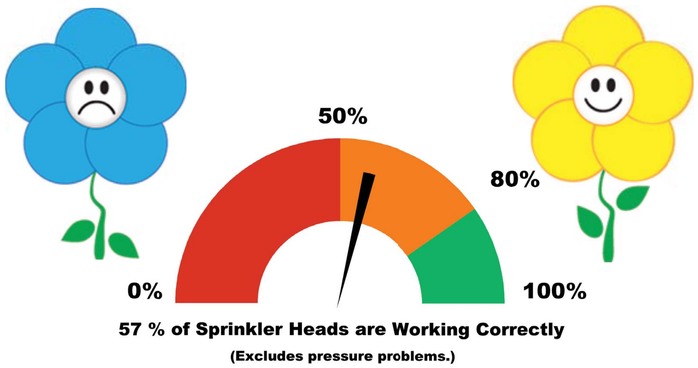
# Irrigation System Quality: A Significant Challenge to Reducing Landscape Water Use

Modern technological solutions, specifically smart irrigation controllers, have been increasingly deployed to reduce landscape water use. However, the improved irrigation scheduling that these controllers deliver and reductions in water use that they promise are dependent on irrigation system quality. Understanding irrigation system limitations are fundamental to addressing the critical interactions between equipment problems and scheduling decisions.

Based on Field Survey data from over 700 commercial, homeowner association and public sites in California, most irrigation systems need significant repair. The Field Surveys were conducted at selected sites in the Waterfluence large landscape program. The field surveyor spent 4 to 8 hours at each site inspecting the irrigation system and recording data in hand held computers.

Aggregate results over all Field Survey sties show that only 57% of sprinkler heads were operating efficiently. Common problems included leaks, spray pattern alignment, incorrect or missing nozzles, high or low pressure, foliage spray interception, tipping and relationship to surround grade.

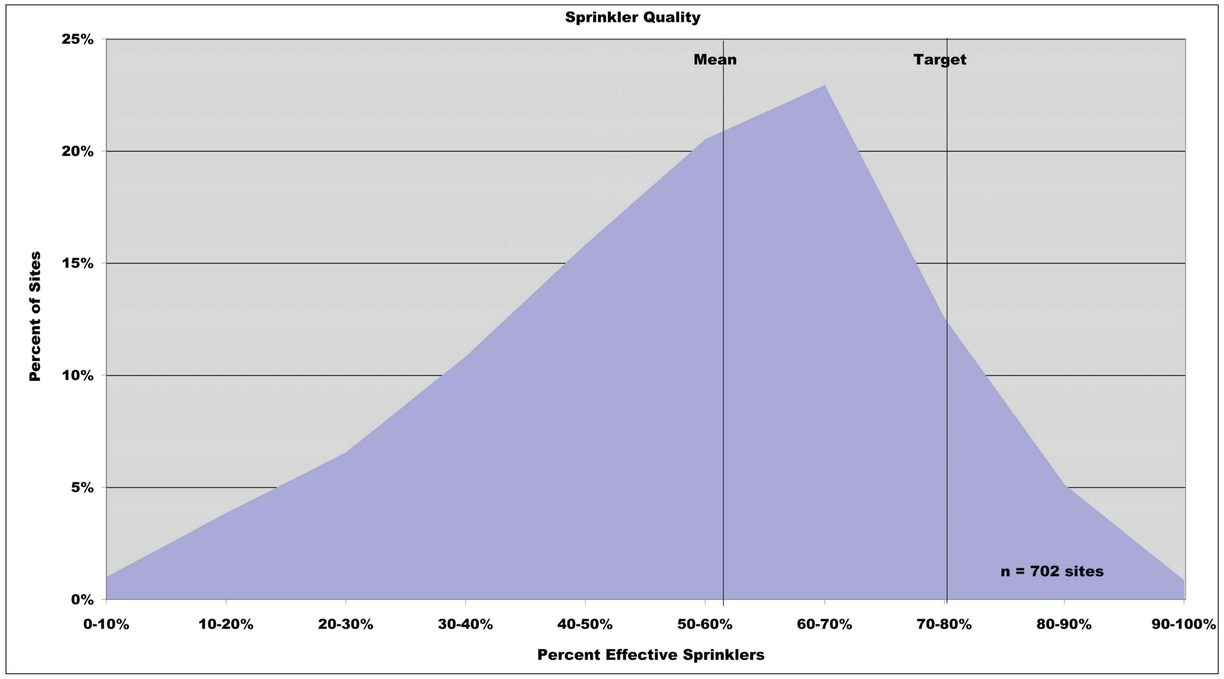
Landscape maintenance staff need to give more attention to basic irrigation system performance. Until this is done, other avenues of achieving irrigation efficiency such as "smart" irrigation controllers or replanting with native plant species will be limited.




**57 % of Sprinkler Heads are Working Correctly**

**(Excludes pressure problems.)**

| | |
|---|---|
| **Total number of sprinkler heads observed** | **133,746** |
| **Number of effective sprinklers** | **76,828** |
| **Percent effective** | **57%** |




The Ideal Sprinkler is:
- Water tight (except for nozzle ;-)
- Vertical
- Operating at correct pressure
- With uniform spray pattern
- That clears surrounding foliage
- and Sprays into the desired area.

Chris Willig
Chris@waterfluence.com
www.Waterfluence.com