

# When Schools Assess Physical Fitness: Families, Communities, and States benefit.

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# Fitnessgram Overview Video

- <http://www.youtube.com/watch?v=fclmd4s00qo>

# *FITNESSGRAM*® six fitness areas and test options:

## ○ **Aerobic Capacity**

- PACER (Progressive Aerobic Cardiovascular Endurance Run)
- One-Mile Run
- Walk Test (only for ages 13 or older)

## ○ **Abdominal Strength and Endurance**

- Curl-Up

## ○ **Upper Body Strength and Endurance**

- Push-Up
- Modified Pull-Up
- Flexed-Arm Hang

## ○ **Body Composition**

- Skinfold Measurements
- Body Mass Index
- Bioelectric Impedance Analyzer

## ○ **Trunk Extensor Strength and Flexibility**

- Trunk Lift

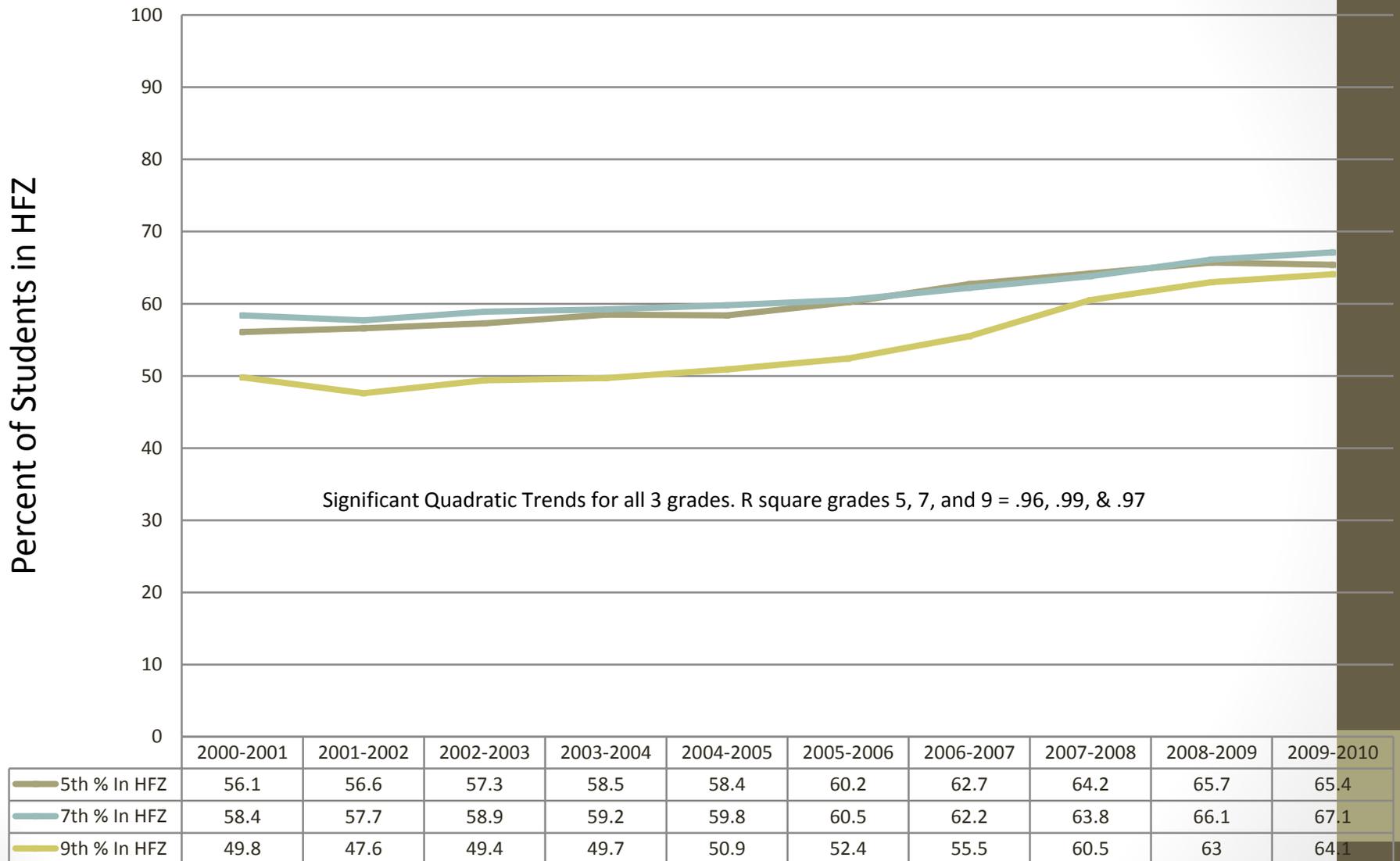
## ○ **Flexibility**

- Back-Saver Sit and Reach
- Shoulder Stretch

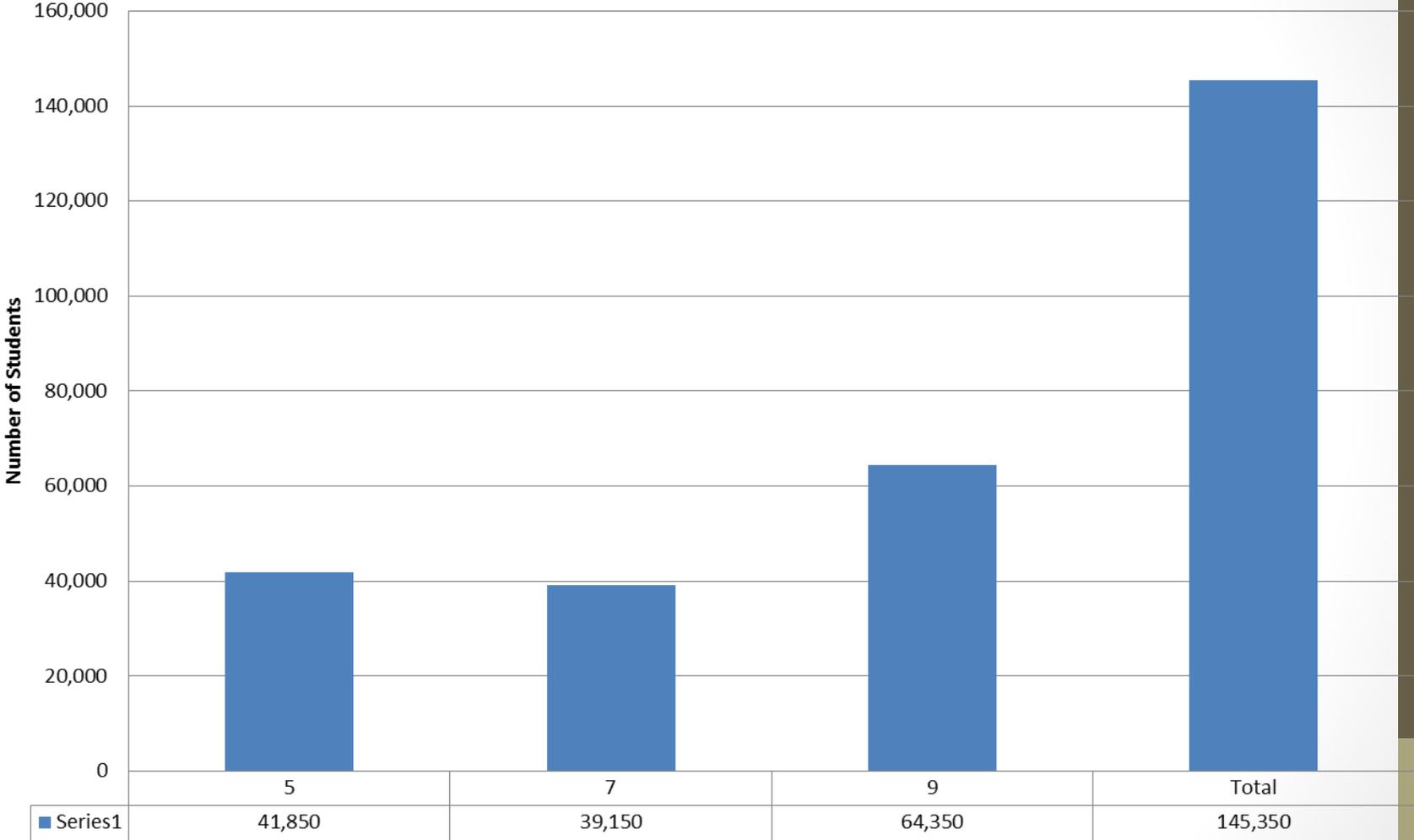
# Total Tested on Fitnessgram for Grades 5, 7, & 9 from 2000-2001 to 2009-2010



## Percent of California Students in the *Aerobic Capacity* Healthy Fitness Zone (HFZ) from 2001-2010

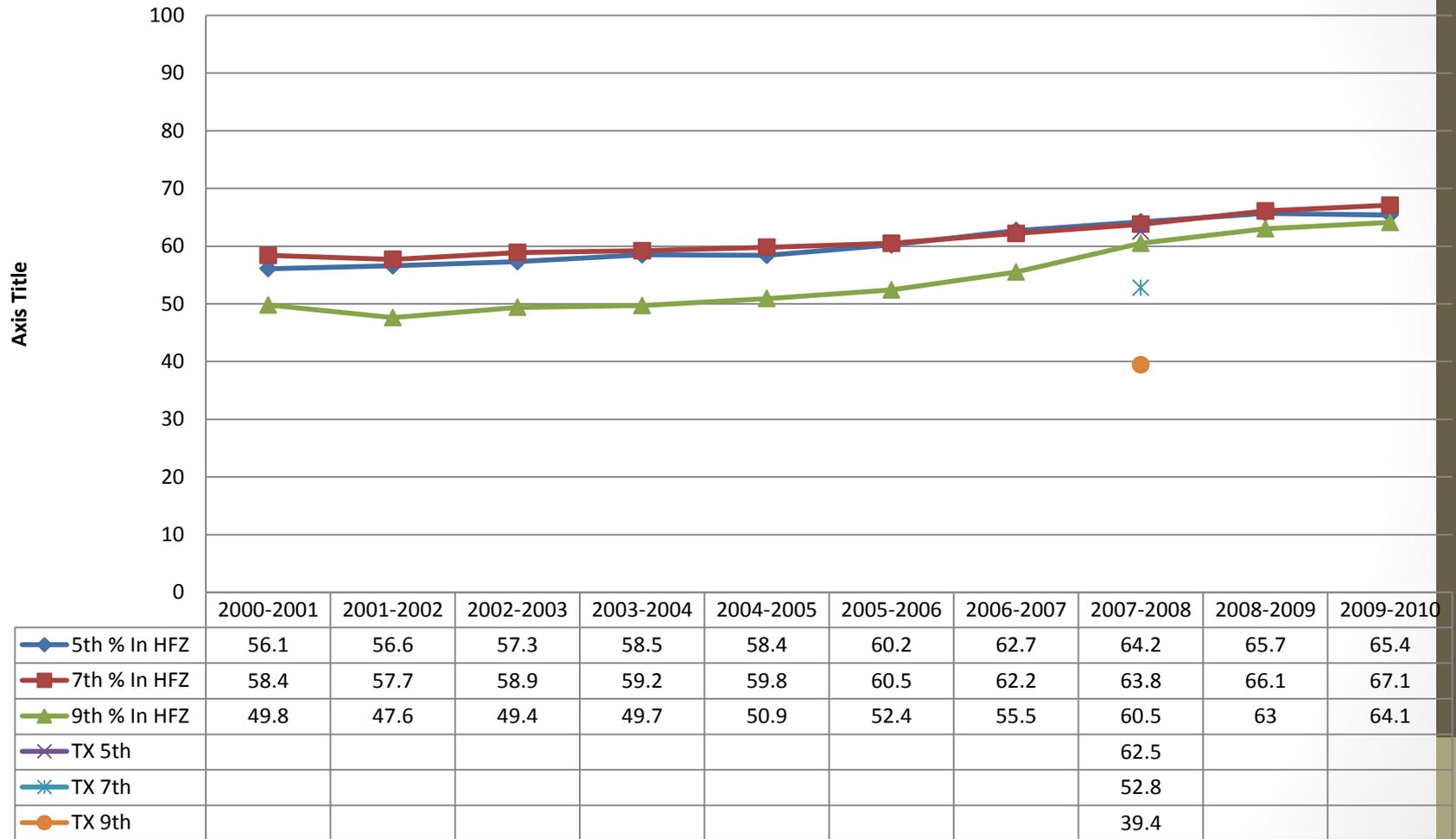


# Approximate increase in number of students in *Aerobic Capacity* HFZ from 2000 -2010

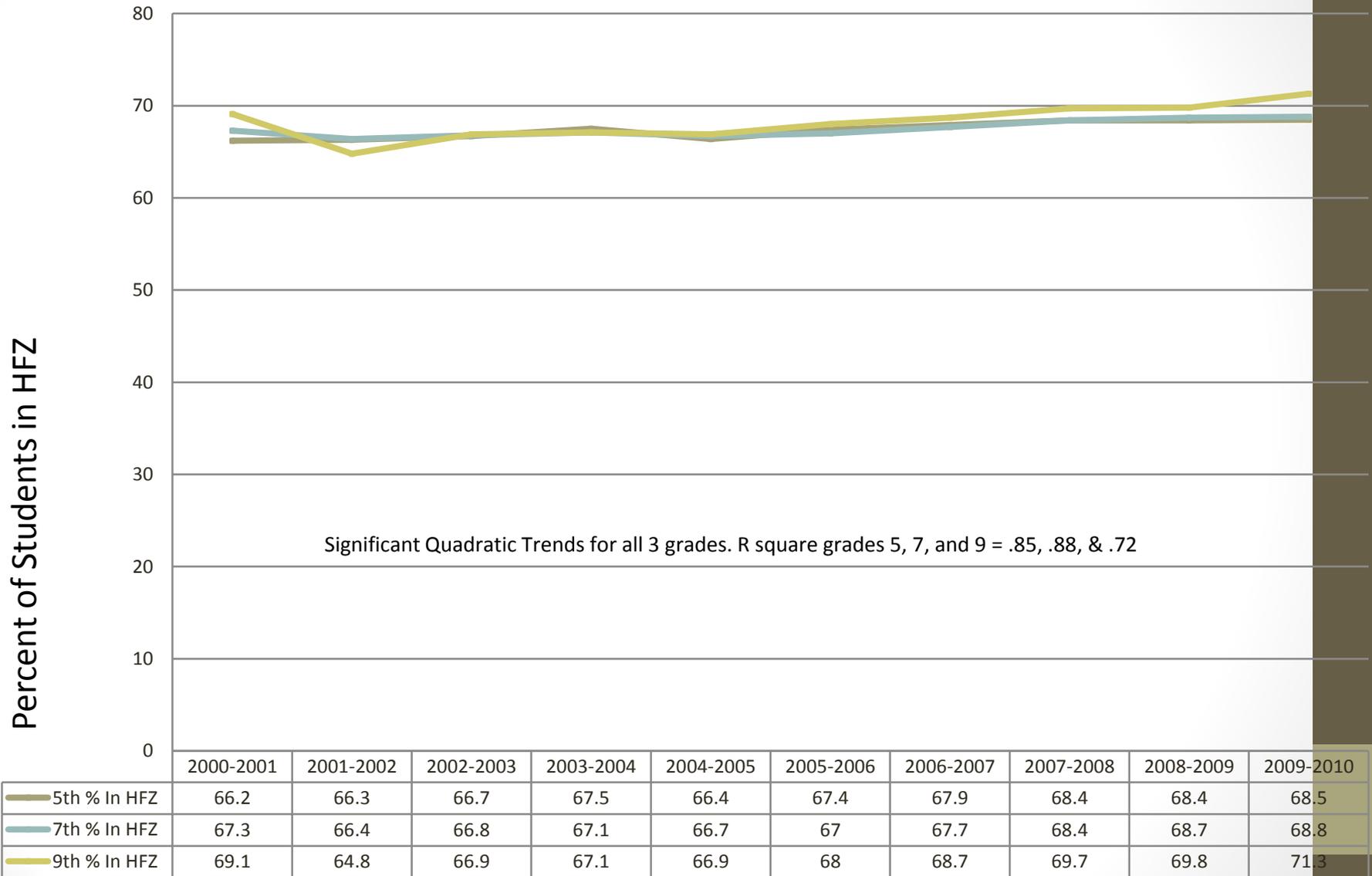


# Percent of California Students in the *Aerobic Capacity* Healthy Fitness Zone (HFZ)

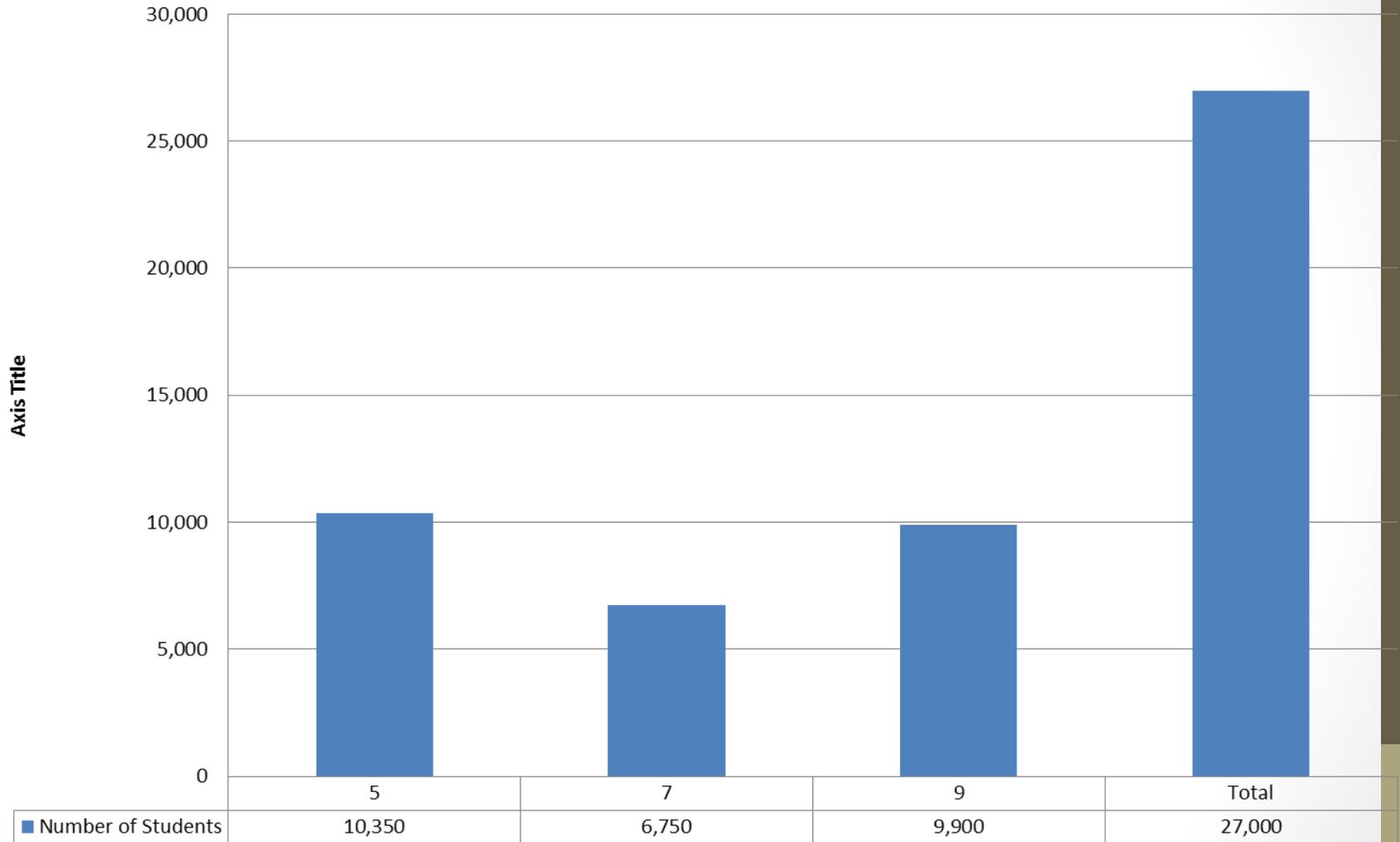
## Comparison to Texas 2007-2008



## Percent of California Students in the *Body Composition* Healthy Fitness Zone (HFZ) from 2001-2010

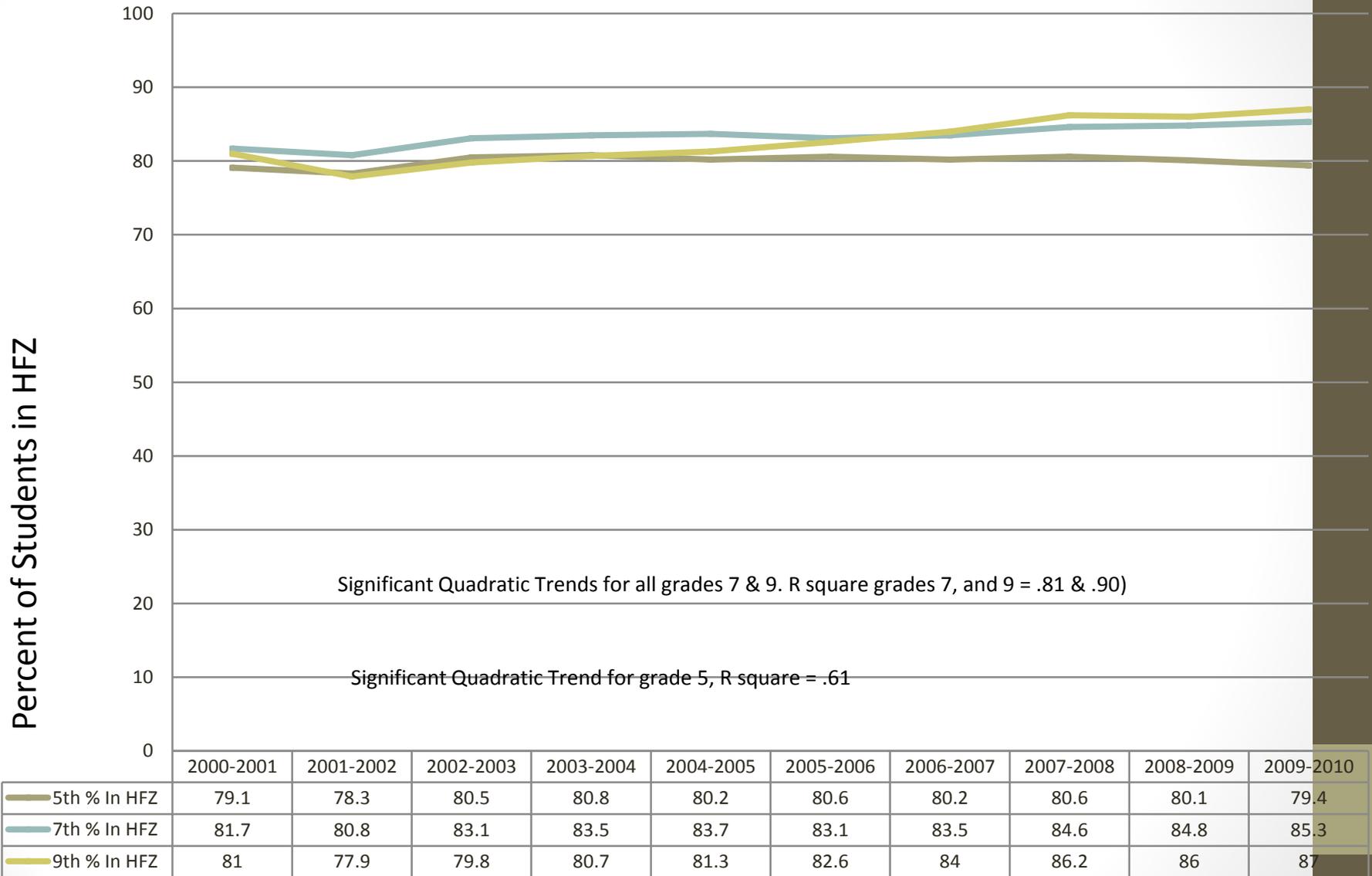


## Approximate increase in number of students in *Body Composition* HFZ from 2000 -2010

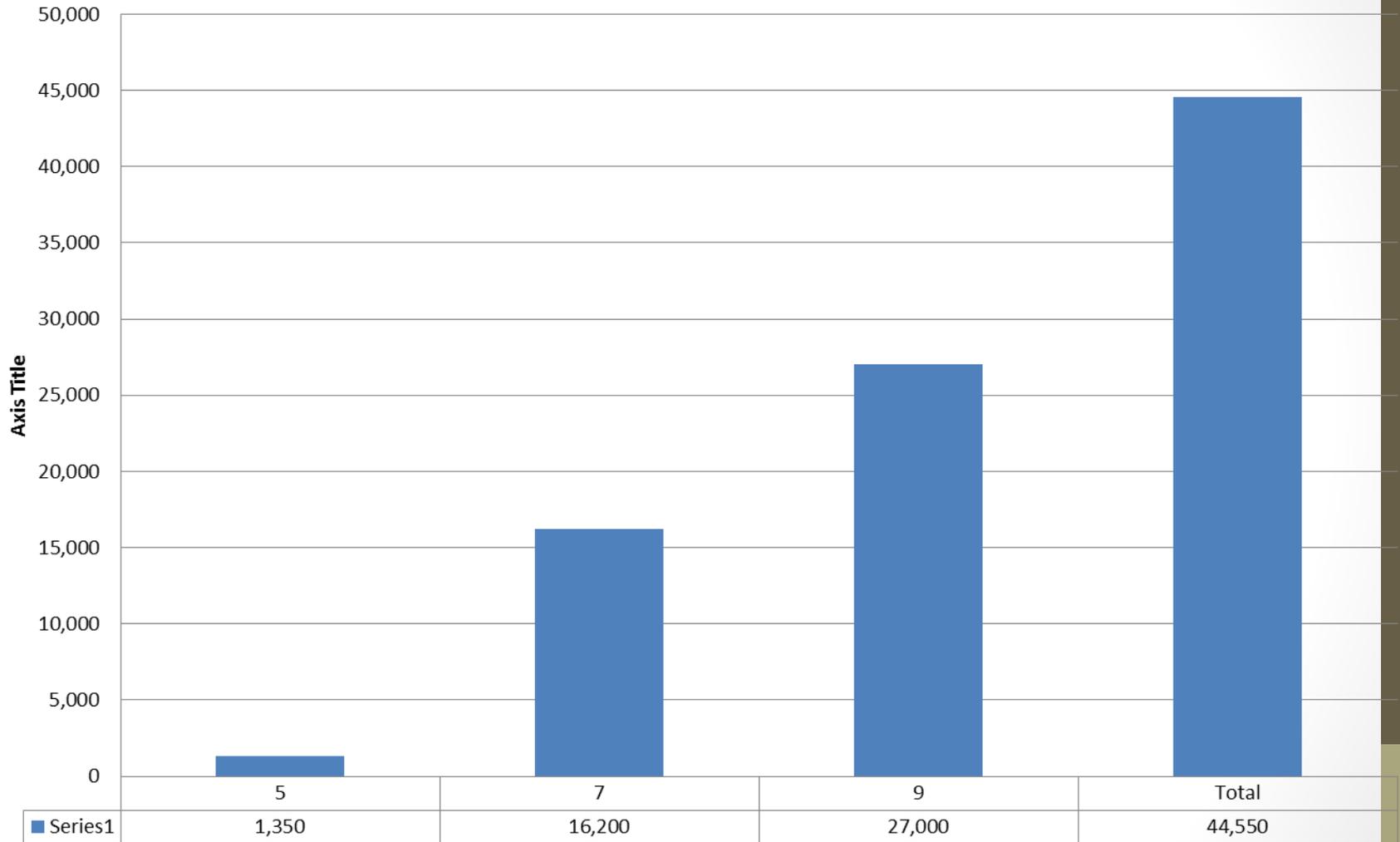


- This evidence may help explain why a recent study found a slight decrease in the statewide prevalence of overweight and obesity in California from 2005 to 2010 (Babey, 2011).

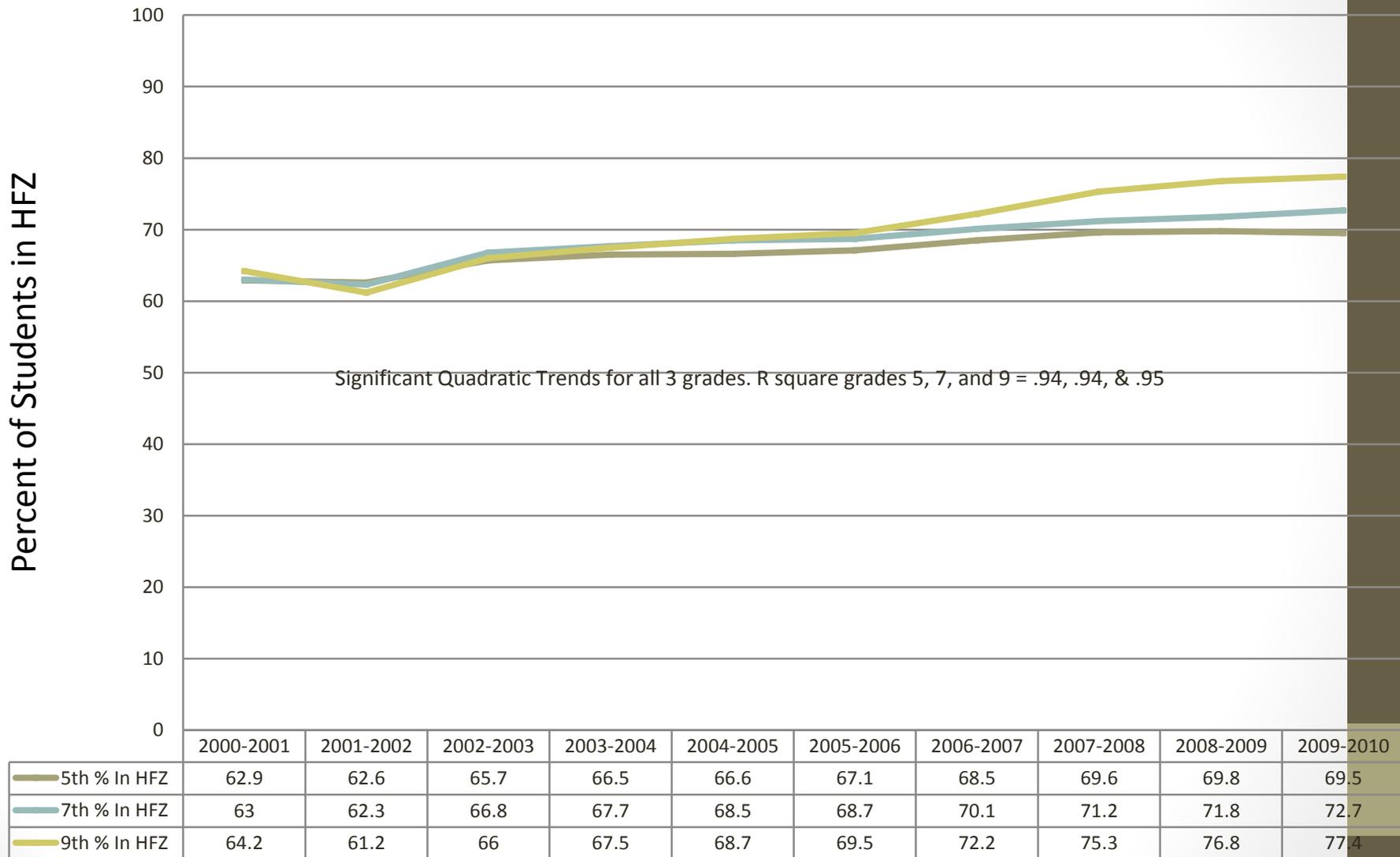
## Percent of California Students in the *Abdominal Strength* Healthy Fitness Zone (HFZ) from 2001-2010



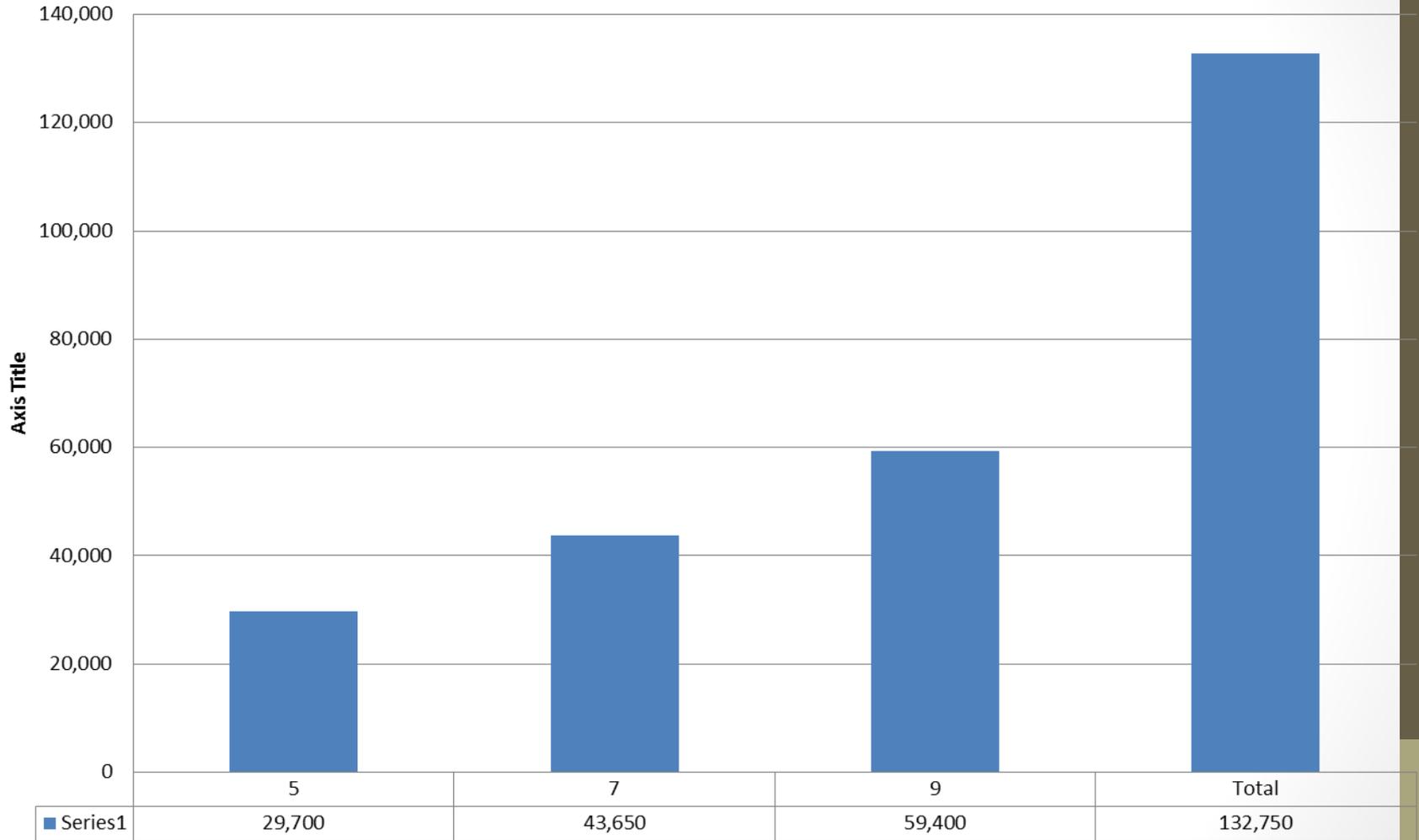
## Approximate increase in number of students in *Abdominal Strength* HFZ from 2000 -2010



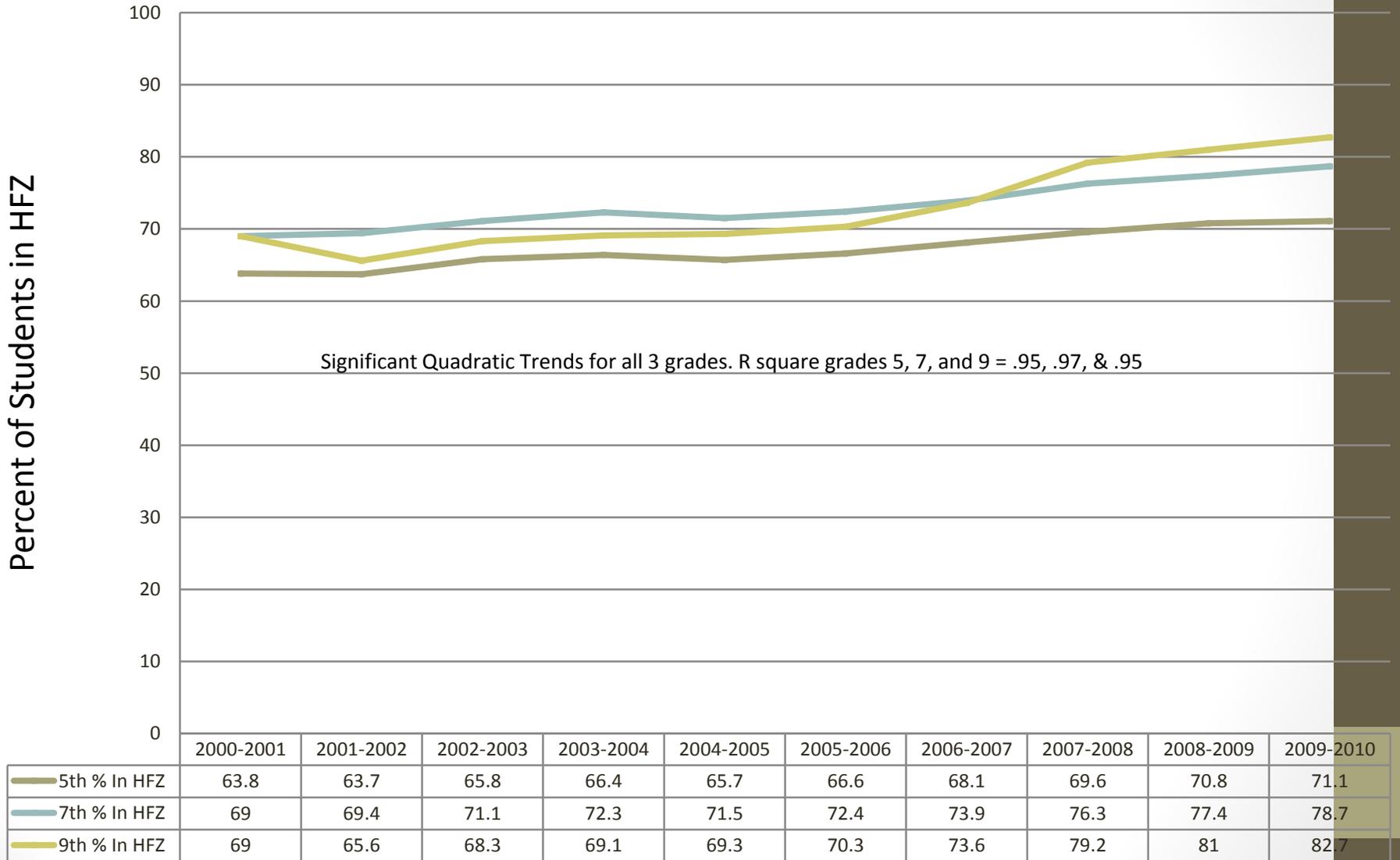
## Percent of California Students in the *Upper Body Strength* Healthy Fitness Zone (HFZ) from 2001-2010



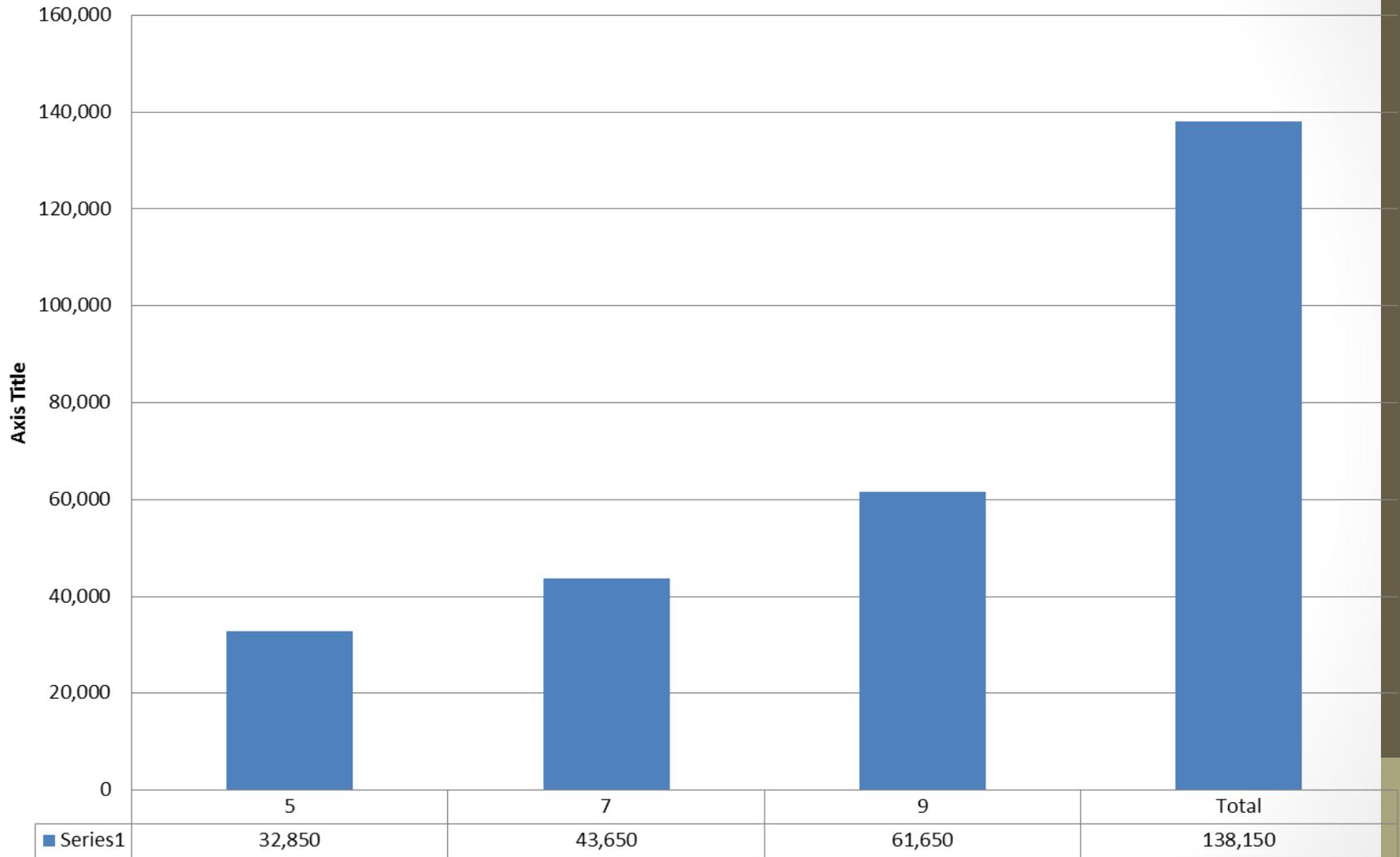
## Approximate increase in number of students in *Upper Body Strength* HFZ from 2000 -2010



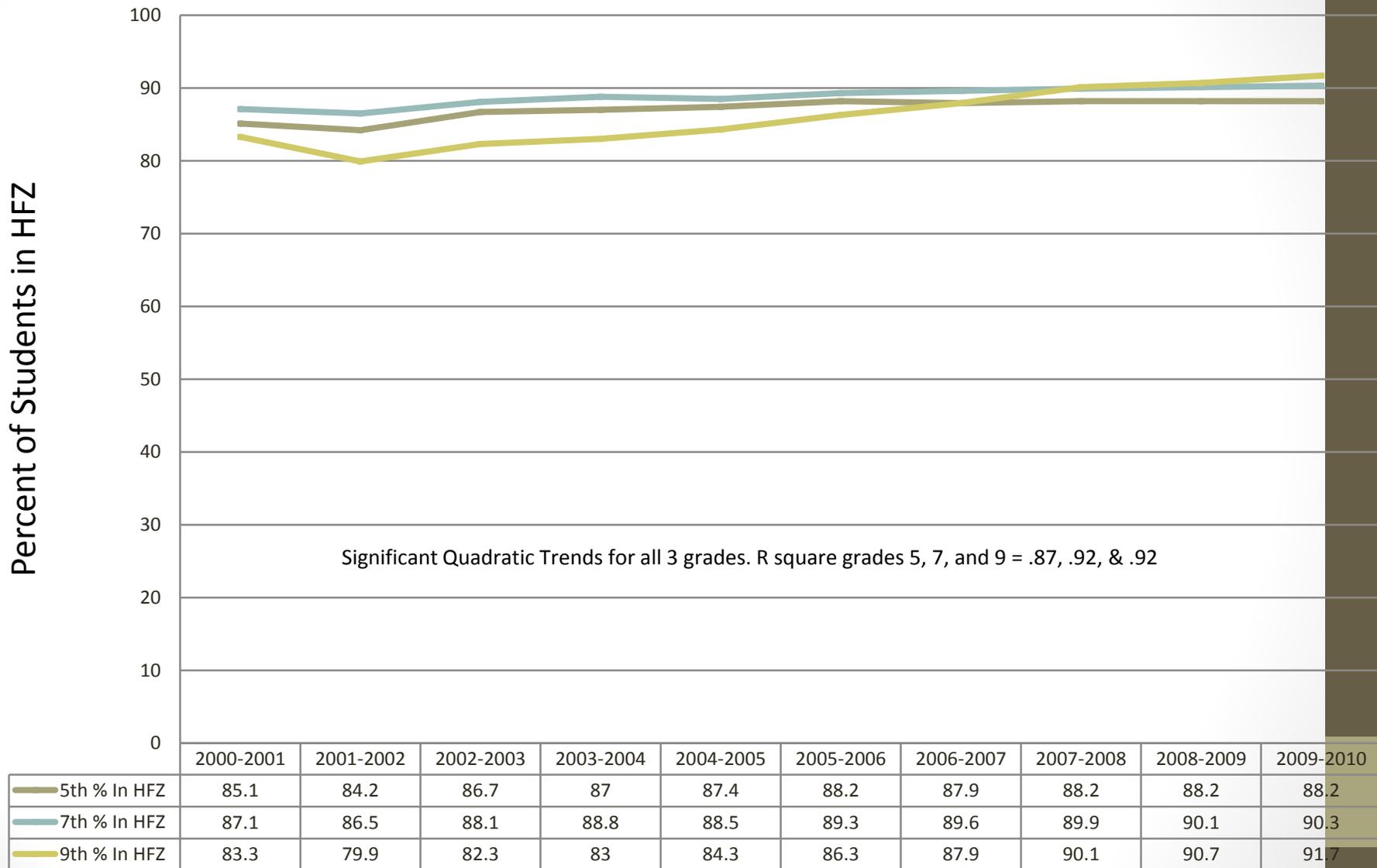
# Percent of California Students in the *Flexibility* Healthy Fitness Zone (HFZ) from 2001-2010



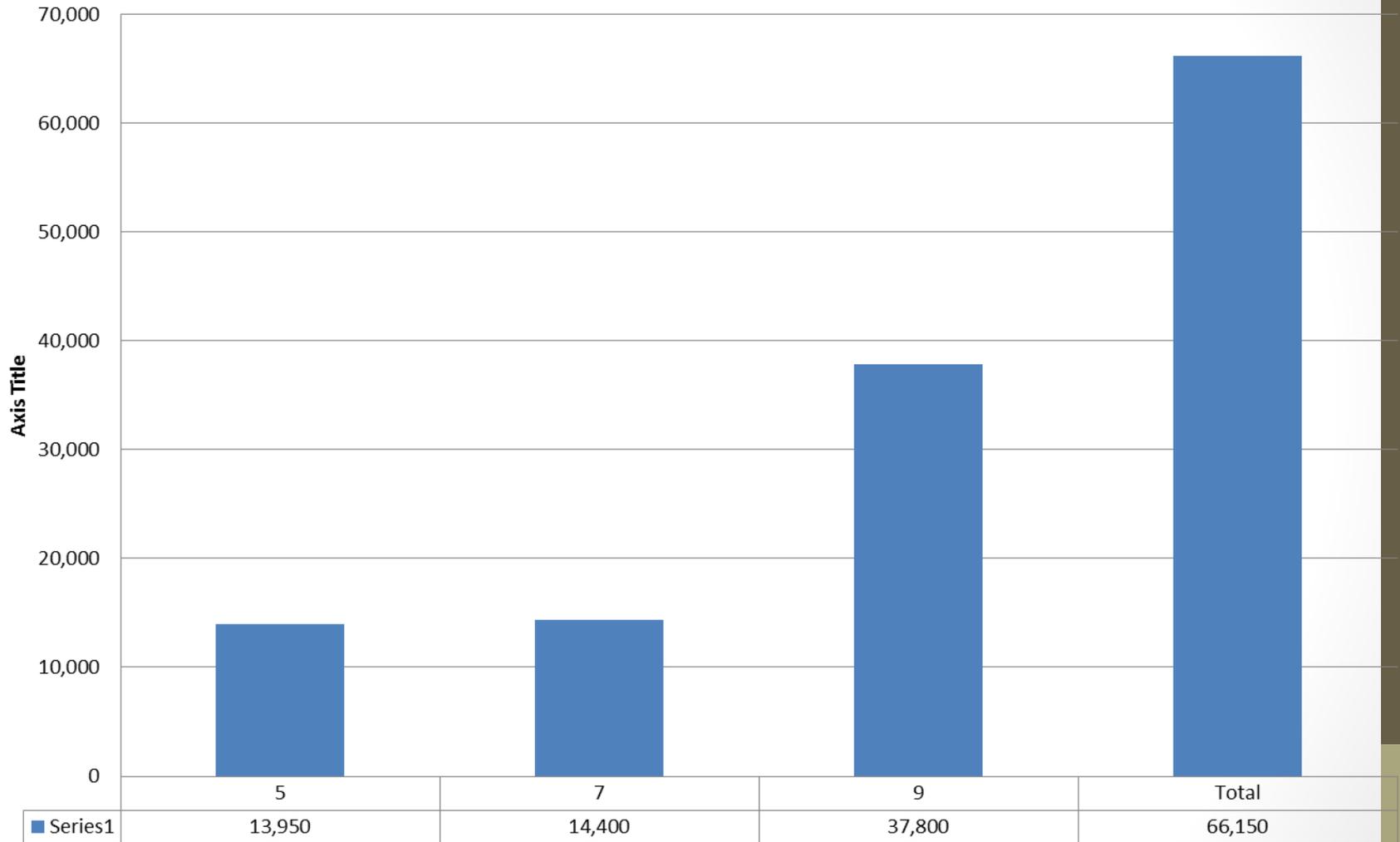
# Approximate increase in number of students in *Flexibility* HFZ from 2000 -2010



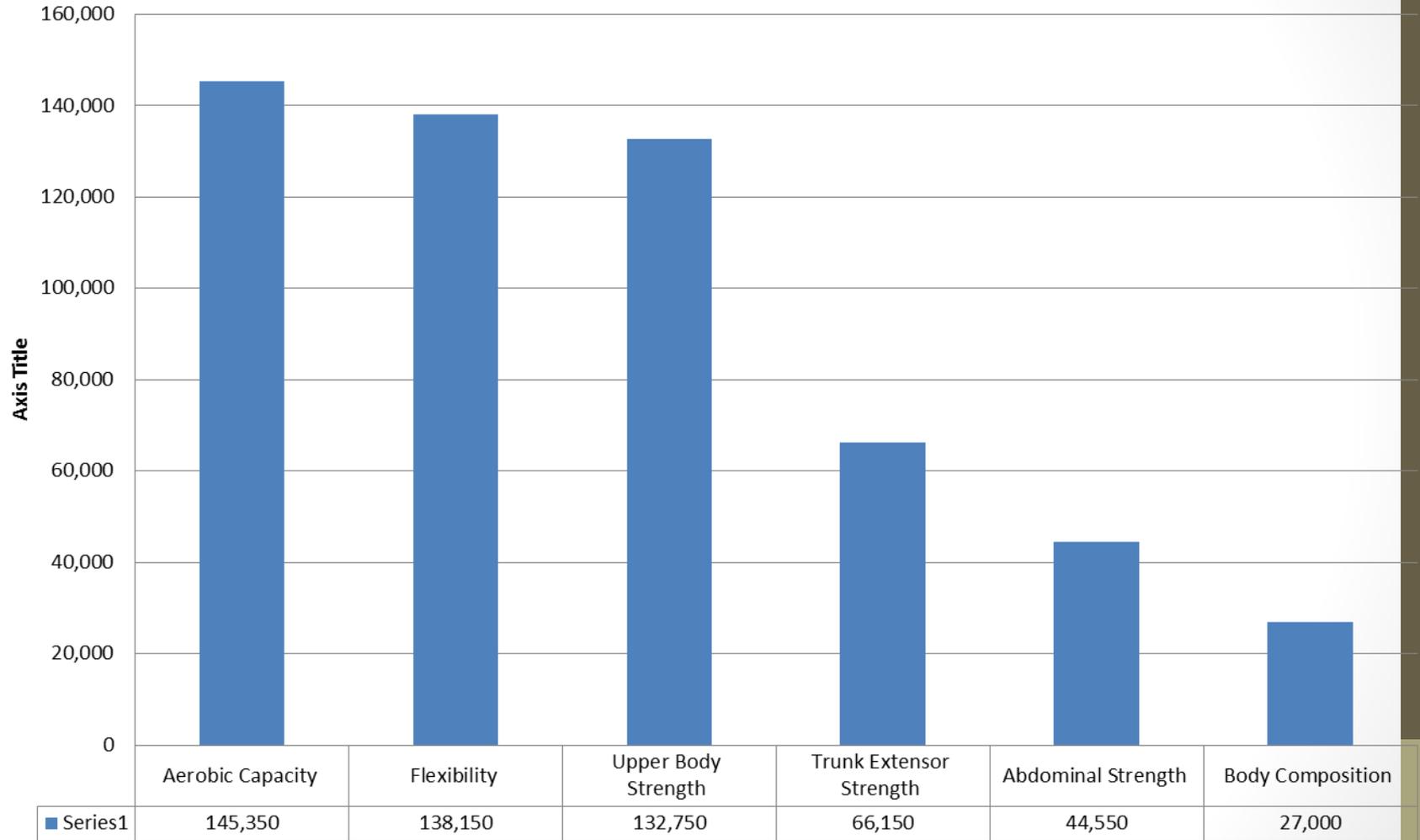
## Percent of California Students in the *Trunk Extension Strength* Healthy Fitness Zone (HFZ) from 2001-2010



## Approximate increase in number of students in *Trunk Extensor Strength* HFZ from 2000 -2010



## Approximate increase in number of students in HFZ for *All Categories* in Grades 5, 7, and 9 from 2000 -2010



# Fitnessgram Data

- Collecting
- Managing
- Analyzing and Interpreting

# Collecting Fitnessgram Data

- **Texas Example**
  - **Table 1.** Observations of physical fitness test assessments (Martin, 2010)
  - **Figure 1.** Teacher and student themes related to fitness testing
- **Local Examples**
  - Pre-service training for future teachers at UHM
  - In-service training for teachers

# Managing Fitnessgram Data

- Old School
- New School
  - History of software evolution
  - Web based Fitnessgram 9.0
    - Tour

# Analyzing and Interpreting

- Analyzing Fitnessgram Data
  - Old School
    - Knowledge and skills (i.e., excel)
  - New School
    - Fitnessgram software reports

# Analyzing and Interpreting

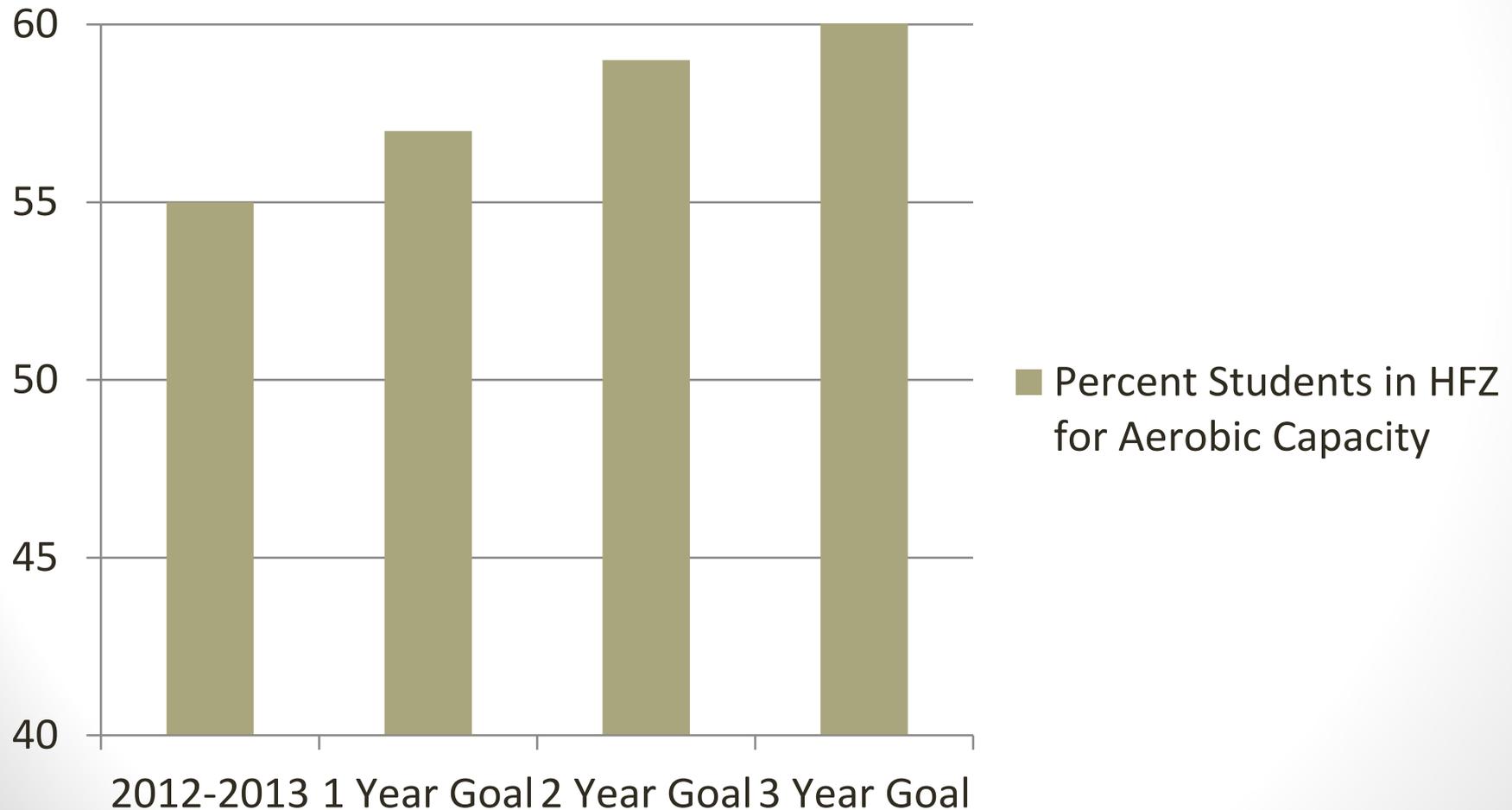
- Interpreting Fitnessgram Data
- Appropriate and Inappropriate Uses of Fitnessgram Data (Ernst, 2006)
- 2013-2017 HSTA Contract
  - Teacher performance and evaluation
    - Include multiple valid measures
      - 50% on teacher practice (instructional effectiveness)
      - 50% on student growth (student outcomes)

# Student Growth

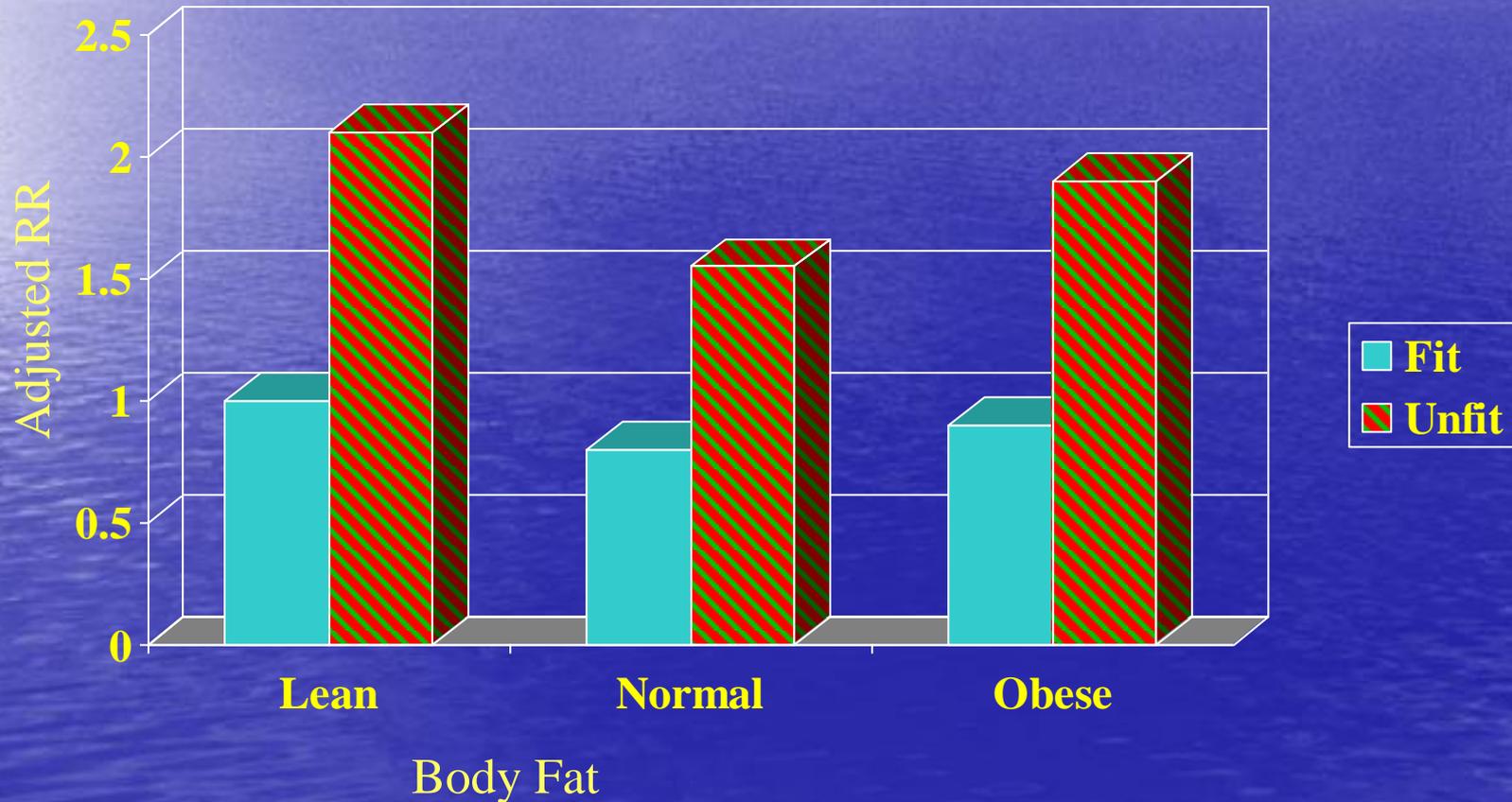
- Have good curriculum

# Your improvement plan

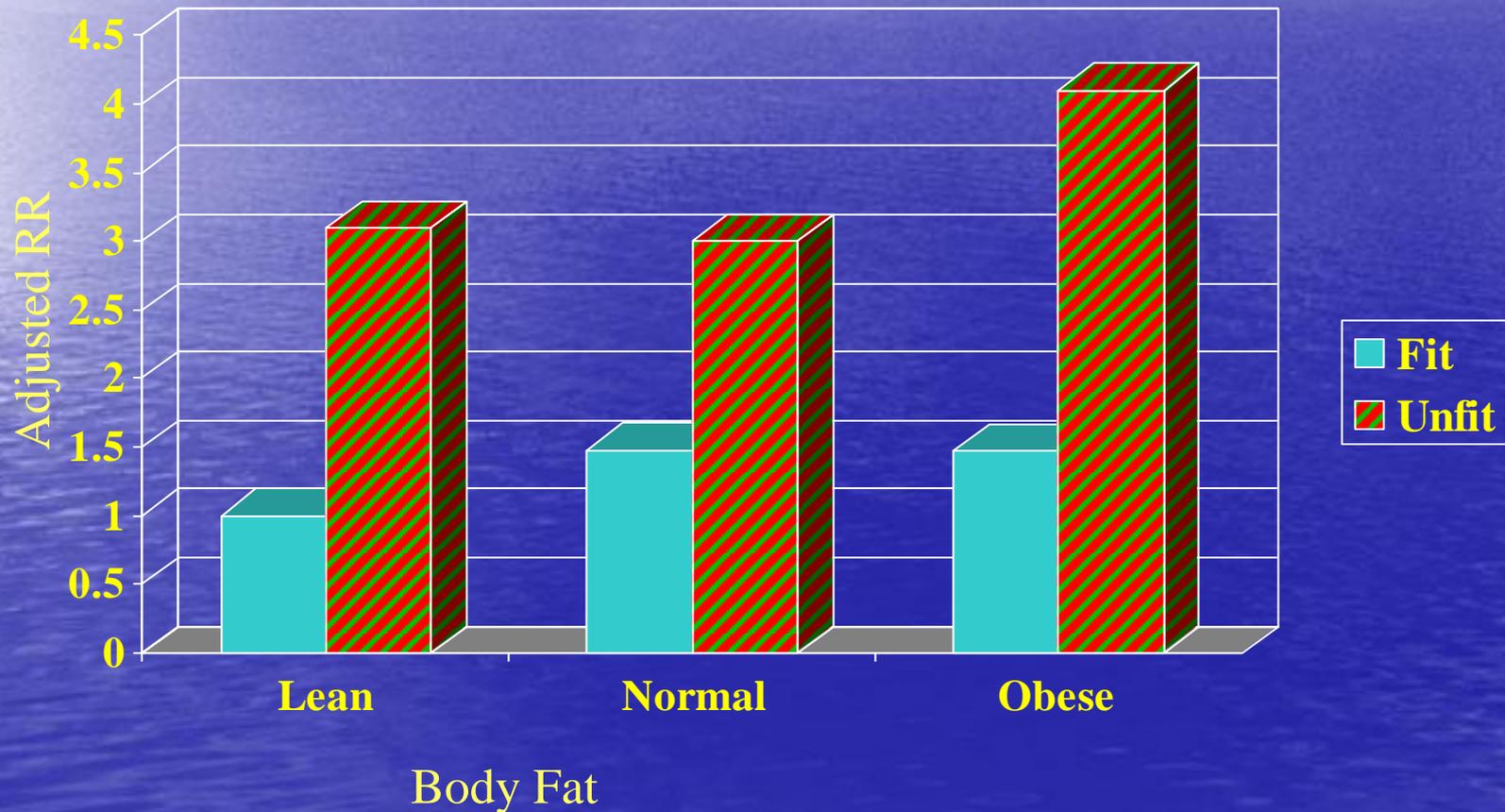
## Percent Students in HFZ for Aerobic Capacity

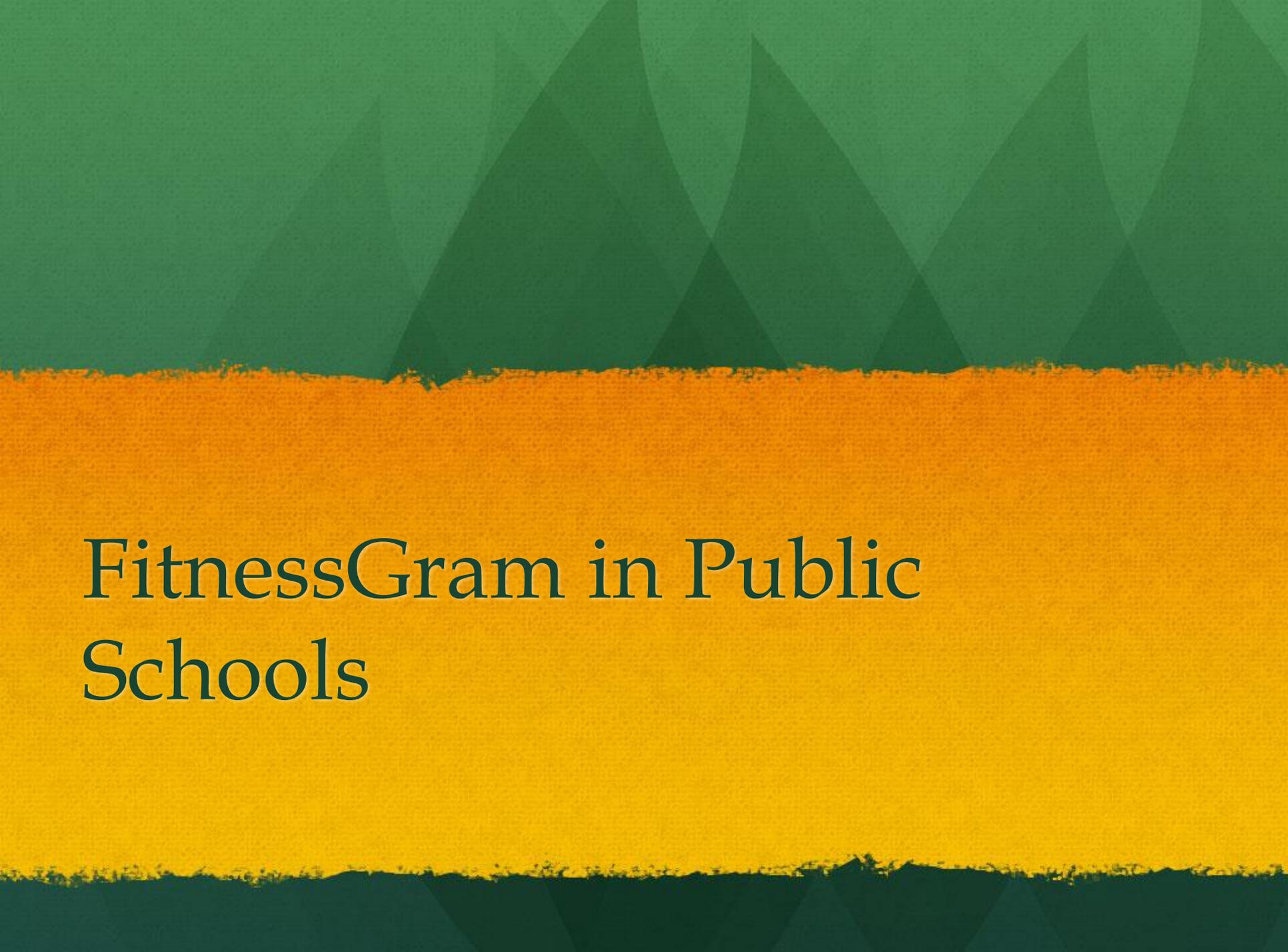


# Fitness vs. Fatness: All-cause Mortality



# Fitness vs. Fatness: Cardiovascular Mortality



The background features a stylized mountain range with green peaks and a bright orange-to-yellow gradient base. The text is centered in a dark green serif font.

# FitnessGram in Public Schools

# What FitnessGram Provides for our us

- Information to the students
- Information to the parents
- Information to the teacher to drive instruction

# Number of Schools who report using FitnessGram

DISTRICT	# of schools utilizing fitnessgram 2011-12 SY	# of schools utilizing fitnessgram 2012-13 SY
Honolulu	<i>Elementary = 4 / Middle = 2, / High School - None specific to FG.</i>	<i>Elementary = 7 / Middle = 3 , High School - None specific to FG.</i>
Leeward	Unknown	Unknown
Windward	Elementary = 7/ Inter = 3/ High = 1/ Inter/High = 1	Same as 2011-12 SY
Central	<i>Elementary = 7/ Middle = 2/ High = 4/ High/Inter = 1</i>	Same as 2011-12 SY
East Hawaii	None	None
Kauai	Elementary = 3 Middle = 2 High = 1	Same as 2011-12 SY
Maui	Middle = 3, High = 1	<i>(Same 4, plus 4 new ones implementing) Elementary = 3/ Middle = 1</i>

# Sample of students' reports



Grade: 8 Age: 13  
Ewa Makai Middle School

Current: **Date** 1/18/2013 **Height** 5'10" **Weight** 234.6 lbs

## MESSAGES

Your aerobic capacity is low. To improve your aerobic capacity, try to be physically active at least 60 minutes every day. Improving aerobic capacity may help reduce your risk of health problems.

Your abdominal strength is in the Healthy Fitness Zone. To maintain your fitness, do curl-ups and other resistance exercises 3 to 5 days each week.

You can improve your trunk extension by doing repeated trunk lifts in a slow, controlled manner. Do these exercises 3 to 5 days each week.

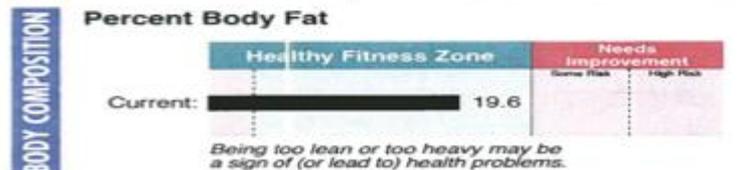
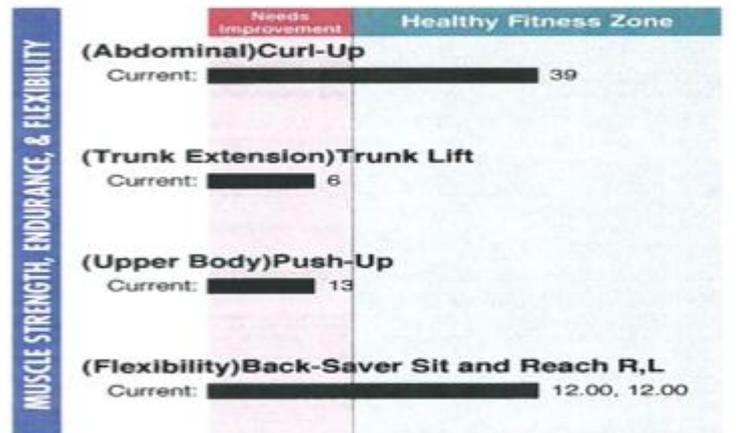
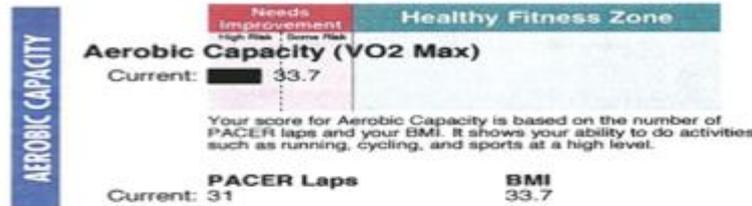
To improve your upper-body strength, do resistance training 2 or 3 days each week. Gradually increase the repetitions or the resistance.

Your flexibility is in the Healthy Fitness Zone. Maintain your flexibility by stretching slowly 3 or 4 days each week, holding the stretch 20-30 seconds.

Kristian, Good News. Your body composition score is in the Healthy Fitness Zone. To maintain this healthy level, do the following:

- Get at least 60 minutes of moderate to vigorous activity each day.
- Limit time spent watching TV and playing video games.
- Eat a healthy diet including fresh fruits and vegetables.
- Limit foods with solid fats and added sugars.

**Healthy Fitness Zone** for 13 year-old boys  
 Aerobic Capacity:  $\geq 41.1$  ml/kg/min  
 Curl-Up:  $\geq 21$  repetitions  
 Trunk Lift: 9-12 inches  
 Push-Up:  $\geq 12$  repetitions  
 Back-Saver Sit and Reach: At least 8 inches on R & L  
 Percent Body Fat: 7.8% - 22.8%



**ACTIVITY**

On how many of the past 7 days did you participate in physical activity for a total of 30-60 minutes, or more, over the course of the day?

On how many of the past 7 days did you do exercises to strengthen or tone your muscles?

On how many of the past 7 days did you do exercises to loosen up or relax your muscles?

Number of Days

To be healthy and fit it is important to do some physical activity almost every day. Aerobic exercise is good for your heart and body composition. Strength and flexibility exercises are good for your muscles and joints.

Grade: 8 Age: 13  
Ewa Makai Middle School  
Instructor(s): Gregg Agena

	Date	Height	Weight
Current:	11/16/2012	5'6"	117.6 lbs
Past:	8/22/2012	5'5"	127.2 lbs

## MESSAGES

Your aerobic capacity score is in the Healthy Fitness Zone. To maintain fitness, you should be active every day. Try to do vigorous activities or sports that you enjoy for a total of 60 minutes each day.

Your abdominal, trunk, and upper-body strength are all in the Healthy Fitness Zone. To maintain your fitness, do resistance-training activities that include exercises for these areas. Abdominal and trunk exercises should be done 3 to 5 days each week. Strength activities for other parts of your body should be done 3 days a week.

Your flexibility is in the Healthy Fitness Zone. Maintain your flexibility by stretching slowly 3 or 4 days each week, holding the stretch 20-30 seconds.

Bryant, Good News. Your body composition score is in the Healthy Fitness Zone. To maintain this healthy level, do the following:

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Percent Body Fat: 7.8% - 22.8%

### AEROBIC CAPACITY



Your score for Aerobic Capacity is based on the number of PACER laps and your BMI. It shows your ability to do activities such as running, cycling, and sports at a high level.

Category	Current	Past
PACER Laps	60	52
BMI	19.0	21.2

### MUSCLE STRENGTH, ENDURANCE, & FLEXIBILITY

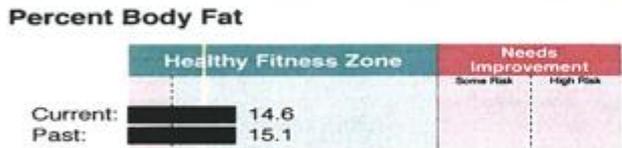


Category	Current	Past
(Trunk Extension)Trunk Lift	12	10

Category	Current	Past
(Upper Body)Push-Up	26	17

Category	Current	Past
(Flexibility)Back-Saver Sit and Reach R,L	12.00, 12.00	11.00, 12.00

### BODY COMPOSITION



Being too lean or too heavy may be a sign of (or lead to) health problems.

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Number of Days

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# Data to drive instruction



## Test Overview Ewa Makai Middle School All Grades

Component		Tested	In HFZ	HFZ%
<b>Abdominal</b> 8/1/2012 to 5/13/2013	<b>Total</b>	<b>716</b>	<b>531</b>	<b>74</b>
	Girls	336	245	73
	Boys	380	286	75
<b>Aerobic Capacity</b> 8/1/2012 to 5/13/2013	<b>Total</b>	<b>696</b>	<b>456</b>	<b>66</b>
	Girls	322	200	62
	Boys	374	256	68
<b>Body Composition</b> 8/1/2012 to 5/13/2013	<b>Total</b>	<b>714</b>	<b>536</b>	<b>75</b>
	Girls	334	244	73
	Boys	380	292	77
<b>Flexibility</b> 8/1/2012 to 5/13/2013	<b>Total</b>	<b>714</b>	<b>656</b>	<b>92</b>
	Girls	335	306	91
	Boys	379	350	92
<b>Trunk Extension</b> 8/1/2012 to 5/13/2013	<b>Total</b>	<b>708</b>	<b>379</b>	<b>54</b>
	Girls	330	164	50
	Boys	378	215	57
<b>Upper Body</b> 8/1/2012 to 5/13/2013	<b>Total</b>	<b>713</b>	<b>534</b>	<b>75</b>
	Girls	332	272	82
	Boys	381	262	69

