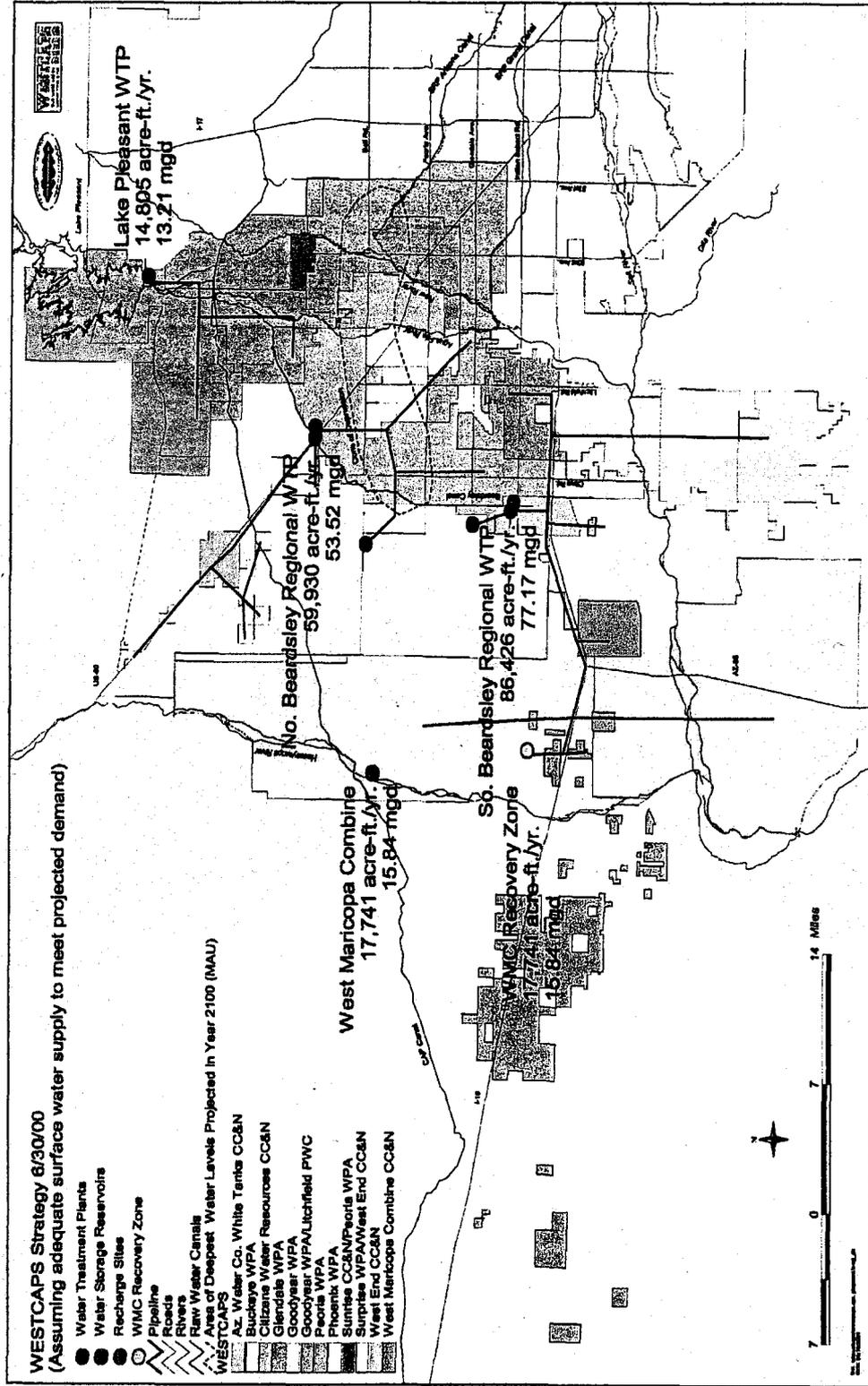


Figure 3.—WESTCAPS strategy, adopted on June 30, 2000.

- Use of 13.21 MGD of available capacity in the planned Phoenix Lake Pleasant WTP
- Two new WTPs, located on Maricopa Water District's Beardsley Canal, with capacities of 53.52 and 77.17 MGD
- Use of 15.84 MGD of capacity in WMC's Pipeline to The Future

Staff analyzing these facilities envisioned them implemented in two phases. The first phase by 2010 and the second phase by 2020. Adjustments in the timing and location of these facilities are anticipated as this strategy is further developed and the ability and desire of the individual members to participate are determined.

The interim strategy for CAP utilization would be for each WESTCAPS member, either individually or cooperatively with others, to consider the following options:

- Existing water treatment plants
- Recharge and recovery in existing and future groundwater savings facilities
- Recharge and recovery in existing and future underground storage and recovery projects

In addition, the Central Arizona Groundwater Replenishment District and Arizona Water Banking Authority should be encouraged to recharge as much water as possible in the WSRV. Existing and future underground storage and recovery projects include:

- West Maricopa Combine Pipeline to The Future
- Central Arizona Project Agua Fria Recharge Project
- Surprise's McMicken Dam Recharge Project
- Goodyear's Beardsley Canal Recharge Project
- Maricopa County Flood Control District New River Watercourse master planned area
- Salt River Project's Proposed Underground Storage and Recovery Project in the WSRV
- Subregional Operating Group's Agua Fria Recharge Project
- Avondale's Crystal Lakes Project

The WESTCAPS General Committee decided to adopt, on a preliminary basis, the proposed strategy, but requested the Technical Committee make additional refinements to the strategy in the following areas:

- Evaluate potential institutional and financial mechanisms
- Develop regional and subregional alternative plant configurations including transmission and distribution infrastructure

Gap Analysis

The final phase of WESTCAPS planning process, the Gap Analysis, addressed: (1) possible refinements to the WESTCAPS infrastructure strategy selected on June 30, 2000, (2) preliminary cost estimates for financing the WESTCAPS strategy, (3) potential institutional and financing arrangements, and (4) sources of additional renewable water supply to meet projected supply deficits.

Refinement of the WESTCAPS Strategy

The current proposal before the General Committee is to revise the WESTCAPS strategy by relocating the proposed new WTPs on the Maricopa Water District is Beardsley Canal as follows: (1) move the north Beardsley WTP to the CAP Canal and (2) move the south Beardsley WTP north to a location on the Beardsley Canal (somewhere between Cactus and Bell Road). In addition, a portion of the City of Surprise water planning area would remain on wells, and some of the City of Peoria's projected water demand would be shifted from the planned Phoenix Lake Pleasant WTP to the proposed CAP WTP. The resulting WESTCAPS strategy, revised on September 15, 2000, is shown in figure 4. By relocating the plants, the elevation will increase between the WTPs and the respective water service areas. The increased elevation, or head, will allow for the pipelines to be adequately pressurized without booster pumps and will result in a power savings. In addition, by locating the new WTPs on two different canal systems, and by interconnecting the distribution systems from the plants, overall system reliability is improved.

A groundwater model analysis, comparing the projected hydrological impacts between the initial WESTCAPS strategy (June 30, 2000) and the revised WESTCAPS strategy showed no significant difference between the two strategies. However, long-term groundwater drawdown projections showed the revised WESTCAPS strategy (September 15, 2000) markedly reduces the projected water level declines in the northwest valley.

Project Phasing, Institutional and Financing Options

The two new regional WTPs in the WESTCAPS strategy would be phased in three increments, occurring in the years 2005, 2015, and 2025.

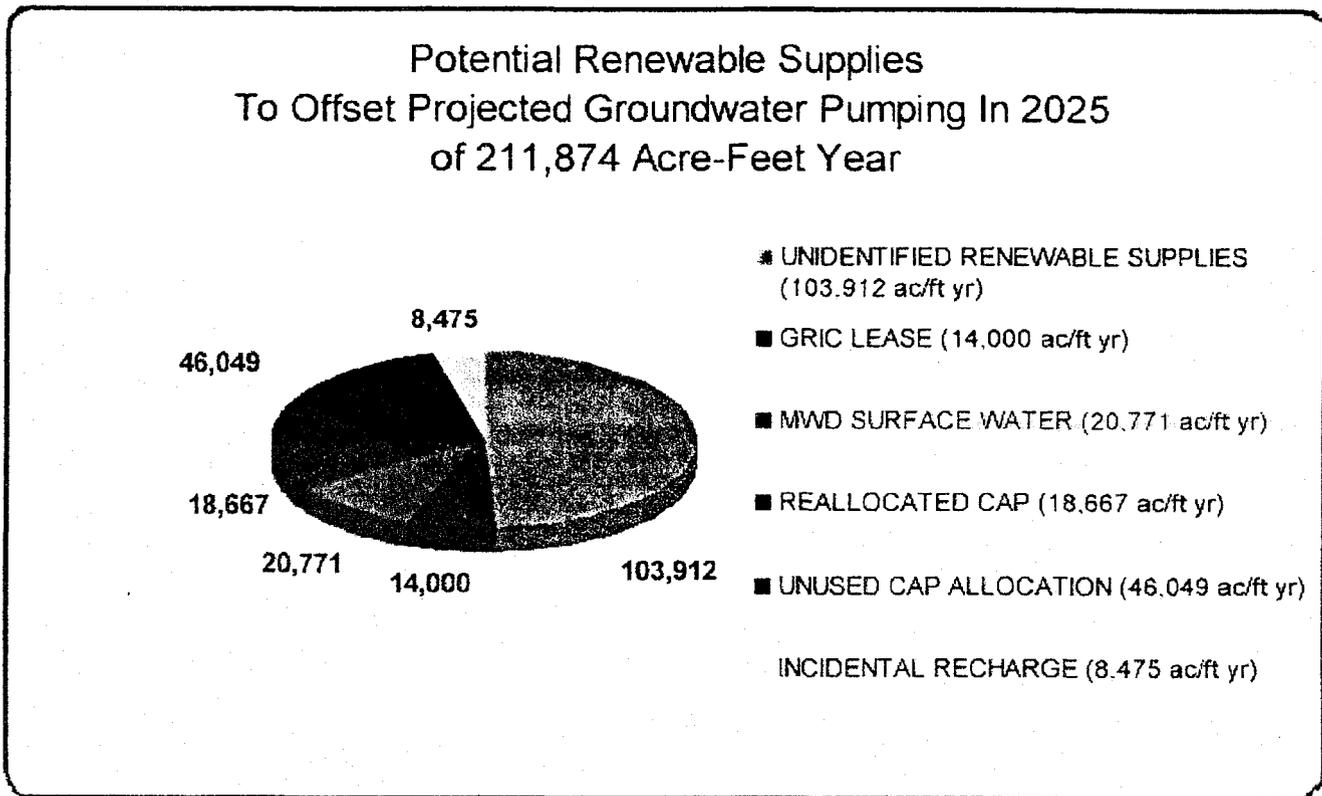
Institutional and financial arrangements for funding infrastructure development were explored and are currently under discussion. Some of the institutional arrangements considered are: joint powers of authority, simple contractual agreements, privatization, and a water authority.

Sources of Additional Renewable Supply

Water availability to meet the 2025 demand was gathered to ascertain the membership's opportunity and ability to acquire the necessary supply. WESTCAPS concluded that there are sufficient renewable supplies available within Arizona to implement the revised WESTCAPS strategy (the proposed strategy). The renewable water supply requirement, currently available surface water supplies, and potential sources for additional renewable supplies are shown in Figure 5.

Demand.—By the year 2025, it is projected that an additional 211,874 acre-feet per year (ac-ft/yr) of renewable supply will be needed to meet projected demands. However, incidental recharge to the aquifer in that year is expected to be 8,475 ac-ft/yr. The projected net regional water supply demand, after adjustment for incidental recharge, is 203,399 ac-ft/yr.

Figure 5.—Potential renewable supplies.



Supply.—Available renewable water supplies in the year 2025 are expected to come from the following water supplies:

- Unused CAP water allocations
- Reallocated CAP water
- Maricopa Water District surface water supplies
- Gila River Indian Community (GRIC) long-term water leases

The total estimated available renewable water supply is 99,487 ac-ft/yr.

Deficit.—The estimated water supply deficit in the year 2025 regional water budget is 103,912 ac-ft/yr. Potential water supplies that could be considered to offset the projected year 2025 groundwater pumping include:

- Potential Indian water leases from GRIC, Colorado Indian Tribes, Ak-Chin Indian Community, Ft. McDowell Indian Community, and San Carlos Apache Tribe
- CAP agriculture priority water

- Groundwater from waterlogged areas
- Reclaimed water
- Butler Valley groundwater

Recommended Next Steps

WESTCAPS has determined that the proposed WESTCAPS strategy has enough technical merit to warrant the development of regional facilities and to initiate discussion with policymakers in the WSRV. On a regional basis, the proposed WESTCAPS strategy would provide the following benefits:

- Be less costly than if each of the WESTCAPS members sought to plan and manage their water resource needs alone
- Mitigate groundwater decline in the northwest Salt River Valley
- Improve water system reliability
- Enable water providers to more easily address current and future water quality regulations

Therefore, the next step in the planning process is to discuss the proposed WESTCAPS strategy with WESTCAPS decision makers for policy consideration and to explore the members interest.