



# **Swimming Pool Cover Rebate Program**

## **Follow-up Customer Survey**

for the

**Inland Empire Utilities Agency**

and

**Metropolitan Water District of Southern California**

**FINAL REPORT**

**May 2004**

WATER SMART



Come Rain or Come Shine

**Koeller and Company**  
**5962 Sandra Drive**  
**Yorba Linda, CA 92886**

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## **Introduction**

The Inland Empire Water District (IEUA) conducted a single family residential Swimming Pool Cover Rebate Program from December 2002 through June 2003. Under this pilot program, customers of IEUA's member water agencies were able to obtain a \$50 water conservation rebate toward their purchase of a swimming pool cover. Certain qualifying conditions for receiving the rebate were communicated to Program participants. Those conditions were:

### The customer must...

1. Reside within one of the following qualifying cities or water provider service areas:

City of Chino  
City of Chino Hills  
City of Ontario  
City of Upland  
Cucamonga Valley Water District  
Fontana Water District  
Monte Vista Water District  
San Antonio Water Company

2. Purchase an approved swimming pool cover between September 18, 2002 and September 30, 2003
3. Submit a completed application form to IEUA, accompanied by the original purchase receipt for the pool cover and a copy of the residential water bill for the installation address.
4. Agree to an on-premises inspection of the installed pool cover if the IEUA deems it to be required.

### The pool cover must be...

1. A solar or safety (non-netted material) cover
2. Constructed of material of at least 12 mil thickness
3. At least 15-feet by 30-feet in size

The pilot Program resulted in the issuance of 432 rebates to households throughout the IEUA service area. The effectiveness of the Program in terms of the use of the purchased pool covers was uncertain. Therefore, the IEUA determined that a survey of a randomly selected group of rebate recipients could reveal valuable information about the customers' views of the Program and about their pool cover use habits. Together, such information could be useful in any follow-on pool cover program at IEUA, in the design of similar programs by water agencies everywhere.

This report provides the methodology and results of the IEUA-commissioned survey of rebate recipients.

## **Purpose of the Survey**

The principal purpose of the Customer Survey was to determine the water conservation effectiveness of pool covers and the Program by ascertaining -

how and why customers use the pool covers rebated under the Program and the general characteristics of the swimming pools and associated pool covers of the Program participants.

Survey findings will be used by the IEUA to measure the success of the Program, and to evaluate whether the pool cover rebate should continue. Secondly, the survey will also assist in determining whether the water savings achieved by pool cover installations are cost effective<sup>1</sup>.

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<sup>1</sup> The water savings resulting from pool cover installation are estimated at approximately 17,000 gallons per year, although this figure was developed specifically for an 800 square foot surface area pool located in Sacramento, CA. Climate and other differences between Sacramento and the IEUA service area, as well as differences in average pool size, will change the water savings estimate. The survey identified the average pool surface area of the randomly selected households visited by the survey team. This figure was used to re-estimate the annual water savings.

## Executive Summary

Thirty-eight (38) participants in the Pool Cover Rebate Program were visited and surveyed. Surveyed participants were unanimous in their favorable opinion of the IEUA Program. Of particular interest were the following survey findings:

The participants were asked their reasons for purchasing a new pool cover. The predominant reasons for the purchase were as follows:

- ✓ To keep the pool clean – 25 percent
- ✓ To keep the pool warm – 43 percent
- ✓ To replace an old cover – 21 percent

No participant specified reduced water loss as a reason for their pool cover purchase; however, 30 percent indicated that they had a knowledge of the potential water savings resulting from the use of a cover.

Exactly one-half of the participants indicated that the Program influenced them to purchase the new pool cover, while one-half were not so-influenced.

Furthermore, 35 out of the 38 participants first learned of the IEUA Program through point-of-sale (POS) displays at the retail store where they purchased the pool cover. The remainder learned through a friend or as a result of a water retailer's bill stuffer notice.

About two-thirds of the participants indicated that their pool cover was on the pool every day of the week. The average number of days of pool cover use was 5.7.

Of the 38 participants visited, however, only 16 (42 percent) had their pool cover installed at the time of visit.

From a water savings standpoint and based upon the average size of the participants' pools, the pool covers used in the IEUA service area save between 8,000 and 10,000 gallons of water per year. This magnitude of savings makes the Program's \$50 rebate cost-effective. However, an increase in the rebate for future programs is not warranted, however.

It is recommended that the rebate Program be resumed, with a view toward capitalizing on the goodwill generated by the participating water providers. That is, customers with a direct connection to their water provider can be further incented to implement other water conservation measures within their homes. A direct follow-up program should be implemented that would offer those customers access to other water-efficient products and services.

## Survey Methodology

The IEUA retained the services of a consultant to develop the survey instrument, contact the customers, conduct the on-site survey, and report the results. As such, the Survey process was comprised of four distinct tasks designed specifically to elicit the information cited earlier:

### Task 1 – Sample Selection

In its development of the survey project, IEUA determined that meaningful results could be obtained by sampling approximately 15 percent of the rebate recipients. Using the database developed by IEUA for the first 250 Program rebate recipients, the consultant thus randomly selected 38 rebate entries from the database as the initial group of visit candidates<sup>2</sup>. In addition, another 20 rebate recipients were randomly selected from the database as a back-up in the event that any of the original 38 were not available for a visit.

### Task 2 – Customer Contact for Visitation Appointment

Contact was made with 38 rebate recipients willing to be surveyed<sup>3</sup>. Visitation appointments were established with each of the 38 selected customers. Appointments were made for a time convenient to the customer. The selected customers were located in the following cities:

Alta Loma	10
Chino	3
Chino Hills	3
Fontana	10
Ontario	5
Rancho Cucamonga	3
Upland	4
Total	38

### Task 3 – On-premises Customer Survey

Each of the 38 selected customers was visited at the address location of their pool and pool cover as indicated on their rebate application. In addition to asking the resident to respond to questions regarding their purchase of a pool cover and how it was used, the surveyor also measured the pool and observed the pool cover (whether on the pool or not). The survey instrument shown in Appendix A was used by the surveyor while on the premises speaking with the resident.

Visits lasted less than one hour; many consuming less than 30 minutes. In all cases, the surveyor maintained a professional appearance and conducted a friendly, non-threatening interview consistent with the customer service objectives of IEUA and its member water retailers.

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<sup>2</sup> Although the total Program ultimately provided 432 rebates, it was originally anticipated that only approximately 250 rebates would result. As such, the follow-up customer survey was sized to encompass 15 percent of that number, or 38 surveys.

<sup>3</sup> A total of 44 households were contacted to obtain 38 appointments. Generally, those declining to participate in the survey did so because of other higher priority commitments.

#### Task 4 – Data Analysis and Report

Finally, all of the responses to the surveys were compiled into a meaningful summary for IEUA and its member water retailers.

## Survey Findings

Thirty-eight (38) Program participants were selected at random for the survey. Each residence was visited by a surveyor and selected information was gathered and recorded.

Key findings of the survey are divided into several categories:

- General demographics of the survey participants
- Customer's use of their swimming pool
- Current location and use of the rebated pool cover
- Customer's purchase experience
- Customer's use and purchase of a pool cover reel
- Customer satisfaction

### General

The average pool size (as measured and determined by the surveyor) was 527 square feet, although the range was from 336 to 806 square feet<sup>4</sup>. A distribution of pool sizes is illustrated in Figure 1.

Of the 38 pools and Jacuzzi, 13 had pool cover reels, 12 of which were actually installed on the pool. All of those 13 reels were of the non-motorized, hand-crank type. The balance of 25 participants were planning to place and remove their pool cover on the pool without the assistance of a reel.

Program participants were predominantly in the Age 40-49 range. The age brackets, as estimated by the surveyor, were as follows:

Age 20s	2 customers
Age 30s	8 customers
Age 40s	17 customers
Age 50s	6 customers
Age 60s	<u>5 customers</u>
Total	38 customers

Of the 38 participants, 29 had children living in the home with them, while nine were adults-only in residence.

### Pool Use and Maintenance

About one-half of the Program participants surveyed use their swimming pools five days or more during summer months. Several participants use their pool two days per week or less. Average summer pool use is 4.76 days per week. Pool use is more completely depicted in Figure 2.

Only 5 of the 38 participants (13 percent) used a pool maintenance service; all others participants maintained their own pools

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<sup>4</sup> One Program participant used the rebated pool cover on a Jacuzzi with a 162 square foot water surface area; this application was excluded from the average and range statistics.

### Pool Cover Location and Use

When visited by the surveyor, only 16 participants (42 percent) had their covers installed on their pools or Jacuzzi. The pool covers of the 22 remaining participants were in storage, either next to the pool or in some other location.

However, when asked by the surveyor: “Is the cover on the pool when the pool is not in use?”, 62 percent of the respondents said “yes.” See Figure 3 for a breakdown of the responses.

Furthermore, about two-thirds of the participants indicated that their pool cover was on the pool every day of the week. The average number of days of pool cover use was 5.7. See Figure 4 for further detail.

Of particular interest was the finding that those persons with a pool cover reel installed were no more likely to use their pool cover than those without a reel. Of the 12 customers with pool cover reels installed, only 5 (42 percent) had their covers on the pool. Similarly, of the remaining 26 customers without reels installed, only 11 (42 percent) had covers on their pools.

### Pool Cover Purchase

Of the 38 participants, 20 had previously purchased a pool cover for this same pool. Only five out of 31 respondents, however, had ever purchased a pool cover reel.

The participants were asked their reasons for purchasing a new pool cover. The predominant reasons for the purchase were as follows:

- ✓ To keep the pool clean – 25 percent
- ✓ To keep the pool warm – 43 percent
- ✓ To replace an old cover – 21 percent

No participant specified reduced water loss as a reason for their pool cover purchase; however, 30 percent indicated that they had a knowledge of the potential water savings resulting from the use of a cover.

For a more detailed view of the reasons expressed, see Figure 5.

Exactly one-half of the participants indicated that the Program influenced them to purchase the new pool cover, while one-half were not so-influenced.

Furthermore, 35 out of the 38 participants first learned of the IEUA Program through point-of-sale (POS) displays at the retail store where they purchased the pool cover. The remainder learned through a friend or as a result of a water retailer’s bill stuffer notice.

### Reel Use and Reel Purchase

The use of a reel makes the placement and removal of a pool cover more convenient for the homeowner. The survey attempted to gather information on whether a reel purchase could be associated with a pool cover purchase incentive, thereby encouraging the customer to purchase both.

A series of questions within the survey dealt with reel purchase and incentives. See Appendix A for those survey questions. A summary of responses follows:

Whereas only 12 of the 38 survey participants currently used reels, it appeared that some of the remaining 25 were possible candidates for reel purchase. However, only one of the 25 indicated an intention to purchase a reel at some point in the future.

Of the 13 participants with installed reels, three of those customers purchased their reels at the same time as they purchased their rebated pool cover.

If it was required that the customer purchase a \$150 reel in order to receive the rebate for the pool cover, 74 percent of the participants said they would not participate in the Program.

Participants indicated that they would require an additional rebate of from \$50 to \$100 if they were required to also purchase a \$150 reel along with purchasing the pool cover.

However, as noted earlier, it appears that in the case of these 38 residents, an installed reel is not likely to cause the pool owner to use the cover any more than they would without a reel.

#### Customer Satisfaction with the Program and Product

Surveyed participants were unanimous in their favorable opinion of the Pool Cover Rebate Program (although only one-half of the participants said that the Program influenced them to purchase a pool cover).

With respect to the pool cover that they purchased, 37 of 38 participants indicated that they were satisfied with the product.

## Water Savings

Although this study was not directed at determining the water savings that might accrue from the use of a pool cover, it is possible to estimate savings with available data and the results of the survey.

According to an undated study completed after 2001<sup>5</sup>, the water savings that would accrue from the full time use of a pool cover under typical Sacramento climate conditions amount to 17,089 gallons per year. This estimate was based upon an 800 square foot surface area swimming pool with 30 percent shading during daylight hours.

Assuming climate conditions in the IEUA service area as roughly similar to Sacramento, and with an average pool surface area in the IEUA service area of 527 square feet and pool cover use averaging 5.7 days per week, the adjusted water savings would be about 8,000 to 10,000 gallons per year per cover.

If a reel installation was made mandatory with the pool cover rebate, it is questionable as to whether a customer would use their cover for any more than the current 5.7 days per week, given the results of the survey. However, even if the use of a reel increased the usage from 5.7 to the maximum of 7.0 days per week, the added water savings would amount to around 1,500 to 2,000 gallons per year.

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<sup>5</sup> Maddaus, Lisa, California Urban Water Conservation Council, and Mayer, Peter, Aquacraft, Inc. *Splash or Sprinkle? Comparing the Water Use of Swimming Pools and Irrigated Landscapes*, undated.

## Cost Effectiveness

The expected life of the typical swimming pool covers rebated in the Program is five years. Using the mid-range water savings estimate (9,000 gallons per year) and multiply it by the expected life of the pool cover (5 years), water savings of about 45,000 gallons per pool cover can be expected.

On a wholesale basis, this makes the rebate level of \$50 cost-effective when compared to MWD Tier II pricing. The wholesale cost of 45,000 gallons of imported water is \$57. This is a cost to benefit ratio of 1:1.14<sup>6</sup>.

When reviewed on a retail water basis, the \$50 rebate level is even more cost-effective. The average retail cost of 45,000 gallons of water is about \$63. This is a cost to benefit ratio of 1:1.26. Below are the figures used in the cost-effectiveness analysis:

### **Savings Basis Calculated**

$$45,000 / 325,900 = .14 \text{ acre-feet}$$

### **Water Wholesaler Benefit Calculations**

$$0.14 \text{ AF} \times \$407 / \text{AF} = \$57$$

$$\$57 / \$50 = 1.14 \text{ Benefit to Cost Ratio}$$

### **Water Retailer Benefit Calculations**

$$45,000 / 748 = 60 \text{ HCF (hundred cubic feet) of water}$$

$$60 \text{ HCF} \times \$1.05 = \$63$$

$$\$63 / \$50 = 1.26 \text{ Benefit to Cost Ratio}$$

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<sup>6</sup> Note that the analysis focuses only on the rebate and does not include the administrative costs of processing rebate applications and program marketing, which can vary depending upon how the agencies wish to implement the program. In many cases, these expenses will be offset by the higher costs of avoided Tier II water purchases by member agencies.

## Conclusions

Pool Characteristics: Pools of Program participants tend to average around 520 square feet of surface area; about one-third of the pools use pool cover reels.

Pool Maintenance: Program participants tend to maintain their own swimming pools rather than using a pool service.

Pool Use: During summer months, participants use their pools an average of 4.8 days per week.

Pool Cover Purchase: The three main reasons given by participants for purchasing their new pool cover were pool cleanliness, retaining pool heat, and replacing an old cover. Water savings was not given as a reason.

Rebate Program: Nearly all participants learned of the rebate Program at the store where they purchased their new cover. All were satisfied with the Program and had no recommendations for substantive change.

Pool Cover Use: At the time of the survey, less than one-half of the Program participants were using the new pool covers that they had purchased. Overall, participants had their new covers on their pools an average of 5.7 days per week.

Reel vs. No Reel: Participants with a pool cover reel installed had no greater tendency to use their pool covers than those without a reel.

Water Savings: Applying survey findings to previous studies of the water savings benefits of residential swimming pool covers, the water savings that could be expected in the IEUA service area amount to about 9,000 gallons per year for each cover, or about 45,000 gallons (0.14 acre-feet) during its expected five year physical life.

Incentivizing Reel Purchase: The use of a pool cover reel would not likely improve the chance of a customer using a pool cover on a regular basis. However, even assuming that a reel would increase cover use to the maximum of seven days per week, the additional water savings would amount to less than 2,000 gallons per year. The additional incentive required (\$50 to \$100) to achieve that added savings would not be cost effective.

Program Free Ridership: In view of the fact that one-half of the customers were not influenced by the Program to purchase a pool cover, it appears that a large number of participants were what is normally termed “free riders.” (Free riders are defined as program participants who, without the rebate incentive, would still have participated and received a rebate.) In part, this can be attributed to the excellent point-of-sale Program displays at the pool cover retailers.

## **Recommendations**

Survey findings lead us to the following recommendations:

1. Based upon the cost-effectiveness analysis, the rebate Program should be resumed, with a view toward capitalizing on the goodwill generated by the participating water providers. That is, customers with a direct connection to their water provider can be further incented to implement other water conservation measures within their homes. A direct follow-up program should be implemented that would offer those customers access to other water-efficient products and services.
2. The rebate for pool cover purchases should not be increased, particularly in view of the cost-effectiveness analysis and the limited water savings over the pool cover's 5-year physical life and the large free-rider participation.
3. Reel covers should not be incentivized nor made mandatory in the Program. There is no evidence that reels contribute to increased pool cover use.

**INLAND EMPIRE UTILITIES AGENCY**  
**SWIMMING POOL COVER CUSTOMER SURVEY**

**Water Retailer (from application):**

**CUSTOMER INFORMATION****ID #****DATE:**

Name:

Hm tel no.

Address:

Wk tel no.

City:

Zip code

Installation address (if different):

**POOL COVER INFORMATION (from application)**

Type (check):

Solar\_\_\_\_\_

Safety\_\_\_\_\_

Winter\_\_\_\_\_

Other\_\_\_\_\_

Brand: \_\_\_\_\_

Dimensions: \_\_\_\_\_

**ON-SITE SURVEY**

Pool dimensions (measured):

Shape:

Cover location

☐

On pool

☐

Beside Pool

☐

In storage

☐

Still in the carton

About how many days each week do you use your pool in the Summer?

Do you care for your pool yourself? (Y / N)

Or, use a pool service? (Y / N)

**Reel**

Reel (Y / N)

Installed? (Y / N)

Working? (Y / N)

Hand crank OR Electric?

Cost of reel? \_\_\_\_\_

Reel purchased w/ new cover? (Y / N)

If no reel, planning to purchase one? (Y / N)

Ever purchased a reel before? (Y / N)

**Cover**

Ever purchased a cover before for this pool? (Y / N)

If yes, how long ago?

Why did you purchase this new pool cover (check all that apply)?

☐ Keep pool clean☐ Keep pool warm☐ Save energy☐ Safety☐ Replace old☐ Reduce chemical use☐ Reduce evaporation☐ Other (explain)

Would you have purchased the cover if you ALSO had to purchase a \$150 reel? (Y / N)

If NO, what size rebate would you need to purchase both?

Do you keep the cover on when pool is not in use? (Y / N)

Nights/evenings only? (Y / N)

Est. days per week that cover is on?

Comments

Is the cover convenient for you to use? (Y / N)      Where do you store the cover when not in use?

Do you intend to use it more frequently? (Y / N)

If so, what would facilitate it (make it easier for you to use)?

Are you aware that using the cover daily can save up to 17,000 gallons of water annually? (Y / N)

### **Program**

How did you first hear about the rebate program?

Did you receive the \$50 rebate (Y / N)?

Do you have a favorable opinion of the rebate program? (Y / N)

Did the program influence you to purchase a cover (Y / N)?

Comments:

Are you satisfied with the pool cover product (Y / N)?

Comments:

Do you have any suggestions to improve the program?

### **Closing**

What is the approximate age of your pool (if they know)?

Are there children at home who are using the pool?

Estimate the age of the purchaser/customer (**by surveyor**):

**OTHER OBSERVATIONS & COMMENTS (by surveyor AND/OR customer):**

# \$50

## SWIMMING POOL COVER REBATE AVAILABLE!

### INLAND EMPIRE UTILITIES AGENCY AND IT'S MEMBER AGENCIES

is offering a **\$50** rebate when you purchase a qualifying swimming pool cover for your residential swimming pool!\*

#### What Qualifies for a Swimming Pool Cover Rebate?

- **Must be a solar or safety cover (non-netted type material).**
- **Must be at least 12 mil in thickness.**
- **Must be at least 15' X 30' in size.**

Get your application here or on-line at  
[www.ieua.org](http://www.ieua.org)

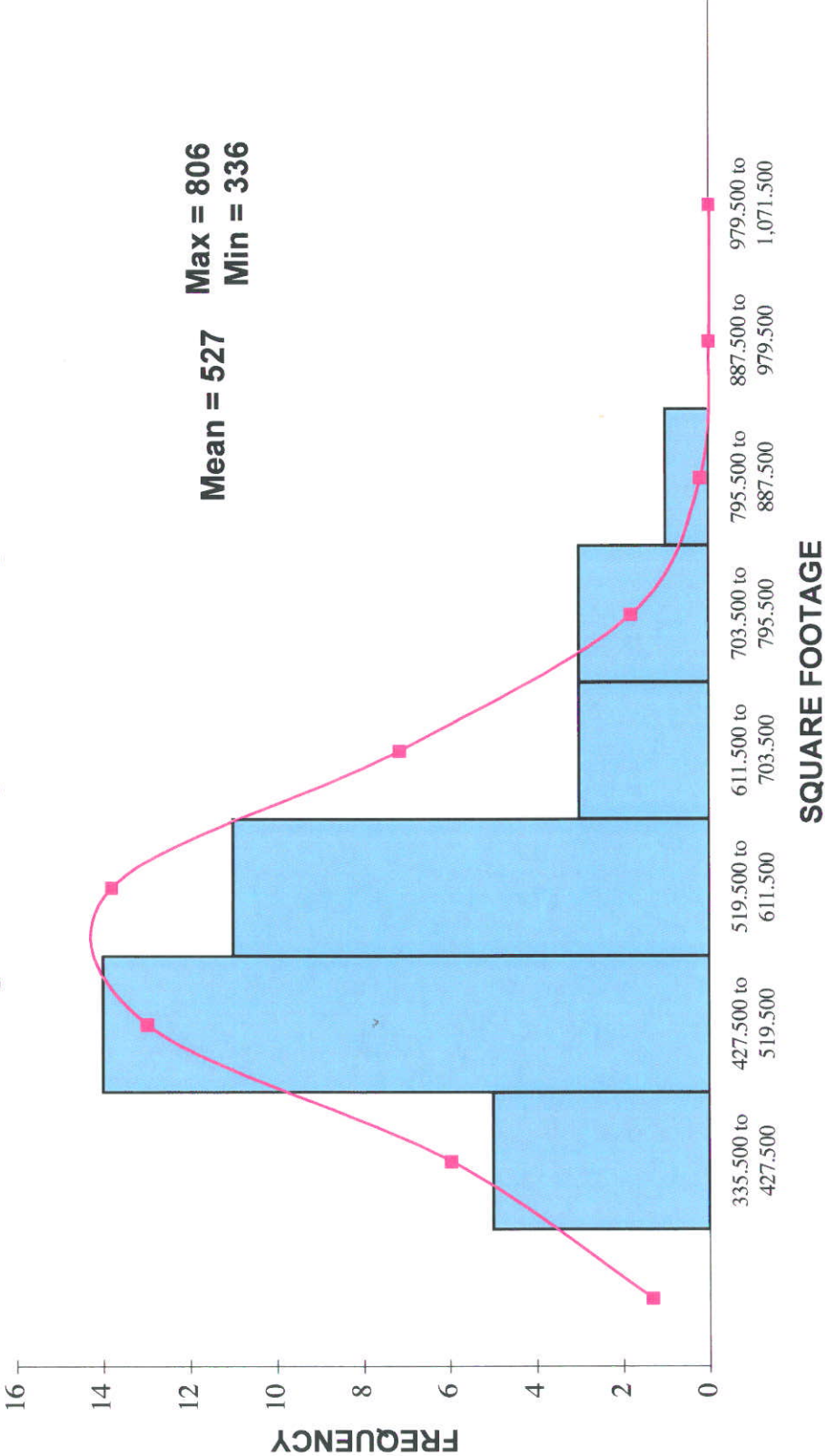
This offer is open to residents of Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, and Upland.

**Call 1-800-492-0661 with any questions!**

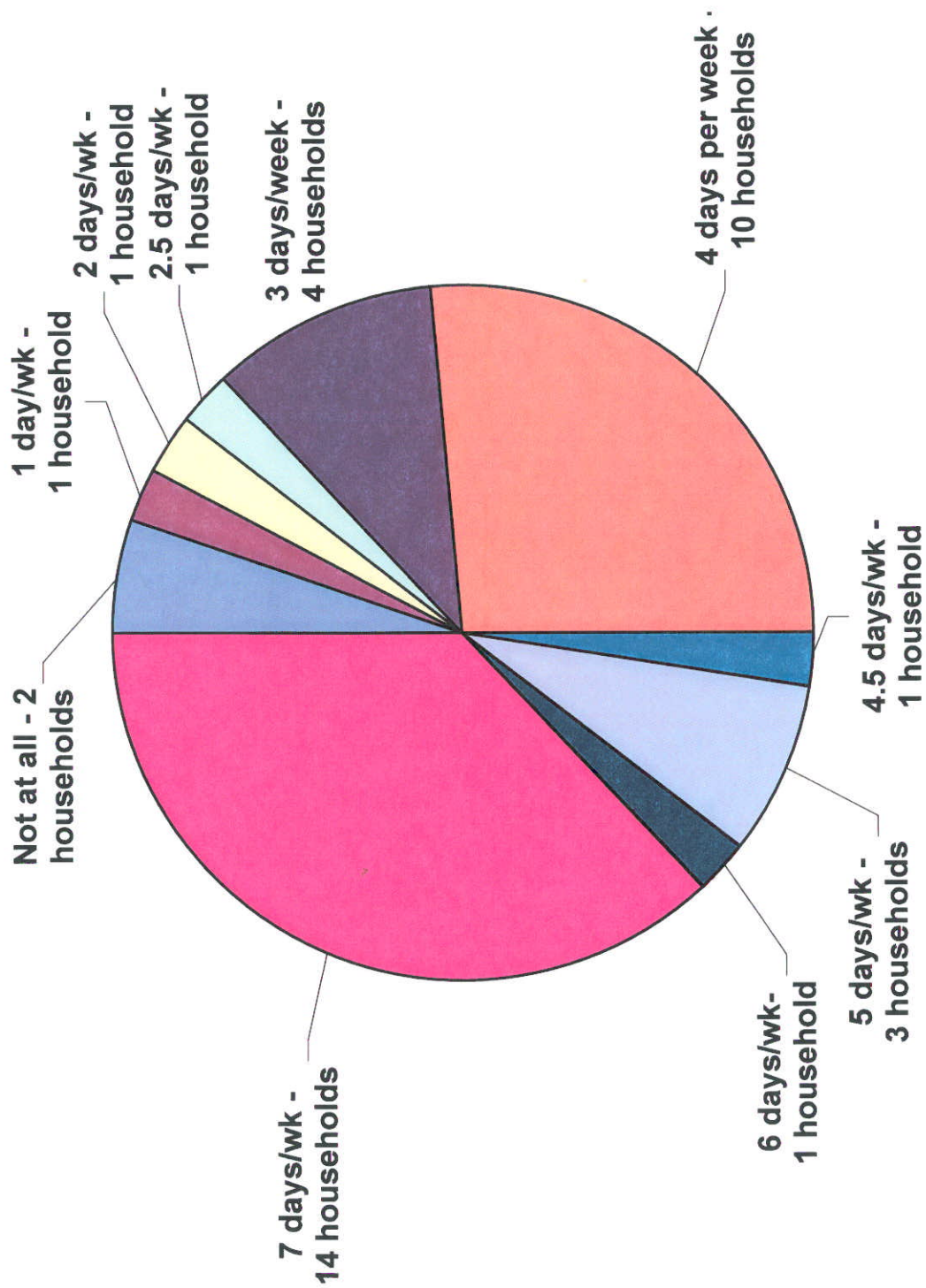
*\*This offer ends when 250 rebates have been issued or on June 30, 2003, whichever comes first*

**SAVE WATER! SAVE ENERGY! SAVE MONEY!**

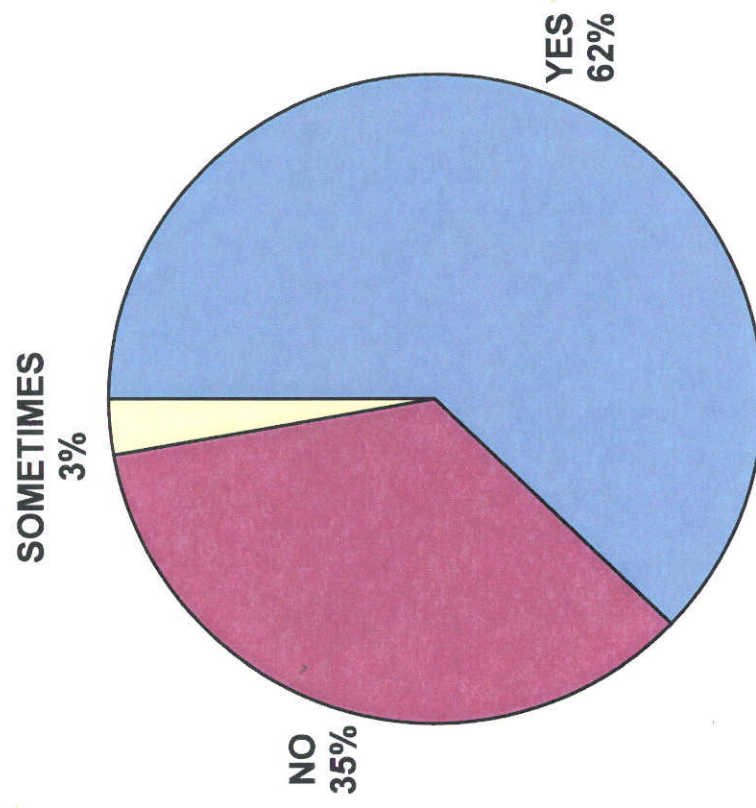
Figure 1. Square Footage of Pools



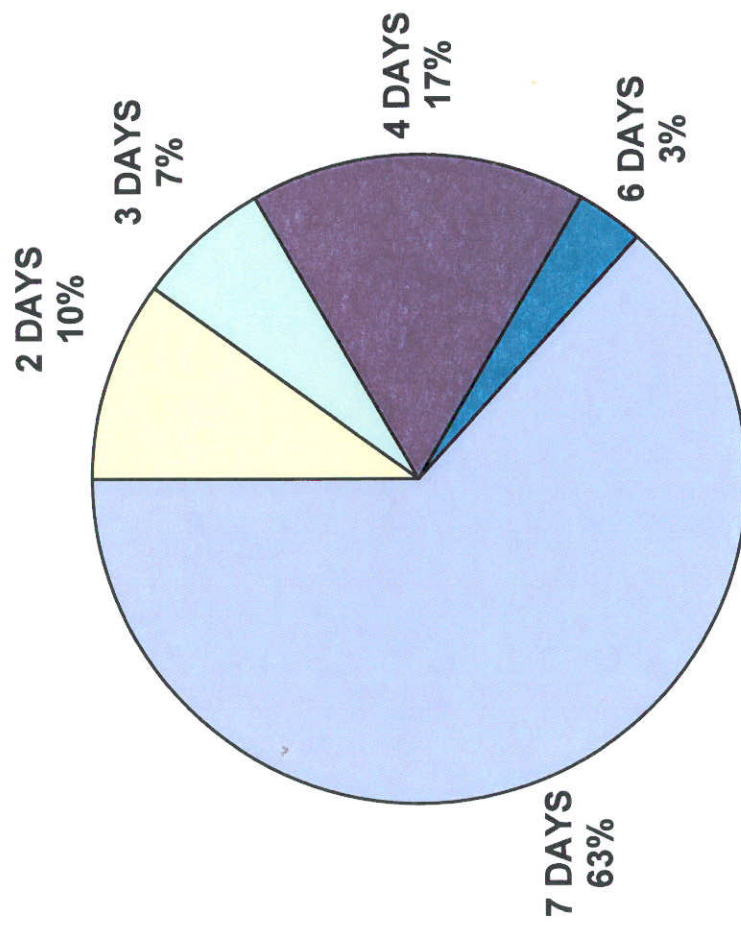
**Figure 2. Summer Pool Use**



**Figure 3. Is cover on the pool when pool not in use?**



**Figure 4. Days per week cover is on the pool**



**Figure 5. Reason for purchasing this cover**

