



**Department
of Health**

Historical Drowning Data

New York State Bathing Facility Fatal Drowning Statistics 1987-2022

**New York State Department of Health
Center for Environmental Health
Bureau of Community Environmental
Health and Food Protection**

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Introduction

There are over 7,400 public swimming pools and 1,300 public bathing beaches operated in New York State. Millions of patrons visit these bathing facilities each year. This report summarizes the data collected from drowning investigations conducted at these bathing facilities since 1987.

Bathing facilities are operated by state agencies and municipalities or are located at hotels/motels, campgrounds, apartment complexes, health clubs and children's camps. Except for pools and beaches that are operated by the Office of Parks, Recreation and Historic Preservation and the Department of Environmental Conservation (which oversee their own pools and beaches), local health departments conduct inspections at all public facilities to protect bathers.

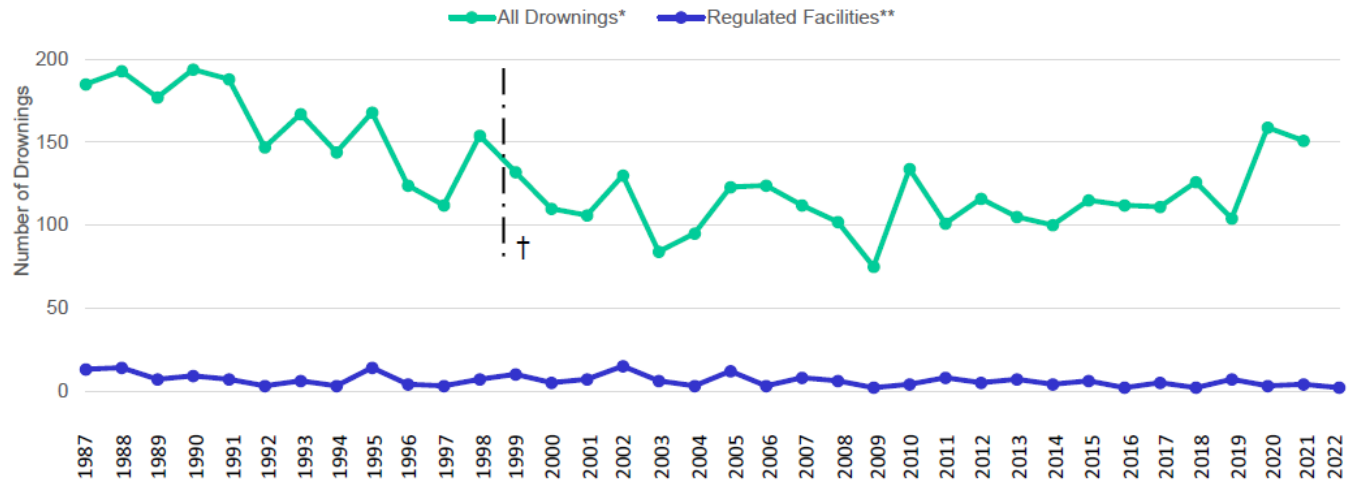
Pool and beach owners/operators are required to report incidents that occur at a bathing facility which:

- a. result in death;
- b. require resuscitation;
- c. require referral to a hospital or other facility for medical attention; or
- d. is a bather illness associated with bathing water quality.

The Office of Parks, Recreation and Historic Preservation and the Department of Environmental Conservation also report incidents to the State Health Department.

The State Health Department maintains a database of incidents and analyzes the data to determine the factors contributing to injury and illness in an effort to prevent similar events. The following information summarizes the data collected from investigations of fatal drownings conducted since 1987. All of the incidents described in this report occurred at public bathing facilities during the hours that the facility was open to the public.

NEW YORK STATE DROWNINGS 1987 to 2022



All Drownings*	185	193	177	194	188	147	167	144	168	124	112	154	132	110	106	130	84	95	123	124	112	102	75	134	101	116	105	100	115	112	111	126	104	159	151	N/A
Regulated Facilities**	13	14	7	9	7	3	6	3	14	4	3	7	10	5	7	15	6	3	12	3	8	6	2	4	8	5	7	4	6	2	5	2	7	3	4	2

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

* All deaths of NYS residents occurring in and out of NYS assigned an International Classification of Diseases (ICD) Code classifying the death as an accidental drowning. 2022 data not available at time of posting; N/A = Not Available.

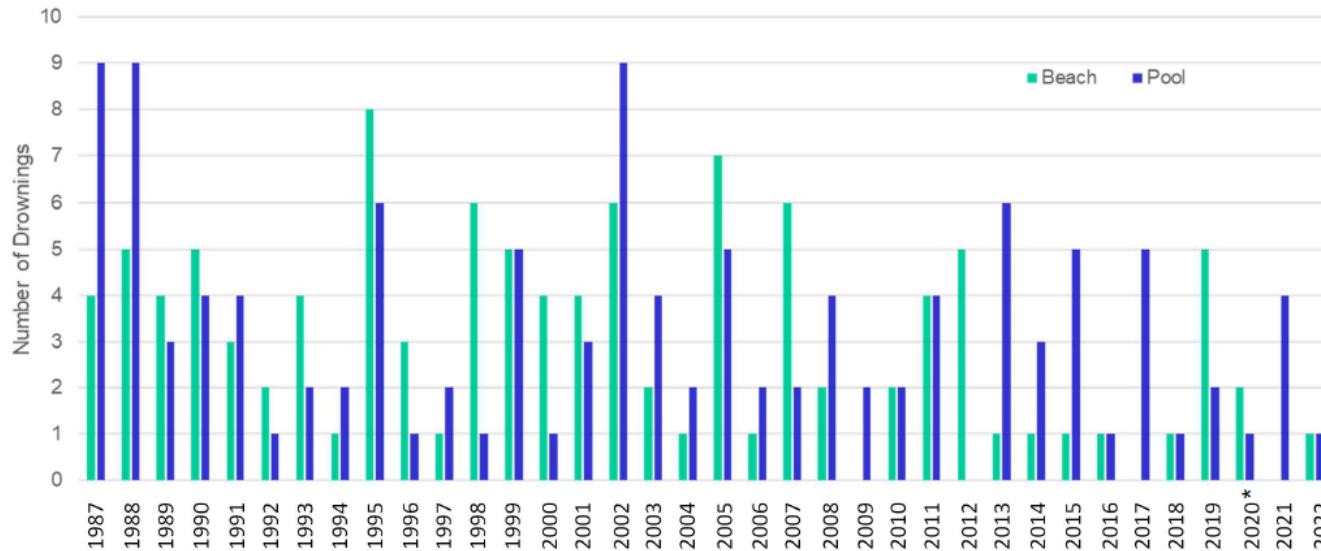
† ICD9 Codes (E830, E832, and E910) were used during 1987-1998. ICD10 Codes (W65 – W74) have been used from 1999 through present.

** Includes drownings occurring at public bathing facility in NYS during the hours that the facility was open to the public.

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

Drownings at public bathing facilities during times the facility was open to the public comprise a small portion of the total number of deaths of New York State residents classified as accidental drownings, which are tracked by the [State Vital Statistics Program](#).

DROWNINGS at REGULATED FACILITIES 1987 - 2022



Beach	4	5	4	5	3	2	4	1	8	3	1	6	5	4	4	6	2	1	7	1	6	2	0	2	4	5	1	1	1	1	0	1	5	2	0	1
Pool	9	9	3	4	4	1	2	2	6	1	2	1	5	1	3	9	4	2	5	2	2	4	2	2	4	0	6	3	5	1	5	1	2	1	4	1

Pool = 118

Beach = 108

N = 226

Annual Average: 6.28 Drownings/Year

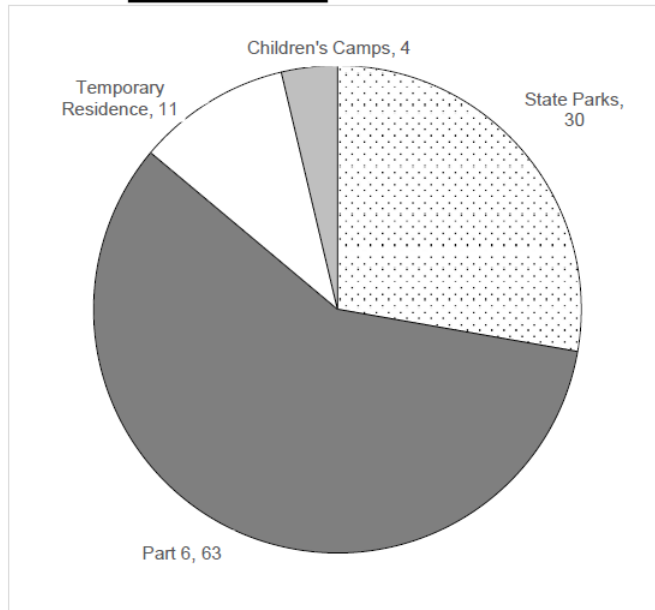
**Includes one additional pool drowning that occurred in 2020 that was reported after the previous Historical Drowning Data report was published.*

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.

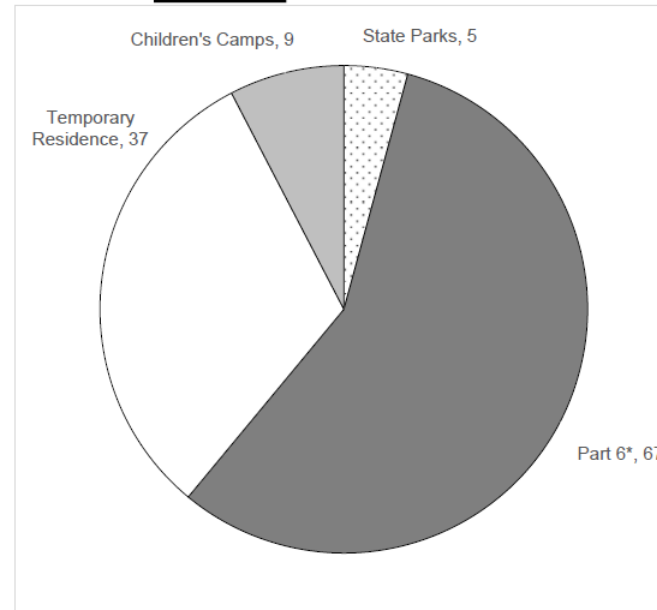
Source: New York State Department of Health Bathing Facility Incident Databases

DROWNINGS at REGULATED BATHING FACILITIES 1987 - 2022

Beaches N = 108



Pools N = 118



* Includes: 7 Spas, 5 Phys Ed Classes, 1 Wave Pool, 1 Aquatic Theme Park

Part 6 of the New York State Sanitary Code (SSC): 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 regulated under Subpart 7-2 of the SSC.

Temporary Residence: Hotel, Motel, Campground, Bungalow Colony regulated under Subpart 7-1 or Subpart 7-3 of the SSC.

Source: New York State Department of Health Bathing Facility Incident Databases

AVERAGE ANNUAL RATES* of DROWNING at REGULATED FACILITIES

Time Period	Swimming Pools			Bathing Beaches		
	Number of Facilities	Drowning Incidents	Average Annual Rate*	Number of Facilities	Drowning Incidents	Average Annual Rate*
1987-1990	6,357	25	0.98	1,595	18	2.82
1991-2000	6,435	25	0.39	1,622	37	2.28
2001-2010	6,435	35	0.54	1,622	31	1.91
2011-2020	7,376	28	0.38	1,267	21	1.66
2021-2022	7,376	5	0.33	1,267	1	0.39
Cumulative**	6,740	118	0.46	1,501	108	1.98

* Rates per 1000 Facilities

** Based on Average # of Facilities

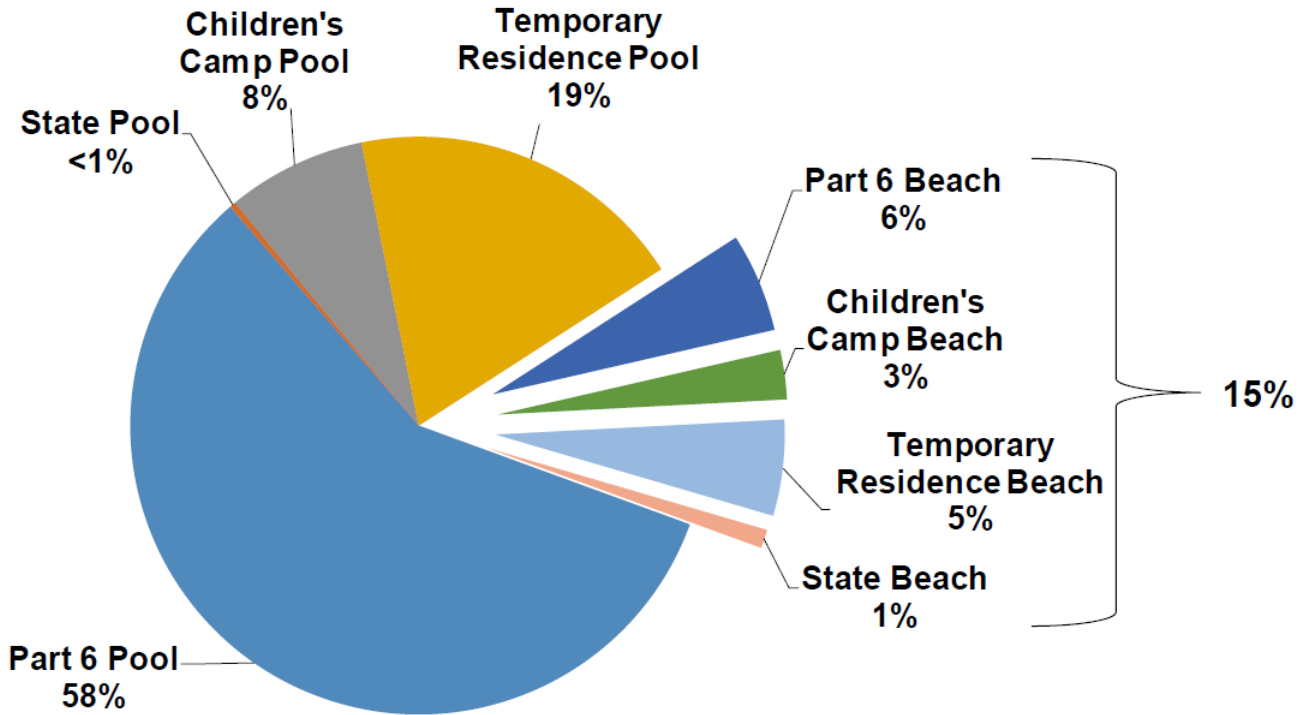
Beaches have a much higher average drowning rate than pools. Possible factors include: greater number of bathers, water clarity, currents, depths and bottom conditions.

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

Source: New York State Department of Health Bathing Facility Incident Databases

NYS BATHING FACILITIES*

Facility Type



* Facility numbers are based on 2015 program data.
 Due to rounding, percentages do not add up to 100%.

Beaches	N = 1,267
Pools	N = 7,376

Part 6 of the New York State Sanitary Code (SSC): Aquatic Amusement Parks, Municipal, Apartment Complex, Health Clubs, YMCA, School, Spa, Mobile Home Park, and Homeowner Association Pools.

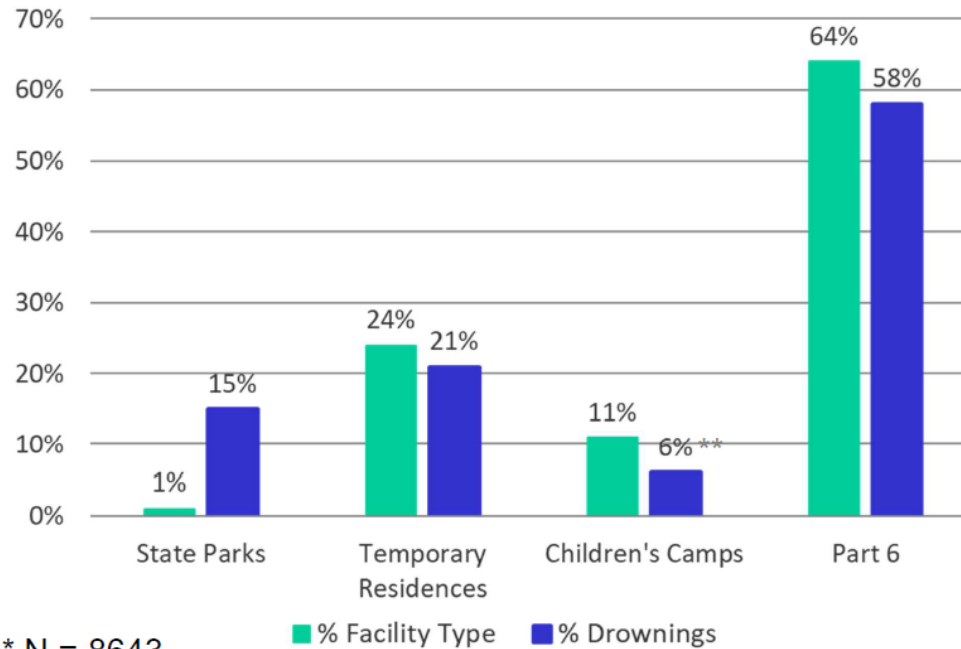
State: Operated by NYS Office of Parks, Recreation and Historic Preservation and Department of Environmental Conservation.

Children's Camp: Day and Overnight regulated under Subpart 7-2 of the SSC.

Temporary Residence: Hotel, Motel, Campground, Bungalow Colony regulated under Subpart 7-1 or Subpart 7-3 of the SSC.

Source: New York State Department of Health Bathing Facility Incident Databases

DROWNINGS by REGULATED FACILITY TYPE 1987 – 2022



Total Facilities* N = 8643
Drownings N = 226

*Facility numbers are based on 2015 program data. State Parks, Temporary Residence, and Children's Camps categories only include operations with bathing facilities.

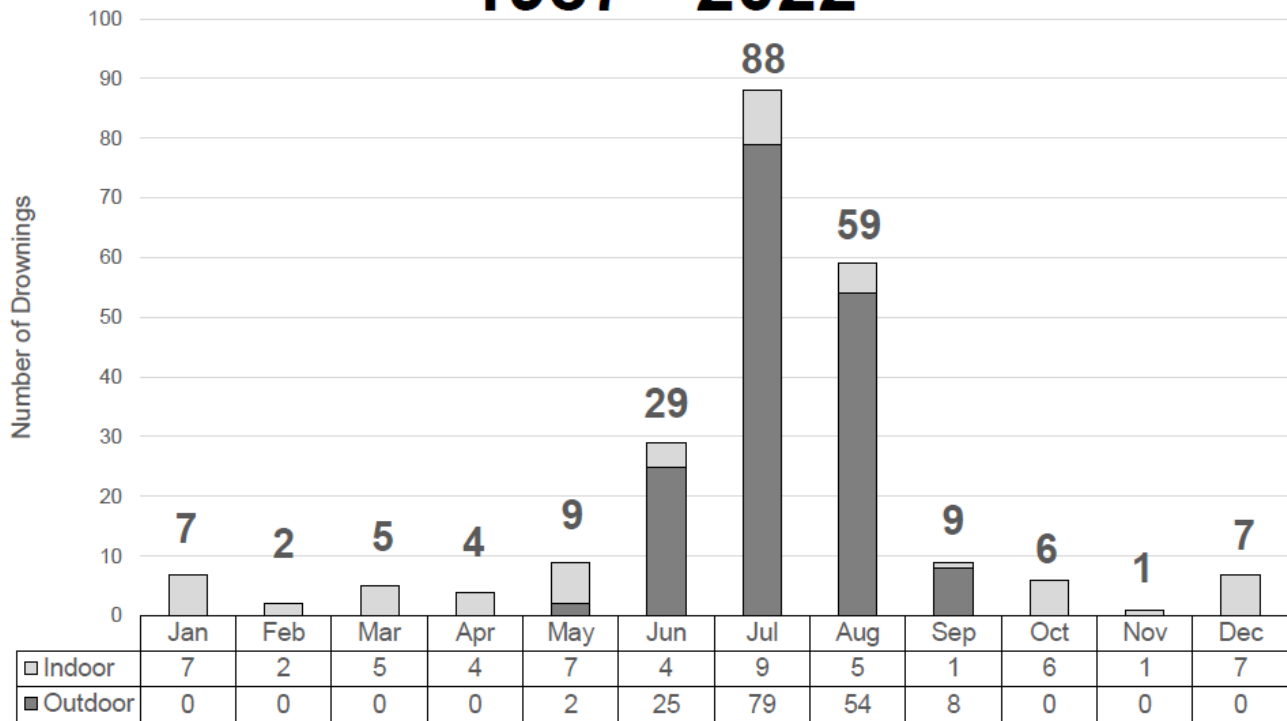
**Two of 13 Children's Camp drownings occurred at off-site bathing facilities.

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.

Source: New York State Department of Health Bathing Facility Incident Databases

DROWNINGS at REGULATED FACILITIES by Month 1987 - 2022



Indoor = 58 Outdoor = 168

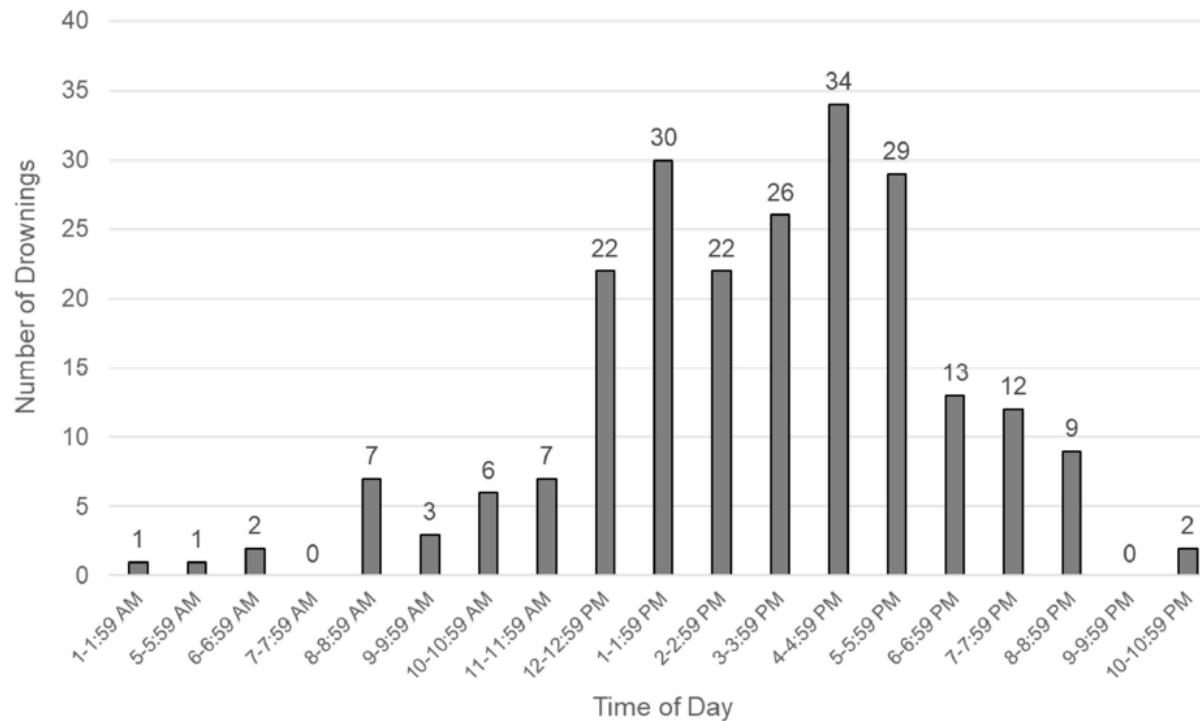
N = 226

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

Source: New York State Department of Health Bathing Facility Incident Databases

DROWNINGS at REGULATED FACILITIES

Time of Day 1987 - 2022



N = 226

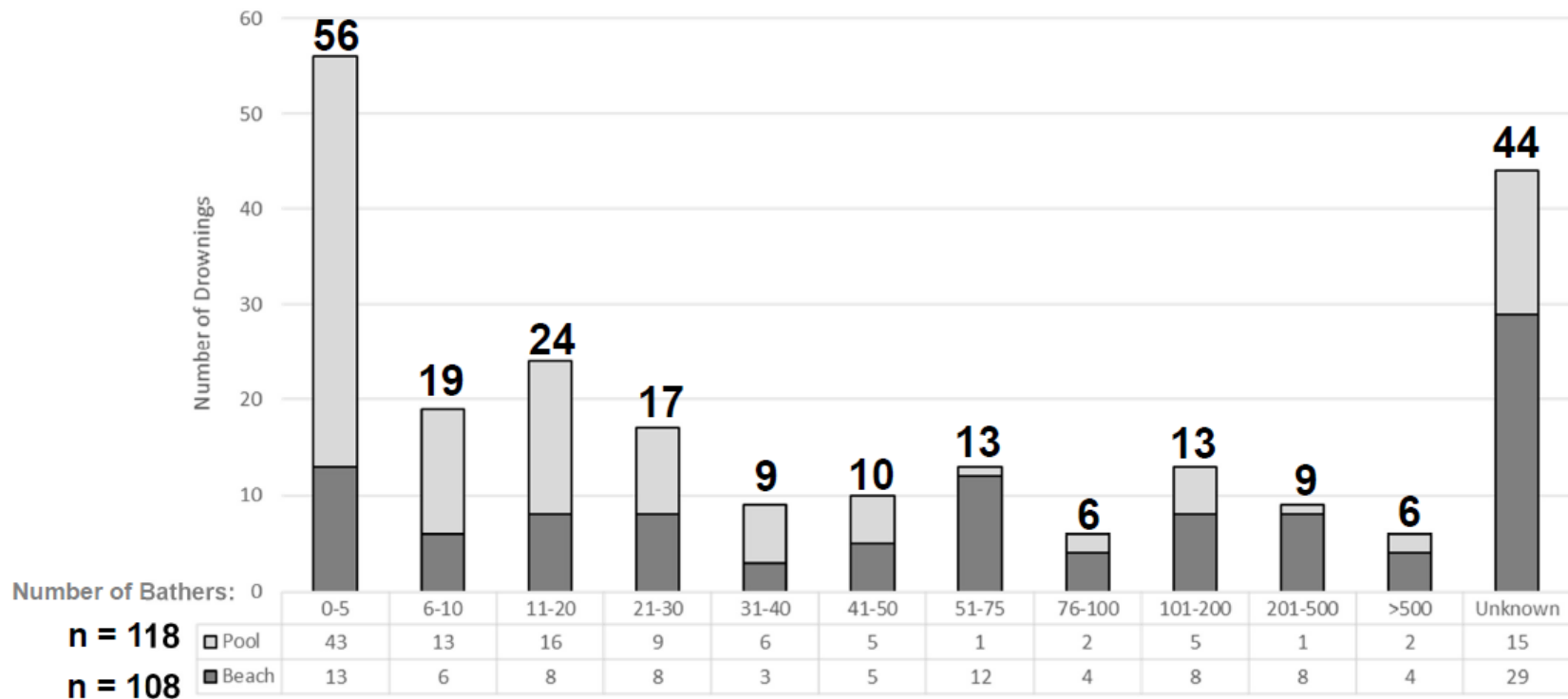
Most drowning occurs after noon. The highest incidence of drowning occurs at the end of the day between 4:00 and 6:00 PM. Some possible factors include: more bathers during this time of day, bather fatigue, lifeguard fatigue.

Source: New York State Department of Health Bathing Facility Incident Databases

DROWNINGS at REGULATED FACILITIES

Number of Bathers Present at Time of Drowning

1987 - 2022

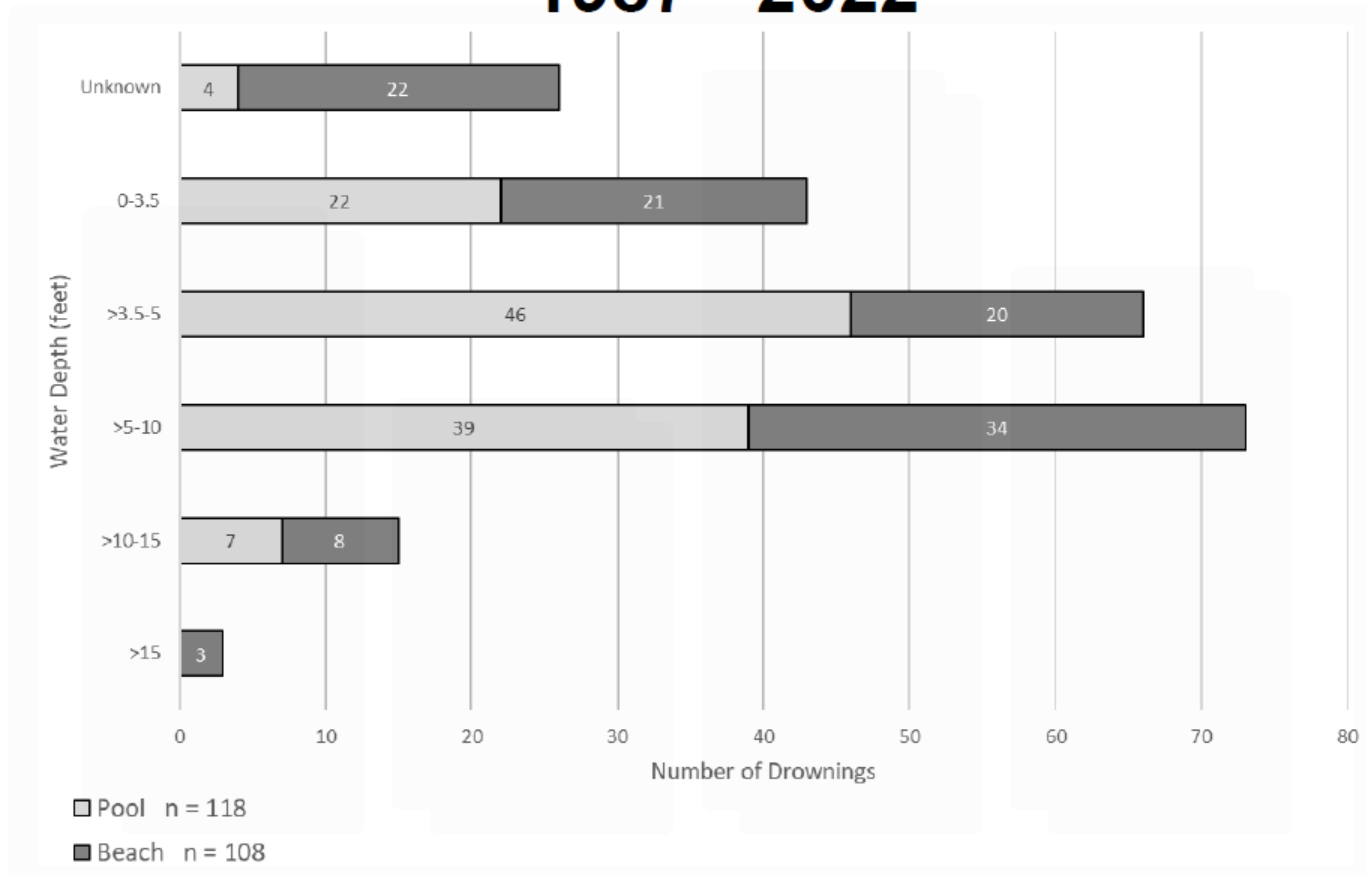


There is a high incidence of drownings that occur when low numbers of bathers are present. Diligence in supervising bathers is needed at all times, not just when there are large numbers of bathers.

Source: New York State Department of Health Bathing Facility Incident Databases

DROWNINGS at REGULATED FACILITIES

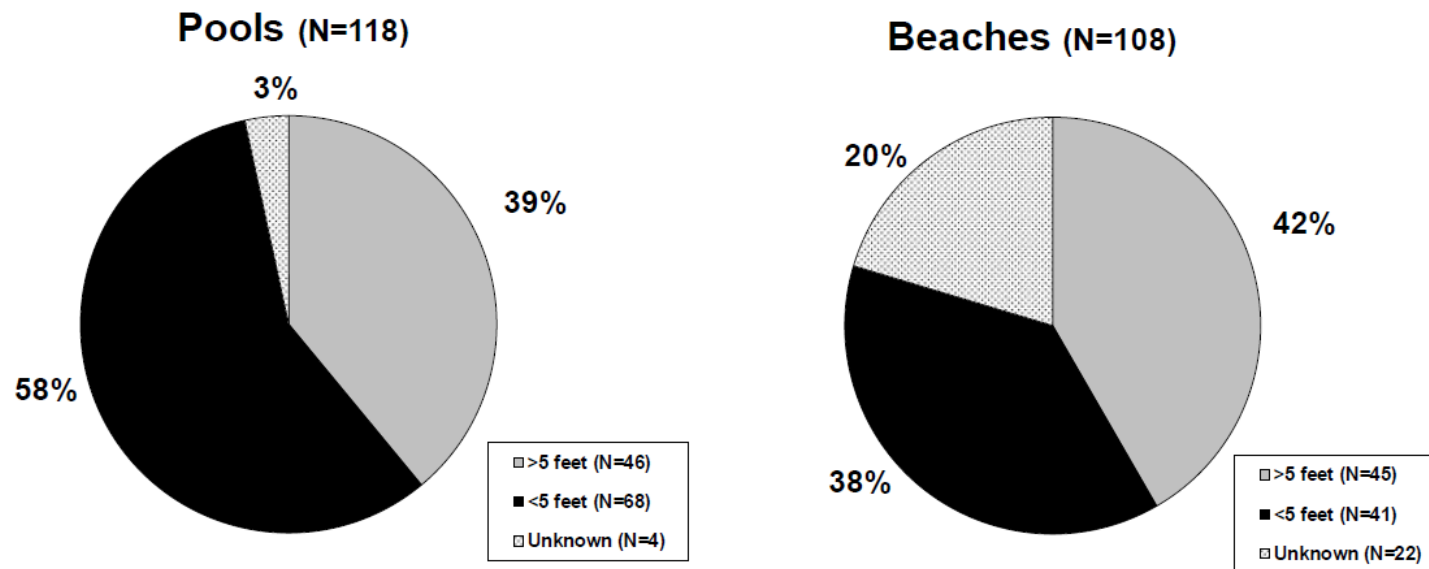
Water Depth at Location of Submersion 1987 - 2022



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.

Source: New York State Department of Health Bathing Facility Incident Databases

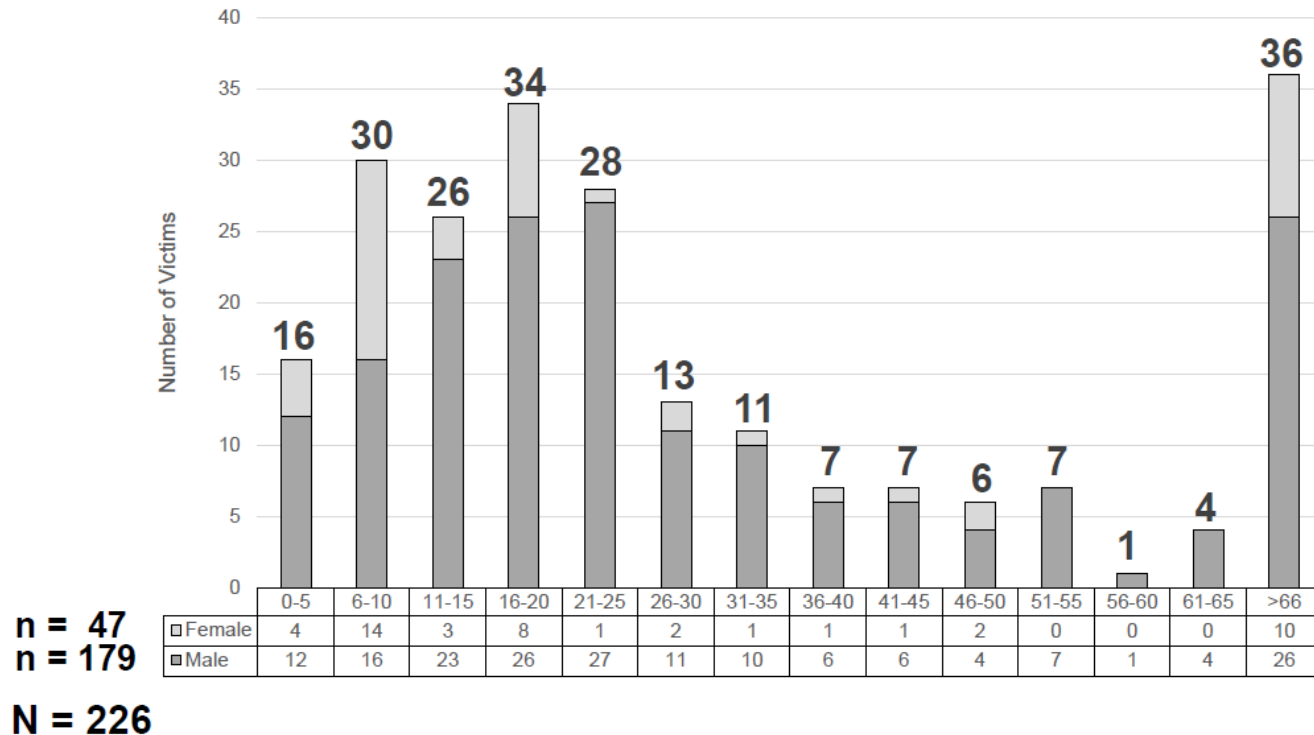
DROWNINGS at REGULATED FACILITIES Water Depth at Location of Submersion 1987 - 2022



An analysis of water depth at location of submersion by facility type shows that the significant number of drownings that occur in less than 5 feet water depth is consistent across pools and beaches. However, there are more drownings in unknown water depth at beaches than pools.

Source: New York State Department of Health Bathing Facility Incident Databases

DROWNINGS at REGULATED FACILITIES Age and Sex of Victim 1987 - 2022



At regulated bathing facilities, males are about 4 times more likely to be drowning victims than females. Many people think that toddlers are the most at risk, which is true for drownings in all settings; however, at regulated bathing facilities most drowning victims are between 6 and 25 years old.

Source: New York State Department of Health Bathing Facility Incident Databases

DROWNING RATES

Sex and Ethnicity

1987 - 2022

SEX/ETHNICITY	NYS POPULATION*	DROWNINGS**	RATE PER 1,000,000	AVERAGE ANNUAL RATE
MALES				
White	5,684,782	89	15.66	0.43
Black	1,389,590	48	34.54	0.96
Hispanic	1,409,275	33	23.42	0.65
Other	663,071	4	6.03	0.17
TOTAL	9,146,718	179 [†]	19.57	0.54
FEMALES				
White	6,076,199	24	3.95	0.11
Black	1,507,193	18	11.94	0.33
Hispanic	1,433,792	2	1.39	0.04
Other	812,525	3	3.69	0.10
TOTAL	9,829,709	47	4.78	0.13
MALE/FEMALE				
White	11,760,981	113	9.61	0.27
Black	2,812,623	66	23.47	0.65
Hispanic	2,867,583	35	12.21	0.34
Other	1,535,270	7	4.56	0.13
TOTAL	18,976,457	226	11.91	0.33

* 2000 U.S. Census Data for New York State compiled by NYSDOH, Bureau of Biometrics and Health Statistics. Totals include all ethnicities.

** Drownings at New York State regulated facilities.

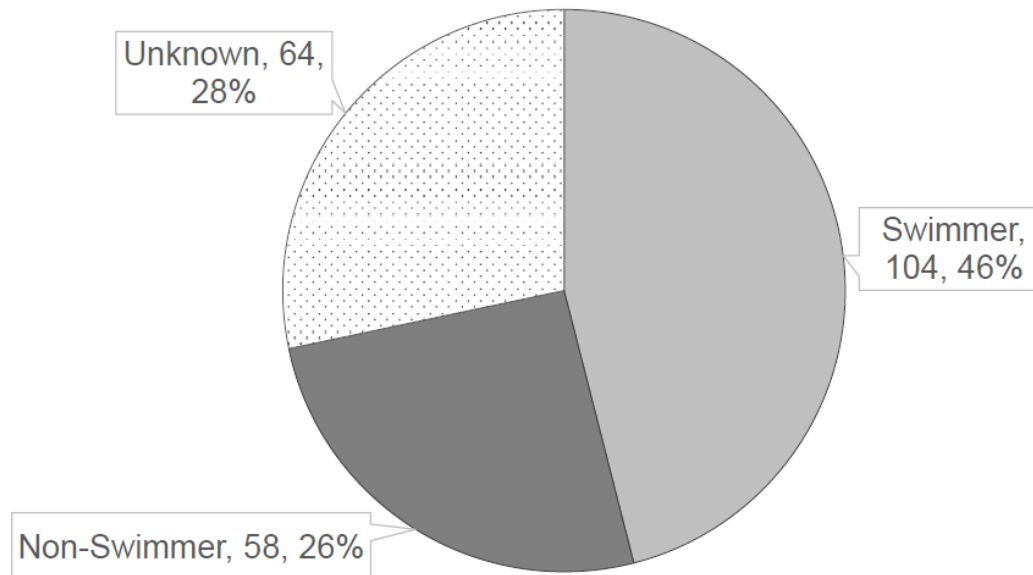
† Includes 5 male victims for which ethnicity was not reported.

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

DROWNING VICTIMS at REGULATED FACILITIES

Swimming Ability

1987 - 2022



N = 226

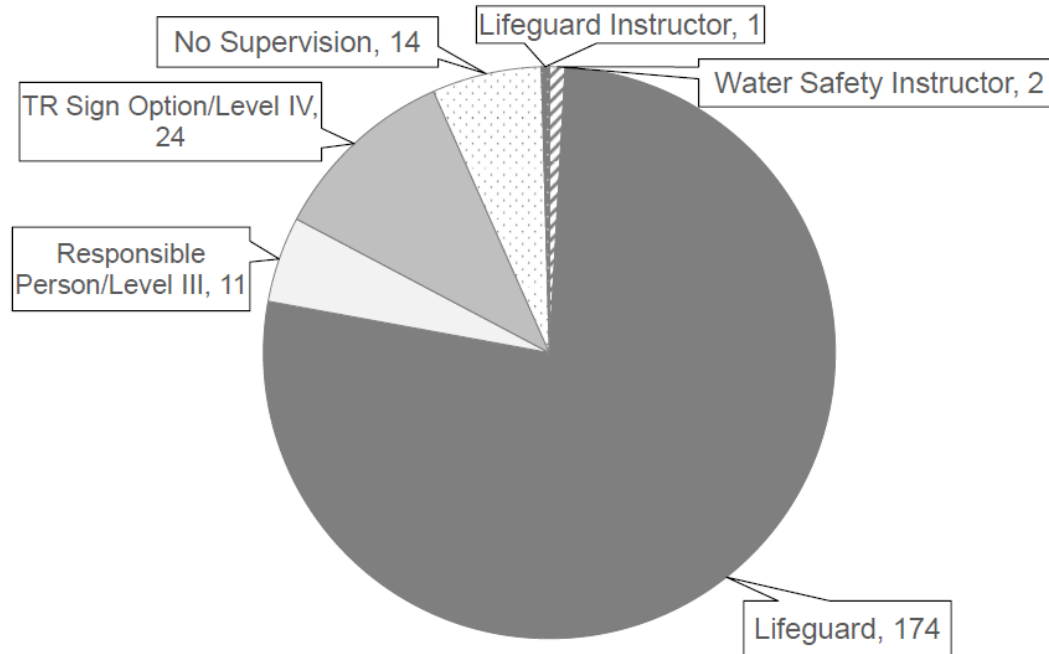
It is commonly thought that most drowning victims are “non-swimmers”. When swimming abilities were determined, people who were considered to be “swimmers” drowned more frequently than “non-swimmers”.

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.

Source: New York State Department of Health Bathing Facility Incident Databases

DROWNINGS at REGULATED FACILITIES

Type of Supervision 1987 - 2022



N = 226

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.

Supervision Level III / Responsible person: Non-lifeguard supervisory personnel present at the bathing facility.

Supervision Level IV / 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.

Source: New York State Department of Health Bathing Facility Incident Databases