

## Winston-Green Wastewater Treatment Plant Upgrade and Reuse Planning

### HIGHLIGHTS

3.5-mgd wastewater treatment plant upgrade.

Effluent meeting Oregon Department of Environmental Quality Level II requirements for water recycling.

Planning for pumping 1.0 mgd of recycled water to the 600-acre Wildlife Safari animal park near Roseburg.

Carollo provided planning, design, and construction management services for the upgrade of the 3.5-mgd Winston-Green Wastewater Treatment Plant in southern Oregon. The major improvements include headworks modifications, new fine bubble aeration basins with selectors for biological phosphorus removal, new secondary clarifiers, a new gravity belt thickener, a new anaerobic digester, dechlorination facilities, and modifications to improve the existing sand filters. To reduce the project cost, the upgraded treatment plant will continue to utilize the existing fixed film process in parallel with the activated sludge process.

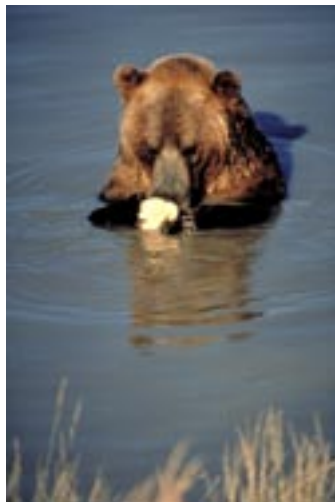
The Winston-Green Regional Treatment Facility currently discharges approximately 1 mgd of disinfected secondary effluent to the South Umpqua River. Evolving regulations are likely to make future discharge more difficult, especially during the low-flow summer months. Treated wastewater from the plant meets the Oregon Department of Environmental Quality's Level II requirements for water recycling, making it a valuable resource for irrigation and the creation of wetlands for wildlife habitats.



One possible recipient of recycled water from the Winston-Green facility is Wildlife Safari, a 600-acre wild animal park near Roseburg, Oregon. The park allows visitors to drive through and view African, Asian, and North American animals and birds in their natural habitats. It is currently home to over a dozen endangered species.

The South Umpqua River presently serves as one of the main sources of water for maintaining the park's streams and ponds. Although this supply is adequate to meet Wildlife Safari's needs, additional water could help increase summer-time stream flows and possibly develop wetland habitats within the park.

*The upgrade of the Winston-Green Wastewater Treatment Plant included a conceptual plan to reuse treated effluent in a popular wild animal park.*



Carollo provided conceptual planning for pumping 1 mgd of recycled water approximately three miles from the plant to the highest point in Wildlife Safari's waterway system. From there it would flow through a series of animal habitats, interconnected by streams, to the lowest part of the park. It could then be pumped to irrigate fodder crops or continue to flow downstream for off-site uses.