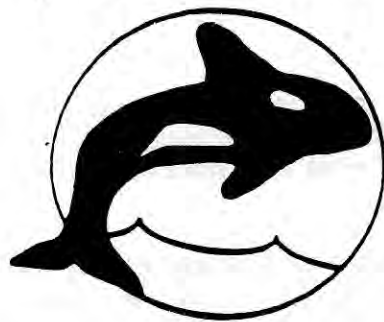


*Pacific Northwest Association
of Masters Swimmers*



Volume 13 - Number 6

**The
Wet
Set**

June, 1994

Upcoming Board Meetings

June 28th - Jan Kavadas's home -217 Alder St. #305, Edmonds (206)775-5814 7:00pm

July 26th - Lee Carlson's home - 4368 E Mercer Way, Mercer Island (206)232-3916 7:00pm

August 23rd - TBA

In this month's Newsletter:

Announcements

Birthdays

Change of Address

Gateway Athletic Club

H.O.S.T.

Meet Enrtys

Northwest Zone Long Course Meet

UBC Summer Classic Meet

National Long Course Championships

Meet Schedules

New Swimmers

Official's Corner

President's Letter

Meet Results

PNA Championships

1994 USMS Postal Hour Championship

1994 February Fitness Challenge

Northwest Zone Yards Championship

Subscription to the Wet Set

Swimming Science

USMS Application

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Seattle, Wa. 98103

(206)232-3654

United States Masters Swimming, Inc., is now, as it always has been, concerned for the safety and health of its members. It will continue to disseminate such information concerning swimming safety and health as comes to its attention. However, United States Masters Swimming cannot and does not accept responsibility for the content of any information or material not authored by United States Masters Swimming, Inc. All opinions stated in any such material are solely those of the author(s) and not necessarily those of United States Masters Swimming, Inc.

June, 1994

Dear PNA Swimmers:

Summer is kind of a slow time in the PNA. We don't have many long course meets in this area, so it's easy to let training slide. There are lots of other options to maintain fitness, so there's no excuse for getting out of shape. The triathletes in our group are hard at work now since most of their competitions are in the summer.

Don't forget that we do have Long Course Zone Championships here the end of July (July 30 and 31 at Weyerhaeuser King County Aquatic Center). Everyone should try to come. We expect lots of people from Oregon and Inland Empire. It should be a fun meet. If you really don't want to swim then, come and help run the meet. It's good to see how much work it really takes to put on a meet. Call Hugh Moore, meet director, at 925-0803 if you'd like to help.

Long Course Nationals will be August 25 through 28 at Buffalo, New York. The pool there is fairly new. It was built for the 1993 World University Games. I have meet entry forms and information if you're interested.

When you are filling out your entry forms for Long Course Zones, or for any other meet, think a little about the reason for listing entry times. The events are seeded based on listed entry times. This is to allow everyone to be in a heat with other swimmers of about their speed. For most swimmers, this provides good competition, allows better races, and is more fun. From time to time, it is obvious that a swimmer has put down an entry time that is far from what he or she really expects to swim. There are many rationalizations for this including a desire to be at the front of the heat to swim in calm water, wanting to swim in an earlier or later heat, and others. While these reasons may seem appropriate to an individual, it is really unfair to the other swimmers. They are deprived of the chance to have a good race against someone their own speed.

Everyone may have an exceptional day when they better all their expected times or an off day when they are slower than expected. This can not be prevented and is not a problem. Those swimmers who routinely enter with times seconds to minutes slower than they know they will swim should reconsider and be more considerate of others. Every swimmer, regardless of their speed should be able to have a good race with others of a similar speed.

See you soon.

Jane Moore

Welcome

THE FOLLOWING SWIMMERS HAVE JOINED THE PNA IN THE LAST MONTH:

SUSAN BENNER, RUDY DESOTO, JANE ESTES, JEANETTE HARRIS, MARY HATCHER, LESLIE HELM, LYNETTE JONES, KRIS LARSEN, SALLY MACLAREN-MEUER, BARBARA MAIN, DEREK MEYER, SHEILA MOHN, KELLY MOHR, DAVID MOORE, GLENN REICHENBACH, JAN SBLENDORIO, MICHELE SCHAAB, JENNIFER STECKLER, DEBRA TAYLOR, KENNETH TOBIAS, GARY WAGNER, KATHLEEN WAGNER, STANLEY WHITTEMORE, GREGG WHITTIER, AND GEOFF WILWERDING.

P N A Meet Schedules

**note change

July 30 & 31

50M LC Zones

Federal Way

Oregon Meet Schedules

June 4
June 26

long course
short course meters

Beaverton, Or
Lincoln City

Inland Empire Meet Schedules

National & International Schedule

August 25-28 1994
July 4-10 1994
Sept 26-Oct 8 1994

Long course Nationals
World Championships
World Masters Games

Buffalo, NY
Montreal Canada
Brisbane, Australia

For Information on out of PNA meets, Unless other wise stated

INLAND EMPIRE

Chuck Tasca
E. 18005 8th Ave
Green Acres, WA.
99016
(509) 922-5616

OREGON

David Cobb
4008 NE Thompson
Portland, OR 97212
(503) 282-0472

IDAHO

Paula Howard
1816 S Empire Wy
Boise, ID 83709
(208) 323-1471

BRITISH COLUMBIA

Mary Lou Monteith
2363 Seine Road
Duncan, BC V9L 3B2
(604)748-0527

UTAH

Annette Taylor
4286 Lynne Lane
Salt lake City, UT
84124
(801)277-6942

MONTANA

Steve Holloway
Box 8412
Missoula, MT
59807
(406)542-0535

ALASKA

John Zell
PO Box 230125
Anchorage, AK
99523
(907) 345-7088

Announcements

Jane Moore (PNA President), Phyllis Gill (Newsletter Editor), and *John Zell-Oregon (Oceana Zone Rep) all receive information on out-of-the-area meets on a regular basis. If you are planning a vacation and would like to check out a meet in another area, please contact one of us and we'll see if we can help!!

*John Zell, 4640 NE 36th Ave, Portland OR 97211 (503) 282-9347

Walt Reid has copies of the PNA Top Ten listings (PNA, Regional, National, World). These are free for registered team reps and may be picked up at PNA Board meetings. Extra copies will be available for \$2.00 soon.

HOUSE OUR SWIMMERS TONIGHT (H.O.S.T.)

Contact the following H.O.S.T. when you wish to stay in another swimmer's home during an out of town meet.

Inland Empire

Oregon Masters

Andy Schrag

(206) 254-9400 H

(206) 254-9916 W

Southern Oregon

Corvallis, Oregon

Snake River

Terry and Judy McCurdy

Mark and Laura Wordon

Janet Wood

(503) 673-3673

(503) 753-9352

(208) 345-8843 H

(208) 339-7229 W

PNA

Ann Gindroz

Marietta Hunziker

(206) 272-1854

(206) 391-7244

NOTE !!! If you would like to host a fellow swimmer in your home, please contact your local representative. This is an excellent way to meet new friends and cement old friendships



The Arc- *SEAFAIR* Swim

Saturday, July 30, 1994

Join a relay team

or individually swim

the entire length of Lake Washington.

For more information, call
The SWIM Hotline at 364-9028.

To Benefit: The Arc - King County.
For people with developmental
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IF YOU ARE IN BUSINESS, CONSIDER ADVERTISING IN THE "WET SET"

ONE FOURTH PAGE

\$20.00 FIRST MONTH, THEN \$15.00 PER MONTH

ONE HALF PAGE

\$40.00 FIRST MONTH, THEN \$20.00 PER MONTH

Send your ad and a check, payable to PNA MASTERS SWIMMERS, prior to the month in which you wish your ad to appear to: Phyllis Gill, 14037 SE Allen Rd., Bellevue, WA 98006.
Telephone: 865-9856

New! New! New!

Business Cards \$10 the First month, then \$5.00 per month

NON-PNA MEMBERS SUBSCRIPTION FORM FOR THE "WET SET"

NAME _____

ADDRESS _____

Send this form and a check for \$12.00, payable to PNA MASTERS SWIMMERS, to
Suzanne Dills
1101 N. Northlake Way, Seattle WA 98105

IMPORTANT!! Bulk Mail is NOT Forwarded!!

Change of Address

Return To: Suzanne Dills

1101 N. Northlake Way

Seattle, WA. 98105

Name _____

USMS# _____

Old Address _____

New Address _____

New Phone # _____

OFFICIAL'S CORNER: FROM JAN KAVADAS

This Spring the Fred Wiggin Fund has been used for two very different purposes. Marge Wiggin and Ricki Vadset--family members--and Kathy Casey for PNA, Jan Kavadas as Fred Wiggins' work out partner make decision on the use of the fund based on applications

The PNA Board requested use of \$120 from the Wiggin Fund to pay for awards at the PNA banquet. As a result, swimmers who received National All American and Top 10 awards also received their patches. This recognized Fred's own records and awards and his commitment to excellence in competition.

The PNSA (USS) Officials Executive Committee received 2 applications for Officials' Training at Colorado Springs in May. The Committee also recommended that the Chair of the Officials Executive Committee attend this year. PNSA funds support one trainee; Officials' funds support a second. Since the 2 applications were from a single family active in USS and USMS swimming, the Executive Committee had a difficult time making a decision. An application for Wiggin funds was suggested and funds awarded to support Gary

Ladd at the Officials' Training. Gary is a masters swimmer; certified local and national official; parent of a Senior national qualifier who attends many local and national meets. He and his wife Cindy officiated at the PNA Championships. This support recognizes Fred's officiating at local high school, college and USS meets and at national meets and the Goodwill games at the Aquatic Center. He gave his time and encouragement to many local swimmers and swimming events.

Remember that scholarships are available to meet swimming needs for both USS and USMS swimmers and officials. Also that this fund is renewed from local contributions and by contributing to the annual Fred Wiggin meet.

Officials: Training for Starters was held in April. Training for Timers and Stroke and Turn officials will be scheduled again in early summer or Fall. These are the initial levels and must be completed before the higher levels.

*(If you have any questions please call Jan Kavadas at 206-775-5814)

May 10, 1994

Jan Kavadas
PNA Masters
217 Alder Street #305
Edmonds WA 98020

RE: Officials' Training Clinic

Dear Jan:

I want to express my thanks to you and the Fred Wiggins Memorial Fund for graciously covering my expenses to Colorado Springs. The training clinic was exceptional and the tour of the Olympic Training Center was impressive. I have attached an article that I submitted to the Tacoma Swim Club newsletter which outlines some of the wonderful things that I experienced.

The training clinic was attended by 84 people from 60 LSCs (local swim committees). The topics included recruiting officials, referee and starter responsibilities and guidelines, stroke and turn judging, and open discussions on situations encountered across the country. We went from 4 - 9 on Friday, 8am - 9pm on Saturday, and 8:30 - 11 on Sunday.

I wanted to let you know that I will be putting on a timer/stroke & turn clinic on Monday evening June 20 from 7 - 10pm. I am trying to secure a meeting room in Tacoma but as of today, I don't have a place selected. If you know of any master swimmers that are interested please have them give me a call. I can be reached in Tacoma in the evening after 7:30 at 535-3483 or in Seattle from 8 - 5 at 233-2220. I plan to hold 3 or 4 stroke & turn clinics and 1 or starter clinics each year. I will try to give you plenty of advance notice so that you can put in your newsletter.

Sincerely,



Gary G. Ladd
9131 East B Street
Tacoma WA 98445

OLYMPIC TRAINING CENTER

by Gary Ladd

The National Officials Training Clinic was held May 6 thru 8 at the Olympic Training Center (OTC) in Colorado Springs. I had the privilege of attending.

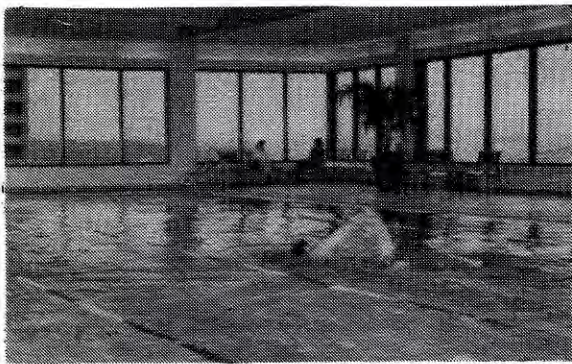
Upon arrival at the OTC, the old NORAD facility, I checked into one of the 3 dorms, got my cafeteria pass, and clinic materials. The OTC encompasses about 20 acres and is at 6000 feet elevation. I toured 2 of the buildings on Friday: ICAR (International Center for Aquatic Research) and the aquatic center.

The flume is located in the ICAR building. The staff is comprised of 4 full time physiologists and 4 graduate students. They have state of the art computers, equipment, and one of the best pathology labs in the state. The flume is a large hyperbolic chamber with water flowing circularly through a series of large pipes. The pipes connect to several pumps which regulate the water speed and to 2 separate filtration systems. The water flowing through the swimming area of the chamber, which is about 10x5x4, has no bubbles. There are 2 underwater cameras at the front sides and one that films from the side through a plexiglass window. The film from the 3 cameras is fed into computers for digitizing and 3D imaging. The 3D images can be rotated and modified to permit analysis of stroke efficiency. The water speed can be gradually increased and the filming will be able to capture at what point and speed the stroke efficiency deteriorates.

The aquatic center opened last October boasting a 50 meter 10 lane pool with moveable bulkheads from both ends. It is 8 to 10 feet deep, is maintained at 80-81 degrees, and has hookups for 5 underwater cameras (2 stationary and 3 tracking). There are an additional 10 cameras overhead. We were told that any swimmer could be filmed above or below the water anywhere in the pool. There are computer read out panels above every lane which can be programmed with a swimmers or lanes work out. In other words, if a coach gives an AT set of 30 x 200 with 15 seconds rest, the display will show the 200 time and count down the rest interval. All the information is retained in the computer, permitting a coach to catch the 'cheaters'. There is a pressure plate to measure the force of wall push off. They will be adding a towing machine which can be programmed to tow someone at virtually any speed. What a way to feel a world record pace.

The OTC is not just for National Select Teams or Camps. It is open to anyone registered with US Swimming. One of the attendees indicated that his LSC was sending a group of 50 swimmers to the complex in September to be evaluated with the flume and train in the pool.

The officials seminar provided good information and materials which will enable me to train others and help to improve consistency in our officiating ranks.



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- ★ Personal coaching, childrens lessons
- ★ Water Aerobics



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HAPPY BIRTHDAY TO THE FOLLOWING PNA SWIMMERS

06/16	CRAIG MALLERY	06/29	KAY GLADE
06/16	DOUG PORTELANCE	06/29	SUSAN PATTERSON
06/16	TIMOTHY WELTING	06/30	MICHELLE MCPHEE
06/17	STEVE ENGEL	07/01	SUZEY FRANK
06/17	ANDREW LOVAN	07/01	GREGORY STONER
06/17	ELISA PANELLI	07/02	LEN MCCOLLAM
06/18	JAMES DAVIES	07/02	ALEXANDRA SMITH
06/20	DAVID DEMOREST	07/03	SHARON BELK-KREBS
06/20	JANE MCBRIDE	07/03	SHERYL SCOTT
06/20	JENNIFER OGLE	07/03	DAVID SONNEN
06/20	GORDON STUBBE	07/03	GARY WAGNER
06/21	SALLY PARRY	07/04	BEN DOTSON
06/22	THOMAS FOLEY	07/04	TIMOTHY PETERS
06/22	GORDON GRAY	07/05	LAURIE BARNARD
06/23	LESLIE BABBITT	07/05	BRIDGET CASE
06/23	MELVIN DRIVER, SR	07/06	RUSSELL KNUDSEN
06/23	ROGER HENDERSHOT	07/06	MICHAEL MCKINLAY
06/23	PAT MATTHIESEN	07/07	PAUL SHERMAN
06/24	IAN CARON	07/08	NANCY GAYMAN
06/25	KERRI LARSON	07/08	KATHLEEN SOUTHARD-DEAN
06/25	DAVID STOREY	07/10	PETER BERNER-HAYS
06/26	WAYNE METHNER	07/11	LOWELL JOHNSON
06/27	COLIN LOWIN	07/11	JOY ROSS
06/28	THOMAS DRUHAN	07/13	JEANETTE VALLANDIGHAM
06/28	JANE ESTES	07/14	KEVIN CONNOLLY

MEET INFORMATION: NORTHWEST ZONE LONG COURSE MEET
JULY 30 & 31, 1994

WEYERHAEUSER KING COUNTY AQUATIC CENTER, 650 SW Campus Drive, Federal Way, WA 98023 (206)296-4444. The pool depth varies from 9 to 10-1/2 feet. This is one of the fastest pools in the world. The competition pool has eight nine foot wide lanes and will be set to 50 meters in length. The diving pool will have seven twenty-five yard lanes and will be used for warm-up during competition.

DIRECTIONS: a) NORTH BOUND I-5 OR SOUTH BOUND I-5: Take exit 142 B. You will then be going west on S 348th. Continue West on S 348th past Pacific Highway S (Highway 99) and past 1st AVE S (NOTE: 348th becomes SW Campus Drive after crossing 1st AVE S). The pool is on your right about 1/2 mile past 1st AVE S.
b) WEST bound Highway 18 (from North Bend) continue west on 18 into Federal Way. Highway 18 becomes S 348th after crossing I-5. Follow the instructions for a).

ENTRIES **MUST** BE POSTMARKED OR IN THE HANDS OF THE MEET DIRECTOR BY JULY 21, 1994. ALL SWIMMERS **MUST** BE REGISTERED WITH USMS PRIOR TO MEET ENTRY OR SUBMIT AN APPLICATION POSTMARKED BY JULY 21, 1994 ACCOMPANYING THE MEET ENTRY. SWIMMERS FROM OTHER LMCSs MUST INCLUDE A COPY OF THEIR USMS REGISTRATION CARD (OR CASA FOR CANADIANS) WITH MEET ENTRY.

NO DIVING DURING WARM-UP EXCEPT IN DESIGNATED SPRINT LANES.

ELIGIBILITY: OPEN TO ALL 1994 USMS REGISTERED SWIMMERS 19 AND OVER AS OF JULY 31, 1994.

SEEDING: SLOW TO FAST FOR ALL EVENTS.

THE DIVING POOL WILL BE OPEN FOR WARM-UP/COOL-DOWN DURING COMPETITION.

THE FIRST 100 ENTRANTS WILL RECEIVE FREE SUN VISORS.

NO-HOST SOCIAL AT ROUND TABLE PIZZA (1414 S 324TH) AT 7:30 PM SATURDAY.

MEET DIRECTOR: HUGH MOORE (206)925-0803 (BEFORE 9 PM PLEASE)

TIMES: Saturday, JULY 30th: WARM-UPS: 2:00 PM to 2:50 PM. EVENTS 3:00 PM.

Sunday, JULY 31st: WARM-UPS: 8:00 AM to 8:50 AM. EVENTS 9:00 AM.

All events are Long Course Meters

SATURDAY JULY 30TH

SUNDAY JULY 31st

1	400 FREE ✓	11	400 IM
2	200 FREE RELAY	12	200 MEDLEY RELAY
3	200 FREE ✓	13	200 BREAST
4	100 BREAST	14	100 FREE
5	50 FLY ✓	15	50 BACK
6	200 IM	16	200 FLY
7	200 BACK	17	100 BACK
8	50 FREE ✓	18	50 BREAST
9	100 FLY	19	200 MIXED FREE RELAY
10	200 MIXED MEDLEY RELAY	20/21	800 FREE/1500 FREE (SEE NOTE)

NOTE: YOU MAY SWIM EITHER THE 800 FREE OR 1500 FREE, BUT NOT BOTH!

If you swim the 1500 and would like us to record your 800 split, please notify us in writing in advance.

1994 USMS Postal Hour Swim Championship

1/01/94 - 1/31/94

Individual entrants: 1202 (a record)

Relay team entries: 183 (a record)

Clubs represented: 151 (a record)

Total yards swum: 4,502,805 (2558 miles)

Results (our local swimmers)

Women 35-39

#4.	Wendy Boglioli	38	PNA	4725
#91.	Janelle McCoy	36	PNC	2375

Women 40-44

#33	Jane Moore	43	PNA	3490
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Women 45-49

#3.	Suzanne Dills	48	PNA	4300
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Women 50-54

#31	Carolyn Behse	50	PNA	3200
-----	---------------	----	-----	------

Women 55-59

#11	Janice Miller	55	PNA	3445
-----	---------------	----	-----	------

#14	C. Ann Gindroz	55	PNA	3375
-----	----------------	----	-----	------

Women 60-64

#19	Janet Kavadas	62	PNA	2955
-----	---------------	----	-----	------

Women 70-74

#17	Marion Chadwick	72	PNA	2425
-----	-----------------	----	-----	------

#22	Livia Walker	71	PNA	2100
-----	--------------	----	-----	------

Hour Swim Tidbit: Elizabeth John from Wisconsin Masters swam 1795, she is 83. *Janet Renner (32) swam her 3575 yards **all butterfly!!!** and **Regan Kenner (70) swam her 3100 yards all Breaststroke!

*Janet is from Humuhumunukunuaapuaa (say that fast 10 times)

**Regan is from St. Louis Masters

Men 25-29

#14	Keith Szot	28	PRO	4975
-----	------------	----	-----	------

Men 30-34

#21	Mark Van Achte	33	PNA	4875
-----	----------------	----	-----	------

#34	Jeffrey Freshley	32	PNA	4575
-----	------------------	----	-----	------

Men 35-39

#28	Hugh Moore	39	PNA	4700
-----	------------	----	-----	------

Men 40-44

#4	Rick Colella	42	PNA	5150
#27	Alan Bell	43	PNA	4650
#30	John Lorimer	42	UNAT	4575
	Men 80-84			
#3	Everett Cassell	80	PNA	2385

Hour swim tidbit: Gus Langner from Connecticut became the **first 90 year old** to enter and **swam 2220 yards**. Daniel Veatch became the first to swim over 6000 yards having swum 6115 yards.

1994 February Fitness Challenge

Overall Results

(Local Swimmers)

832 Women & Men

				<u>Yards</u>	<u>Miles</u>
#95	Patricia Dotson	67F	Medina, WA	116,175	66.01
#96	Jan Miller	55F	Bothell, WA	115,695	65.74
#132	Becky Mayfield	39F	Puyallup, WA	100,000	56.82
#206	Gordon Gray	48M	Bothell, WA	79,000	44.89
#216	Janelle McCoy	36F	Puyallup, WA	76,350	43.38
#235	Marion Chadwick	72F	Mercer Island, WA	73,410	41.71
#286	Ronald Rauch	41M	Issaquah, WA	64,570	36.69
#287	Carolyn Behse	50F	Bellevue, WA	64,550	36.68
#389	Magi Harris	47F	Redmond, WA	52,700	29.94
#391	Deborah Bagg	40F	Seattle, WA	52,460	29.81
#469	Hugh Moore	39M	Tacoma, WA	43,900	24.94
#513	Suzanne Strom-Reed	45F	Clyde Hill, WA	39,255	22.30
#548	Roberta Moore	46F	Kingston, WA	36,350	20.65
#570	Janet Kavadas	62F	Edmonds, WA	34,600	19.66
#587	Gene Crossett	80M	Seattle, WA	32,300	18.35
#606	Catherine Brooks	45F	Seattle, WA	30,500	17.33
#629	Jane Moore	43F	Tacoma, WA	28,850	16.39
#714	Forest Brooks	46M	Seattle, WA	21,870	12.43
#732	Mary Loarie	30F	Kirkland, WA	20,850	11.85
#755	Nancy Lawrence	71F	Sequim, WA	18,500	10.51
#790	Megan Loe	47F	Camano Island, WA	13,700	7.78

Swimming Science
Jane A. Moore, M.D.

I will again start reviewing chapters from the book Swimming by David Costill, Ernest Maglischo, and Allen Richardson. It was published in 1992 by Blackwell Scientific Publications for the International Olympic Committee (IOC) Medical Commission and the Federation Internationale de Natation Amateur (FINA). Next is Chapter Seven titled "Front Crawl".

The front crawl stroke consists of an alternating armstroke and a flutter kick. This is more commonly known as freestyle. Any sort of stroke may be used in freestyle, but it is almost always front crawl as that stroke is generally the fastest.

The armstroke consists of an entry and stretch, downsweep, insweep, upsweep, and release and recovery. The entry is made directly in front of the shoulder with the elbow flexed a little and the palm pitched out. The hand slips into the water on edge then pushes forward with the palm rotating down. This continues until the other arm has finished its propulsive phase.

The downsweep then begins with flexion of the elbow. The palm rotates outward and the hand naturally moves slightly outside the shoulder. The downsweep is not propulsive, but positions the arm for the propulsive insweep that follows.

The insweep is a semi-circular movement of the arm with continued flexion of the elbow to ninety degrees and the palm rotating in until it is beneath the midline of the body. The hand accelerates moderately throughout the insweep.

The next and final propulsive sweep is the upsweep. The hand rotates quickly to move the palm from facing inward to outward. The arm then sweeps up, out and back. The upsweep ends when the hand passes the thigh. Hand speed accelerates to its maximum velocity during this phase. The arm does not extend completely and force is not applied to the surface of the water.

Pressure on the water is released as the hand passes the thigh, and the elbow begins to flex. The hand is brought up, out of the water, and moves forward with the elbow held high. After the hand passes the shoulder, the arm begins to extend forward and the palm rotates outward prior to entering the water.

The alternating movements of the arms and the body roll must be coordinated to maintain the body in the most streamlined position possible. In middle and long distance events, the front arm does not begin the downsweep until the other arm has completed the upsweep. In sprints, the stretch is shortened and the downsweep of one arm begins during the upsweep of the other. This requires more energy, but results in faster times for shorter distances.

The flutter kick consists of alternating diagonal sweeps of the legs. The downbeat of one leg occurs during the upbeat of the other. The lateral component of the kick aids in body roll. This movement is prevented by kicking with a board. Body rotation can be improved by doing most kicking drills without a board.

Kicking consumes much more oxygen than does pulling. Because of this, the effort used in kicking should probably be reduced particularly in middle and distance races.

For good body position, the waterline should be at about the hairline. The head should be rolled, not lifted, to breathe. The body should roll from side to side keeping the trunk and back straight. The roll to each side should be to about 45 degrees.

Breathing patterns depend on the individual and the distance of the race. For distances longer than 200 meters, experts generally recommend breathing once every stroke cycle, always on the same side. Alternate breathing, inhaling twice during every three stroke cycles, is more symmetric, allowing the body to roll equally to each side. It also allows a swimmer to watch competitors on both sides. It does however, reduce the oxygen supply so that fatigue occurs earlier. Breathing less often allows maintenance of greater speed. Sprint swimmers must determine how much speed is lost by breathing and whether increasing speed or decreasing fatigue is more important for faster swims.

1994 PNA CHAMPIONSHIPS

TEAM SCORES

DIVISION I AAA

1. Greenlake Aqua Duck	1737
2. Federal Way Masters	1229
3. Tacoma YMCA	893
4. Orca	825
5. Bellingham Area Y Swimmers	670
6. Bellevue Athletic Club	630

DIVISION II AA

1. Mercer Island Swim Coalition	602
2. Tigers	573
3. Fort Steilacoom	546
4. Swim Seattle	490
5. Pro Sports Club	358
6. Bellevue Eastside Swim Team	341
7. Queen Anne Swim Club	291

DIVISION III A

1. Issaquah Swim Team	171
2. Thunderbird Aquatic Club Masters	140
3. Auburn YMCA	96
4. Gateway Athletic Club	84
5. Old Olympic Peninsula Swimmers	46
6. Jefferson County Swim Association	17

UNITED STATES MASTERS SWIMMING, INC.
 1994 REGISTRATION APPLICATION
 Pacific Northwest Association of Masters Swimmers

RENEWAL my current USMS number is _____ NEW Registration

REGISTER WITH SAME NAME YOU WILL USE FOR COMPETITION.
 PLEASE print clearly.

Name:

Last:	First:	I:
-------	--------	----

Address:

Street:	Apt#:	
City:	State:	Zip: -

Telephone:

Date of Birth:

Age: M/F:

()	Mo: Day: Yr:		
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CLUB:

PNA Aquatics SQM Unattached

TEAM:

(Check One)

	Unattached
--	------------

PLEASE MAKE CHECKS PAYABLE TO: PNA MASTER SWIMMERS

	USMS Fee		LMSC Fee		Total Fee
Under 65	15.00	+	15.00	=	30.00
Senior 65+	15.00	+	8.00	=	23.00

LMSC Fee includes a subscription to the WETSET.

MAIL TO:	Susanne Dills, Registrar 1101 N. Northlake Way Seattle, WA 98103 (206) 547-1654 (w) 232-3654 (h)
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WAIVER: I, the undersigned participant, intending to be legally bound, hereby certify that I am physically fit and have not been otherwise informed by a physician. I acknowledge that I am aware of all of the risks inherent in Masters Swimming (training and competition) including possible permanent disability or death, and agree to assume all of those risks. AS A CONDITION OF MY PARTICIPATION IN THE MASTERS SWIMMING PROGRAM OR ANY ACTIVITIES INCIDENT THERETO, I HEREBY WAIVE ANY AND ALL RIGHTS TO CLAIMS FOR LOSS OR DAMAGES INCLUDING ALL CLAIMS FOR LOSS OR DAMAGES CAUSED BY THE NEGLIGENCE, ACTIVE OR PASSIVE, OF THE FOLLOWING: UNITED STATES MASTERS SWIMMING, INC., THE LOCAL MASTERS SWIMMING COMMITTEES, THE CLUBS, HOST FACILITIES, MEET SPONSORS, MEET COMMITTEES, OR ANY INDIVIDUALS OFFICIATING AT THE MEETS OR SUPERVISING SUCH ACTIVITIES. In addition, I agree to abide by and be governed by the rules of USMS.

Signature _____ Date _____

1994



UBC MASTERS

Summer Classic Swim Meet

DATE: Sunday, July 24, 1994

TIME: warm-up	8:30 am - 9:00 am
events	9:00 am - 2:00 pm
lunch	2:00 pm

LOCATION: U.B.C. Aquatic Centre

- | | | | | |
|----------------|----|---------------------------|-----|----------------------------|
| EVENTS: | 1. | 200 Choice | 9. | 400 Choice |
| | 2. | 50 Fly | 10. | 100 Fly |
| | 3. | 4 x 50 mixed MEDLEY Relay | 11. | 50 Back |
| | 4. | 100 Back | 12. | 4 x 50 mixed FREE Relay |
| | 5. | 50 Breast | 13. | 100 Breast |
| | 6. | 100 Free | 14. | 50 Free |
| | 7. | 200 IM | 15. | 4 x 100 mixed MEDLEY Relay |
| | 8. | 4 x 100 mixed FREE Relay | | LUNCH |
| | | 15 minute BREAK | | |

Maximum of 4 individual events per person. No restriction on the number of relays.

POOL: 55 yards; 6 lanes; outdoor; stopwatch timing
ELIGIBILITY: masters swimmers
AWARDS: Ribbons for 1st, 2nd, 3rd place finishers

RULES: No false start rule in effect. Starts may be from blocks, deck or in the water.
SOUVENIRS: we will be selling long sleeve t-shirts and ball caps at very reasonable prices.
DRAW PRIZES: there will be several draw prizes during lunch.

ENTRY DEADLINE: EARLY: Friday, July 15, 1994; LATE: Saturday, July 23, 1994

FEES: \$10.00/ person EARLY registration; \$15.00/ person LATE registration; make cheques payable to U.B.C. Masters Swim Club

PARKING: See map for free or pay parking areas
ACCOMMODATIONS: Gage Towers Residence (on U.B.C. campus) Telephone: (604) 822-1010
5959 Student Union Boulevard Price: \$32 plus tax
Vancouver, BC, Canada

MEET MANAGER: **Robert Greene** Tel: (604) 737-7298
2768 Cypress Street Or fax your registration to:
Vancouver, BC Canada Fax: (604) 737-7398
V6J 5E1



1994



UBC MASTERS

Summer Classic Swim Meet

Competitor's Name: _____ Sex: _____

Address: _____

Phone: _____ Date of Birth: day _____ month _____ year _____

Club Name: _____ Coach: _____

Individual

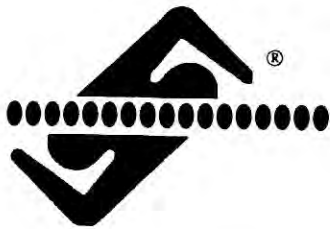
Event #	Event Name	Entry Time

Relays

Event #	Team Member Names	Age	Sex

Early Registration Deadline (\$10): July 15/94; Late Registration (\$15): July 23/94





Official Entry Form for INDIVIDUAL Events
1994 UNITED STATES MASTERS SWIMMING
NATIONAL LONG COURSE CHAMPIONSHIPS
 Erie Community College Natatorium, Buffalo, New York
 August 25-28, 1994

Sanctioned by
 Niagara District Masters Swimming
 LMSC for USMS, Inc.
 Sanction No. NDMS-93/94-1LC

Name _____ Last _____ First _____ Middle Initial _____ Sex _____

Address _____ Street _____ City _____ State _____ Zip _____ Country _____

Phone _____ A/C _____ Days _____ A/C _____ Evenings _____ Age _____ Birthdate _____ (on 8/28/94) _____ Month/Day/Year _____

Emergency _____ Name _____ Phone No. _____ Masters Reg# _____ Copy of 1994 Card Required _____

Club Name or Unattached _____ Club Abbrev _____ (if you know it) _____ LMSC _____ (Assoc.) _____

Entry Due Date: Entry must be received no later than Thursday, July 21, 1994

Event No.	Entry Time Women	*	Event	Event No.	Entry Time Men	*
Warm-Up 6:00 - 6:45AM Thursday, August 25, 1994 Start 7:00AM						
1			▲ 800 FREE (See Check-in Times)	2		
3			▲ 1500 FREE (See Check-in Times)	4		
NOTE: YOU CAN SWIM EITHER THE 800 OR 1500 FREESTYLE — NOT BOTH						
YOUR ENTRY DOES NOT AUTOMATICALLY SEED YOU FOR THESE EVENTS. YOU MUST CHECK IN BEFORE THE DEADLINE TIMES LISTED ON BACK.						
Warm-Up 6:30 - 7:45AM Friday, August 26, 1994 Start 8:00AM						
5			200 FREESTYLE	6		
7			50 BREASTSTROKE	8		
9			100 BUTTERFLY	10		
11			50 BACKSTROKE	12		
13	SEE RELAY FORM		200 FREE RELAY	14	SEE RELAY FORM	
15/16	SEE RELAY FORM		200 MIXED MEDLEY RELAY	15/16	SEE RELAY FORM	
17			400 INDIVIDUAL MEDLEY(See Check-in Times)	18		
Warm-Up 6:30 - 7:45AM Saturday, August 27, 1994 Start 8:00AM						
19			200 BREASTSTROKE	20		
21			50 BUTTERFLY	22		
23			200 BACKSTROKE	24		
25			100 FREESTYLE	26		
27	SEE RELAY FORM		200 MEDLEY RELAY	28	SEE RELAY FORM	
29			▲ 400 FREESTYLE (See Check-in Times) WOMEN ONLY	Men's Event Sunday		
Warm-Up 6:30 - 7:45AM Sunday, August 28, 1994 Start 8:00AM						
31			100 BACKSTROKE	32		
33			200 INDIVIDUAL MEDLEY	34		
35			50 FREESTYLE	36		
37			100 BREASTSTROKE	38		
39			200 BUTTERFLY	40		
41/42	SEE RELAY FORM		200 MIXED FREE RELAY	41/42	SEE RELAY FORM	
			▲ 400 FREESTYLE (See Check-in Times) MEN ONLY	44		

▲ I am willing to swim the
 400 freestyle with two persons per lane ___ Yes ___ No
 800 freestyle with two persons per lane ___ Yes ___ No
 1500 freestyle with two persons per lane ___ Yes ___ No

*Those swimming two per lane shall be seeded ahead of competitors swimming one per lane. Seeding will not be altered to accommodate travel arrangements.

(Legible copies of this entry form are acceptable. You must complete the reverse side of this form. YOU MAY ENTER SIX INDIVIDUAL EVENTS (OR FIVE INDIVIDUAL EVENTS, IF DEEMED NECESSARY BY THE CHAMPIONSHIP COMMITTEE) — BUT SWIM NO MORE THAN THREE INDIVIDUAL EVENTS ON ANY ONE DAY. Please indicate with an asterisk (*) your 6th event in case the five event limit is imposed. If 6th event is not (*) your last event listed will be considered your 6th event.

MCNEEL, SANDY
2364 FAIRVIEW AVE E #1
SEATTLE, WA 98102-3375

TIME SENSITIVE MATERIAL!!

Pacific NW Assoc. of Masters Swimmers
29925 2nd Ave SW
Federal Way, WA 98023-3508

Non-Profit Org.
US Postage
PAID
Seattle, WA
Permit No. 2334

My goggles might fall off

I lost my suit

I'm at the top of my age group

The pool is too deep

The pool is too fast

**No More Excuses
Long Course Zones
July 30 & 31, 1994
Weyerhaeuser King County
Aquatic Center**

Note: date change

I haven't been training

Other people will see me

I lost my entry form