

# Toilet Leaks

## *How does the H2Orb's Leak Detection reduce Water/Sewer/Septic expenses?*

Stuck/Open-Flapper events are regarded as a silent thief and vandal. These events are primarily responsible for households unexpectedly high water/sewer bills and septic system overload. Example: A stuck/open flapper condition wastes 200 gallons per hour. Consider the cost and affects of a stuck/open-flapper going unnoticed for hours, or days. This considerable water loss can go unnoticed and unabated while you're at work, on vacation, or even running for days in an extra bathroom that is rarely used.

## *Consider examples of a stuck/open-flapper for a 24-hour period (4,800 gallons wasted):*

- **Municipal Water and Sewer example:** Water loss of 4,800 gallons raises water and sewer bills.
- **Septic Systems example:** Water loss of 4,800 gallons overloads the septic tank and floods the drain field. It only takes a few hours for such events to devastate a septic system. Such events require extensive cleanup and repair costs to both the tank and drain field. A single toilet's continual demand for water can also overburden the water supply pump, resulting in burnout and repair or replacement.

## Causes and Effects of Leaking Toilet:

- **Stuck/Open-Flapper:** Caused by a bound up chain connecting the toilet's flush handle to the flapper or by the flush handle getting stuck in the down position. Water loss translates to 4,800 gallons/day or 200 gallons/hour.
- **Warn/Warped Flapper (silent leak):** Caused by normal wear and mineral buildup on flapper over time. Such wear is contributed to by an increasing level of chemicals added to municipal water systems to purify the water. These chemicals, as well as in-tank cleaners can destroy flappers. Water loss varies on degree of wear (see EPA notation below):
- **Fill-Valve's Float:** Caused by cracked float (which takes on water), or a misaligned float, both of which cause the fill-valve to run slowly but continuously.
- **Failed Fill-Valve:** Caused by normal wear and mineral deposit buildup preventing the fill-valve's ability to shut off completely.
- **Fractured/Broken Toilet Tank:** Caused by unusual stress fracture, or accidental impact. Regardless of the water loss volume caused by fractured/broken tank, the fill-valve will continue to replenish the tank and then to the floor. Such fractures/breaks lead to total collapse of tank and can result in massive flooding of property.
- **Ruptured or Leaking Supply Line:** Caused by breakdown in rubber lining or fitting joint.

## Toilet Leak Research:

- **AWWA (American Water Works Association)** identifies leaking toilets and dripping faucets account for 13.7 percent of all indoor water use per person per day. Note that water loss from toilets often goes unnoticed/unattended resulting in no repair. Unlike toilets, dripping faucets represent much less water loss, are very noticeable and prone to eventual repair.
- **EPA (Environmental Protection Agency)** identifies a "silent leak" caused by a worn/warped flapper as being responsible for as much water loss as 500 gallons per day.
- **SavingWater.Org** asks Have a High Bill, But Don't See a Leak?..... A leaking toilet is more likely to be the cause.
- **WaterWiser.Org** states, An average of 20% of toilets leak.
- **South Coast Water District** states, From our experience, over 85 percent of the leaks in residential plumbing systems are found at the toilet.
- **Pinebrook Water District** states, 90 percent of the leaks reported to us are the result of a toilet problem.