

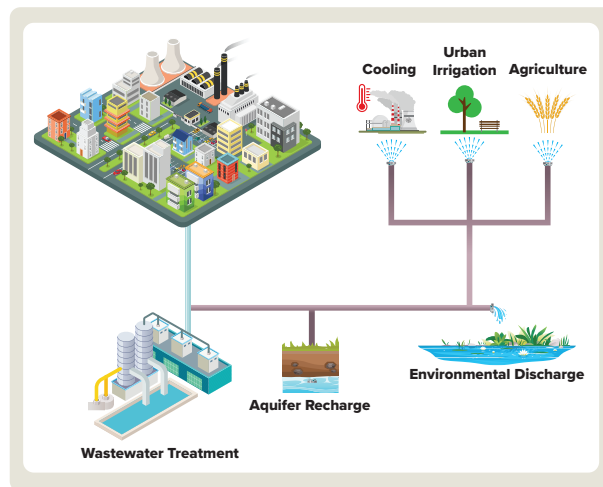
6 Reclaimed Water in Agriculture

Water reuse, or water recycling, reclaims wastewater and treats it to quality standards suitable for beneficial uses including irrigation.

Although Arizona is a leader in the United States in reusing wastewater for irrigation, it still uses only 119,000 ac-ft/year or 2.3% of the water used by Arizona’s irrigated agriculture. Nationwide, less than 1% of total water use for agricultural irrigation is reclaimed water.

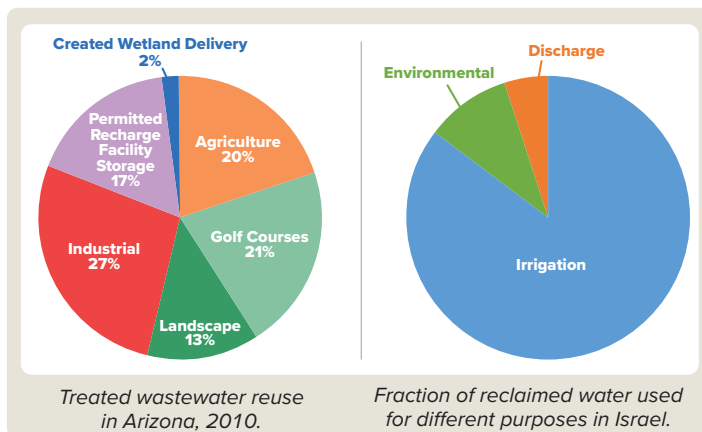
Reasons for low utilization of reclaimed water by agriculture include:

- Use for other purposes
- Difficulty transporting to agricultural areas
- Insufficient treatment



The proximity of wastewater treatment plants to urban areas favors urban reuse. Infrastructure investment in transport of reclaimed water would be needed to boost agricultural reuse.

Israel provides an excellent example of using reclaimed wastewater beneficially. Almost 90% of Israel’s treated wastewater is reused for irrigation; the remainder is discharged to the sea or used for environmental purposes. Israel’s small size (about 13x smaller than Arizona) and well-developed water transport infrastructure are key to this reuse.



While treated wastewater is not suitable for all crops, most of Arizona’s treated effluent is high enough quality to use for most agricultural purposes. The state’s water reuse regulations specify the minimum quality of reclaimed water for specific uses.

Water Class	Criteria	Type of Reuse
A	<ul style="list-style-type: none"> • 24-hour average turbidity is < 2NTU (measure of clarity); • No detectable fecal coliform bacteria in four of the last seven daily water samples taken, and • The maximum concentration of fecal coliform bacteria in a single water sample < 23 per 100 mL 	Irrigation of food crops, residential and open access landscape irrigation, spray irrigation of an orchard or vineyard.
B	<ul style="list-style-type: none"> • The concentration of fecal coliform bacteria in four of the last seven daily water samples taken < 200 per 100 mL; • The maximum concentration of fecal coliform bacteria in a single water sample is < 800 per 100 mL 	Surface irrigation of an orchard or vineyard, golf course irrigation, restricted access landscape irrigation, pasture and water for dairy animals.
C	<ul style="list-style-type: none"> • The concentration of fecal coliform bacteria in four of the last seven daily water samples taken < 1000 per 100 mL; • The maximum concentration of fecal coliform bacteria in a single water sample is < 4000 per 100 mL 	Pasture and watering for non-dairy animals, irrigation of sod farms, fiber, seed, forage, and similar crops.