

Operation Baywatch

BY TOM GRIFFITHS, ED.D.; HANS VOGELSO





ND DONALD STEEL, PH.D.

For the past several years, researchers at Pennsylvania State University and the University of Maryland have been studying lifeguard behaviors throughout North America, primarily through computer-analyzed self-reported evaluations of working lifeguards. More than 5,000 lifeguards have responded to the survey during the past three years. The questions are changed each year in an attempt to answer timely issues and trends that appear to be developing in the profession. While many different questions were answered during the 1996 survey, much attention was given to training and ability issues in lifeguarding.

The 1996 sample consisted of 2,281 lifeguards from the United States and Canada. Approximately half of the lifeguards responding to this survey were from California (1,087). Most of the respondents worked as lifeguards in southwestern and western states. The other top states included Arizona (217), Oregon (197), Colorado (156), and Texas (126). The fol-

lowing data defines this sample by age, experience, gender, the type of facility where employed, and whether seasonal or career lifeguards.

As Table 1 indicates, there was quite a range of age and experience for lifeguards in the sample. Age ranged from 15 years old all the way to 78 years old, with a mean age for the sample in the low 20s. This pattern also holds true for experience. While some guards were obviously novices with less than a month of experience, others had as much as eight and one-half years of experience. The average experience level of the guards in the sample was 25 months. Furthermore, as one might expect, older lifeguards were also more experienced. There was a significant correlation ($r=.636$) between reported age and the number of months of experience reported by the lifeguards in the sample.

Table 2 describes where the lifeguards in the sample were employed. The majority of the lifeguards in the sample (82 percent) were employed at indoor and

WHILE LIFEGUARDING IS A PART-TIME JOB FOR MOST INDIVIDUALS, FOR SOME IT IS A FULL-TIME CAREER.



TABLE 1. AGE AND EXPERIENCE OF LIFEGUARDS IN THE SAMPLE

Age of Lifeguards (in Years)			Experience of Lifeguards (in Months)		
Minimum	Maximum	Average	Minimum	Maximum	Average
15	78	21.31	0	99	25.28

TABLE 2. TYPE OF FACILITY WHERE LIFEGUARDS IN THE SAMPLE WERE EMPLOYED

Type of Facility	Number	Percentage
Indoor Pool	596	28%
Outdoor Pool	1,148	54%
Waterpark	200	9%
River/Lakes	35	2%
Ocean	155	7%
Total	2,134	100%

TABLE 3. CAREER ORIENTATION AND GENDER OF LIFEGUARDS IN THE SAMPLE

Career Orientation				Gender			
Career		Seasonal		Males		Females	
Number	%	Number	%	Number	%	Number	%
435	20%	1,734	80%	1,100	52%	997	48%

TABLE 4. TIME TO COMPLETE ONE SCAN

Scan Times	Number	Percentage
1 - 5 secs.	374	18%
6 - 10 secs.	1,171	54%
11 - 15 secs.	459	21%
16 - 20 secs.	132	6%
More than 20 secs.	30	1%
Total	2,166	100%

TABLE 5. TIME SCANNING BY SIZE OF ZONE

Scan Time	Size of Zone										Total	
	Small		Medium		Large		Extra Large		Extremely Large			
	N	%	N	%	N	%	N	%	N	%	N	%
1 - 5 secs.	79	20	130	19	94	17	27	14	38	14	368	17
6 - 10 secs.	211	53	389	56	316	57	85	45	137	49	1,138	54
11 - 15 secs.	78	20	141	20	109	20	57	30	68	25	453	21
16 - 20 secs.	29	7	31	5	28	5	20	11	22	8	130	6
More than 20 secs.	1	0	4	1	8	1	2	1	13	5	28	1
Total	398	19	695	33	555	26.2	191	9	278	13	2,117	100

outdoor pools. This was followed by waterparks (nine percent), oceans (seven percent), and rivers/lakes (two percent). Due to the low number of guards employed at rivers/lakes, this category was eliminated in any further analysis.

While lifeguarding is a part-time job for most individuals, for some it is a full-time career. As Table 3 illustrates, there were slightly more males than females in the sample. However, the number of seasonal guards far outweighed the number of guards who reported that they have made a career of lifeguarding.

Measuring Lifeguard Behaviors and Abilities

Although it is difficult to rate the behaviors and abilities of lifeguards with a self-reporting survey, three questions were asked to provide some insight into these aspects. The first of these questions asked the guards to indicate how long it takes them to complete a visual scan of their zone of responsibility. The results from this question are outlined in Table 4. While the majority (54 percent) of the lifeguards reported that they took six to 10 seconds for a complete scan, 28 percent of the guards in the sample took longer than 10 seconds to complete a scan. The 10 seconds is considered by Ellis and Associates to be the standard of care regarding scan time.

One possible reason for this discrepancy may be the size of the zone that lifeguards are asked to watch. Therefore, scan times were compared by zone size in an effort to see if zone size accounts for some of the variance in scan time. The results are outlined in Table 5.

As zone size increases from small to large, the number of seconds lifeguards

report they take to make a complete scan significantly rises. Note that only one out of 398 lifeguards guarding small zones reported taking more than 20 seconds to scan their zones, compared to 13 out of 278 guards watching extremely large zones reporting this same scan time. Additionally, less than 50 percent of guards watching either extra large or extremely large zones were within the scan time of six to 10 seconds. From a realistic and practical standpoint, it appears that larger zones simply require more time to scan effectively. Also, if larger zones are also crowded, even more time would be required. Lifeguard-training manuals also strongly suggest stopping the eyes every 10 to 15 degrees to better detect details like facial expressions and distress signals. Therefore, it is clear that the statistics do not support the validity of the recommended 10-second scan requirement for all lifeguarding environments. Common sense, along with this data, indicates that large, crowded zones may not be effectively scanned in 10 seconds.

Another important measure of lifeguard effectiveness was the percentage of time on duty that the guards reportedly spent watching their zones. As Table 6 illustrates, the amount of time guards watch their zones varies considerably. In fact, fewer than half of the guards in the sample reported watching their zones 100 percent of the time while on duty, and 18 percent reported watching their zones only 85 percent or less of the time.

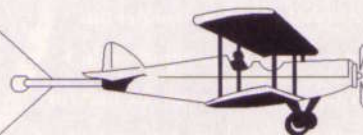
Perhaps the most important measure of lifeguarding ability was the response to the question asking the guards to rate their confidence in making a successful water rescue. Although the majority of lifeguards believed they were well-trained, when asked "How confident are you in your abilities to make a water rescue?" the responses and patterns displayed in Table 7 were interesting and almost identical to last year's survey.

Although only five percent of the lifeguards responded that they were "very

unconfident" to make a water rescue, please note that this represents more than 100 lifeguards in this sample. As in last year's responses, lifeguards who

were not either "Very" or "Fairly" confident bypassed "Not Sure" and "Not Very Confident" in order to mark "Very Unconfident." Again, the pattern of re-

NORDOT®
Adhesives



◀ **LOWER JOB COST** ▶

Enjoy the luxury of low hazard, environmentally friendly, faster & more reliable installations when using our adhesives. ⇒ Result: the finished job costs less!

◀ **TYPES OF NORDOT ADHESIVES** ▶

- Outdoor
- Solvent-Free
- Controlled Grab
- One & Two-Part
- Indoor
- Water-Free
- Curing Hot Melt
- High Green Strength

◀ **STOP UNNECESSARY SUFFERING** ▶

Easy handling properties are just as important as superior performance. For 23 years, our urethane and epoxy adhesives do both. ⇒ Do your adhesives?

◀ **NORDOT ADHESIVE USES** ▶

- Artificial Turf
- Golf Mats
- Water Slides
- Gym Floors
- Athletic Fields
- Playgrounds
- Binders
- Concrete, Asphalt

WANT THE FACTS? - Write or Call:



P. O. Box 241
Scotch Plains,
NJ 07076 U.S.A.
TEL: (908) 233-6803
FAX: (908) 233-6844

PLEASE CIRCLE READER SERVICE CARD NO. 52

IT IS ALSO IMPORTANT TO KNOW WHAT TYPES OF SKILLS ARE BEING TAUGHT BY THE TRAINERS DURING IN-SERVICE TRAINING.



TABLE 6. PERCENTAGE OF TIME SPENT WATCHING POOL

Time Watching Zone	Number	Percentage
50% of Time on Duty	30	1%
75% of Time on Duty	87	4%
85% of Time on Duty	278	13%
100% of Time on Duty	949	44%
Total	2,155	100%

TABLE 7. CONFIDENCE OF MAKING A SUCCESSFUL WATER RESCUE

Confidence Level	Percentage of Guards
Very Confident	72%
Fairly Confident	22%
Not Sure	Less than 1%
Fairly Unconfident	Less than 1%
Very Unconfident	5%

TABLE 8. WHERE LIFEGUARDS RECEIVED THEIR CERTIFICATION

Certifying Agency	Percentage of Guards
American Red Cross	83%
Ellis and Associates	10%
YMCA	2%
United States Lifesaving Association	3%
Other	3%

Note: Because of the low number of lifeguards receiving their certifications from the YMCA and USLA in this sample, these categories were included with the "other" category for further analysis.

TABLE 9. PERCEIVED QUALITY OF CERTIFICATION COURSES

Certifying Agency	Quality of Course		
	Very Good	Good	Poor
American Red Cross	48%	46%	6%
Ellis and Associates	60%	39%	1%
Other	50%	41%	9%

TABLE 10. CONFIDENCE OF GUARDS BY TRAINING AGENCY

Training Agency	Confident	Not Confident
American Red Cross	95%	5%
Ellis and Associates	94%	6%
Other	88%	12%

sponses seems to indicate that these individuals are truly not confident and probably should not be lifeguarding. While this is not huge, it is alarming. Apparently, something is happening that allows a number of guards to slip through the cracks of the certification process, or the courses do not have sufficient training in realistic rescues. These factors are examined in the next section. One surprising finding, was that there was absolutely no difference in the confidence levels between seasonal lifeguards and career lifeguards in making a water rescue.

Certifying Agencies and Training

Lifeguards participating in the survey obtained their certifications from a number of different sources. Table 8 outlines these different agency certifications obtained by the lifeguards competing in the sample.

Examples of "Other" certifications cited by respondents included the Royal Lifesaving Society of Canada and The Boy Scouts of America. While females were significantly more likely to be certified by the American Red Cross or Ellis and Associates, males were significantly more likely to be certified by other agencies, such as USLA and the YMCA.

In addition, the lifeguards were asked to name the certifying body and the quality of the most recent lifeguarding course in which they participated. The results are shown in Table 9.

These results indicate, to a significant degree, that the lifeguards completing Ellis and Associates training rated the quality of that course higher than those taught by the American Red Cross or "Other" training agencies. There was also

a significant difference in confidence levels between lifeguards trained by different agencies. When asked how confident they were in their abilities to make a water rescue, those who were categorized as "not confident" (responded with "Not Sure," "Not Very Confident," or "Very Unconfident") were more likely to be trained by agencies other than the American Red Cross and Ellis and Associates. Table 10 outlines these results.

Pre-Season Orientation and In-Service Training

It was reassuring that 95 percent of the sample had both pre-season training and in-service training. When asked how informative these sessions were, the 1996 sample rated its in-service training higher than its pre-season orientation (see Table 11). Ninety percent of all lifeguards rated their in-service training as being "Fairly" to "Very" informative. It appears that while lifeguard trainers are doing a good job with in-service training, employers of lifeguards should attempt to improve the pre-job orientation. It is also interesting to note that the waterpark lifeguards were significantly more satisfied with their job orientation than those who worked at other facility types.

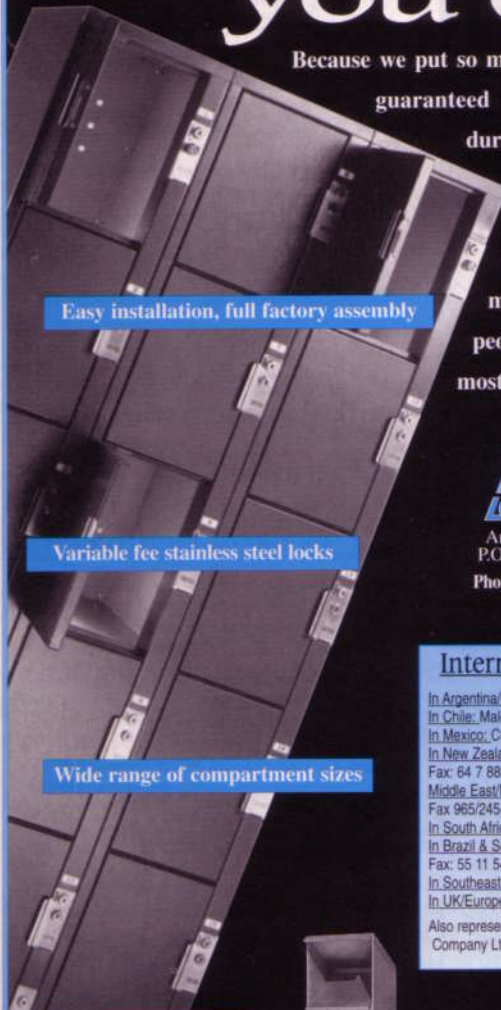
It is also important to know what types of skills are being taught by the trainers during in-service training. Table 12 outlines the skills the guards in the sample were reportedly trained in during their in-service training. The vast majority of the guards in the sample reported that both accident management and accident prevention were included in their in-service training. However, note that 13 percent of the guards reported being trained only in accident management and not accident prevention. Obviously, the benefits of a proactive approach to lifeguarding necessitate including accident prevention as a part of the training program.

Conclusion

Readers should understand that the sample used to compile the above data

No one gets more out of our lockers than you do

Because we put so much into our lockers, you are guaranteed exceptional quality. Our durable, low maintenance product line is supported by unmatched service, forever. Call us today and discover the myriad of ways we help more people around the world get the most out of our lockers.



Easy installation, full factory assembly

Variable fee stainless steel locks

Wide range of compartment sizes

AMERICAN LOCKER SECURITY SYSTEMS

American Locker Security Systems, Inc.
P.O. Box 489, Jamestown, NY 14702-0489
Phone: 1-800-828-9118 • Fax: 1-716-664-2949

International Representatives

In Argentina/Uruguay: Unibloc S.A. Fax: 54 1 783-1950
In Chile: Maletex S.A. Fax: 562-737-1037
In Mexico: Cia. Mexicana de Lockers, S.A. Fax: 52 5 618-2364
In New Zealand/Australia: Aspen Locker Security Systems
Fax: 64 7 883 1077
Middle East/North Africa: Nass International, Inc.
Fax 965/245-2060
In South Africa: Greenfield Manufacturing Fax: 27 11 393-1685
In Brazil & South America: Mailex Do Brasil Ltda.
Fax: 55 11 543-4493
In Southeast Asia: Titak Limited Fax: 852/2529-6762
In UK/Europe: W.B. Bawn & Co., Ltd. Fax: 44 1 284-752844
Also represented in Canada by Canadian Locker Company Ltd. Fax: 416/439-7036

Call for a **FREE** Butt Stop[®] Brochure!

The Out of Sight Solution to the Unightly Problem of Cigarette Disposal

Visit our Web Site at:

www.americanlocker.com

or email us at

103303.1432@compuserve.com

PLEASE CIRCLE READER SERVICE CARD NO. 54

Organized Sports™ - Pro Edition



Organized Sports™ Sports Management Software for Windows™

- Registration
- Scheduling
- Facilities Management
- Results & Standings
- Official Assignment
- Custom Reports

Brochures & Demo available

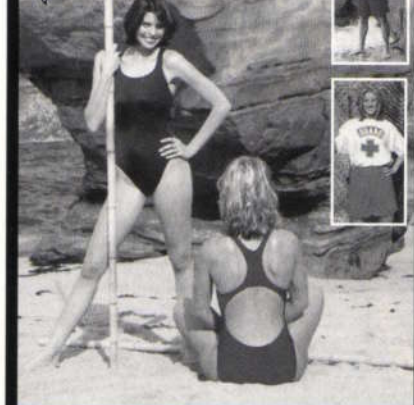
800-977-7366

www.frontiernet.net/~orgsport

Pennine Computer Consulting Inc. 910 Old Way Dr, Webster NY 14580

PLEASE CIRCLE READER SERVICE CARD NO. 56

Get into



Peli Lifeguard Products
1-800-653-2139
 free color catalog

Superior Swimsuits with Black Lining
 Shorts, T-Shirts, Screen Printing
 Headwear, Sunscreen & Rescue Tube

1131 Victor Street, El Cajon, CA 92021

PLEASE CIRCLE READER SERVICE CARD NO. 70

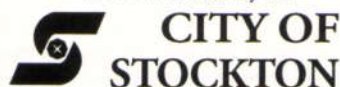
PARKS SUPERINTENDENT

\$4,547-\$5,553/mo+ exclnt benefits

DESCRIPTION: Plans, organizes and directs the City's Parks Division, including parks landscape and maintenance, public building grounds, street trees, golf courses, and recreational areas. Requires: valid CA driv. license; equivalent to a B.A. degree with major course work in park administration, public administration, horticulture, or a closely related field; three years of administrative or supervisory experience which has involved parks development, operations and maintenance.

CLOSING DATE: Friday, January 16, 1998. However, the position will close prior to the closing date if a sufficient number of qualified applications are received. Postmarks and FAXes are not accepted. CITY APPLICATION REQUIRED.

APPLY immediately to:



Personnel Services Department,
 6 E. Lindsay Street,
 Stockton, CA 95202.
 PHONE: (209) 937-8233.

EOE/AA

TABLE 11. RATING OF IN-SERVICE TRAINING AND JOB ORIENTATION

Value of In-Service Training

Value	Number	Percentage
No Value	32	1.5%
Little Value	86	4.1%
Not Sure	104	4.9%
Fairly Valuable	881	41.6%
Very Valuable	1,016	47.9%
Total	2,282	100%

How Informative was Job Orientation

Informative	Number	Percentage
Not very informative	27	1%
Somewhat informative	286	14%
Not Sure	56	3%
Informative	929	44%
Very Informative	795	38%
Total	2,093	100%

TABLE 12. COMPONENTS OF IN-SERVICE TRAINING

Type of Training	Number	Percentage
Accident Management	270	13%
Accident Prevention	182	8%
Accident Management and Prevention	1,600	76%
Other	56	3%
Total	2,108	100%

was not a typical, randomized sample. Most of the surveys were distributed to lifeguards by directors and supervisors who received the forms at national conferences or workshops that the authors attended. It should be kept in mind that those attending these national workshops could have had more education, training, and finances for lifeguarding training than others who were unable to attend these workshops. For that reason, the responses to all questions are likely to be positively skewed or biased, meaning that the lifeguards in this survey would be more likely to answer more appropriately than those who were not part of the study. The fact that there are lifeguards who are even less informed or more poorly trained than the present sample should give us even more cause for concern.

The data reveals that lifeguards in the field do not always follow many of the ac-

ceptable or established "standards" in the field. Part of this may be due to the varied environments lifeguards encounter, ranging from small splash pools to large wave pools to the ocean. Perhaps established standards should be modified and fine-tuned to meet the needs of more challenging lifeguarding environments. For instance, the 10/20 scanning rule is an excellent concept that suits most small and moderately sized swimming facilities, but it is quite possibly ill-suited for large, crowded, open-water facilities. More study for effective scan times for various environments seems to be necessary. At the least, we should realize the current standards are not being met in all water environments. ■

All questions and comments about the study should be directed to Tom Griffiths, Ed.D. at 814-865-1432.