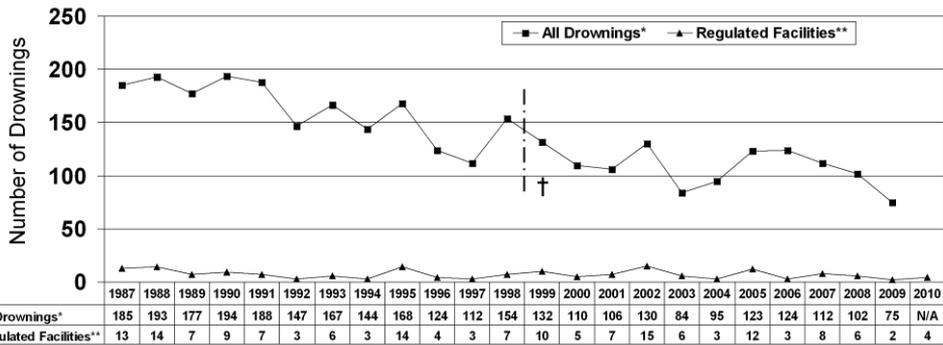


Geographic distribution of reported drownings at regulated swimming pools and beaches in NYS.

# NEW YORK STATE DROWNINGS 1987 to 2010



Intentional drownings and those related to motor vehicle incidents are not included in counts.

\* All drownings of NYS residents occurring in and out of NYS. Data not yet available for 2010; N/A = Not Available.

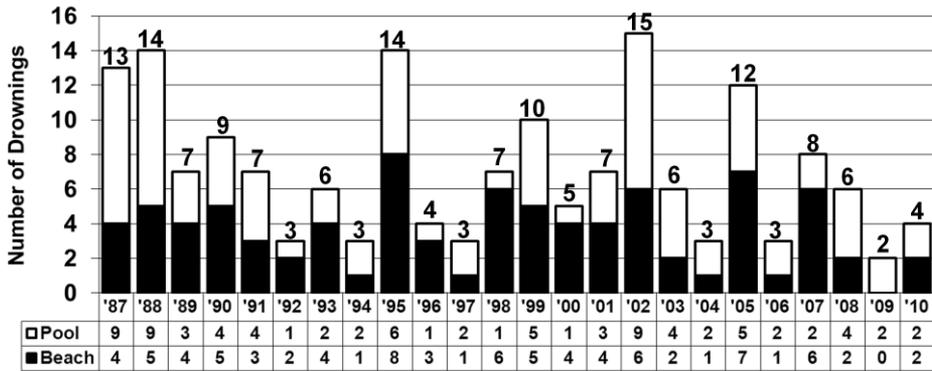
\*\* Includes drownings for anyone occurring at a regulated NYS Bathing Facility.

† ICD 9 Codes used 1987-1998 and include E 830, E 832, and E 910. ICD 10 Codes used 1999-Present and include W 65 - W 74.

**Source:** NYSDOH Bureaus of Biometrics and Health Statistics, Community Environmental Health and Food Protection, and Environmental and Occupational Epidemiology.

Drownings at regulated pools and beaches compared to all drownings in New York State.

# DROWNINGS at REGULATED FACILITIES 1987 - 2010

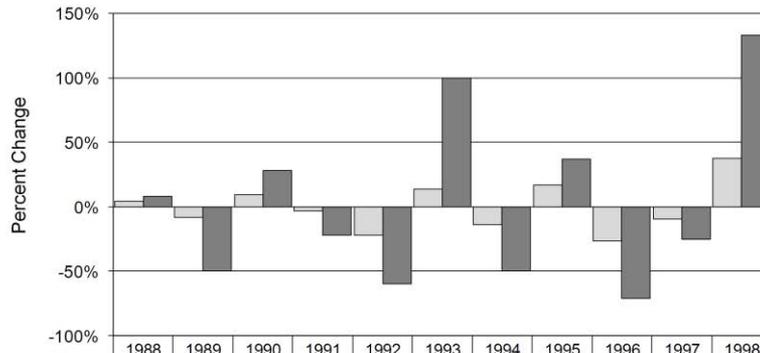


Pool = 85  
Beach = 86  
N = 171

**Annual Average:  
7.125 Drownings/Year**

The number of drowning incidents may vary greatly from year to year, which may in part be due to weather conditions. Nice weather increases number of exposure days for patrons.

**NEW YORK STATE DROWNINGS  
at REGULATED FACILITIES  
Percent Change in Incidence from Prior Year  
1988 to 1998**



	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
□ All Drownings *	4.3%	-8.3%	9.6%	-3.1%	-21.8%	13.6%	-13.8%	16.7%	-26.2%	-9.7%	37.5%
■ Regulated Facilities **	8%	-50%	28%	-22%	-60%	100%	-50%	37%	-71%	-25%	133%

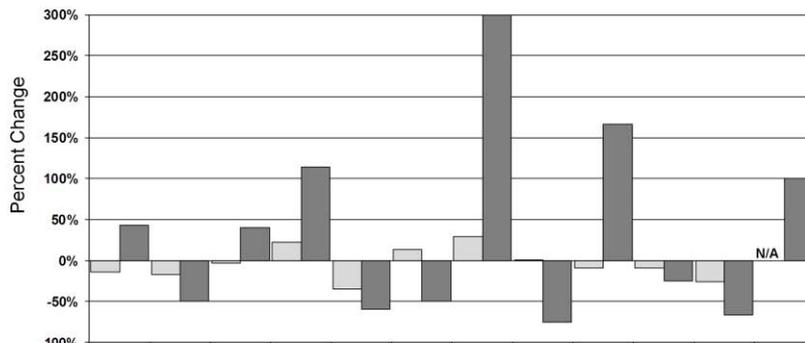
Intentional drownings and those related to motor vehicle incidents are not included in counts.

\* All drownings of NYS residents occurring in and out of NYS. ICD 9 Codes used 1987-1998 and include E 830, E 832, and E 910.

\*\* Includes all drownings occurring at a regulated NYS Bathing Facility, regardless of State of residence of victim.

**Source:** NYSDOH Bureaus of Biometrics and Health Statistics, Community Environmental Health and Food Protection, and Environmental and Occupational Epidemiology.

## NEW YORK STATE DROWNINGS at REGULATED FACILITIES Percent Change in Incidence from Prior Year 1999 to 2010



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
□ All Drownings *	-14.3%	-16.7%	-3.6%	22.6%	-35.4%	13.1%	29.5%	0.8%	-9.7%	-8.9%	-26.5%	N/A
■ Regulated Facilities **	43%	-50%	40%	114%	-60%	-50%	300%	-75%	166.7%	-25%	-66.7%	100%

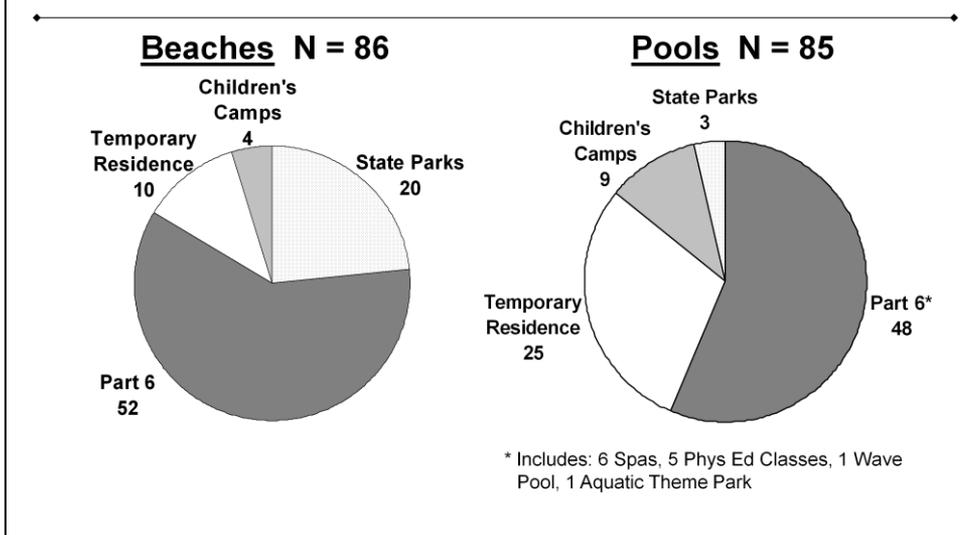
Intentional drownings and those related to motor vehicle incidents are not included in counts.

\* All drownings of NYS residents occurring in and out of NYS. ICD 10 Codes used 1999-Present and include W 65 - W 74. Data not yet available for 2010; N/A = Not Available.

\*\* Includes all drownings occurring at a regulated NYS Bathing Facility, regardless of State of residence of victim.

Source: NYSDOH Bureaus of Biometrics and Health Statistics, Community Environmental Health and Food Protection, and Environmental and Occupational Epidemiology.

# DROWNINGS at REGULATED BATHING FACILITIES 1987 - 2010



**Part 6.** Aquatic Amusement Parks, Municipal, Apartment Complex, Health Clubs, YMCA, School, Spa, Mobile Home Park, and Homeowner Association Pools.

**State.** Operated by NYS Office of Parks, Recreation and Historic Preservation and Department of Environmental Conservation.

**Children's Camp.** Day and Overnight.

**Temporary Residence.** Hotel, Motel, Campground, Bungalow Colony.

**AVERAGE ANNUAL RATES\* of  
DROWNING at REGULATED FACILITIES  
Time Period**

	<u>1987- 1990</u>	<u>1991- 2000</u>	<u>2001- 2010</u>	<u>Cumulative**</u>
<b><u>Swimming Pools</u></b>				
<b>Number of Facilities</b>	6,357	6,435	6,435	6,422
<b>Drowning Incidents</b>	25	25	35	85
<b>Average Annual Rate*</b>	0.98	0.39	0.54	0.55
<b><u>Bathing Beaches</u></b>				
<b>Number of Facilities</b>	1,595	1,622	1,622	1,618
<b>Drowning Incidents</b>	18	37	31	86
<b>Average Annual Rate*</b>	2.82	2.28	1.91	2.22

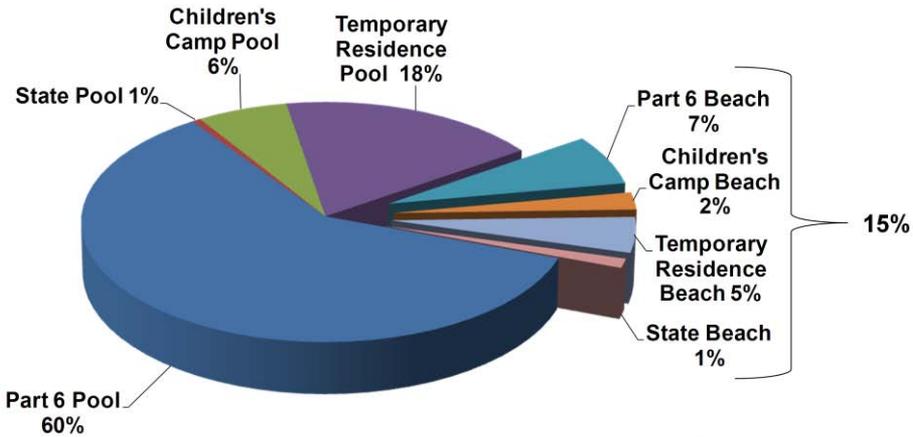
\* Rates per 1000 Facilities

\*\* Based on Average # of Facilities

Beaches have a much higher average drowning rate than pools. Possible factors include: greater number of bathers, water clarity, currents, depths and bottom conditions.

The time periods above correspond to significant changes to supervision requirements in the State Sanitary Code for bathing facilities.

## NYS BATHING FACILITIES\* Facility Type



\* Facility numbers are based on 2011 program data.

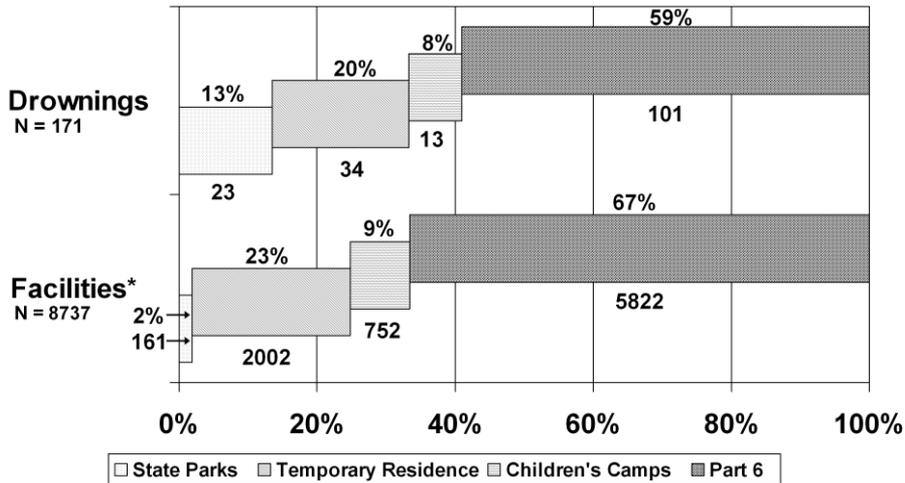
**Part 6.** Aquatic Amusement Parks, Municipal, Apartment Complex, Health Clubs, YMCA, School, Spa, Mobile Home Park, and Homeowner Association Pools.

**State.** Operated by NYS Office of Parks, Recreation and Historic Preservation and Department of Environmental Conservation.

**Children's Camp.** Day and Overnight.

**Temporary Residence.** Hotel, Motel, Campground, Bungalow Colony.

## DROWNINGS by REGULATED FACILITY TYPE 1987 - 2010

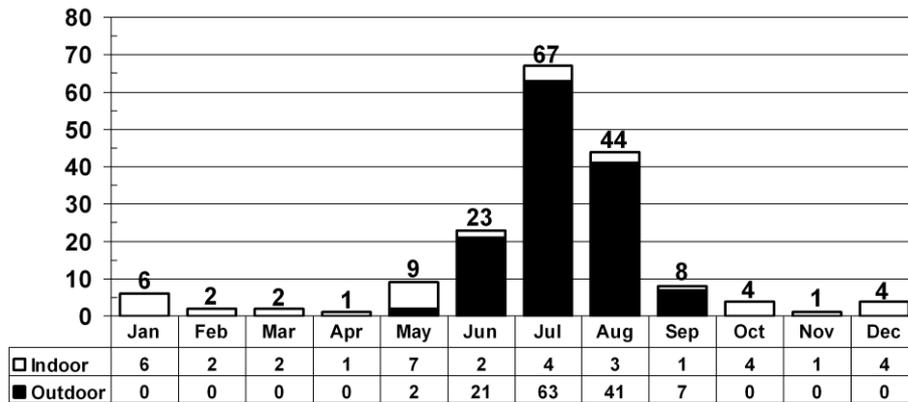


\* Due to rounding, percentages do not add up to 100%. Facility numbers are based on 2011 program data.

Other than State Park Bathing facilities, the number of drownings is proportional to the number of facilities for each facility type.

Based on the number of facilities, the proportion of drownings at State Parks is higher than for other facility types. However, this can be misleading because the proportion does not take into account the actual numbers of bathers, which are generally very high at State Park facilities.

## DROWNINGS at REGULATED FACILITIES by Month 1987 - 2010

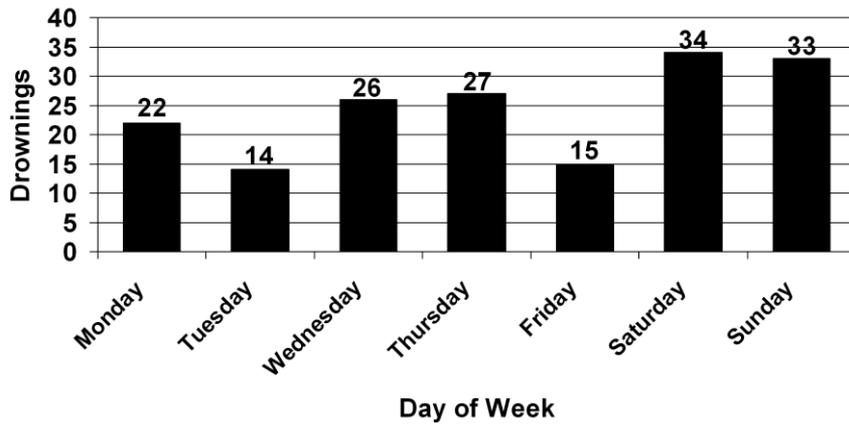


Indoor = 37    Outdoor = 134

N = 171

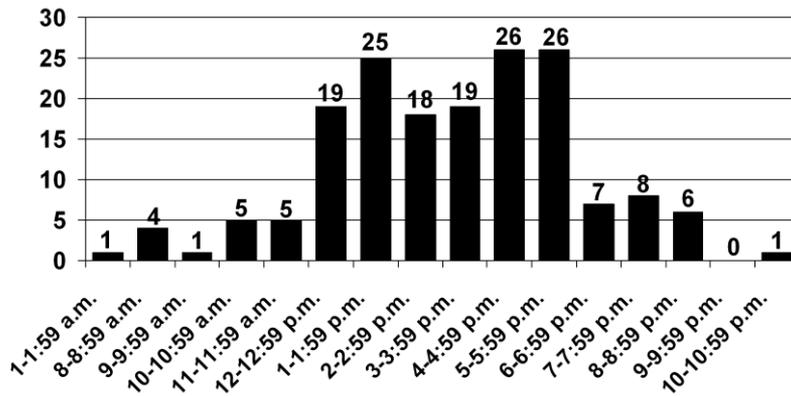
As expected, more drownings occur during summer months when outdoor swimming facilities are open.

# DROWNINGS at REGULATED FACILITIES Day of the Week 1987 - 2010



N = 171

## DROWNINGS at REGULATED FACILITIES Time of Day 1987 - 2010

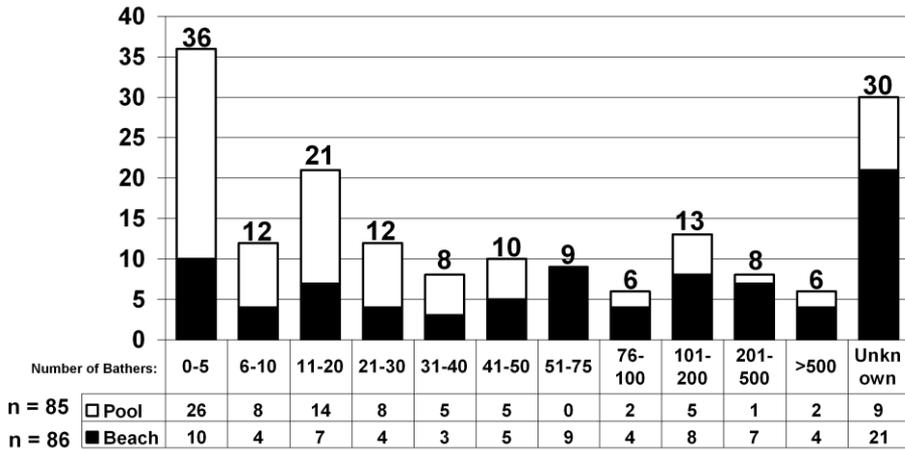


N = 171

Most drowning occurs after noon. The highest incidence of drowning occurs at the end of the day between 4:00 and 6:00 P.M. Some possible factors include: more bathers during this time of day, bather fatigue, lifeguard fatigue.

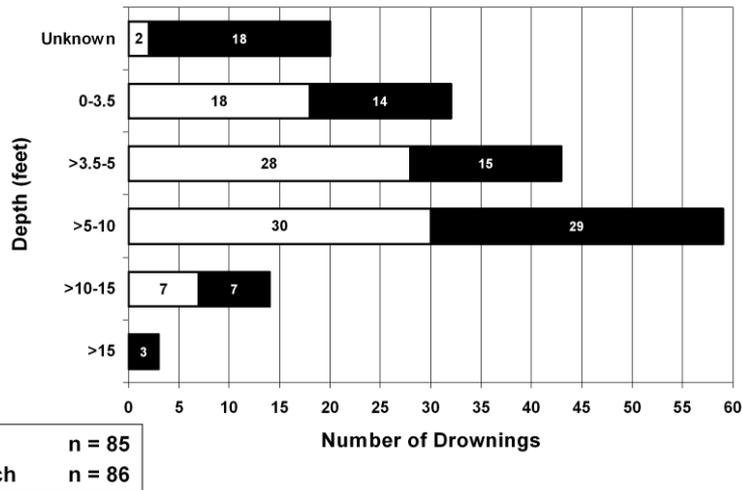
## DROWNINGS at REGULATED FACILITIES

### Number of Bathers Present at Time of Drowning 1987 - 2010



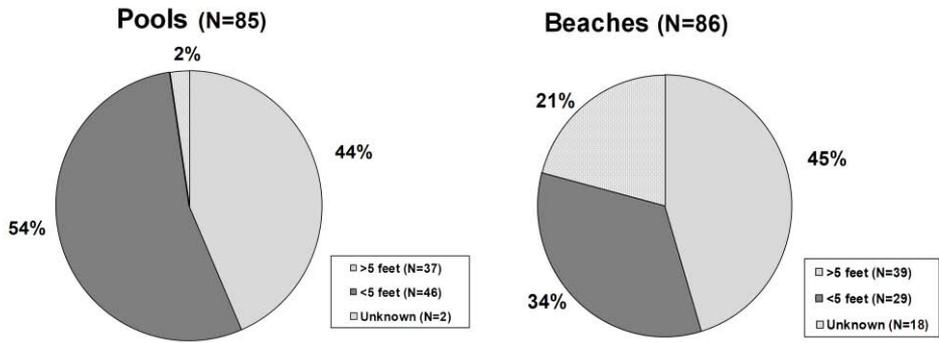
There is a high incidence of drownings that occur when low numbers of bathers are present. Diligence in supervising bathers is needed at all times, not just when there are large numbers of bathers.

## DROWNINGS at REGULATED FACILITIES Water Depth at Location of Submersion 1987 - 2010

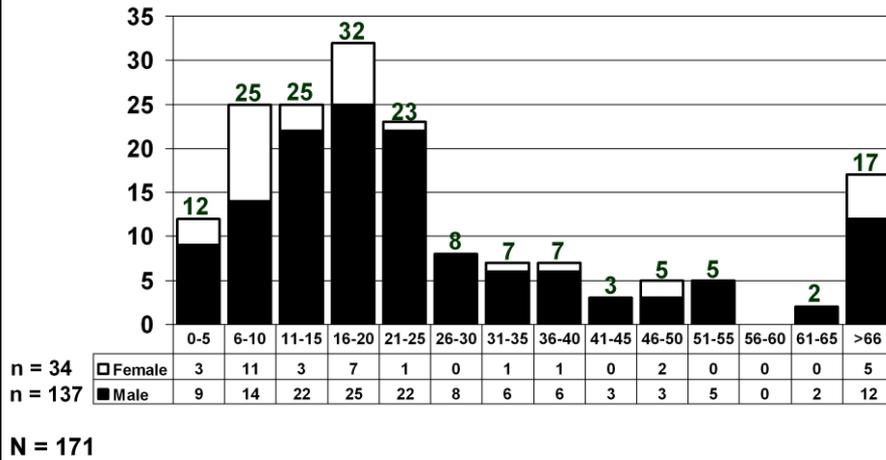


A significant number of drownings occur in water less than 5ft. deep. Diligence in supervising bathers is needed for any depth of water, not just for deep water.

# DROWNINGS at REGULATED FACILITIES Water Depth at Location of Submersion 1987 - 2010



## DROWNINGS at REGULATED FACILITIES Age and Sex of Victim 1987 - 2010



Males are 4 times more likely to be drowning victims than females. Many people think that toddlers are the most at risk; however, most drowning victims are between 11 and 25 years old.

## DROWNING RATES Sex and Ethnicity 1987 - 2010

SEX/ETHNICITY	NYS POPULATION <sup>*</sup>	DROWNINGS <sup>**</sup>	RATE PER 1,000,000	AVERAGE ANNUAL RATE
<b>MALES</b>				
White	5,684,782	62	10.91	0.47
Black	1,389,590	44	31.66	1.38
Hispanic	1,409,275	26	18.45	0.80
Other	663,071	1	1.51	0.07
<b>TOTAL</b>	9,146,718	137 <sup>†</sup>	14.98	0.65
<b>FEMALES</b>				
White	6,076,199	17	2.80	0.12
Black	1,507,193	13	8.63	0.38
Hispanic	1,433,792	2	1.39	0.06
Other	812,525	2	2.46	0.11
<b>TOTAL</b>	9,829,709	34	3.46	0.15
<b>MALE/FEMALE</b>				
White	11,760,981	79	6.72	0.29
Black	2,812,623	57	20.27	0.88
Hispanic	2,867,583	28	9.76	0.42
Other	1,535,270	3	1.95	0.08
<b>TOTAL</b>	18,976,457	171	9.01	0.39

<sup>\*</sup> 2000 U.S. Census Data for New York State compiled by NYSDOH, Bureau of Biometrics and Health Statistics.

Totals include all ethnicities.

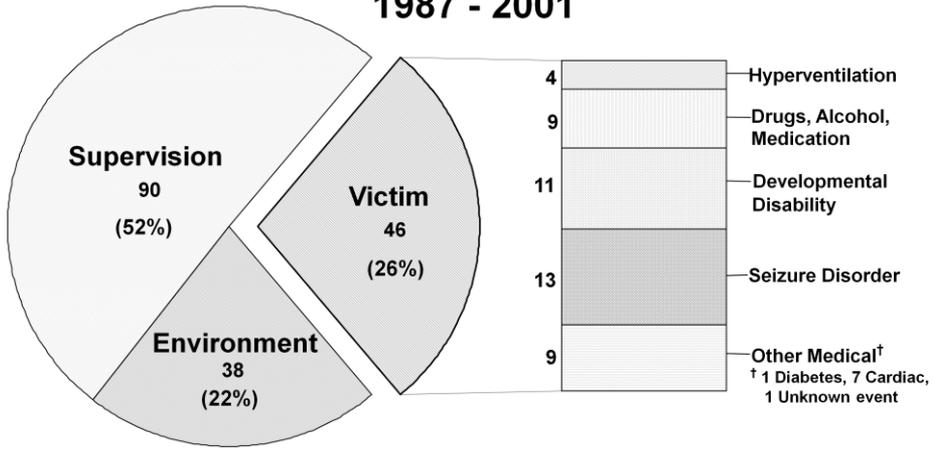
<sup>\*\*</sup> Drownings at New York State regulated facilities.

<sup>†</sup> Includes 4 male victims for which ethnicity was not reported.

Black males and females have a significantly higher drowning rate than White and Hispanic males and females.

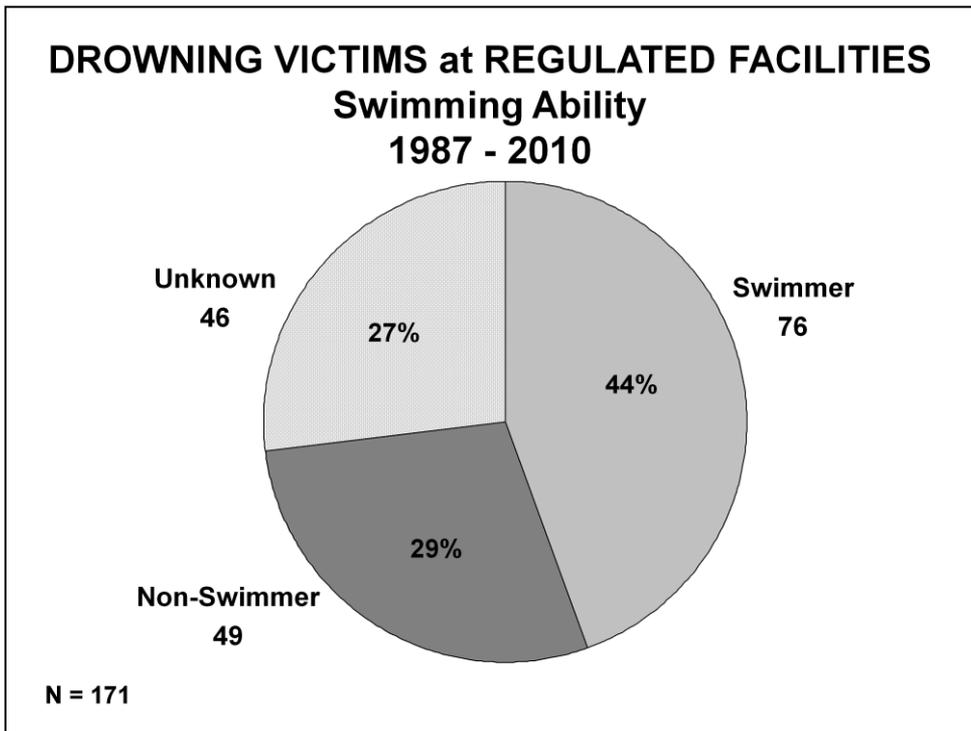
# DROWNINGS at REGULATED FACILITIES

## Contributing Factors\*: Victim 1987 - 2001\*\*



\* 174 Contributing Factors Identified in 112 Drownings, 1987-2001.

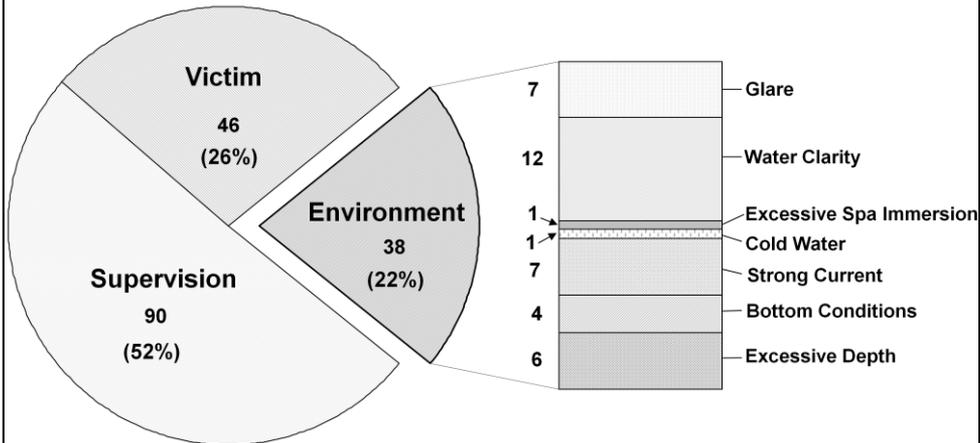
\*\* Contributing Factors pertaining to the victim are being reassessed and will be updated in the future.



It is commonly thought that most drowning victims are “non-swimmers”. When swimming abilities were determined, people who were considered to be “swimmers” drowned more frequently than “non-swimmers”.

Risk vs. exposure - Although non-swimmers may be more at risk of drowning because of their inability to swim, their exposure is often less because they spend less time in the water. Swimmers have a lower risk of drowning based on ability; however, their exposure may be greater because they spend more time in the water.

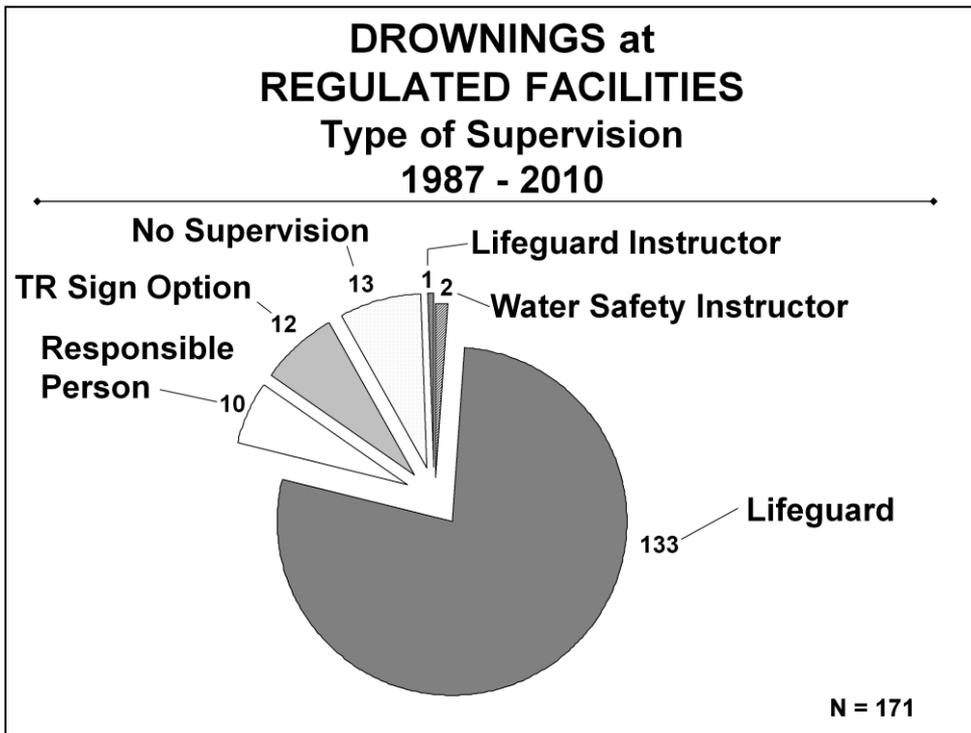
## DROWNINGS at REGULATED FACILITIES Contributing Factors\*: Environment 1987 - 2001\*\*



\* 174 Contributing Factors Identified in 112 Drownings, 1987-2001.

\*\* Contributing Factors pertaining to the environment are being reassessed and will be updated in the future.

Water clarity is the most frequently identified environmental contributing factor. The ability to see submerged bathers and to locate them promptly during a rescue is severely compromised when water clarity is poor. Unfortunately, several drownings where poor water clarity affected rescues occurred at swimming pools.

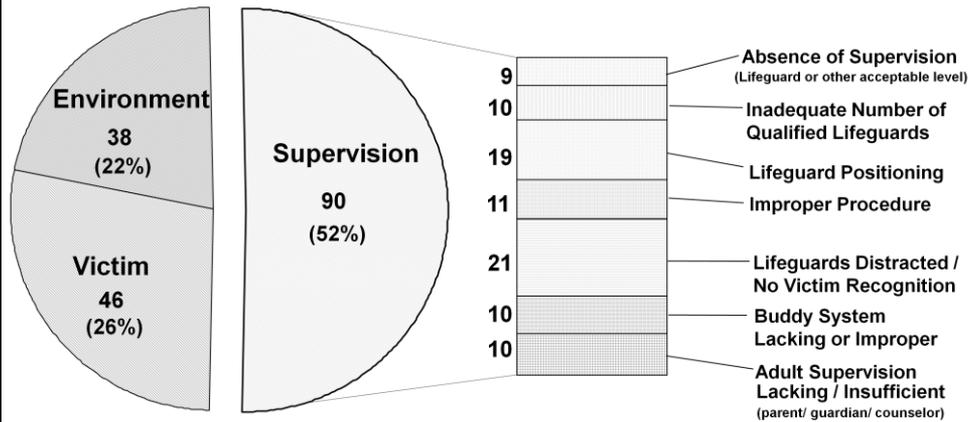


Many drowning incidents occur at lifeguarded facilities. It is believed that this is because the number of bathers present is much greater at lifeguarded bathing facilities.

**Responsible person:** *Non-lifeguard supervisory personnel present at the bathing facility.*

**Temporary Residence Sign Option:** *No facility supervisory staff present at the Temporary Residence (hotel, motel, campground, bungalow colony, etc.). Patron use rules are posted on signs at bathing facilities.*

## DROWNINGS at REGULATED FACILITIES Contributing Factors\*: Supervision 1987 - 2001\*\*



\* 174 Contributing Factors Identified in 112 Drownings, 1987-2001.

\*\* Contributing Factors pertaining to supervision are being reassessed and will be updated in the future.

Lifeguard distraction/not recognizing victim and lifeguard positioning are the most frequently identified contributing factors pertaining to supervision.

**DROWNINGS at REGULATED FACILITIES  
Contributing Factors - Supervision  
2002 - 2003**

• Inadequate # of guards	1	• Lifeguard Positioning	2
• Inadequate surveillance	1	– Blind spots	
• Unobserved submersion	5	• Lifeguard Skills	4
• Improper Procedure		– Panicked	
– No/delayed CPR	2	– Fatigued	
– Search	1	– Unable to reach pool bottom	
– Used patrons to respond	1	– Unable to move victim from 8' depth	
• Intrusion - other duties	4		
• Distracted			
– Chair change, Search	2		

Contributing factors pertaining to Supervision were analyzed for 2002 and 2003. A similar assessment is planned for all drowning data in the future.