



## Maximum Bather Load

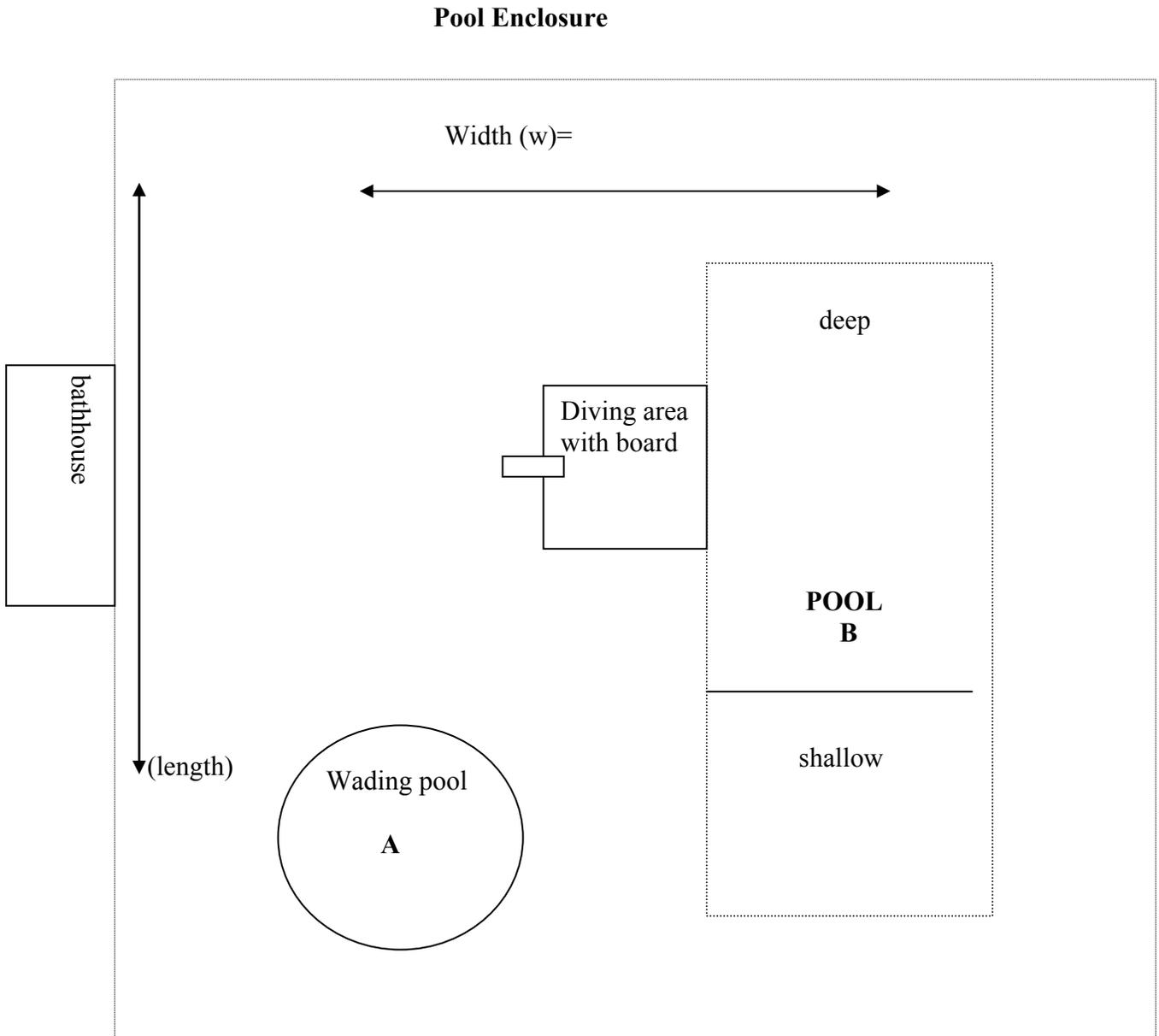
Maximum bather load is the maximum number of patrons permitted to be in the water of a pool used for swimming at any one time. The maximum bather load shall be calculated using the following table based on the amount of deck area in relation to square feet of water surface area and water depth.

	<b>Shallow or wading areas</b>	<b>Deep areas, not including diving areas</b>	<b>Diving areas (per board)</b>
If the deck is less than the surface area of the pool	15 sq. ft. of pool surface area per bather	20 sq. ft. of pool surface per bather	300 sq. ft. of pool surface area per bather
If the deck is equal to or larger than the surface area of the pool	12 sq. ft. of pool surface area per bather	15 sq. ft. of pool surface per bather	300 sq. ft. of pool surface per bather
If the deck is twice the surface area of the pool	8 sq. ft. of pool surface per bather	10 sq. ft. of pool surface per bather	300 sq. ft. of pool surface area per bather

- for spas; 8 sq. ft. per bather
- for natatoriums, please consult design engineer and Division of Fire Prevention & Building Safety, Homeland Security
- for water parks; use 1 bather per 15 sq. ft. water surface area
- an additional 10 bathers can be added if the diving board is closed

To calculate maximum bather load:

EXAMPLE:



**Pool water surface area:**

*Wading* pool water surface area = radius (r) x radius (r) x 3.14 \*formula for circle

r = 6 feet

6 feet x 6 feet x 3.14 = 113.04 sq. ft. rounded off to 113 sq. ft.

*Pool* water surface area: diving area + rest of the pool

*Diving* area water surface area = length x width \*formula for rectangle

10 feet x 30 feet = 300 sq. ft.

Rest of the pool (deep + shallow) = length x width

70 feet x 30 feet = 2100 sq. ft.

*Total* water surface water surface = wading + diving + rest of the pool

113. sq. ft. + 300 sq. ft. + 2100 sq. ft. = 2513. sq. ft.

**Total area within pool enclosure:**

Length x width =

150 ft. x 100 ft. = 15,000 sq. ft.

**Total deck area:**

Area within pool enclosure – total pool water surface area =

15,000 sq. ft. – 2513 sq. ft. = 12, 487 sq. ft.

12, 487 sq. ft.(total deck area) is approximately 4 times larger total pool water surface area (2513 sq. ft.), use the 3<sup>rd</sup> row of the maximum bather load chart listed above:

**Bather load:**

• for the diving area (1 board) =  
300 sq. ft. divided by 300 sq. ft. per bather required in the diving area as required = **1 bather**

• for the deep area (5feet deep+) = \*10 sq. ft. per bather as required  
water surface area of deep =  
length x width =  
40 feet x 30 feet =  
1200 sq. ft.

1200 sq. ft. divided by 10 sq. ft per bather as required =

**120 bathers in the deep area**

- for the shallow area (5 feet deep and less) =  
length x width=  
30 feet x 30 feet = 900 sq. ft.

900 sq. ft. divided by 8 sq. ft. as required per bather for shallow areas =  
**112.5 bathers in the shallow area** \*rounded off to 112

- for the wading pool:  
113 sq. ft. (surface area) divided by 8 sq. ft. as required per bather for wading area =  
**14.1 bathers for the wading pool** \*rounded off to 14

**Maximum bather load =**

**For Pool B =**

**1 bather (diving area) + 120 bathers (deep area) + 113 bathers (shallow area) =  
234 bathers or 244 bathers if the diving board is closed**

**For Pool A (wading pool) =**

**14 bathers for the wading pool**

\*\*\*\* If a spa is added to the example:

Spa size of 8 feet x 9 feet; surface area of spa is calculated: length x width  
8 feet x 9 feet = 72 feet

**Maximum bather load for the spa =**

72 sq. ft. divided by 8 sq. ft. per bather as required per bather in a spa =  
**9 bathers**