

Table of Contents

PREFACE	v	Capturing River Flow	40
CHAPTER 1 THE SETTING	1	Water Quality	41
Climatic Influences	2	CHAPTER 5 THE MANY USES OF WATER	43
CHAPTER 2 LOOKING TO THE PAST TO UNDERSTAND THE FUTURE	5	Water Uses	43
The Search for Water	5	Municipal Water Use	43
19th Century Supplies	6	Types of Municipal Water Use	44
Early 20th Century Expansion	7	Conservation Rules	46
Controversy of 1975-76	9	Use of Renewable Supplies	46
Central Arizona Project	11	Residential Water Use	49
Today's Water Providers	13	Higher Water Use Trends	53
Agricultural Water Use	14	Water Rates and Conservation	53
Ongoing Search for Water Quality	14	Contrary View	55
Other Water Quality Problems	16	Agricultural Water Use	55
CHAPTER 3 IN SEARCH OF ADEQUATE WATER SUPPLIES	17	Industrial Water Use	59
Tucson's Water Supplies	17	Riparian Areas and Wildlife Habitat	61
Non-Renewable Supplies	17	CHAPTER 6 ENSURING SAFE DRINKING WATER	65
Impacts of Excessive Groundwater Pumping	19	Tucson Water Quality	65
Renewable Supplies	22	Groundwater Pollution	65
Augmenting the Water Supply — Recharge	25	Wastewater Treatment	68
Other Strategies	30	Central Treatment vs. Individual Systems	70
Strategies for Individuals	32	Health Risks of Various Pollutants	70
CHAPTER 4 COPING WITH FLOODWATER	35	Removing Disease-Causing Microbes	72
Flooding, Then and Now	35	Reducing Corrosivity	75
Coping with Flood Hazards	36	Reducing Toxic Substances	77
		Reducing Hardness and Salinity	77
		Improving Taste, Odor and Appearance	80
		Quality of CAP Water	81
		Water Treatment Cost	83
		Issues to Consider	84

CHAPTER 7 ROLES OF CITIZENS AND GOVERNMENT IN WATER POLICY	85
The Roles of Citizens	85
The Roles of Government	86
Water Quality Regulations	88
Treatment Plant Funding	90
Groundwater Quality Laws	90
Hazardous Wastes	91
Safe Drinking Water Act	91
Water Supply Regulations	92
Groundwater Management Act	92
Indian Water Rights	96
CAP and the Colorado River	98
Central Arizona Water Conservation District	99
Programs to Promote Recharge	99
Lakes and Pools	101
Water Transfers	101
Federal Environmental Laws	101
Regulation of Water Companies	103
Regional Water Quality Planning	103
Floodplain Management	104
Powers of Counties and Cities	104

Managing Water and Wastewater	105
Coordinating Water Management	106
Basin-Wide Water Management	107
Tucson Water Operational Options	108
Enfranchising Non-Residents	108
AFTERWORD	111
Balancing the Budget	112
To Sustain or Not to Sustain	112
Water Budget Scenarios	114
APPENDIX A	117
APPENDIX B	123
APPENDIX C	141
LIST OF FIGURES	147
LIST OF TABLES	149
INDEX	151