

# Research Partnership on Rebate Program Incentives

Phase II Report: Water Conservation Survey

January 2017



# Outline

- Project status
- Summary of recent work completed
  - Survey Design
  - Survey Results
- Key Findings
- Discussion and Questions

# Project status

## Phase I Deliverables (December 2015):

- Impact of alternative pricing structures on water demand

## Phase I Deliverables (January 2016):

- Identification of role of agency, household-level, community factors
- Impact of conservation programs on household water bills & agency revenue and costs

## Phase II Deliverables (January 2017):

- Summary of customer conservation actions and awareness of conservation programs
- Comparison of survey data with MNWD customer records of program participation
- Analysis of “additionality” of conservation programs
- Analysis of how program attributes impact turf program participation

## Questions addressed in phase II

- What are the full range of conservation actions households have adopted?
- Were customers aware of MNWD actions, water conservation programs?
- What is the relative importance of different attributes of a conservation program?
- To what extent will customers participate in the turf removal program under different rebate levels? How much would they remove?

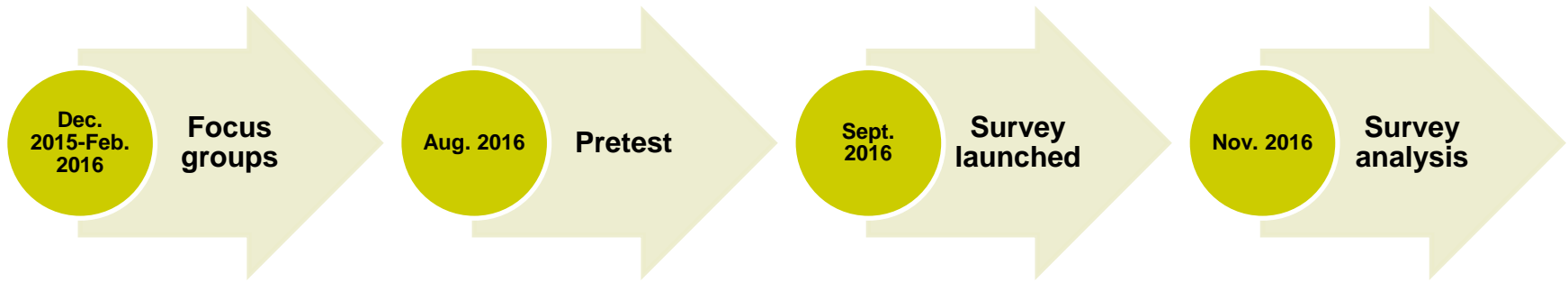
# Water Conservation Survey: Design

**Target population:** ~ 47,329 MNWD customers

## Objectives

- **Part 1: General questions** – Investigate what indoor & outdoor water conservation technologies/activities MNWD customers adopted/use and when they started
- **Part 2: Choice experiment** – Investigate factors that drive MNWD customers participation in turf (lawn) removal rebate program and the degree to which they would participate

# Water Conservation Survey: Timeline & Response



## Focus groups

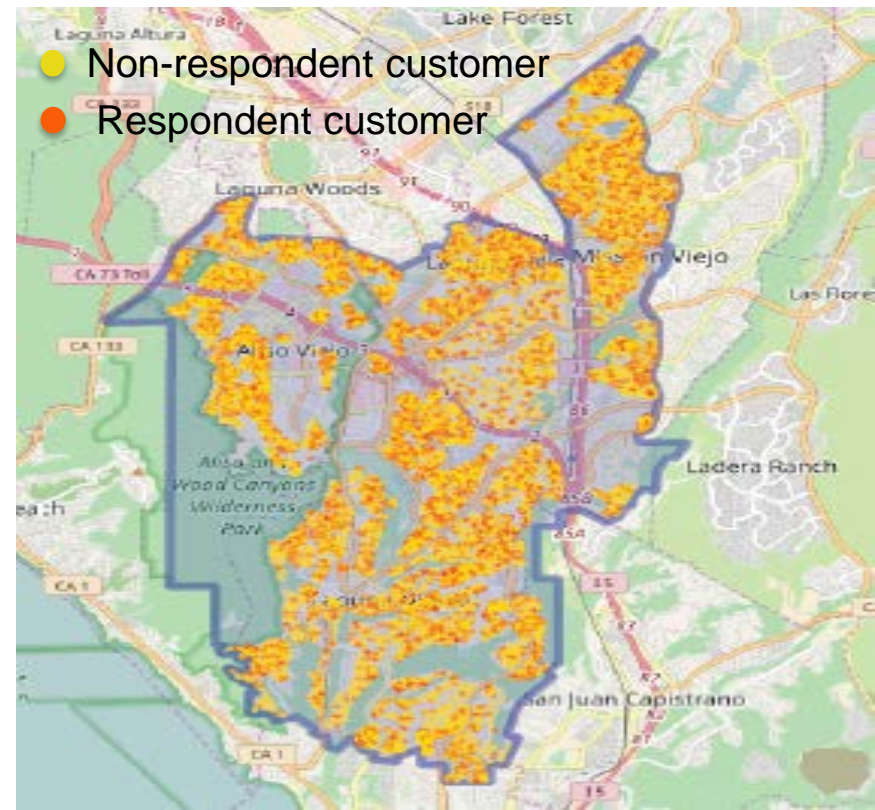
- 3 discussions with MNWD customers

## Pretest

- 480 emails sent
- Response rate:  $51/480 = 10.6\%$

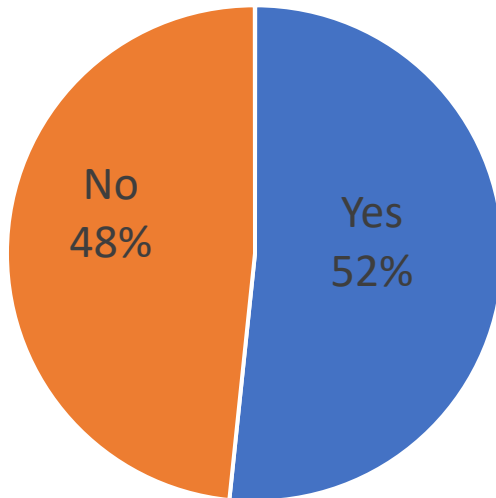
## Final survey

- Email: **15.6%** (3,021/19,403)
- Regular mail: **3.4%** (937/27,446)
- Overall response rate: 8.4% (3,958/46,849)

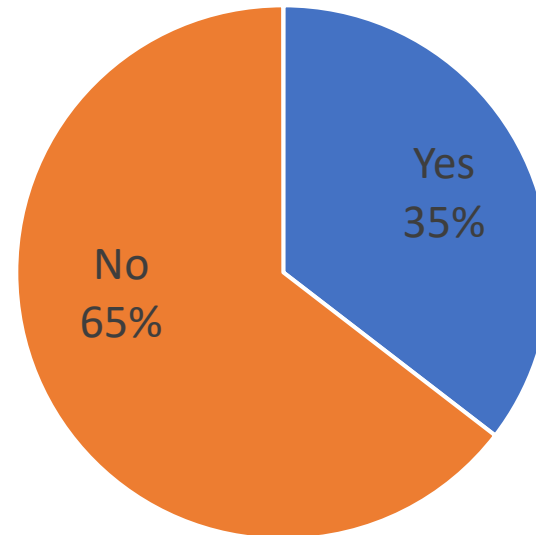


# Respondent characteristics

Q3- Do you have someone (such as a gardener) who is in charge of maintaining the appearance of your landscaping and who is not a member of your household?

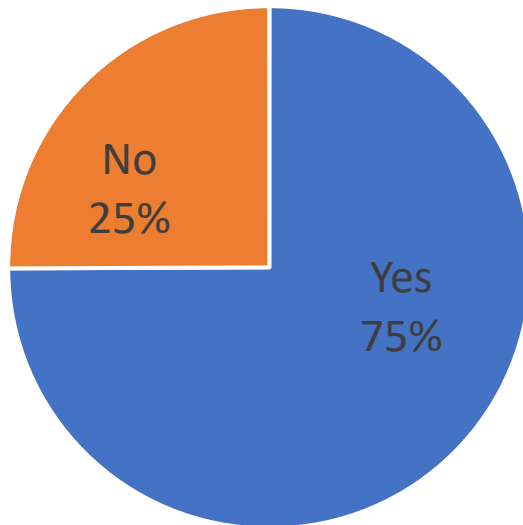


Q4 - Is this person also in charge of determining your landscape water needs?

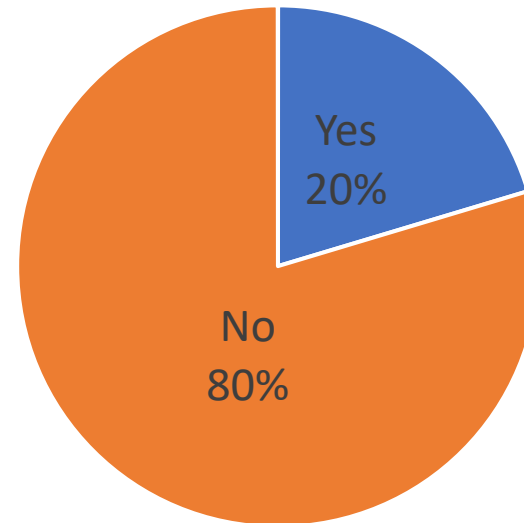


# Respondent characteristics

Q5 - Is your residence located in a Home Owners Association (HOA)?



Q6 - Does your HOA have any restrictions that would prevent you from installing water efficient landscaping or otherwise reducing your outdoor water use below its current level?

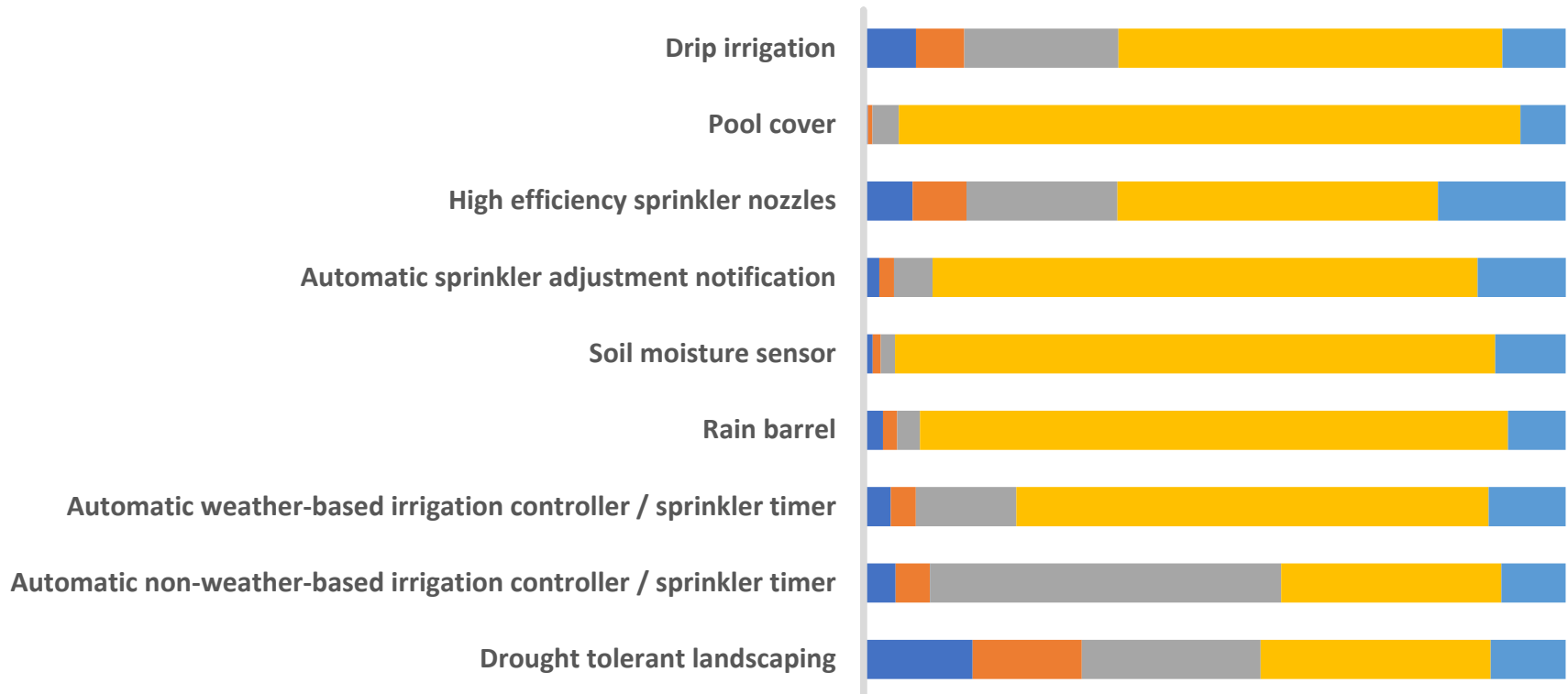




# Outdoor technologies/services used

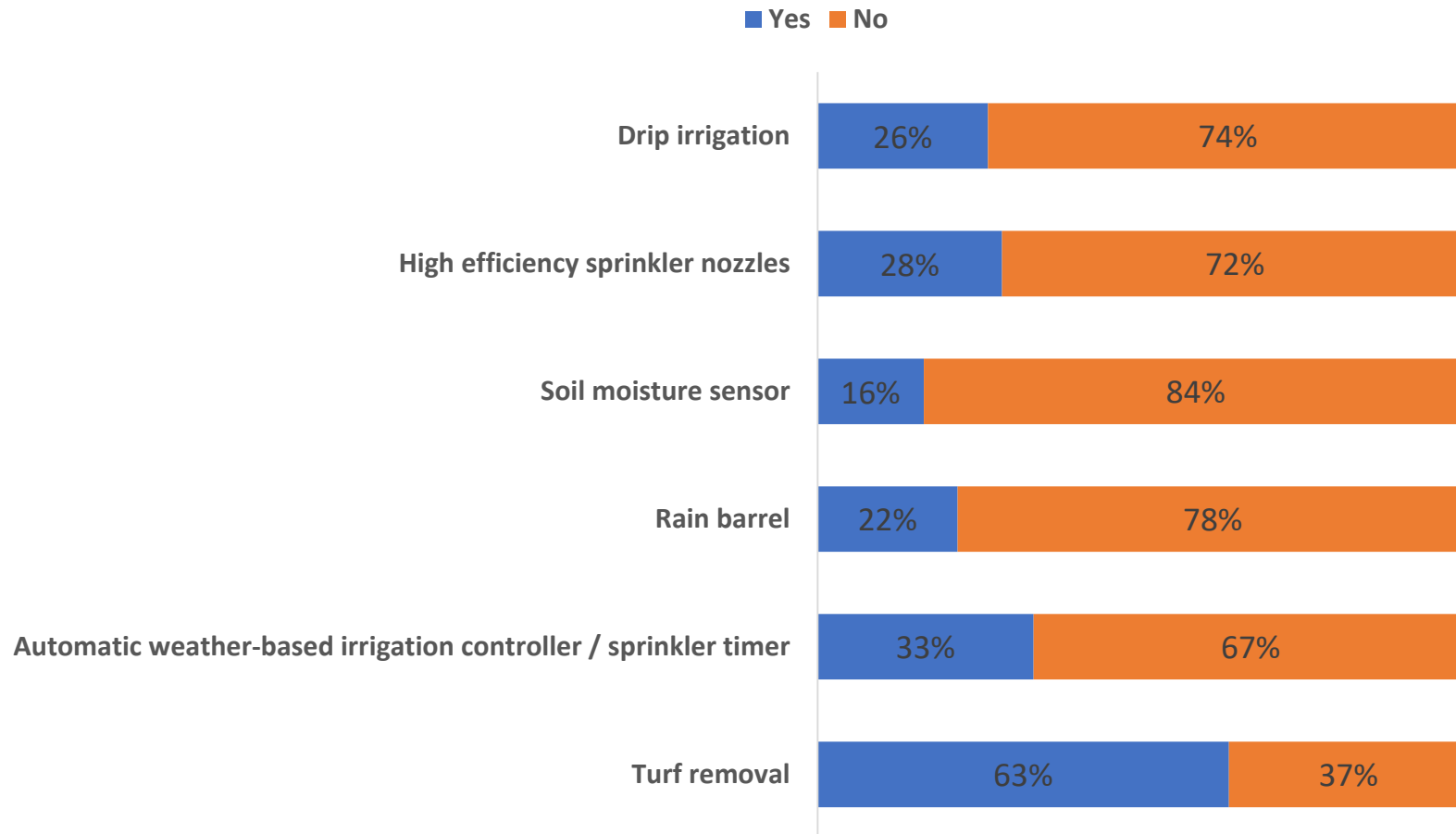
Q9- Please indicate when you started using each of the following outdoor technologies/services.

- Approximately 1 year
- More than 2 years
- Unsure whether we have this
- Between 1 and 2 years
- I do not currently use this technology/service



# Awareness of outdoor rebate programs

Q10- Please indicate if you were aware of the rebate programs offered by MNWD.



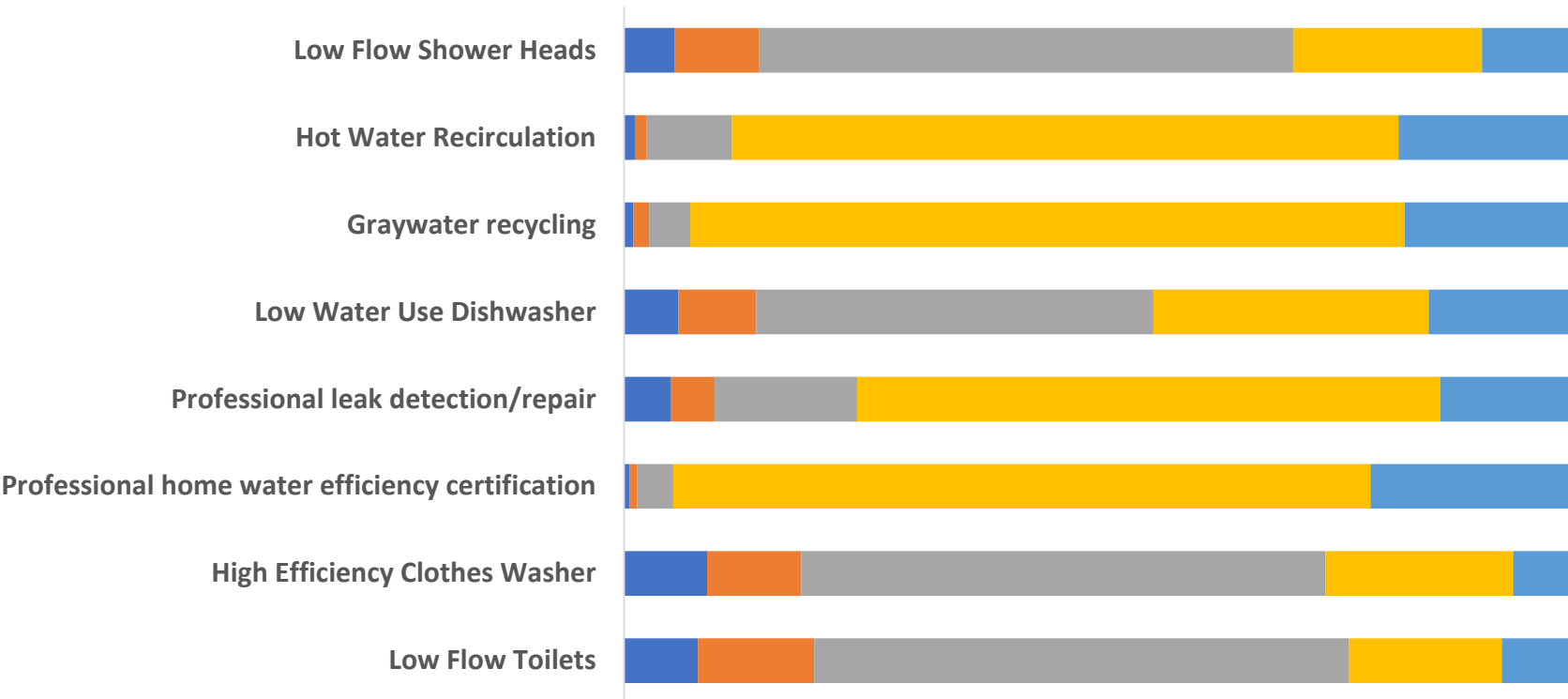
## Outdoor Technologies/Services: Key Findings

- Most customers (generally > 60%) don't currently use these outdoor conservation technologies/services
  - Drip irrigation, high efficiency sprinkler nozzles, weather-based irrigation controllers, automatic sprinkler adjustment notification, soil moisture sensor
- Automatic non-weather based irrigation controller and some drought tolerant landscaping are relatively more widely adopted.
- Most customers (generally > 67%) weren't aware of the outdoor rebate programs except for the turf removal program (63% were aware).

# Indoor technologies/services used

Q12 - Please indicate when, if ever, you started using each of the following indoor water conservation technologies/services at your current residence.

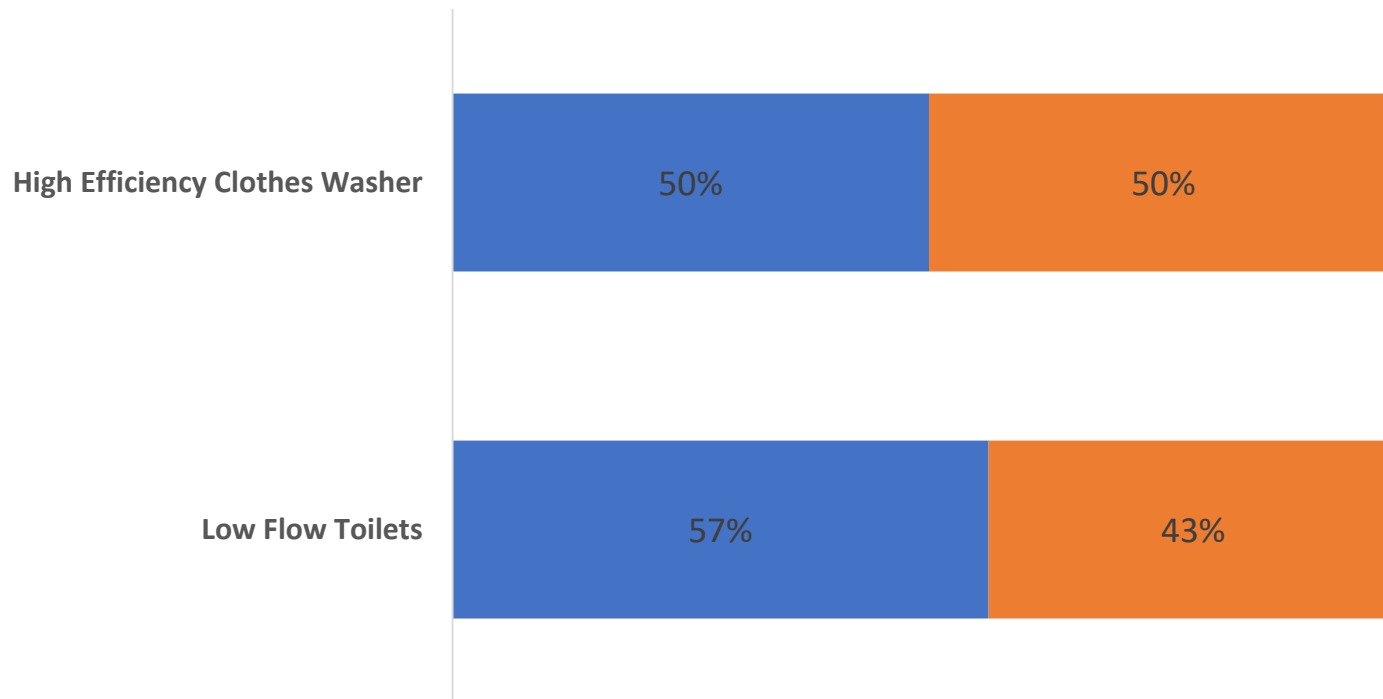
- Approximately 1 year
- More than 2 years
- Unsure whether we have this
- Between 1 and 2 years
- I do not currently use this technology/service



# Awareness of indoor rebate programs

Q13 - MNWD offers rebates to help cover the costs of a variety of indoor water conservation efforts. Please mark "Yes" or "No" if you were aware that rebates were offered by MNWD for each of the actions below.

■ Yes ■ No



## Indoor Technologies/Services: Key Findings

- Widely used indoor water conservation strategies (56-74%)
  - Low flow shower heads
  - Low flush toilets
  - High efficiency dish/clothes washers
- Least used indoor water conservation strategies (< 20%)
  - Grey water recycling
  - Professional home water efficiency certification
  - Hot water recirculation are least used
- Over 50% of customers are aware of the indoor rebate programs
  - Significantly more people buy conservation technologies than know of your indoor conservation rebate programs

# Program participation underestimates activities undertaken by customers

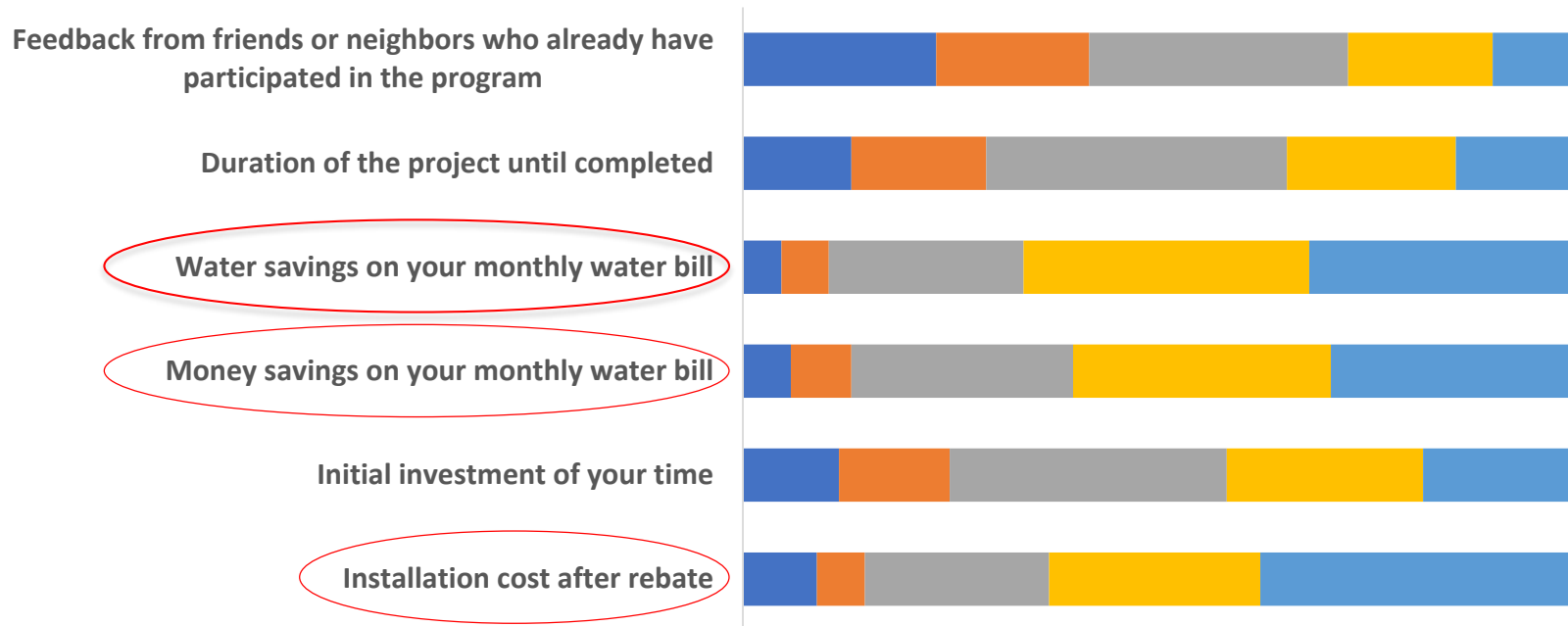
|   | MNWD Records | Survey Responses |
|---|--------------|------------------|
| Drip Irrigation                               | 0.15%        | 36%              |
| High Efficiency Clothes Washer                | 11.78%       | 74%              |
| High Efficiency Toilet                        | 10.27%       | 77%              |
| Rain Barrel                                   | 0.24%        | 8%               |
| Automatic weather-based irrigation controller | 0.91%        | 22%              |
| Drought-tolerant landscaping                  | 3.45%*       | 57%              |

\* Turf removal program

# Factors affecting program participation

Q37- For each characteristic please choose the box that represents the importance of each factor in your decision to participate in a water conservation program.

Very Low Low Moderate High Very High



- **More important:** *Installation cost after rebate, water savings, money savings*
- **Moderately important:** *Initial investment of time*
- **Less important:** *Feedback from friends/neighbors, duration of the project*



# Turf replacement choice experiment

Residential homes *before* replacement

Residential homes *after* replacement



Water-efficient landscapes of MNWD customers who participated in the turf (lawn) removal rebate program:



# Turf replacement choice experiment

- Asked respondents to consider a possible turf replacement program offered by MNWD



- Developed multiple versions of survey that differed by particular attributes of the “hypothetical” turf program



Common name: *Bearded Iris*



Common name: *Foothill Penstemon*



Common name: *Rock Purslane*



Common name: *Mariposa Lily*

Native / Low water use

Contractor / No Contractor

Rebate level



Common name: *Sticks on Fire*



Common name: *Creeping Sage*

Cal Friendly / Low water use

Contractor / No Contractor

Rebate level



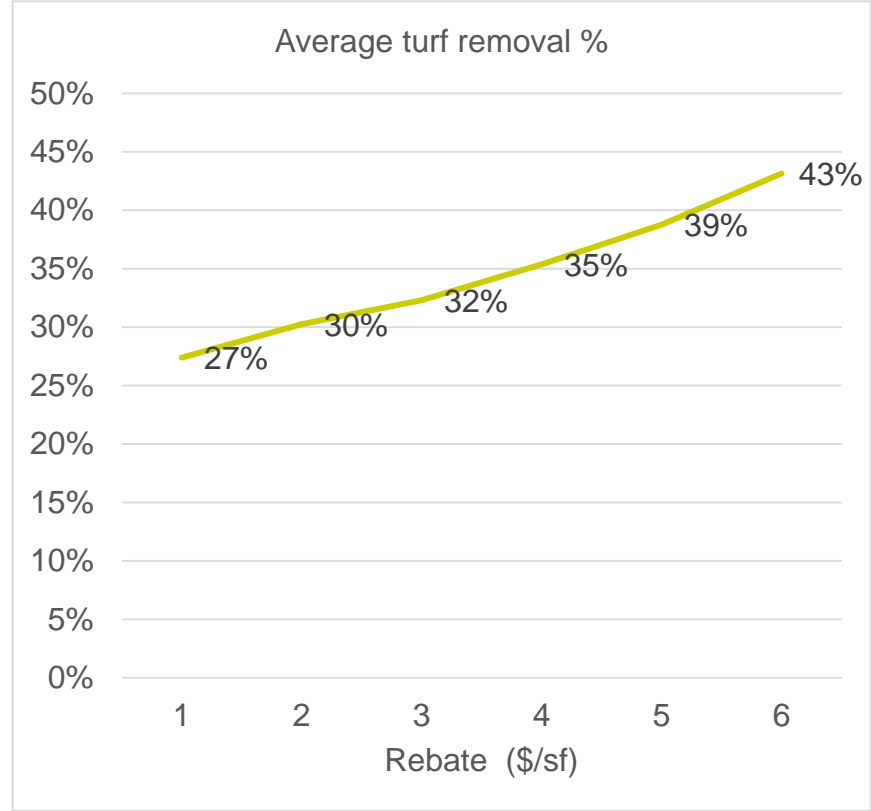
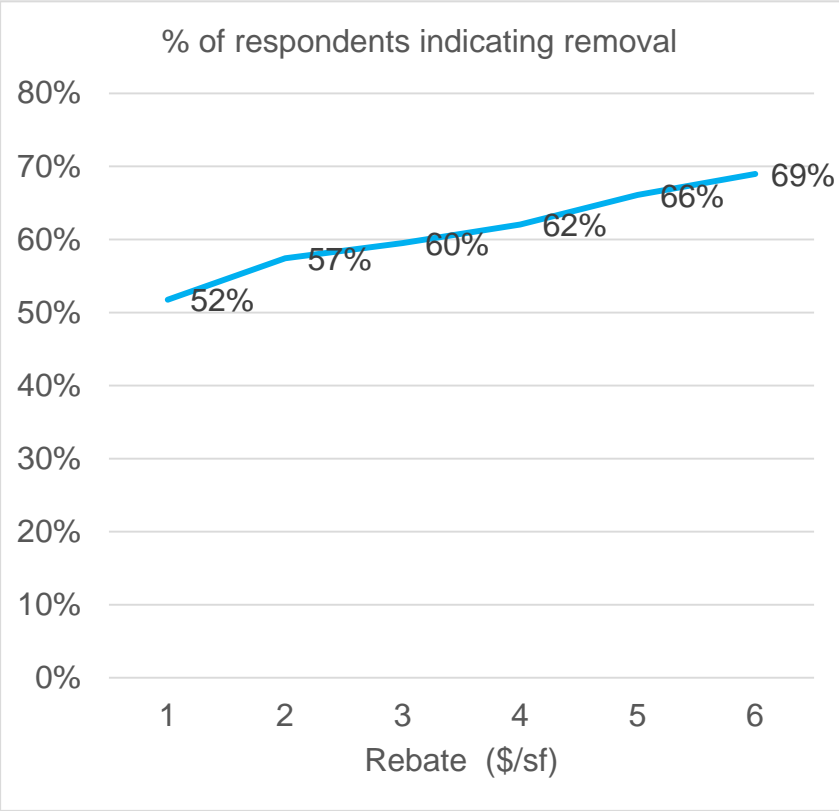
Common name: *Hen and Chicks*



Common name: *Rosea Yarrow*

# Rebate level and turf replacement

| Rebate (\$/sf) | # of Respondents | # of respondents indicating removal | % indicating removal | Mean % turf removal |
|----------------|------------------|-------------------------------------|----------------------|---------------------|
| 1              | 429              | 222                                 | 52%                  | 27%                 |
| 2              | 451              | 259                                 | 57%                  | 30%                 |
| 3              | 447              | 266                                 | 60%                  | 32%                 |
| 4              | 440              | 273                                 | 62%                  | 35%                 |
| 5              | 413              | 273                                 | 66%                  | 39%                 |
| 6              | 435              | 300                                 | 69%                  | 43%                 |
| <b>Total</b>   | <b>2615</b>      | <b>1593</b>                         | <b>61%</b>           | <b>34%</b>          |



# Key Takeaways

- Penetration of most indoor technologies is relatively good
  - Only more disruptive technologies have low adoption rates
- Penetration of outdoor technologies is not as good
  - Greater opportunity for conservation gains
- Awareness of outdoor rebate programs is generally low
  - But many customers are acting without rebates
- Weather-based irrigation controller viewed as an appealing opportunity after phase I
  - Survey reveals 22% penetration and 33% awareness
  - Consider focusing more resources here
- Turf rebate of \$2 seems appealing
  - Doubling to \$4 produces only a 10% increase in savings
  - Consider how to make this a higher priority for customers
- No significant differences in other rebate program factors

Thank you!