

# Water Use in the Professional Car Wash Industry

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## Abstract

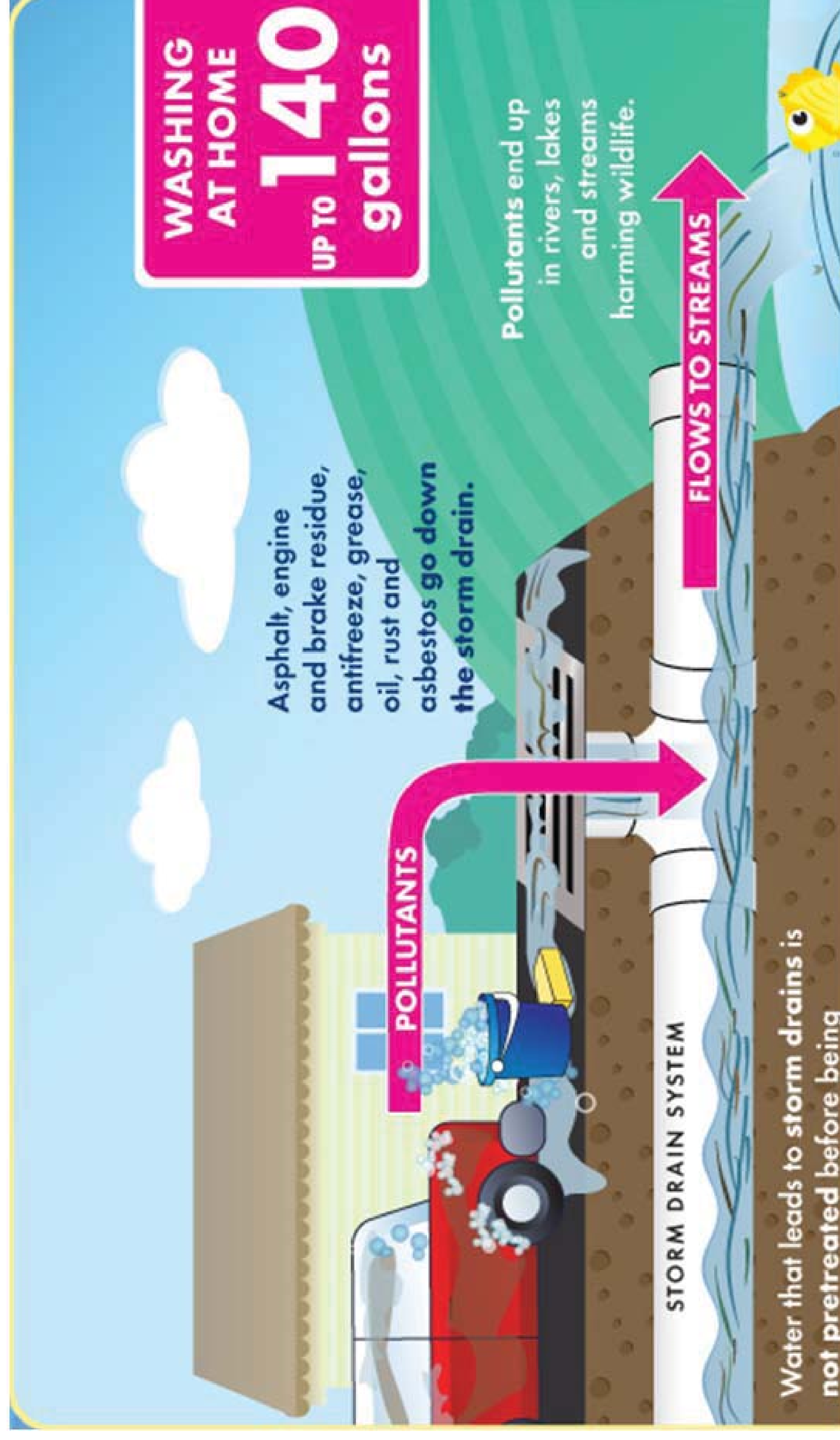
Water usage in the professional car wash industry is often misunderstood by consumers and utilities alike. Particularly in times of drought, car washes are viewed as "water hogs" and are often asked to limit or shut down operations. In reality, professional car washes represent a small portion of water used in municipal and industrial systems in the U.S. This poster focuses on water use and conservation opportunities within self-service, in-bay automatic and conveyor car washes. Car wash technology has enabled car washes to use considerably less water within the wash cycle, and reclaim systems have aided in this endeavor..

## Background

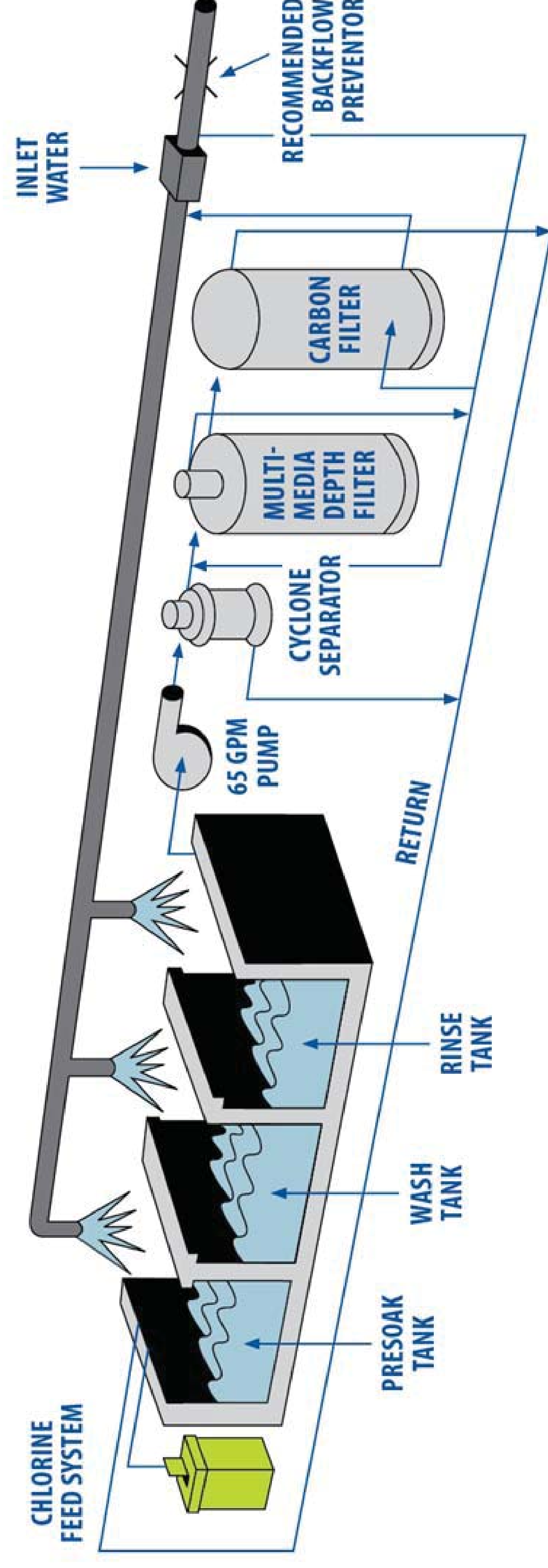
Professional car washes typically use less than one percent of water used in a large or medium sized municipality. Day-to-day operation of many professional car washes is already efficient, as many operators use water reclamation systems to lower their discharge. Water reclamation in the professional carwash covers a wide range of ways practices and equipment. The wide variety of ways that reclaim can be performed in car washes results in a broad range of reclaimed water usage, measured as a percentage of total water used per vehicle. Approximately 56% of conveyor car washes and 25% of in-bay automatic washes in the United States have a reclaim system. In addition, 48% of self-serve car washes offer spot-free rinse with reverse osmosis. In most cases reject water from the RO unit can be utilized in irrigation or can be discharged to a carwash reclaim/recycling system.

Washing your car in your driveway can use up to 140 gallons of water. In addition the soap used at home runs into storm sewers – along with rust and chemicals washed from the vehicle. At a professional car wash, toxins are separated out of the water where they can be disposed of safely.

## The Home Car Wash



## Conceptual Design of Filtration Reclaim System



## The Professional Car Wash

## WaterSavers®

We know that environmental messaging is important to consumers. The 2008 Study of Consumer Car Washing Attitudes and Habits found that 20% of home washers in 2008 responded that knowing that a professional car wash was safer for the environment would "greatly influence" their decision. The study also showed that an exceptionally high number of home washers believe that home washing is better for the environment. The majority of consumers have misperceptions of the car wash industry when it comes to water usage. The WaterSavers program is a turn-key marketing program that helps car washes promote their environmentally friendly business practices to their consumers and local regulators.

### WaterSavers® Criteria

**ALL PARTICIPANTS**

- All water discharge must be routed to water treatment or a safe disposal field as permitted.
- A backflow prevention device must be installed and operable on the potable water supply.
- All spray nozzles must be inspected annually to ensure maximum efficiency of water used.
- All water-saving devices must be maintained to original or improved specifications for the conservation of water.
- Spot-free reverse osmosis concentrate (a.k.a. "reject"), if such a system is used, must be reused in the wash process.



**CONVEYORIZED OR IN-BAY/ROLL-OVER WASHES**

Maximum of no more than **40 gallons** of water per vehicle per average wash package.

**AND**

**SELF-SERVICE WASHES**

Maintains high-pressure wash nozzles and pump spray nozzles at no more than **3 gallons per minute**.

Recent accomplishments include:

- Over 160 participating companies throughout North America
- Industry alliance formed with Southeast Carwash Association, Western Carwash Association, Mid-Atlantic Carwash Association, New England Carwash Association and Canadian Carwash Association

## References

1. Water Conservation in the Professional Car Wash Industry, *International Carwash Association, 2000*
2. Water Effluent and Solid Waste Characteristics in the Professional Car Wash Industry, *International Carwash Association, 2002*
3. Water Use in the Professional Car Wash Industry, *International Carwash Association, 2002*
4. Study of Consumer Car Washing Attitudes and Habits, *International Carwash Association, 2008*
5. Prime Shine Car Wash, <http://www.savemoneysavetimesavewater.com>,