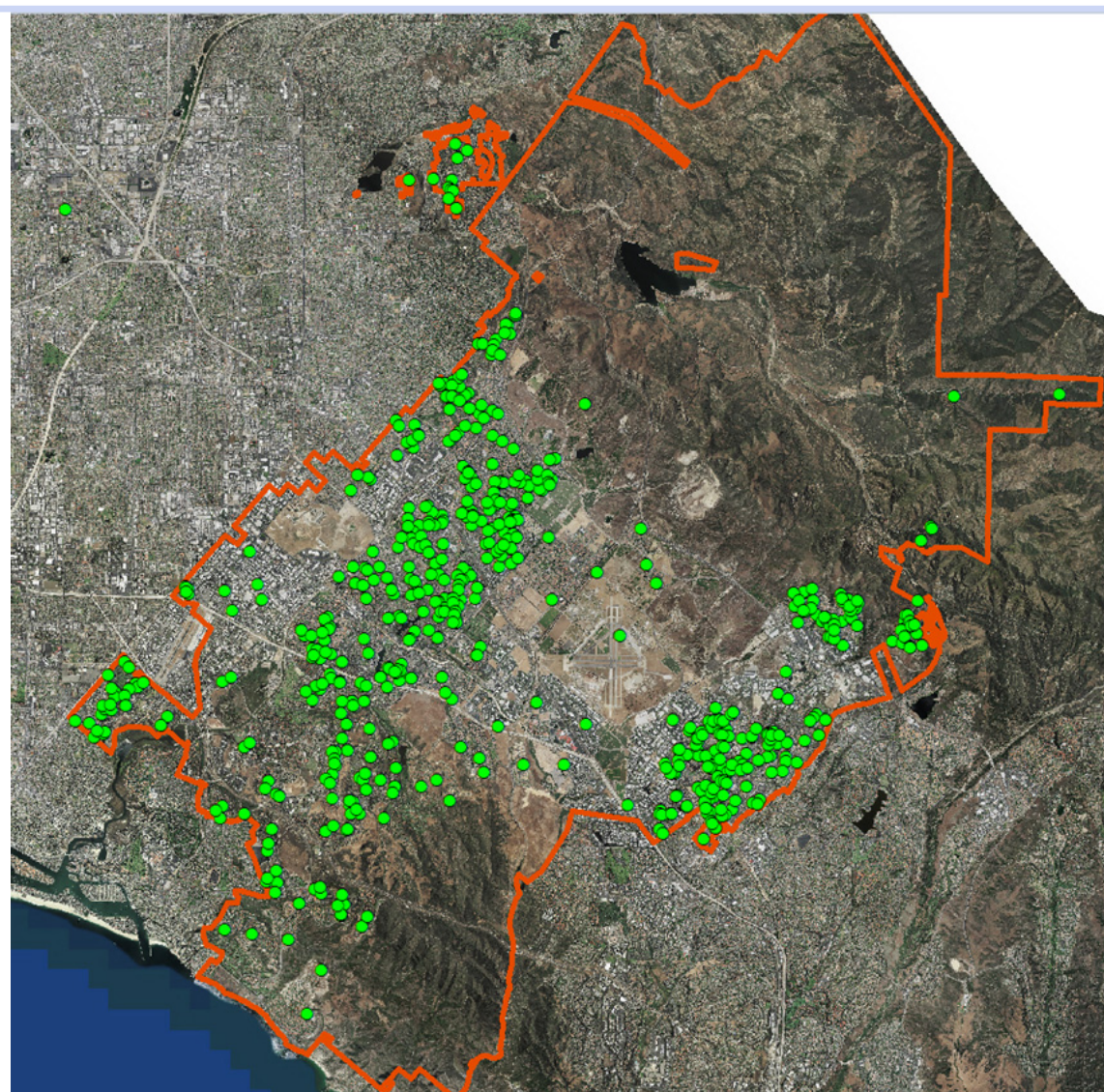# GOING THE EXTRA YARD:

An In-Depth Analysis of a Turf Removal Program

Irvine Ranch Water District

Location of Turf Removal Participants

July 2011-July 2015

PROGRAM DESCRIPTION

Turf Removal Program Overview
- Began in 2011
- Minimum of 250 sq. ft.; no maximum
- Irrigation conversion required
- Pre & post inspections by IRWD staff
- $2 per sq. ft.
- Leverage other rebates & partnerships
- Fiscal Years 11-12 through 14-15
- Over 1500 participants

MAJOR QUESTIONS

Program Impact
- Are we saving water? If so, when are we saving water?
- What is driving customer participation?

Motivation & Norms
- What motivates customers to install drought-tolerant landscaping?
- Is there a significant difference in motivation between participants and non-participants?
- Are we reaching new markets and building new norms?

Multiplier Effect
- Is there a measurable diffusion rate/multiplier effect of the program?
- Does this effect increase or decrease in response to social, economic, or demographic variables?
- Which landscape types tend to cluster and/or proliferate more rapidly?
- Which landscape types produce the most savings?

Feedback & Institutional Learning
- Do any patterns emerge from our analysis that could inform program development and/or outreach strategies?

THE GRAND PLAN

Step 1: Turf program evaluation (Group 1)
- Group 1: Turf removal program participants
- Annual evaluation of savings and effectiveness

Step 2: Program participation survey (Group 1)
- On-going, semi-annual survey

Step 3: Multiplier effect study (Group 2)
- Group 2: Customers who converted their landscapes, but did not participate in the turf removal program
- Utilize spatial-temporal statistical analyses to determine and/or measure a multiplier effect

Step 4: Landscape preference survey (Group 3)
- Group 3: Non-participants with turf landscapes

Group 3
Group 2
Group 1
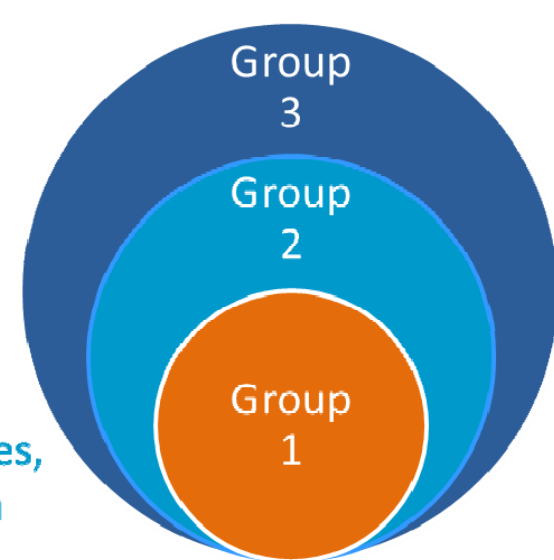
TURF REBATE STUDY OVERVIEW

Literature Review
- Landscape Design & Preferences
- Social Norms & "Neighborhood Effect"
- Extrinsic and Intrinsic Motivation

Email Survey – 300 participants
- 50% response rate (n =150)

Findings
- Demographics
- Composition of Front & Back Yards
- Landscape Material Correlations
- Integrated Analysis of Motivation

DATA COLLECTION

- **Free Survey Tools**
  - Google Forms, Survey Monkey, Survey Gizmo, and more
- **Survey captures:**
  - Personal Information
  - Housing Characteristics
  - Ranked Motivation
  - Professional Landscaping
  - HOA
  - Rebates

Turf Removal Participation Survey

IRVINE RANCH WATER DISTRICT

RightScape
Water Efficiency Made Easy

Basic Personal Information

Please enter your name below. *

Please enter your address in space below. *

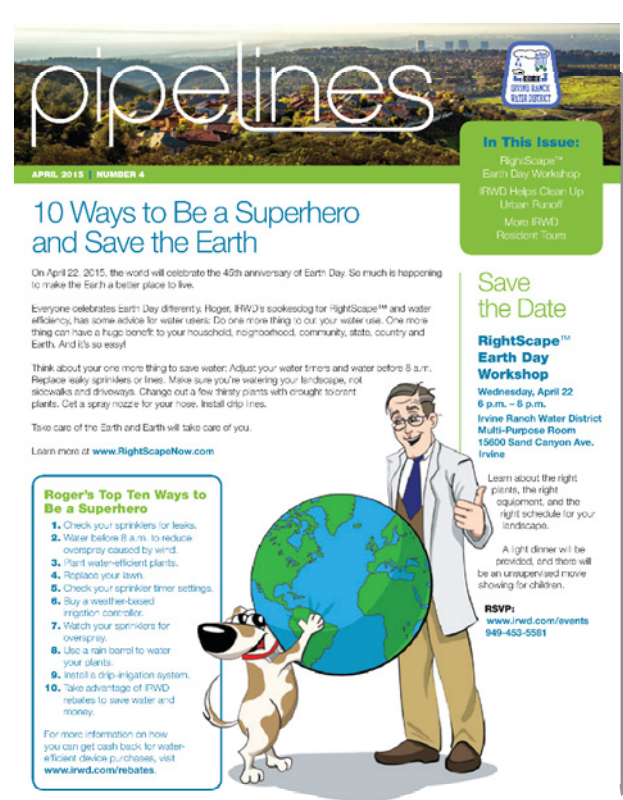Please provide your email address in the space below.

MARKETING AND OUTREACH

- **Top 3 sources of information**
  - 41%, Pipeline bill inserts
  - 20%, Neighbor, friend, 'word of mouth'
  - 15%, Contractor or Landscaper

- **Notable sources**
  - 5%, Radio or television advertisement
  - 2%, HOA
  - <1%, Social Media (e.g. Facebook, Twitter)

DEMOGRAPHICS—TURF REBATE PARTICIPANTS

Attribute	Participants	Irvine
Bachelor's Degree or Higher	88%	65%
Median Household Income	68% > $95,000 41% > $150,000	$90,585
Median Home Size	2,420 sq. ft.	2,580 sq. ft.
Median Lot Size	6,450 sq. ft.	-
Median Year Built	1978 (Range: 1920 -2013)	1992
Median Time @ Residence	15 years	-
Median Time in So Cal	90% > 15 years	-

LANDSCAPE COMPOSITION—SUMMARY

What did you install in your front and back yards? Check all that apply.

FRONT YARD
- 78% of respondents
- Artificial turf correlated negatively with all landscape materials
- Most commonly installed items:
  - Mulch: 37%
  - Native plants: 37%
  - Artificial turf: 35%
  - Rocks: 22%
  - Cacti/Succulents: 20%

BACK YARD
- 62% of respondents
- Artificial turf correlated negatively with all landscape materials
- Most commonly installed items:
  - Artificial turf: 29%
  - Mulch: 24%
  - Native plants: 18%
  - Pavers: 13%
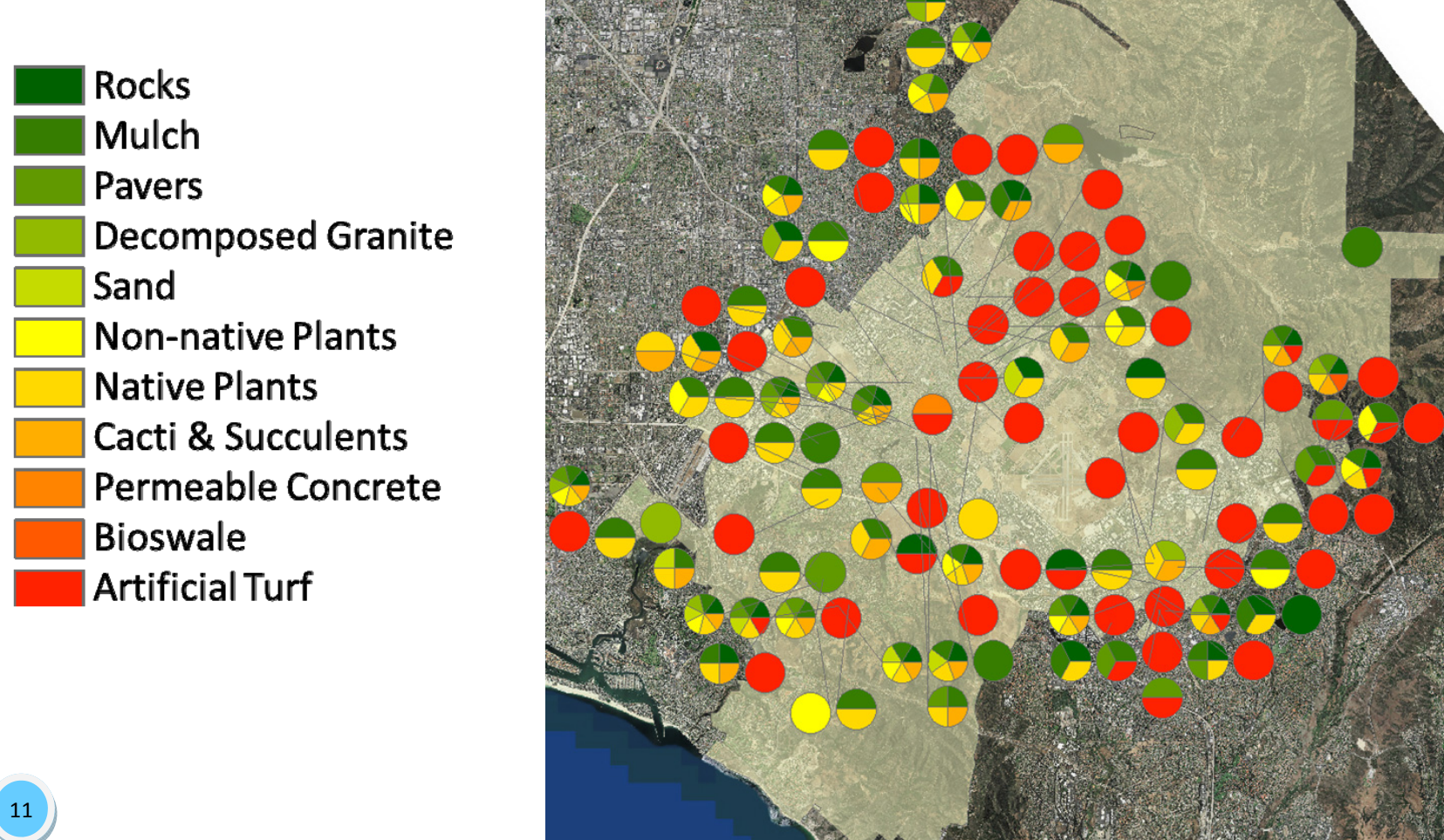 - Rocks: 12%

CORRELATIONS—FRONT YARD

- Mulch & Natives: .724**
- Rocks & Natives: .535
- Natives & Cacti/Succ: .523**
- Rocks & Cacti/Succ: .476**
- Natives & Artificial turf: -.412**
- Mulch & Non-natives: .398**
- DG & Cacti/Succ: .393**
- Mulch & Cacti/Succ: .389**
- DG & Natives: .375**
- Rocks & Mulch: .373**
- Rocks & DG: .363**
- Rocks& Non-natives: .350**
- Mulch & Artificial turf: -.328**
- Pavers & Cacti/Succ: .323**
- Natives & Non-natives: .323**
- DG & Non-natives: .319**
- Cacti & Artificial turf: -.295**

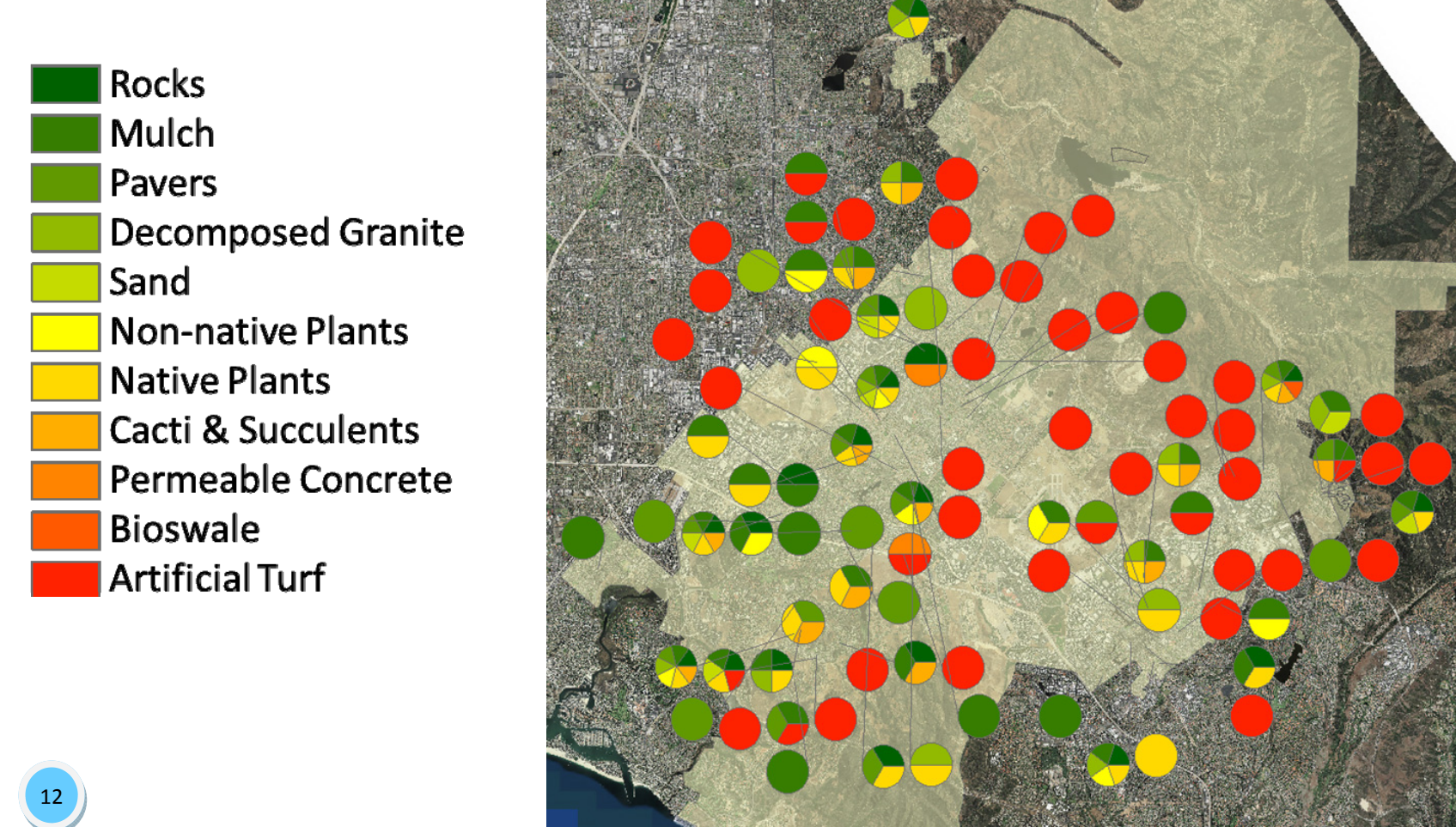**Correlation is significant at the 0.01 level (2-tailed)

FRONT YARD COMPOSITION

- Rocks
- Mulch
- Pavers
- Decomposed Granite
- Sand
- Non-native Plants
- Native Plants
- Cacti & Succulents
- Permeable Concrete
- Bioswale
- Artificial Turf

BACK YARD COMPOSITION

- Rocks
- Mulch
- Pavers
- Decomposed Granite
- Sand
- Non-native Plants
- Native Plants
- Cacti & Succulents
- Permeable Concrete
- Bioswale
- Artificial Turf

MOTIVATION—HIGH SCORES

Please indicate the top 3 factors that most influenced your decision to remove your lawn.

- **First Choice:**
  - Reduce maintenance time & cost (33%)
  - Rebate dollar amount (17%)
  - Historic drought (15%)
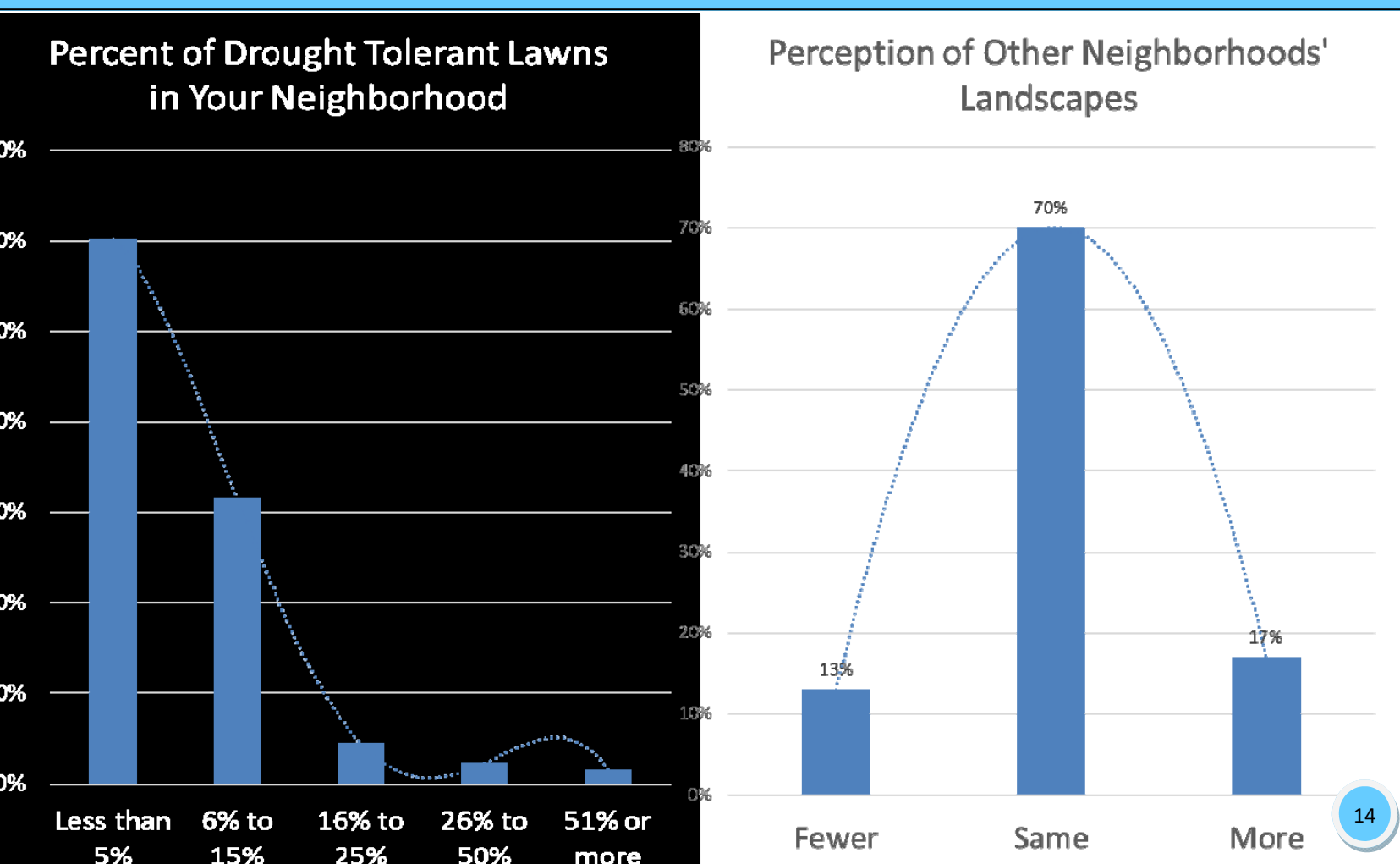- **Second Choice:**
  - Reduce water bills (25%)
  - Reduce maintenance time & cost (24%)
  - Rebate dollar amount (24%)
- **Third choice:**
  - Reduce water bills (26%)
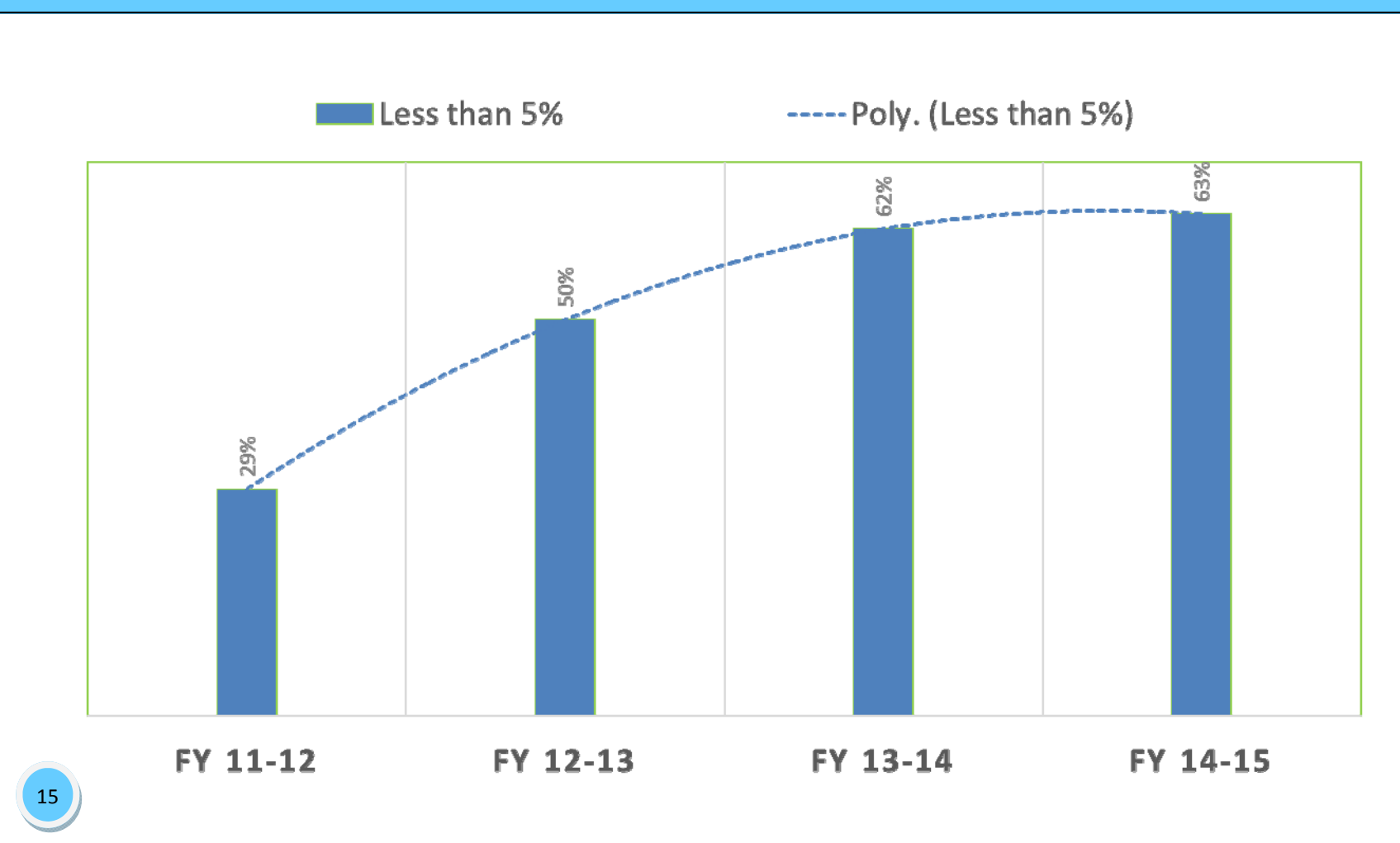 - Rebate dollar amount (25%)
  - Reduce maintenance time & cost (15%)

PERCEPTION—SELF AND THE OTHER

Percent of Drought Tolerant Lawns in Your Neighborhood

Perception of Other Neighborhoods' Landscapes

Fewer | Same | More

ARE WE REACHING NEW MARKETS?

Less than 5% ---- Poly. (Less than 5%)

FY 11-12 | FY 12-13 | FY 13-14 | FY 14-15

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