

Salmon Creek Water Conservation Program

Conservation Strategy No.6:
Conservation in
the Hospitality Industry
for Coastal California
Communities





Overview

The hospitality industry consists of businesses within the food services, accommodations, recreation, and entertainment sectors. These businesses typically serve many non-residents as well as residents, and often provide a venue for leisure activity.

Depending on the make up of a community, a significant portion of the overall water use can support hospitality industry businesses. Many coastal communities in California have relatively high water use in the hospitality sector because the communities depend on the economic vitality provided by tourism. There are numerous cost-effective water efficiency measures that can be implemented by hospitality industry businesses to achieve sustainable water savings. Many of these actions will also reduce wastewater flow to a sanitary sewer or septic system. These measures include:

- installing efficient hardware such as low volume pre-rinse spray nozzles for dish washing, low flow toilets and showerheads in hotel rooms or at a spa, and “smart” irrigation controllers for landscaping.
- adopting water-efficient practices in operations and maintenance such as defrosting foods without using a water bath and sweeping rather than hosing hard surfaces.
- requesting the cooperation of customers to maximize water use efficiency by serving water only on request in restaurants, providing hotel users with the opportunity to request clean sheets and towels only as needed, and posting a contact for reporting leaks in all public restrooms.

Target community

The hospitality industry includes hotels, motels, and bed & breakfast inns; food service businesses such as restaurants, pubs and nightclubs; recreational businesses such as golf courses, recreational spas and boat tours. Conservation measures can target staff and customer behaviors as well as efficient fixture installation.

Potential effect

Implementing water use efficiency measures in the hospitality industry can achieve significant and sustainable water savings, often coupled with reduced wastewater flow and energy use. Some known water savings actions are discussed below.

Hospitality businesses have a unique opportunity to create a community “water resource stewardship” brand identity because they interface with visitors more than other water users. Creating this message and enlisting the support of customers can positively influence the character of a community.

The 2003 study by the Pacific Institute *Waste Not Want Not: the Potential for Urban Water Conservation in California* reports the following savings potential for specific hospitality business by installing efficient plumbing hardware and adopting business practices to maximize water use efficiency. (It is likely that coastal communities would experience savings toward the lower end of the range because the Pacific Institute study looked at statewide averages and coastal climates require less water for landscapes than inland climates).



Restaurants – savings of 27% - 32%, with significant savings from landscape irrigation, cooling system and restroom efficiencies.

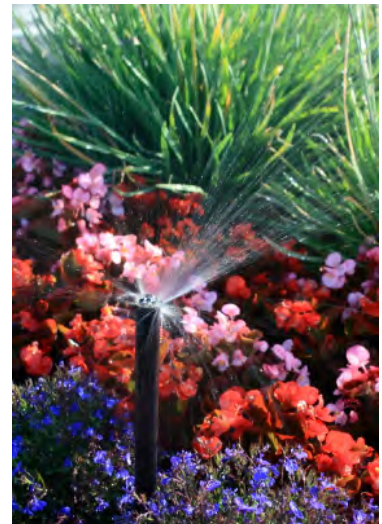
- **Hotels** – savings of 30% - 38%, with significant savings from laundry, landscape irrigation, cooling and restroom efficiencies.
- **Golf courses** – savings from 26% to 39% with all savings from improved irrigation hardware and practices. Irrigating golf courses with recycled water has the potential to realize a 100% savings of potable water through complete replacement of the supply source.

How to implement

Certain types of water use are common to all types of hospitality businesses. Conservation measures that target these common uses apply to all hospitality businesses. These common use measures are listed first below. Other water uses are specific to a particular type of hospitality business, and targeted conservation measures are listed next, according to a specific type of business covered, such as restaurants or golf courses.

Conservation actions for common uses in most hospitality businesses

- **Restrooms:** Install low volume toilets, urinals, showerheads and faucet aerators in all public and staff bathrooms. Specifications and lists of these efficient fixtures are found at the Federal EPA web site at: <http://www.epa.gov/watersense/> The initial cost of installation is typically repaid through decreased water and sewer bills quickly.
- **Leaks:** Place “In Case of a Leak, Contact _____” notices (cards or mirror stickers) in all restrooms or other water using facilities used by the public.
- **Irrigation/Landscape Maintenance:**
 - ✓ A thorough checklist of landscape practices for water efficiency for parks, golf courses and commercial landscapes is at: <http://www.water.ca.gov/wateruseefficiency/docs/WUEIdeasParks.pdf>
 - ✓ Make sure there is a requirement for regular irrigation system checks in all landscape maintenance contracts, including the requirement to observe the system in operation at least monthly and to repair leaks and malfunctioning equipment.
 - ✓ Consider installing a “smart irrigation controller” that adjusts for weather conditions; for a list of controllers and more information visit: <http://www.irrigation.org/swat/industry/ia-tested.asp>
- **Metering:** Install separate meters, whether through the water utility or sub-metering within the on-site system, to increase the information about where water is used and where leaks are on a site. If irrigation and indoor uses are served by one meter, consider installing a separate irrigation meter.
- **Monitoring:** Read the water meter(s) regularly (at least quarterly, preferably monthly) and keep a record of water use to become familiar with water use trends and to detect unexplained increases in use (most likely due to leaks). If all known water uses on site can be turned off, the meter can be used as a leak detector – if it is moving there is a leak.
- **Employees:** Train employees about all the conservation initiatives in place and how to use water efficiently themselves. Point out the importance of using water efficiently and how each employee



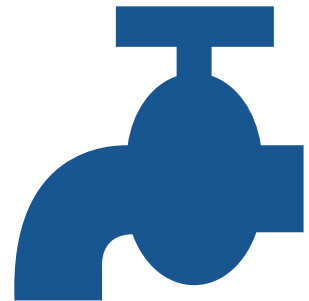
can make a difference. Post water-saving measures and results. Consider a program to reward water-saving efforts.

- **Hard Surface Cleaning:** Sweep sidewalks and parking lots clean rather than hosing them off with water.
- **Alternate Supply Sources:** Consider using rainwater harvested from roofs, graywater and/or recycled water as alternate sources of supply for landscape irrigation and other approved uses.

Conservation actions for hotels, motels and bed & breakfast inns

In addition to the “actions for common uses” listed previously, take these actions:

- Purchase or set up an efficient laundry system: A rinse-water recycling system or high-efficiency washers and dryers conserve both water and energy. See this EnergyStar link for information about efficient commercial washers: http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=CCW . The initial cost of this investment may be significant but it is typically recovered in a few years through reduced water, energy and sewer bills.
- Start a linen reuse program in all guest rooms by placing pillow cards or door hangers indicating that linens will be laundered every three days unless the guest requests otherwise. This is now commonplace in many hotels and is a cost-saving, water-saving and time-saving measure that works well. Most customers will participate, and they appreciate the opportunity to hang up their towel instead of tossing it on the floor for changing.



Conservation actions for restaurants

In addition to the “actions for common uses” listed previously, take these actions:

- Install an efficient dishwashing system -- Many newer dishwashing systems use as little as a gallon of water or less per rack of dishes washed. See this EnergyStar link for a list of commercial dish washers: http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=COH . The initial cost of this investment may be significant but it is typically recovered in a few years through reduced water, energy and sewer bills.
- Install water-efficient low volume (not more than 1.6 gallons per minute) spray nozzles with automatic shut-off trigger for pre-rinsing dishes.
- Install foot pedal or other manual controls so that garbage disposal water only runs when needed. Alternatively, sign up for food waste collection if it is available and eliminate the use of a garbage disposal.
- Convert water-cooled ice machines to air-cooled models.
- Replace boiler-based steam cookers with “connectionless food steamers” which require no plumbing to a water source and no drain. EPA tests show that certain energy-efficient connectionless steam cookers are as much as 90 percent more water efficient than traditional models.
- Thaw frozen foods in the refrigerator and melt ice naturally instead of running water over them in the sink.

- Wash vegetables in a water basin and not under running water.
- Soak pots and pans and scrape dishes and cookware before washing them.
- Serve water only on request to guests. Table cards can carry the message: “water gladly served on request” like the cards (in English and Spanish) available at this link which can be used by any restaurant: <http://www.saveourh2o.org/index.cfm/conservation-tools/downloadable-conservation-materials/>
- Provide children’s coloring sheets, table materials and coasters showing a “saving water” theme.

Conservation actions for golf courses

In addition to the “actions for common uses” listed previously, take these actions:

- Consider installing a centralized control irrigation system, with “smart irrigation” technology to maximize the potential to control how irrigation water is applied.
- Locate your closest CIMIS (California Irrigation Management Information System) station and use the evapotranspiration data daily or weekly to determine irrigation run times and frequency. CIMIS station locations are available at this web page: <http://www.cimis.water.ca.gov/cimis/info.jsp>
- Confined irrigation to crucial playing areas only. Identify water use priority areas, including high priority areas like tees and greens as well as those areas requiring little or no supplementary irrigation.
- Perform a comprehensive audit on the irrigation system at least once per year. This identifies leaks, irrigation head malfunction, and/or design limitations, as well as determining if the proper water distribution is being achieved in all irrigated areas. The form at this link can be used to record data in an irrigation site audit on a golf course or other large landscaped site : <http://aggie-horticulture.tamu.edu/GREENHOUSE/hortgardens/conservation/agentdemo1.pdf>
- Use “repeat cycling” in irrigation scheduling. It is more effective to apply only a portion of the total water needed at any one time. After the water has infiltrated and percolated into the soil, apply another portion of the water and repeat the cycle until all the water is applied.
- Mow to manage the turf with as high a cutting height as possible within the confines of the particular turfgrass used on greens, tees, or fairways.
- Manage soil compaction so water can penetrate to the rootzone of the turf. Leave grass clippings on the turf after mowing (grasscycling) whenever possible to maintain good infiltration, add nutrients and decrease thatch development. Use mechanical maintenance practices such as topdressing, vertical cutting, and turf cultivation only during periods when the turf is not under stress.
- Irrigate for turf durability and increased stress tolerance by irrigating thoroughly, but as infrequently as possible.
- Irrigate at the most efficient time of day when there is less evaporative water loss and less wind. This is typically from late evening through early morning (between 10 pm and 8 am). Irrigation frequency should also vary with environmental or climatic factors.
- When irrigating steep slopes, apply water slowly and with repeat cycles to avoid runoff, especially where turf thatch has accumulated or where soils are heavily compacted.

Tools

Web sites:

- Save Our Water has free down-loadable “water on request” restaurant cards and hotel linen cards in English and Spanish: <http://www.saveourh2o.org/H2O/index.cfm/conservation-tools/>
- The Federal Environmental Protection Agency WaterSense site has specific resources for non-residential water use: <http://www.epa.gov/watersense/spaces/ci.html>
- The California Department of Water Resources has technical recommendations for non-residential water use: <http://www.water.ca.gov/wateruseefficiency/cii/>
- Search for water efficient faucets and toilets at this WaterSense site: http://www.epa.gov/watersense/product_search.html
- Search for water efficient Energy Star commercial clothes washers: http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=CCW
- Search for water efficient Energy Star commercial dish washers: http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=COH
- The Center for Irrigation Technology presents case studies related to efficient golf course irrigation: <http://cati.csufresno.edu/cit/Golf%20Course%20Irrigation%20Nozzle%20Study.pdf>
- California Irrigation Management Information Systems (CIMIS) web site has station locations and more information about the network of weather stations: <http://www.cimis.water.ca.gov/cimis/welcome.jsp>
- The Pacific Institute report *Waste Not Want Not: the Potential for Urban Water Conservation in California*: http://www.pacinst.org/reports/urban_usage/waste_not_want_not_full_report.pdf



This conservation strategy was produced by Virginia Porter Consulting for the Salmon Creek Water Conservation Program (SCWCP). The SCWCP is a multi-year, multi-stakeholder effort focused on developing alternative water supply solutions that support human needs while protecting and restoring instream flows for fish and wildlife.