This presentation premiered at WaterSmart Innovations

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Water Savings from Turf Removal

Michael Hollis, Ph.D
mhillis@mwdh2o.com
Metropolitan Water District of Southern California
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- All 26 member agencies participated in turf programs
  - Data from 19 member agencies in study
- 64,500 turf removal projects in program
- 80% single-family residential dwellings in sample
- 170 million square feet of turf removed in program
- Research study occurred over a three year period
Regional Turf Removal Water Savings Study Objectives

Estimate water savings from turf removal
Examine savings persistence
Study Methodology

- Drew a random sample of 883 program participants from 19 member agencies with “matched” nonparticipants
- Collected billing histories of participants
- Anonymized to protect confidentiality
- Analyzed residential properties:
  - Single-family
  - Multi-family (Included HOA common areas)
- Separately analyzed two groups:
  - Top 20% in terms of total turf replaced
  - Lower 80%
- Used regression models to estimate water savings
Conceptual Model

10 Years

Turf Removal

Water use before replacement

“Blackout” period

2 Years

Water use after replacement
Main Factors in Regression Model

- When turf was replaced
- Mandatory conservation
- Temperature
- Precipitation
- Season
Total Water Savings Estimates (g/sf/y)

- Single Family: 36.3 g/sf/y
- Multi Family: 32.5 g/sf/y
- Overall: 34.4 g/sf/y
Water Savings Varied Across Region
Single Family, g/sf/y

Average = 36.3 g/sf/y
Efficiency Gains Varied by Project Size
Single Family Homes, g/sf/y

Smaller projects (lower 80%)
44.6

Larger projects (upper 20%)
25.4
Savings Persisted During Study Period

**Single Family**

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**Total Use (gpd)**

**Multi Family**

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Areas for Future Research

- Verify water savings estimates and group differences
- Extend work on the multiplier/spillover/neighborhood effect
- Track savings persistence
- Estimate reversion—the extent to which program participants revert to turf over time
For copies of the research report, contact Michael Hollis, Ph.D, mhollis@mwdh2o.com