

DEPARTMENT OF WATER RESOURCES

99 E. Virginia Avenue, Phoenix, Arizona 85004

BRUCE BABBITT, Governor
WESLEY E. STEINER, Director

March 1, 1983

To All Central Arizona Project Applicants:

Enclosed is a copy of Secretary of Interior James Watt's record of decision covering the final allocation of Central Arizona Project Water. The decision was signed by the Secretary on January 10, 1983.

The decision sets forth the distribution of CAP water to the Indian tribes as well as potential non-Indian, municipal, industrial and agricultural subcontractors. For the most part, the Secretary has adopted the recommendations made by the Water Commission and the Department of Water Resources.

The allocation of the limited CAP water supplies has been a long and arduous process and this final action is most welcome. We can now get on with the task of entering into sub-contracts for delivery of the allocated supply.

Sincerely,

A handwritten signature of Wesley E. Steiner in cursive script.
Wesley E. Steiner
DirectorWES/kn
EnclosureThink Conservation!

Office of Director 255-1554

Administration 255-1550, Water Resources and Flood Control Planning 255-1566, Dam Safety 255-1541,
Flood Warning Office 255-1548, Water Rights Administration 255-1581, Hydrology 255-1586.

Office of the Secretary

Central Arizona Project, Arizona
Water Allocations and Water Service Contracting
Record of Decision

Agency

Office of the Secretary, Department of the Interior

Action

Notice of final water allocations to Indian and non-Indian water users and related decisions.

Summary

The purpose of this action is to provide notice of final decisions made by the Secretary of the Interior concerning the allocation of water developed by the Central Arizona Project (CAP) to Indian and non-Indian water users, the conditions upon which those allocations were made, and water service contracting.

For Further Information Contact

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Supplementary Information

Previous Department of the Interior notices concerning CAP water allocations were published in the Federal Register on December 20, 1972, April 18, 1975, October 18, 1976, August 8, 1980, and December 10, 1980. Previous notices concerning compliance with the National Environmental Policy Act of 1969 in connection with CAP water allocations were published on June 2, 1981, December 4, 1981, December 11, 1981, and March 24, 1982.

These decisions were made pursuant to the authority vested in the Secretary of the Interior by the Reclamation Act of 1902, as amended and supplemented (32 Stat. 388, 43 U.S.C. 391) and the Colorado River Basin Project Act of September 30, 1968 (82 Stat. 885, 43 U.S.C. 1501), the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 C.F.R. Part 1505) and the Implementing Procedures of the U.S. Department of the Interior (516 DM 5.4), and in recognition of the Secretary's trust responsibilities to the Indian tribes of central Arizona. They were made after full consideration by the Secretary and his staff of the decisionmaking records and activities of previous Secretaries of the Interior on the subject of CAP water allocations, the draft and final environmental impact statements prepared on Water Allocations and Water Service Contracting,

Central Arizona Project (INT-DES 81-50 and INT-FES 82-7 respectively), and the views of members of the public, officials of other Federal agencies and the State of Arizona, members of the Congress, Indian tribes and environmental organizations presented in the form of written comments and correspondence or orally at meetings and public hearings held in connection with the allocations and environmental impact statements.

Decision

The Secretary of the Interior has elected to allocate waters developed by the Central Arizona Project (CAP) and to proceed with water service contracting with Indian and non-Indian users for the delivery of Arizona's remaining entitlement to Colorado River water. This decision allocates 309,828 acre-feet annually of water for Indian use (see Table 1) and 640,000 acre-feet annually for municipal and industrial (M&I) use (see Table 2), with the remaining supply for non-Indian agricultural use (see Table 3).

These allocations will, however, be subject to the following conditions:

1. The Gila River Indian Community will be offered a water service contract for 173,100 acre-feet per year for irrigation purposes on the reservation subject to acceptance of feasible non-potable water exchanges and subject to a 25 percent reduction in water short years with the remaining 75 percent of the irrigation allocation on a priority basis with 510,000 acre-feet of non-Indian M&I allocations.
2. Indian entities with existing contracts which provide for non-potable water exchanges will be required to accept non-potable water exchanges where feasible and consistent with contractual provisions.
3. Allocations to tribal homelands are intended to serve irrigation, domestic, municipal, and industrial uses on the Reservations and repayment of allocated project costs will be based on actual uses of the water and will be in accordance with applicable statutes.
4. The M&I allocation of 640,000 acre-feet per year can be made more firm by executing feasible non-potable effluent exchanges with Indian tribes. This allocation is subject to adoption of a pooling concept whereby all M&I allottees share in the benefits of effluent exchanges.
5. Water service contracting with M&I entities will proceed in accordance with this decision and based on quantities delineated on Table 2 herein.
6. An initial contracting period extending for 6 months will be provided and, in the absence of extenuating circumstances, the expiration of such period will lead to a request on behalf of the

Secretary for the Arizona Department of Water Resources (DWR) to recommend reallocation of any remaining M&I and non-Indian agricultural water not contracted for during the initial contract period.

7. All water not contracted for, or contracted for but not expected to be utilized during interim periods, will be retained under jurisdiction of the Secretary and will be marketed on an interim basis to expedite repayment of the CAP.

CAP Water Allocation Description

The decision is to allocate 309,828 acre-feet of CAP water annually to 12 Indian entities for irrigation or for maintaining tribal homelands; and to accept the State of Arizona's 1982 allocation recommendations for non-Indian users, which provide 640,000 acre-feet annually for M&I use, with the remaining supply for non-Indian agricultural use.

The quantities allocated to Indian users and the purposes they will serve are shown in Table 1.

Table 1

CAP WATER ALLOCATIONS INDIAN COMMUNITIES

Units: Acre-feet

<u>Entity</u>	<u>Irrigation</u>	<u>Tribal Homeland*</u>	<u>Total</u>
Ak Chin	58,300		58,300
Camp Verde		1,200	1,200
Fort McDowell		4,300	4,300
Gila River	173,100		173,100
Papago-Chuichu	8,000		8,000
Papago-San Xavier		27,000	27,000
Papago-Schuk Toak		10,800	10,800
Pasqua Yaqui		500	500
Salt River	13,300		13,300
San Carlos	2,700	10,000	12,700
Tonto Apache		128	128
Yavapai		500	500
TOTAL	255,400	54,428	309,828

* Includes irrigation, domestic, municipal, and industrial uses on the Reservation.

To ensure that maximum beneficial use is made of CAP water supplies in conjunction with available Arizona water supplies, Indian entities with existing contracts which provide for non-potable water exchanges will be required to accept non-potable water in exchange for CAP Indian irrigation

allocations where feasible and consistent with contractual provisions. During years of water supply shortages, Indian users and non-Indian M&I users would share a first priority on project water supplies. Depending upon severity of shortages, project water delivery for miscellaneous uses would be reduced pro rata until exhausted; next, non-Indian agricultural uses would be reduced the same way until exhausted; next, the Gila Tribe allocation would be reduced 25 percent and other Indian irrigation uses would be reduced 10 percent on a pro rata basis until exhausted. Thereafter, the remaining water contracted for by 11 Indian entities under existing contracts and 75 percent of the Gila River Tribe allocation would share a priority with 510,000 acre-feet of non-Indian M&I uses (the 510,000 acre-feet of M&I supply is exclusive of water obtained through effluent exchange agreements with Indian entities) and would be reduced on a proportional basis, and within each class on a prorated basis, based on the amount of water actually delivered to each entity in the latest non-shortage year.

It is further decided that the water allocated to tribal homelands, under provisions of these CAP water allocations, shall be defined to serve irrigation, domestic, municipal, and industrial uses and purposes on the Reservations and repayment shall be subject to applicable law based on the actual use of the water.

The Secretary of the Interior will retain the right to contract for water sales on an interim basis where Indian water allottees are not utilizing the full CAP allotment as provided herein.

The quantities allocated to the M&I entities recommended for CAP water by the DWR in 1982 are shown in Table 2 below. The allocations include 71 municipal users, 2 power companies, 8 mining companies, 2 recreational entities, and 2 other applicants that do not fall under any of these categories.

Table 2
CAP WATER ALLOCATIONS
MUNICIPAL AND INDUSTRIAL ^{1/}

Units: Acre-feet

<u>ENTITY</u>	<u>County</u>	<u>SCHEDULE OF DEMAND</u>		
		<u>1985</u>	<u>2005</u>	<u>2034</u>
M&I (municipal) ^{1/}				
Aqua Fria (Citizens Util. Co.)	Mar.	—	—	1,439
Apache Jct. (Az. Water Co.)	Pinal	—	—	6,000
Avondale	Mar.	—	—	4,099
Berneil Water Co.	Mar.	—	—	432
Buckeye	Mar.	—	—	25 ^{2/}
Camp Verde Water Co.	Other	—	—	1,443
Casa Grande (Az. Water Co.)	Mar.	—	—	8,884
Carefree Ranch Water Co.	Mar.	—	—	954
Carefree Water Co.	Mar.	—	—	400

Table 2 (continued)

ENTITY	SCHEDULE OF DEMAND			
	County	1985	2005	2034
M&I (Municipal) - Continued				
Cave Creek Water Co.	Mar.	--	--	1,600
Chandler	Mar.	--	--	3,668
Chandler Heights I.D.	Mar.	--	--	315
Chaparral City Water Co.	Mar.	--	--	6,978
Clearwater Co.	Mar.	--	--	2,849
Coolidge (Az. Water Co.)	Pinal	--	--	2,000
Community Water Co. (Grn. Vly.)	Pima	--	--	1,100
Consolidated Water Co.	Mar.	--	--	3,932
Cortaro-Marana I.D.	Pima	--	--	47
Cottonwood Water Co.	Other	--	--	1,789
Crescent Valley Water Co.	Mar.	--	--	2,697
Del Lago	Pima	--	--	786
Desert Ranch Water Co.	Mar.	--	--	139
Desert Sage Water Co.	Mar.	--	--	5,933
Desert Sands Water Co.	Mar.	--	--	768
Eloy	Pinal	--	--	2,171
E&R Water Co.	Other	--	--	161
Florence	Pinal	--	--	1,641
Florence Gardens	Pinal	--	--	407
Flowing Wells I.D.	Pima	--	--	4,354
Foothills Water Co.	Pima	--	--	1,652
Gilbert	Mar.	--	--	7,235
Glendale	Mar.	--	--	14,083
Globe	Other	--	--	3,480
Goodyear	Mar.	--	--	2,374
Green Valley Water Co.	Pima	--	--	1,900
Ironwood Water Co.	Mar.	--	--	393
Litchfield Park Serv. Co.	Mar.	--	--	5,580
Maricopa Mtn. Water Co.	Pinal	--	--	108
Mayer-Humboldt Water Co.	Other	--	--	332
McMicken I.D.	Mar.	--	--	9,513
Mesa	Mar.	--	--	20,129
Miami-Claypool (Az. Water Co.)	Other	--	--	1,829
Midvale Farms Water Co.	Pima	--	--	1,500
New Pueblo	Pima	--	--	237
New River Utility Co.	Mar.	--	--	2,359
Nogales	Other	--	--	3,949
North Valley Water Co.	Mar.	--	--	393
Palm Springs Water Co.	Pinal	--	--	2,919
Paradise Valley Water Co.	Mar.	--	--	3,231
Payson	Other	--	--	4,995
Peoria	Mar.	--	--	15,000
Phoenix	Mar.	--	--	113,882
Prescott	Other	--	--	7,127
Queen Creek I.D.	Mar.	--	--	944
Ranch Lands Water Co.	Pima	--	--	393
Rio Rico (Citizens Util. Co.)	Pima	--	--	2,683

Table 2 (continued)

ENTITY	County	1985	2005	2034
M&I (Municipal) - Continued				
Rio Verde Util. Inc.	Mar.	--	--	812
San Tan I.D.	Mar.	--	--	236
Scottsdale	Mar	--	--	19,702
Sun City (Citizens Util. Co.)	Mar.	--	--	15,835
Sunrise Water Co.	Mar.	--	--	944
Sunshine Water Co.	Mar.	--	--	16
Tempe	Mar.	--	--	4,315
Trails End Water Service	Other	--	--	226
Tucson	Pima	--	--	151,064
Turner Ranches	Mar.	--	--	3,932
West End Water Co.	Mar.	--	--	157
West Phoenix Water Co.	Mar.	--	--	91
White Tank (Az. Water Co.)	Mar.	--	--	968
William A.F. Base	Mar.	--	--	833
Youngtown	Mar.	--	--	380
Subtotal				494,742
M&I (Power)				
Az. Publ. Serv./Salt Rv. Proj.	--	--55,400 3/--		43,218 4/
M&I (Mines)				
Anamax, Twin Buttes	Pima	-- 6,105 3/--		4,444
Asarco-Hayden	Other	-- 833 3/--		582
-Mission	Pima	-- 4,161 3/--		0 5/
Cities Serv. Co.	Other	-- 3,285 3/--		2,271
Cyprus-Pima	Pima	-- 7,263 3/--		5,339
Duval	Pima	--11,628 3/--		8,549
Inspiration Copper	Other	-- 4,647 3/--		2,906
Kennecott	Other	--28,611 3/--		22,028
Phelps-Dodge	Other	--20,866 3/--		14,665
Subtotal Mines				60,784
M&I (Recreation)				
Az. Game & Fish Dept.	Mar.	-- 755 3/--		324
Maricopa County	Mar.	-- 852 3/--		665
Subtotal - Rec.				989
M&I (Other)				
Phx. Memorial Park	Mar.	--	--	84
State Land Department	--	--	--	39,006
Subtotal - Other				39,090
TOTAL				638,823
				(rounded to 640,000)

1/ Municipal subcontractors will be allowed to use up to the amount of water identified for the year 2034 at any time during the contract repayment period.

- 2/ The maximum allocation shall be 434 acre-feet until 2005, then reducing to 25 acre-feet per year for the year 2034.
- 3/ Subcontractors will be allowed to utilize the indicated amount until such time that all M&I use totals 640,000 acre-feet.
- 4/ Distribution between the two entities to be determined during contract negotiations.
- 5/ No request for water in the year 2034.

To ensure that maximum use is made of available CAP water supplies, the Secretary of the Interior will retain the right to contract for water sales on an interim basis where water allottees are not utilizing the full CAP allotment as provided herein.

The allocations to M&I users can be made more firm by, and are premised on expectations that, municipal effluent in quantities of at least 100,000 acre-feet per year will be exchanged with Indian users. These expectations are consistent with the Indian allocations where this decision provides that exchanges will be required where feasible and consistent with contractual provisions. Exchanges will be treated under a pooling concept whereby benefits of exchange will accrue to all M&I users.

The CAP water allocations to the non-Indian agricultural users shall include the remaining supplies and are expressed as percentages of water available to non-Indian agriculture. These agricultural entities range in size from 90 acres to over 150,000 acres and include 23 irrigation districts or farming operations. Table 3 below provides the percent of supply available for each entity.

As previously noted for Indian allottees and non-Indian municipal and industrial allottees, the Secretary of the Interior will retain the right to contract for water sales on an interim basis where water allottees are not utilizing the full CAP allotment as provided herein.

Table 3

CAP WATER ALLOCATION NON-INDIAN IRRIGATION 1/

	<u>Percent of Supply Available for Non-Indian Agriculture</u>		
	<u>1985</u>	<u>2005 2/</u>	<u>2034 2/</u>
Arcadia Water Company	0.13		
Arva Valley Association	3.69		
Central Arizona Irrigation District	18.01		
Chandler Heights Irrigation District	0.28		
Cortaro-Marana Irrigation District	2.14		
FICO	1.39		
Harquahala Valley Irrigation District	7.67		

Table 3 (continued)

Percent of Supply Available
for Non-Indian Agriculture

	1985	2005 ^{2/}	2034 ^{2/}
Hohokam Irrigation District	6.36		
La Croix	0.04		
Maricopa-Stanfield Irrigation District	20.48		
Marley, Jemper Jr.	0.04		
McMicken Irrigation District	7.28		
MCMWCD #1	4.66		
New Magma Irrigation District	4.34		
Queen Creek Irrigation District	4.83		
Rood, W. E.	0.04		
Roosevelt Irrigation District	2.61		
RWCD	5.98		
Salt River Project	2.97		
San Carlos Irrigation District ^{3/}	4.09		
San Tan Irrigation District	0.77		
Tonopah Irrigation District	1.98		
U.S. Forest Service	0.22		
TOTAL	100.00		

1/ During shortages, all M&I and Indian uses would have priority over non-Indian irrigation. When available, non-Indian irrigation shares the project supply available for this purpose according to the listed percentages. These allocations are based in part on recommendations from the State of Arizona and percentages shown are reflective of those provided in correspondence to the Secretary of the Interior dated January 18, 1982, and November 10, 1982, from the Arizona Department of Water Resources.

2/ The allocation for years subsequent to 1985 will be based on the 1985 allocation minus the supply that would have been delivered to eligible lands that have been converted to M&I or otherwise removed from irrigation. Contract language similar to that contained in the letter to the Secretary of the Interior from the Arizona Department of Water Resources dated November 10, 1982, will be included in all non-Indian irrigation subcontracts.

3/ The water service subcontract among the United States; the Central Arizona Water Conservation District (CAWCD) and the San Carlos Irrigation District (District) will not require the District to reduce the amount of groundwater pumped by the amount of CAP water received. However, the subcontract will require that the District continue to employ measures adequate in the judgment of the Secretary and the CAWCD to control expansion of irrigation in the contract service area and to reduce pumping of groundwater consistent with, and to comply in all other respects with, Arizona's statutory requirements.

During years of water supply shortages, Indian users and non-Indian M&I users would share a first priority on project water supplies. Depending upon severity of shortages, miscellaneous uses would be reduced pro rata until exhausted; next, non-Indian agricultural uses would be reduced the same way until exhausted; next, 25 percent of the Gila Tribe allocation and 10 percent of the irrigation amount allocated to Indian contractors other than the Gila Tribe would be reduced pro rata until exhausted. Finally, the remaining water contracted for by 11 Indian entities under existing contracts and 75 percent of the Gila River Tribe allocation would share a priority with 510,000 acre-feet of non-Indian M&I uses (510,000 acre-feet for M&I is exclusive of water obtained through effluent exchange agreements with Indian entities) and would be reduced on a proportional basis, and within each class on a prorated basis, based on the amount of water actually delivered to each entity in the latest non-shortage year.

Description of Alternative Allocations

The following alternatives were considered by the Department in reaching its decision:

A. Options - Water Allocation

A.1. No Action

The "No Action" alternative would allocate CAP water based upon the demands anticipated during the planning stages of the project: M&I deliveries at 82,000 acre-feet, 232,000 acre-feet, and 312,000 acre-feet, in years 1975, 1990, and 2000 and after, respectively, in the metropolitan Phoenix and Tucson areas. The remainder would go to agricultural users (both Indian and non-Indian) shared pro rata on acreage developed for irrigation.

A.2. Kleppe Allocation with 1981 State Recommendations

Five central Arizona Indian tribes would be allocated 257,000 acre-feet annually for irrigation use until 2005, thereafter 10 percent of total project supplies or 20 percent of project agricultural supplies, whichever was to their advantage. M&I users would be allocated from 190,242 acre-feet (1985) to 719,992 acre-feet (2034) annually. The remainder of the CAP supplies would be shared by 23 irrigation districts or farming operations pro rata based on eligible acres.

A.3. Andrus Allocation with 1981 State Recommendations

This provides 12 Indian tribes or communities with a total of 309,828 acre-feet annually for irrigation or for maintaining tribal homelands. The 1981 State recommendations provide from 190,242 (1985) to 514,000 (2034) acre-feet annually to 81 M&I entities, with the remaining supply to 23 irrigation districts or farming operations. During shortages, CAP deliveries are reduced

until exhausted first to all miscellaneous uses and then to non-Indian irrigation uses, then 10 percent of the Indian irrigation amount is reduced until exhausted. Finally, the remaining Indian irrigation and tribal homeland amounts are reduced pro rata with no more than 510,000 acre-feet per year of M&I uses, based on amount of water actually delivered to each entity in the most recent past year of full deliveries to these entities.

A.4. Andrus Allocation Modified to Favor M&I Use

The Indian allocations are the same as Alternative 3, the differences being in the distribution in times of shortage. The alternative allocates from 190,242 acre-feet (1985) to 697,020 acre-feet (2034) annually to 81 M&I entities, with the remaining supply to 23 irrigation districts or farming operations. During shortages, CAP deliveries are reduced until exhausted first to all miscellaneous uses and then to non-Indian irrigation uses, then 25 percent of the Indian irrigation amount is reduced until exhausted. Finally the remaining Indian irrigation and tribal homeland amounts are reduced pro rata with all M&I uses, based on the scheduled amounts of water (demand) for each entity in the current year. In addition, effluent exchanges (full time) of not less than 100,000 acre-feet per year are assumed for the Salt River and Gila River reservations in amounts not to exceed 20 percent of the individual tribe's allocation prior to 2005, nor more than 50 percent after 2005.

A.5. Andrus Allocation Modified to Favor Indian Use

The Indian allocations are the same as Alternative 3, the differences being in the distribution in times of shortages. This alternative allocated from 190,242 acre-feet (1985) to 578,010 acre-feet (2034) annually to 81 M&I entities with the remaining supply to 23 irrigation districts or farming operations. During shortages, CAP deliveries are reduced until exhausted first to all miscellaneous uses and then to non-Indian irrigation and non-municipal M&I use. Finally, the Indian allocated amounts are reduced pro rata with the M&I (municipal only) amounts based on the quantity of water actually delivered to each entity in the most recent past year of full deliveries. There is no prior 10 percent reduction in Indian agricultural use.

A.6. Agency Proposed Action with 1982 State Recommendations

The Agency Proposed Action is to allocate 309,828 acre-feet annually to 12 Indian tribes for irrigation or for maintaining tribal homelands. The 1982 State Recommendations provide 640,000 acre-feet annually (2034) to 85 M&I entities, with the remaining supply to 23 irrigation districts or farming operations. During shortages, CAP deliveries would be reduced until exhausted first to all miscellaneous uses and then to non-Indian agricultural

use, next, 25 percent of the Gila Tribe allocation and 10 percent of the irrigation amount allocated to Indian contractors other than the Gila Tribe would be reduced pro rata until exhausted. Finally, the remaining water contracted for by 11 Indian entities under existing contracts and 75 percent of the Gila River Tribe allocation would share a priority with 510,000 acre-feet of non-Indian M&I uses (510,000 acre-feet for M&I is exclusive of water obtained through effluent exchange agreements with Indian entities) and would be reduced on a proportional basis, and within each class on a prorated basis, based on the amount of water actually delivered to each entity in the latest non-shortage year. In addition, effluent exchanges would be required for tribal entities where feasible and consistent with contractual provisions.

B. Options - Effluent Exchange

- B.1. Effluent exchanges optional for tribal contractors, but not required.
- B.2. Effluent exchanges with Indian tribes required where feasible and consistent with contractual provisions (i.e., where conditions specified in individual Indian contracts are met).
- B.3. Allocations made consistent with option B.2., with the proviso that CAWCD will implement the "pooling concept."
- B.4. Allocations made consistent with Option B.3., with added contractual provision that M&I allocations will be adjusted if effluent exchanges are not implemented.
- B.5. Allocations made consistent with Option B.2., but cities would be allowed to individually exchange effluent with Indian users.

C. Options - Tribal Homeland

- C.1. Do not define purpose of water allocated to tribal homeland at this time.
- C.2. Define purpose of water allocated to tribal homeland as domestic, municipal, and industrial.
- C.3. Define purpose of water allocated to tribal homeland as agricultural irrigation and therefore capital costs would be deferred under the Leavitt Act.
- C.4. Define purposes of water allocated to tribal homeland as any use necessary to ensure intended purpose of the reservation including irrigation, domestic, municipal, and industrial. Contracts would be interpreted pursuant to the Rules, Regulations, and Determinations provisions of the contracts to provide for appropriate repayment consistent with the actual use of the water.

- C.5. Define and interpret purposes of water allocated to tribal homelands consistent with option C.4 with added clarification that agricultural irrigation uses would be subject to priority reduction of 10 percent in water short years before sharing a priority basis with non-Indian M&I.

Background for Decision

Authorized as part of the Colorado River Basin Project Act (Public Law 90-537) in 1968, the CAP is a multi-purpose water project which will deliver water for irrigation, municipal and industrial uses in central and southern Arizona, and by exchange, to users in western New Mexico and on Gila River tributaries upstream from CAP facilities in Arizona.

The water users can be divided into four categories: Indian agricultural irrigation, tribal homeland, non-Indian agriculture, and non-Indian M&I.

The Secretary of the Interior has the responsibility for allocating CAP waters. A final allocation of CAP water and a contract with the Secretary for delivery of the water is required so that facilities can be designed and constructed to treat (where necessary) and deliver the CAP water to the point of use. In many cases, the delivery facilities will be extensive, or will require negotiation for joint use of existing facilities, and adequate lead time is required if the users will be able to take water when the CAP comes on-line.

The main CAP aqueduct system is currently scheduled to make water deliveries to the Phoenix and Pinal county areas in 1985, and to the Tucson area in 1989 or 1990. Even if the allocations are made without delay, it is likely that some of the eventual recipients of CAP water will be unable to take delivery when the water is first made available.

On November 12, 1981, Secretary Watt provided guidance to the Bureau of Reclamation with regard to his proposed action on CAP allocations to the Indian sector. Based on the Secretary's proposal, the DWR prepared final recommendations for the allocation of CAP water to the non-Indian sector. The recommendations were forwarded to the Secretary in letters dated January 18, 1982, April 6, 1982, and November 10, 1982. These proposed Indian allocations, along with the State's recommendations for non-Indian allocations, comprised the Agency Proposed Action in the final EIS on Water Allocations and Water Service Contracting, Central Arizona Project, which was prepared by the Bureau of Reclamation and filed with the Environmental Protection Agency on March 19, 1982.

Non-Indian agricultural water users are expected to contract for and receive water available from the CAP facilities which is not being utilized in the early years by the M&I and Indian contractors. The amount of this water will be relatively substantial in the early years of the project and during years of high runoff in the Colorado River Basin. Amounts are expected to decrease during the project life as the M&I use increases.

The Department's allocation (Alternative 6) contains elements of Alternatives 3 (Andrus) and 4 (Andrus Modified for M&I). The magnitude of the alternative allocations is identical, but the distribution of the project water during times of shortage combines elements of both. Under the Andrus allocation (Alternative 3) during shortages, 10 percent of Indian allocations for irrigation use would be reduced until exhausted prior to a pro rata reduction of the remaining Indian irrigation and tribal homelands amounts on a shared priority basis with 510,000 acre-feet per year of non-Indian M&I uses. The Andrus Modified for M&I Alternative (Alternative 4), provides that during shortages, 25 percent of the Indian irrigation amount would be reduced until exhausted prior to a pro rata reduction of the remaining Indian irrigation and tribal homeland amounts with all non-Indian M&I uses. The Department's Indian allocation is a combination of these two shortage distribution formulas. Like the Andrus allocation, the shortage distribution maintains the 510,000 acre-feet per year formula value for non-Indian M&I use, as well as the 10 percent reduction in Indian irrigation use for the 11 tribes or communities affected by water service contracts executed in December 1980 (all except the Gila River Indian Reservation). However, like Alternative 4 (Andrus Modified for M&I Use), the Gila River Indian Reservation's allocation would be reduced by 25 percent prior to the pro rata reduction.

Like Alternative 4, the Department's allocation will require effluent exchanges where feasible and consistent with contract provisions. However, in addition to the exchanges with the Salt River and Gila River Reservations described for Alternative 4, the analysis also assumes exchanges between the city of Tucson and the San Xavier Indian Reservation.

Discussion of the Environmental Consequences of the Alternatives

The requirements of the National Environmental Policy Act have been integrated into all phases of planning and development of the Central Arizona Project. A programmatic Environmental Impact Statement (EIS) was completed in 1972 and several site-specific statements have been or are in the process of being done on individual features of the project. The Bureau of Reclamation prepared a final EIS on Water Allocations and Water Service Contracting, Central Arizona Project in March 1982. Copies of the final EIS are available to the public upon request.

The Bureau addressed two general categories of impacts: The first category was impacts due to demographic and land use changes resulting from the availability or unavailability of CAP water; or due to the varying amount of CAP water made available. The second category was due to distribution system construction and development of lands for irrigation. Such actions impact wildlife and wildlife habitat, cultural resources, social/economic conditions, groundwater quantity, population, and land use.

The agency-proposed action was derived from an institutional process that involved soliciting expressions of interest to contract for CAP water from the Arizona Indian tribes; and from requesting the State of Arizona to make recommendations on allocating CAP water for M&I use and non-Indian agriculture.

On November 12, 1981, the Secretary selected a proposed Indian allocation (Proposed Action) in order to facilitate the timely completion of the EIS. In light of the Secretary's proposed action to allocate CAP water to Indians, the State of Arizona was asked to make recommendations on allocating CAP water to non-Indians. By letters to the Secretary dated January 18, 1982, April 6, 1982, and November 10, 1982, the DWR made such recommendations after extensive public involvement procedures.

The relative differences in environmental impacts among the allocation alternatives generally are not significant. The Proposed Action provides a significant benefit to the tribes by assuring a relatively stable and predictable water supply for domestic and economic development. However, by making a reasonable reduction in the Gila Indian Reservation's allocation during times of water supply shortage, additional water is made available for non-Indian municipal and industrial use. Compared to alternatives 3 and 5-over the 50-year repayment period of the CAP, the Proposed Action is projected to deliver about 2,500,000 acre-feet more to the M&I sector, and over 1,000,000 acre-feet more to the non-Indian agricultural sector, while maintaining the essential benefits of CAP water deliveries to the tribes. The increased delivery to the M&I sector avoids locally severe impacts of water supply shortfalls in Apache Junction under alternatives 3 and 5, and to the Kennecott and Phelps Dodge mining operations under alternatives 1 and 5. Under the Proposed Action significantly less farmland would be retired for acquisition of ground-water rights by municipalities than under alternatives 1 and 2. Hence, the Proposed Action, which falls within the range of alternatives 3 and 4 and the resulting environmental impacts is considered to be the environmentally preferred alternative.

There will also be some differing levels of environmental impacts, associated with constructing canals and laterals to deliver CAP water to Indian and non-Indian users. Future environmental analysis of individual delivery systems will include, where appropriate, the evaluation of all reasonable alternatives. All practical means to avoid or minimize adverse environmental impacts will be achieved through specific mitigation measures and monitoring provisions imposed upon the water user in the subcontract and construction specifications.

1. Impacts from Demographic and Land Use Changes

The Bureau's analysis indicates that there would be no significant difference in the acreage of undeveloped desert that would be converted to urban use over the 50-year project period under any of the alternative CAP water allocations (about 165,000 acres under each of the alternatives). A loss of that wildlife now associated with that desert habitat would also be expected. The amount of habitat is part of almost 20 million acres of Sonoran Desert scrub vegetation estimated to exist in Arizona.

The amount of farmland to be converted to urban use within the project service area over the 50-year project period would be about 34,500 acres for each of the alternatives. This would mean a loss of crops

grown on converted farmland, predominantly cotton. The significance of impact is revealed by comparing about 34,500 acres of irrigated farmland to be lost as a result of urbanization of the estimated 792,500 harvested acres now being irrigated in the project area. The amount of irrigated farmland to be lost amounts to about 5 percent of the total farmland now being irrigated.

Some agricultural lands may be retired to make water available (grandfathered water rights) to nearby municipalities if required to sustain projected population growth. Since the alternative CAP allocations would provide water in varying quantities for municipal use, in some cases, the combination of CAP and other dependable water supplies would not meet the demands of the projected population of a given municipality. In those cases, retirement of farmland was assumed as the most likely means for increasing the water supplies. It is estimated that a maximum of 6,900 acres would be retired from cultivation under any of the CAP allocation alternatives to meet the water demands of the municipal sector. It will take a period of time before any kind of natural vegetation is reestablished on this land. In addition, it will mean the loss of farm revenues for those now cultivating the land.

Another impact of retiring farmland is the added particulate matter in the area of abandoned fields. Retiring farmland would exacerbate the already existing problem of dust storms and fugitive dust until vegetation has recovered sufficiently to alleviate the problem.

Anticipated changes in land use on the 10 Indian reservations are not expected to be significant. While in excess of 90,000 acres have been developed for irrigation on the ten reservations, it is estimated that 50,100 acres of land are under irrigation at the present time. An additional 28,149 acres of land could be developed for irrigation under the CAP action alternatives.

Much of the irrigation use of CAP water on Indian reservations would take place on lands previously developed for irrigation. However, some of these lands were subsequently abandoned and have reverted to native vegetation, and the redevelopment of this acreage would cause wildlife habitat losses. It is also possible that the redevelopment of these lands could have adverse impacts on cultural resources that may remain partially intact.

In all cases there will be a beneficial economic impact to tribes with any of the CAP action alternatives. Alternatives 3, 4, 5, and 6 provide an added significant benefit to the tribes by assuring a relatively stable and predictable water supply for domestic and economic development on Indian reservations. Additional jobs would be generated, per capita income would be increased, and the life style of the reservation residents would be upgraded.

Since CAP water would be used primarily as a substitute for groundwater, no changes in land use or other impacts are expected as a direct result of the non-Indian agricultural allocations. However, differences in allocations to M&I users could lead to farmland retirement within agricultural districts. There will also be some impacts on fish and wildlife, as well as land use, as irrigation delivery facilities such as canals and laterals are constructed to deliver CAP water to these entities.

2. Impacts of Constructing Distribution Systems

There will be some environmental impacts associated with constructing canals and laterals to deliver CAP water to Indian and non-Indian users. At least 40 to 50 miles of canals will be required to deliver the Indian allocation of CAP water. Most of this land will be Sonoran Desert, but some will be retired agricultural land, existing irrigated agricultural land, or undeveloped urban lands. In addition, perhaps as much as 500 miles of canals and pipelines will be required to deliver irrigation and M&I water to non-Indian entities. Under a "worst case" scenario, assuming a 66-foot construction right-of-way, 4,400 acres would be disturbed, including both developed and undeveloped land.

No adverse impacts on special status species are anticipated as a result of CAP water allocations. Changes in land use, such as development of undisturbed wildlife habitat, were projected for each of the action alternatives. The difference among the alternatives is minimal, certainly not significant in the context of endangered species habitat.

The abundance of cultural resources in the CAP area is disappearing at an increasing rate as population grows and development continues. Exact inventories of the cultural resources and an analysis of impacts can be made only when the precise areal extent of projected and use modifications are defined. At that time, intensive archaeological/historical surveys of the above defined areas would be conducted. Generally, however, of the possible scenarios, only the conversion of lands to agriculture could have significant impact.

In some cases, where planning for delivery facilities is incomplete and it appears that such facilities would be extensive, or would be constructed in environmentally sensitive areas, further environmental analysis may be required prior to execution of a water service subcontract.

Summary

Since CAP water would be used primarily as a substitute for ground water, no major changes in population, land use, or other social indicators are expected as a result of the water allocations. Without the delivery of M&I water, the CAP service area population is projected to be just under 2.5 million by 2034. The area is projected to increase by an additional 100,000 persons by 2034 as a result of M&I water availability, representing an increase of approximately 4 percent over projected growth without CAP. The

land use effects identified are of relatively minor magnitude and will not likely impose major economic effects on neighboring communities or lands.

In conclusion, the effect of CAP water would be twofold. First, the water would enable certain existing activities to be maintained at near-current levels. For example, agriculture would be able to sustain production while reducing the serious overdrafting of the ground water supplies. Second, CAP water would help to accommodate the population and economic growth that is projected for central Arizona.

Effect on Previous Decision

The decisions contained herein supersede those made by Secretary Andrus on December 5, 1980, and to the extent those decisions are inconsistent with these decisions, they are rescinded.

Approved:

SECRETARY OF THE INTERIOR

DATE