

SDRC Juniors Information Manual

2014/2015



Table of Contents

Introduction	1
SDRC Juniors Mission Statement and Goals.....	1
SDRC Juniors Club Structure.....	2
SDRC Juniors Coaches	3
Practices.....	6
Absences & Tardiness	7
SDRC Fall and Spring Schedule	8
Parent Volunteers	10
Juniors Finances	11
Fundraising	11
Rower Health and Nutrition.....	12
Rower Uniforms	14
How To Watch Regattas	15
Travel to Regattas	16
Ergometers (ERGS)	17
Rowing Viewer's Guide.....	18
Rowing Boat.....	23
Local Teams – Blades	24
Rowing Glossary	25
College Rowing.....	29
US Junior National Rowing Team	31

Introduction

Welcome the San Diego Rowing Club Juniors! We have sought to provide new and continuing parents and rowers with information about the wonderful world of rowing and an outline of SDRC Juniors program. Please let us know your thoughts!

The SDRC Juniors program is a regionally and nationally recognized competitive rowing program with many members recruited to row at top universities such as Dartmouth, Yale, MIT, University of California, Berkley, Stanford, and UCLA to name a few.

The Juniors program is part of San Diego Rowing Club, which was founded in 1888. The Club is a 501(c)3 non-profit organization with all revenues and fundraising directed to the learning and enjoyment of the sport of rowing.

SDRC Juniors Mission Statement and Goals

San Diego Rowing Club Juniors program is the leading rowing program for High School and Middle School boys and girls from across San Diego County. Our mission is support and encourage rowing for youth in San Diego by providing young men and women the facilities, equipment and coaching necessary to give them the opportunity to learn the sport of rowing in a safe and fun environment. We want SDRC Junior athletes to be able to train, race and win at the highest levels in a supportive and competitive learning environment where they can develop their leadership and teamwork with commitment, dedication and respect.

The goals for the SDRC Juniors program are to:

- Provide excellent coaching and training in the fundamentals and techniques of rowing;
- Develop a sense of shared purpose and teamwork;
- Offer a competitive program that will put members of the SDRC Juniors in good standing to compete in a collegiate rowing program; and
- Supply challenging and appropriate physical training to achieve maximum development of every athlete to meet individual, team and overall program goals while learning an activity they can continue for a lifetime.

SDRC Juniors Club Structure

High School - Women

Varsity

Novice

High School - Men

Varsity

Novice

Middle School

Co-Ed

SDRC Juniors has 5 teams:

- Women's Varsity: For women grades 9+ and one year or more of rowing experience
- Men's Varsity: For men grades 9+ and one year or more of rowing experience
- Women's Novice: For women grades 9+ with no prior rowing experience
- Men's Novice: For men grades 9+ with no prior rowing experience
- Middle School: Co-Ed. For grades 7 & 8

SDRC Juniors Coaches

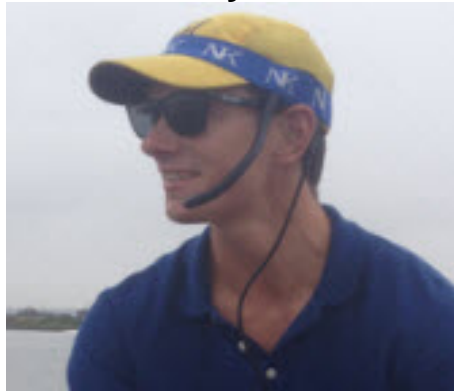
SDRC Director of Rowing, Juniors Program Director



Chris Callaghan is in his 5th year with SDRC. He has coached the Varsity Men for the last 4 years. Chris is a former member of the US Men's National Rowing Team from 2006-2009. He won a gold medal in the eight at the 2007 Pan American Games and placed 4th in the coxed four at 2006 World Rowing Championships in London. Chris started rowing at Oregon State University in 2000, and coached the Men's Varsity for the Mercer Junior Rowing Club at Princeton, NJ for 3 years before moving to San Diego.

chris@sandiegorowing.org (858) 352-8380

Men's Varsity



Coach Sparks takes the reins of the Varsity Men's program after two successful years coaching SDRC's Novice Men. With the help of Coach Hurley and Coach Hemelt over the past two years, the Novice Men have enjoyed multiple wins at the regional level. After rowing for Los Gatos Rowing Club in high school, Benton rowed for Orange Coast College and UCSD. Before starting with SDRC, he coached on the men's side at both Newport Aquatic Center and UCSD. Both teams achieved championship wins during those years.

Benton@sandiegorowing.org

Women's Varsity



Susan is entering her third year of coaching the Women's Varsity team with SDRC. Her girl's quad went undefeated in 2014 winning the gold at Southwest Regionals and bronze at US Youth Nationals. The girl's pair and double also won silver medals at the SW Regionals. In 2013 the quad won the silver at SW Regionals and just missed a medal by a hundredth of a second at Youth Nationals. Susan has been a member of the US Women's National Rowing team since 2005. She is a two-time Olympic champion with gold medals in the women's eight at Beijing in 2008 and in London in 2012. She is also 5-time world champion and US Rowing's Female Athlete of the Year for 2010. Susan started rowing at the University of Pennsylvania in 2001 and received All-American honors in 2004.

susan@sandiegorowing.org

Men's Novice



Patrick is entering his second season coaching at SDRC. He was the team assistant coach last season working primarily with the Novice Men. Patrick also coached at the SDRC summer learn to row camps as well as the summer high performance camp. He rowed competitively for four years in high school at Saint Ignatius High School in Cleveland, Ohio as well as for four years at Rutgers University. He graduated from Rutgers University in 2009 with a Bachelor's degree in psychology and received a Master's degree in Counseling from the University of Pennsylvania in 2010.

Patrick@sandiegorowing.org

Women's Novice



Ryan is entering his 9th year in the sport of rowing. He started rowing competitively in 2006 with Tempe Junior Crew and Brophy College Preparatory in Phoenix, AZ. He was the team captain in 2009 and 2010. Ryan has coached for various clubs and teams, including Brophy College Preparatory, Mission Bay Aquatic Center, and was the Co-Founder and coach at the SW Scholastic Development Camp in Arizona. This is Ryan's 3rd year at San Diego Rowing Club, and 2nd year as the Novice Women's Coach.

ryan@sandiegorowing.org

Middle School

Griffin is entering his second year as the coach for the Middle School program. Griffin started rowing in college for the University of Oklahoma in 2007, while competing he earned ACRA All American honors as well as serving as the teams Vice President and Captain. He has served as an assistant coach on the UCSD Women's team in 12-13 as well as USD Men's team 13-14, helping both teams to reach their respective National Championships.

griffin@sandiegorowing.org

Assistant Coach



This is Jordan's second year with SDRC. Last year she spent half the time with the Middle school team and the other half with the Novice Women. Jordan was a coxswain for ZLAC in High school and regularly coxes for the SDRC Masters Men.

Jordan@sandiegorowing.org

Practices

Varsity and Novice: Monday – Friday, 4 to 6:30pm and Saturday 8:30 to 11am

Middle School: Monday, Wednesday and Thursday, 4 to 6pm

All practices take place at the Boathouse, unless the Coach has directed otherwise. Practices include warm-ups, post workout recovery time as well as boat washing and putting away.

Varsity Men's Coach Sparks has outlined an example practice program:

- Monday 16k – 20k steady state
- Tuesday 8k – 16k medium to high intensity pieces
- Wednesday 12k – 16k medium intensity pieces
- Thursday 16k – 20k steady state
- Friday 12k – 16k including race pieces
- Saturday 16k – 20k steady state

A fitness building erg day done by both Varsity teams is 3x 20minutes with 2 minutes rest between. The 20 minute pieces are done between 18-22 strokes per minute and the focus is on consistent pressure keeping the heart-rate at around 155bpm. This equates to doing an hour run. Doing the 3x 20minutes and then a long run is a standard land practice.

On water work could incorporate a lot of segmented strokes (i.e., legs only, arms/body only) or pauses at different points throughout the stroke to correct posture and power application. We do a lot of work with just one hand on the oar to show where leverage comes from and which hand should be feathering, which should be catching. Fluxuation of strokes per minute in rapid succession at full pressure is a drill we do to work on timing and control.

In addition to taking boats out or using the rowing machines, athletes train at practice in a variety of other ways – weightlifting, running, core strengthening and stretching. After practice, coaches will often meet with their team to discuss the day's activities and prepare for future practices.

Absences & Tardiness

Coaches expect all participants to attend scheduled practices and races. If an absence is unavoidable, it must be communicated to the Coach with as much prior notice as possible. Tardiness must be avoided as it affects the entire team's practice. Multiple absences or late arrivals, regardless of the reason, may affect rower's participation.

Coaches expect athletes to arrive 5-10 minutes prior to the beginning of practice in order to change clothes and prepare. Also, note that a practice may occasionally go 10-15 minutes beyond the stated end time.

SDRC Fall and Spring Schedule

Preseason Training

Varsity: August 18 – August 29th . For experienced athletes on the SDRC Novice team last year and/or a Novice or Varsity team elsewhere.

Novice and Middle School: August 25th – August 29th. “Try-it” week. For athletes looking to possibly joining the program but want a little more practice before committing to it. A great way to meet your potential teammates, continue to learn from summer camps or start from scratch, and to see if you get hooked on rowing.

Season Start Date

(a) Varsity teams: Wednesday, September 3th, 4 – 6:30 pm

(b) Novice & Middle School: Monday, September 8th, 4 – 6pm

Parent Meetings (at the Boathouse)

BBQ Kick-Off: Sunday, September 7th, 12 Noon - 3 PM. The Juniors Program will be hosting a MANDATORY parent's kick-off meeting to orient parents and give everyone an opportunity to get fully informed, understand the commitments, ask questions and more involved in the program.

Fall Season Parent Meeting: Thursday, October 23rd, 6:30 PM. (tentative). Update meeting for all parents.

Spring Season Parent Meeting: Thursday, January 22nd, 6:30 PM (tentative). Update meeting for all parents.

Fall Regattas 2014 (subject to change)

Date	Name	Location	Varsity	Novice	Invite Only
October 18-19	Head of the Charles	Boston, MA			X
October 25	Head of the American	Sacramento			X
October 26	Row for the Cure	San Diego	X		
November 1	Head of the Marina	Marina del Rey	X		
November 2	NARF	Newport Beach	X	X	
November 9	Fall Classic	San Diego	X	X	
December 7	Christmas Regatta	Long Beach	X	X	

Spring Regattas 2015 (subject to change)

Date	Name	Location	Varsity	Novice	Invite Only
January 31	Indoor Classic	SDRC Boathouse	X	X	
TBD	San Diego City Championships	San Diego	X	X	
Feb 28-Mar 1	Faultline Faceoff	Oakland			X
March 7	Desert Sprints	Tempe, AZ	X	X	
March 14	SoCal Cup	Long Beach	X	X	
March 28-29	Crew Classic	San Diego			X
TBD	Novice Regatta	San Diego		X	
April 11-12	Long Beach Invitational	Long Beach	X	X	
May 2-3	Southwest Regional Junior Championships	Sacramento	X	X	
June 12-15	Youth Nationals	Sarasota, FL			X

As a reminder, SDRC dues include costs for regattas, other than “Invite Only” which participating families will be responsible for such costs.

Reggata Locations (type into Google Maps for directions)

Long Beach Marine Statium: 5255 Paoli Way, Long Beach, CA 90803

Parking is usually available at nearby lots or streets

Marina del Rey (California Yacht Club): 4469 Admiralty Way, Marina del Rey, CA 90292. Parking is usually available

Newport Aquatic Center: 1 Whitecliffs Dr, Newport Beach, CA 92660

Parking is very limited. Usually need to park on streets nearby and walk.

Parent Volunteers

Much of SDRC Juniors success is due to the many volunteers that contribute. We have lots of ways you can contribute including working on race day, chaperoning at regattas, or helping out on carpools, we are always looking for parent volunteers! Volunteering is a great way for you to get to learn more about rowing, meet other parents, chat with the coaches, and get an understanding of what crew is all about. Please let us know if you have a particular interest or skill you think could be helpful to us!

2014 /2015 Parent Volunteer Board:

Steve Hartt – President and Coach Liaison: stenhartt@gmail.com

Eric Gibson – Vice President and Recruiting Coordinator: jegibson@msn.com

Susan Miller – Fundraising: susan@edgemontinvestments.com

Liz Whall Hartt – Parent Volunteer Coordinator: lizwhallhartt@gmail.com

Jeff Bean & Sharon Spivak – Publicity: press@sandiegrowing.org

Betsey Rose – Website: betseyrose1@gmail.com

Every year we look to have a set of parent volunteers to help out with a variety of activities. Specifically, we are looking for:

- “Squad” Volunteer: For each of the Varsity Men, Varsity Women, Novice Men, Novice Women and Middle School. The Squad Volunteer helps coordinate activities and answer questions for parents in their squad.
- “School” Volunteer: For each High School and Middle School that we draw rowers, the School Volunteer helps with things like car pool coordination and getting news about SDRC known in the school.
- “Functional” Volunteer: Anyone having particular skill, interest or time they can contribute. Things like photos/video, regatta food, media/press connections, fundraising ideas, etc.

We would love to hear from you about your interest in volunteering. Let us know!

Juniors Finances

SDRC is a non-for-profit organization dedicated to the sport of rowing. The Junior's program is funded by parent contributions in the form of initiation fees, season dues and supplemented by occasional fundraising. In our annual budget of approximately \$400,000, the fees and dues are primarily allocated to salaries for coaches, regatta expenses, and the Junior's contribution to overall club overhead. Expenses related to "invitation only" events are generally funded by participating families.

Fundraising

Fundraising primarily occurs during our annual Erg-A-Thon, generally in early February, to raise money for new equipment – mainly rowing shells, launches and oars. Due to some successful fundraising efforts in the past couple of years, we have been able to purchase several new boats, including an 8, a 4x and 4-, as well oars, launches and help support the Juniors program overall.

The Erg-A-Thon involves the entire Varsity and Novice teams which are broken into 3 groups that seek to be the first to reach 50,000 meters on the erg. Collectively, they row the equivalent of going from San Diego to Catalina Island! More information will be provided in November, but each rower is asked to reach out to their network of family and friends for contributions. Like last year, we are planning to hold the event in early February 2015 at the Westfield UTC Mall. More photos on the website!

2014 Erg-A-Thon



Rower Health and Nutrition

Rowing is a strenuous sport that puts a lot of pressure on the body. Back and knee pain, wrist tendonitis, muscle injuries and hand blisters are among most common grievances involved with rowing. SDRC coaches work very carefully to help all rowers avoid injury.

Key injury prevention techniques include:

- Proper rowing technique
- Core muscle development
- Flexibility and joint mobility
- Temperature management, hydration and sun protection

Please talk to your coach if you have any questions about your rower's health.

Rowing is a physically demanding sport and athletes can burn thousands of calories very quickly. Proper nutrition throughout the entire season is important to provide the ingredients for recovery and development and fuel for the next rowing practice or event. Below is an excerpt on rower nutrition from the US Rowing website.

The Best Nutrition Strategies For Race Day¹

You've worked your tail off at practice. You've trained and trained some more. Now it's the big day—what will you do to make it great? Sifting through all the tips for success and executing them on race day can be a little overwhelming, but from a nutrition and performance standpoint, there are 10 things to keep in mind as you prepare:

What you can do before race day:

1. Focus on carbohydrates: These are the body's first food resources for energy. Go for slow digesting carbs like oats, whole grain bread, bagels, or starchy vegetables like corn and potato. When opting for pasta, hold the fatty sauces like Alfredo or too much cheese. Instead, go for marinara or a low fat option.
2. Ditch the fatty foods: These are best eaten later, not during or in preparation for competition weekends, as they will just leave you sluggish.
3. Be prepared for hunger: Unexpected hunger can get the best of any athlete. Pack more food than you need. Having extra will be better than running to the concession stand for something less than ideal. Remember the adage: *If you fail to prepare, you prepare to fail.*

¹ http://www.usrowing.org/domesticrowing/nutritionfeatures/14-07-01/The_Best_Nutrition_Strategies_For_Race_Day.aspx

What you can do on race day:

4. Eat breakfast: Start races on the right foot by eating something first thing in the morning. Muscles and metabolism will get the carbohydrate and energy boost they need.

5. Eat at the meet: *I'm not hungry, or I'm too nervous to eat.* These are just two excuses for not eating before or at competition. Going for long time periods without food (namely carbohydrate) is a bad idea and will chip away at your performance.

6. Be structured with eating: No skipping, delaying or erratic times for eating (ahem, midnight munchies). Space eating around your events, and make sure to pre-load with carbohydrate foods and recover with protein and carbohydrate combinations. Your body will perform at its best when it is fueled and re-fueled.

7. Don't experiment on race day with food: Stay with tried and true foods your body can digest and tolerate while rowing.

8. Keep it clean: Important races are not the time for fast food, junky snacks, sugary desserts or candy. Stick with wholesome, real food like fruit, whole grain breads, crackers, and nut butter.

9. Quench the muscles: Drink plenty of water to avoid dehydration and muscle cramping. Rowers may need sports drinks during a longer race, but be selective with your usage, as water in most cases will work.

And always:

10. Sleep: Although not a nutrition recommendation, sleep is tightly tied to allowing nutrition to do its thing. Sleep is energizing and restorative, and the time when muscles are in major renovation mode, healing, building, strengthening and using all that good nutrition it received during the day. Don't sacrifice your sleep!

When you're laying everything on the line, don't let a misstep in nutrition or poor planning sabotage your goals.

Rower Uniforms

Every SDRC Junior rower (Novice and Varsity) will need a full racing uniform and polo shirt. No athlete will be allowed to race without an approved uniform. Discount uniform purchase orders will be placed early in the fall season and every athlete is encouraged to participate. Subsequent orders may have a reduced discount. SDRC has arranged with Sew Sporty to provide our uniforms. Order at www.sewsporty.com/SDRCJRS

Varsity



Novice



Additional optional items, including rowing shorts, warm-ups, fleece, jackets, hats, duffel bags are available on the Sew Sporty site.

How To Watch Regattas

Fall: Fall season is the long distance training season for crews. Most fall races consist of long distance “head” races (between 2500 and 5000 meters) and results are calculated by time, not head-to-head competition. The starts of individual boats are staggered allowing many crews to compete simultaneously.

Spring: Spring season is the most competitive season for rowing. Races are typically straight, “sprint” style and shorter (1500 to 2000 meters) than “head” races. The boats race in assigned lanes in a head-to-head format. In order to accommodate all the competitors, heats are often necessary. Spring culminates with the SW Regional Championships, usually held in Sacramento, California in early May. Winning varsity boats are invited to attend the US Rowing Youth Nationals held in mid June.

Up to date schedules of upcoming regattas will be available on the SDRC website.

Generally speaking, regattas are all day events and rowers are expected to arrive to unload the trailer in the morning (typically 6am) and stay to reload it once the team’s last event has finished (often 3 to 5pm).

Some things to pack to make your stay more comfortable:

- Portable chair
- Binoculars
- Warm clothes (including gloves/caps)
- Rain gear
- Light-weight clothing
- Camera
- Sunglasses
- Sunscreen
- Hat
- Water and healthy snacks (food tent provided for rowers at most races)

The Head Coach will usually post a schedule of the day’s races and rower line ups online a day or so before the regatta and at a central tent or site at each regatta.

Travel to Regattas

While there are some regattas held here in Mission Bay, the team regularly travels to other locations for “away” events. For some of these events (e.g., Sacramento, Tempe), the team will travel in buses and, potentially, have overnight stay in a hotel. Other events are closer (e.g., Newport and Long Beach) and parents are responsible for arranging transport their rowers (carpooling is an excellent idea). Note, however, that rowers are NOT ALLOWED to drive themselves to these events.

Given the early hour rowers are required to arrive at these events (typically 6am), some families choose to drive up the day before and stay at a local hotel.

Details about away regattas will be posted on the website.

Reggata Locations (type into Google Maps for directions)

Long Beach Marine Statium: 5255 Paoli Way, Long Beach, CA 90803

Parking is usually available at nearby lots or streets

Marina del Rey (California Yacht Club): 4469 Admiralty Way, Marina del Rey, CA 90292. Parking is usually available

Newport Aquatic Center: 1 Whitecliffs Dr, Newport Beach, CA 92660

Parking is very limited. Usually need to park on streets nearby and walk.

Ergometers (ERGS)



SDRC primarily uses Concept 2 Model D Ergometer (Erg) for indoor training. Ergs are rowing machines used for training and to measure the strength of athletes. They simulate the rowing process and allow the coaches to assess athlete capability. Generally, the athlete is asked to row either 2000 meters in the spring season, or 6000 meters in the fall season. The time taken to row those distances is then used to evaluate the athletes against each other. Lower times are an indication of the power the athlete can contribute to boat speed. Other factors, such as rowing technique, also determine an athlete's ability to contribute to boat speed. Erg times may be submitted to National Team coaches and to Universities for consideration for those teams. Generally, for male rowers, 2000 meter erg scores range from 6:30 to 7:00 for varsity caliber athletes. Female varsity athlete's 2000 meter times range from 7:15 to 8:00.

The SDRC Indoor Classic in early January and the Erg-A-Thon in February use the Ergs. After the Indoor Classic, the club typically sells prior season's Ergs to interested families on a first come-first served basis. Talk to the Head Coach for more information.

Rowing Viewer's Guide²

The Events

Events are divided into two disciplines: sweep rowing and sculling, and two categories within those: lightweight and open.

Sculling and Sweep Rowing

Athletes with two oars – one in each hand – are scullers. There are three sculling events: the single – 1x (one person), the double – 2x (two) and the quad – 4x (four).

Athletes with only one oar are sweep rowers. Sweep boats may or may not carry a coxswain (pronounced cox-n) to steer and be the on-the-water coach. In boats without coxswains, one of the rowers steers by moving the rudder with his or her foot. Sweep rowers come in pairs with a coxswain (2+) and pairs without (2-), fours with a coxswain (4+) and fours without (4-) and the eight (8+), which always carries a coxswain. The eight is the fastest boat on the water. A world-level men's eight is capable of moving almost 14 miles per hour.

Athletes are identified by their seat in the boat. The athlete in bow is seat No. 1. That's the person who crosses the finish line first (which makes it easy to remember – first across the line is No. 1 seat). The person in front of the bow is No. 2, then No. 3, No. 4, No. 5, No. 6, No. 7 and No. 8, a.k.a. the stroke. The stroke of the boat must be a strong rower with excellent technique, since the stroke sets the rhythm and number of strokes per minute the rest of the crew must follow.

Lightweight and Open Weight

An athlete of any weight can enter the open categories, although the average woman in an open race will approach 6' in height and an average open weight man 6'6". Lightweight Men cannot weigh more than 160 pounds and the average weight in the entire boat cannot exceed 155 pounds. Lightweight Women cannot weigh more than 130 pounds and the average weight in the entire boat cannot exceed 125 pounds.

Lightweights row the same events as open weight athletes, except that other than the men's lightweight eight, they do not carry coxswains, so there is no lightweight 2+ or 4+.

² <http://www.usrowing.org/About/Rowing101/ViewersGuide.aspx>

The Race

All events at the FISA World Championships and Olympic Games are 2,000 meters, or approximately 1.25 miles. The racecourse is divided into six lanes and each 500-meter section is marked with buoys.

The race begins with all boats aligned at the start in the lanes they've been assigned. Individuals in each lane hold the stern of each boat steady while an official, known as the aligner, ensures that each boat is even with the others and squarely facing the course.

Each crew is allowed one false start; two means disqualification. If within the first 100 meters there is legitimate equipment breakage (e.g., an oar snaps in two), the race will be stopped and restarted with repaired equipment.

The stroke rate (the number of rowing strokes per minute that a crew is taking) is high at the start – maybe 45 to even 50 for an eight; 38 to 42 for a single scull. Then, the crew will "settle" into the body of the race and drop the rating back – 38 to 40 for an eight; 32-36 for a single. The coach and the way the race is going determine when the crew will sprint but finishing stroke rates of 46+ in the last 200 meters aren't unheard of. However, higher stroke rates are not always indicative of speed. A strong, technically talented crew may be able to cover more water faster than a less-capable crew rowing a high stroke rate.

Unlike canoe/kayak competitions, rowers are allowed to leave their lanes without penalty, so long as they do not interfere with anyone else's opportunity to win. An official follows the crews to ensure safety and fairness.

Despite the exhaustion of the race, the crew will row for five to 10 minutes afterwards in order to cool down. In rowing, the medals ceremonies include the shells. The three medal-winning crews row to the awards dock, climb out of their shells and receive their medals before rowing away.

The Stroke

The whole body is involved in moving a shell through the water. Although rowing tends to look like an upper body sport, the strength of the rowing stroke comes from the legs.

The stroke is made up of four parts: Catch, Drive, Finish and Recovery. As the stroke begins, the rower is coiled forward on the sliding seat, with knees bent and arms outstretched. At the catch, the athlete drops the oarblade vertically into the water.

At the beginning of the drive, the body position doesn't change – all the work is done by the legs. As the upper body begins to uncoil, the arms begin their work, drawing the oarblades through the water. Continuing the drive, the rowers move their hands quickly into the body, which by this time is in a slight "layback" position, requiring strong abdominal muscles.

During the finish, the oar handle is moved down, drawing the oarblade out of the water. At the same time, the rower "feathers" the oar – turning the oar handle – so that the oarblade changes from a vertical position to a horizontal one. The oar remains out of the water as the rower begins recovery, moving the hands away from the body and past the knees. The body follows the hands and the sliding seat moves forward, until, knees bent, the rower is ready for the next catch.

The Equipment

Oars

Oars move the boat through the water and act as balancers. Sweep oars are longer than sculler's oars and have wooden handles instead of rubber grips. The shaft of the oar is made of extremely lightweight carbon fiber instead of the heavier wood used years ago.

The popular "hatchet" blade – named because of its cleaver-like shape – is about 20 percent larger than previous blades. Its larger surface area has made it the almost-universal choice among world-level rowers.

The Boats – Sculls and Shells

All rowing boats can be called shells. Rowing boats with scullers in them (each person having two oars) are called sculls, e.g., single scull, double scull, quadruple scull. So, all sculls are shells but not vice versa! Originally made of wood (and many beautifully crafted wooden boats are made today), newer boats – especially those used in competition – are made of honeycombed carbon fiber. They are light and appear fragile but are crafted to be strong and stiff in the water.

The smallest boat – the single scull – is approximately 27 feet long and as narrow as 10 inches across. At 58 feet, the eight is the longest boat on the water.

The oars are attached to the boat with riggers, which provide a fulcrum for the levering action of rowing. Generally, sweep rowers sit in configurations that have the oars alternating from side to side along the boat. But sometimes, most typically in the 4- or 4+, the coach will rig the boat so that two consecutive rowers have their oars on the same side in order to equalize individual athlete power.

Race Watching

- The crew that's making it look easy is most likely the one doing the best job. While you're watching, look for – continuous, fluid motion of the rowers. The rowing motion shouldn't have a discernible end or beginning.
- Synchronization. Rowers strive for perfect synchronization in the boat.
- Clean catches of the oarblade. If you see a lot of splash, the oarblades aren't entering the water correctly. The catch should happen at the end of the recovery, when the hands are as far ahead of the rower as possible. Rowers who uncoil before they drop the oarblades are sacrificing speed and not getting a complete drive.
- Even oarblade feathering. When the blades are brought out of the water, they should all move horizontally close to the water and at the same height. It's not easy, especially if the water is rough.
- The most consistent speed. Shells don't move like a car – they're slowest at the catch, quickest at the release. The good crews time the catch at just the right moment to maintain the speed of the shell.
- Rowing looks graceful, elegant and sometimes effortless when it's done well. Don't be fooled. Rowers haven't been called the world's most physically-fit athletes for nothing. A 2,000-meter rowing race demands virtually everything a human being can physically bring to an athletic competition – aerobic ability, technical talent, exceptional mental discipline, ability to utilize oxygen efficiently and in huge amounts, balance, pain tolerance, and the ability to continue to work when the body is demanding that you stop.
- Race times can vary considerably depending upon the course and weather conditions. Tailwinds will improve times, while headwinds and crosswinds will hamper them.
- If a crew "catches a crab," it means the oarblade has entered the water at an angle instead of perpendicularly. The oarblade gets caught under the surface and will slow or even stop a shell.
- A "Power 10" is a call by the coxswain for 10 of the crew's best, most powerful strokes. Good coxswains read the course to know how many strokes remain for their crew to count down to the finish.
- Crews are identified by their oarblade design. The USA blades are red on top and blue on the bottom, with a white triangle at the tip.
- It doesn't matter whether you win an Olympic medal or don't make the finals – each crew still carries their boat back to the rack.

- Coxswains from first-place boats worldwide are thrown into the water by their crews.
- Coxswains don't now and probably never did yell "stroke! stroke!" Similar to a jockey, their job is to implement the coach's strategy during the race, in addition to steering and letting the rowers know where they stand in the race and what they need to do to win.

WATCHERS GUIDE

THE RACES

The Crew Classic has several different classifications of races: COLLEGIATE: Collegiate rowers must be eligible in accordance with NCAA rules.

VARSITY OR 1V: The fastest shell from a university.

SECOND VARSITY OR 2V: The second fastest shell from a university.

JUNIOR VARSITY: The second fastest shell from a high school

NOVICE: Rowers or coxswains in their first year of collegiate competition

JUNIOR: Rowers who are 18 years old or younger and enrolled as a full-time high school student.

CLUB: All rowers from organization or age.

MASTER: Minimum age of master rowers is 21. The crews' average age determines the event they will row in.

THE ROWERS

The rowers race within two classifications: heavyweight or lightweight. A lightweight male rower shall weigh no more than 160 pounds. A lightweight woman no more than 130 pounds.

Coxswains also have weight standards. For college men, they must weigh a minimum of 125 pounds. Juniors, Clubs, and Masters mens coxswains a minimum of 120 pounds. Womens coxswains a minimum of 110 pounds. If the coxswain does not meet the weight standard, they will be required to carry sand bags at the coxswains position in the shell to make up the difference.

THE RULES

Each crew is allowed one false start. Two mean disqualification. If, within the first 100 meters of the race, there is a legitimate equipment breakage, there will be a restart.

Crews may move anywhere within the course as long as they do not impede another crew. Referees use flags to signal the crews. Red means stop. White is used to start the race, signal a fair race, and direct a crew which may be heading for a collision.

THE BOATS

The 60-foot-long, eight-oared shells are made of carbon fiber, reinforced plastic in a honeycombed structure and weigh about 180-250 pounds. All sculls are shells, but not vice versa. The normal configuration of a sweep boat has oars alternating between right and left, or starboard and port sides of the boat. Sweep rowers come in pairs (2), fours (4), and eights (8). They may have a coxswain, in which case they're called a pair with coxswain (2+), or a four with coxswain (4+). The coxswain is the on-the-water coach and strategist who also steers the boat. Pairs and fours also come without coxswains (2- and 4-). The eight always has a coxswain (8+).

The Crew Classic is the largest exclusively eight-oared regatta in the world.

OARS:

Oars move the boat through the water and act as balancers. Sweep oars—12' to 13' long—are approximately two feet longer than sculling oars. The standard blade shape is a hatchet.

THE STROKE

The whole body is involved in moving the shell through the water. Although rowing looks like an upper-body sport, strong legs are really important. There are four parts to the rowing stroke: Catch, Drive, Finish, Recovery, and they all flow together in smooth, continuous, powerful movement.

THE STRATEGY

Continuous Motion: Rowing should be a continuous, fluid motion.

Synchronization: Rowers strive for the perfect synchronization.

Clean Catches of the Oar Blade: A lot of splash means the oars aren't entering the water correctly. The catch should occur at the very end of the recovery when the hands are as far ahead of the rower as possible.

Oar Blade Coordination: As the blades are brought out of the water, they should move horizontally at the same height, just above the water.

Consistent Speed: Shells move slowest at the catch, quickest at the release. A good crew times the catch at the right moment to maintain the speed of the shell.

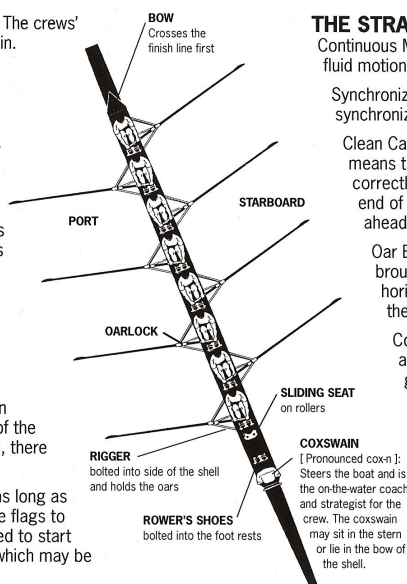
Strokes Per Minute: Stroke rates vary from boat to boat, depending on the number of rowers, age, and size of the athletes. At the start, the stroke rate will be higher, 36-44 strokes per minute for an eight. The rate will settle down at the middle of a race to 30-36 for an eight.

Finishing stroke rates can go as high as 46 for Olympic rowers.

DON'T BE FOOLED.

The motion is so fluid, so smooth, and so seemingly effortless that the agony on the athlete's faces near the end seem out of place.

The last 500 meters of the race are excruciating. The energy is gone, the muscles are burning, and the body is well into oxygen debt. But the mental discipline remains, and the athletes continue, straining to synchronize each motion and mentally counting the strokes to the finish. Rowers also bear the pressure of knowing that each stroke they take affects their teammates—a weak link dooms the crew's efforts.



*This information is provided to enhance spectator enjoyment and is not intended to represent the official rules.

Local Teams – Blades



San Diego Rowing Club Juniors - San Diego, CA



Brophy College Prep – Phoenix, AZ



Capital Crew – Sacramento, CA



Long Beach Junior Crew – Long Beach, CA



Marin Rowing Association Juniors – Greenbrae, CA



Newport Aquatic Center (NAC) Juniors – Newport Beach, CA



Oakland Strokes – Oakland, CA



River City Rowing Club Juniors – West Sacramento, CA



St. Ignatius College Prep – San Francisco, CA



Tempe Junior Crew – Tempe, AZ



ZLAC Juniors – San Diego, CA



Artemis Rowing – Oakland, CA



California Yacht Club Juniors- Marina Del Rey, CA



Cathedral Catholic High School – San Diego, CA



Los Gatos Rowing Club Juniors – Los Gatos, CA



Marina Aquatic Center (MAC) Junior Crew – Marina del Rey, CA



Northern California (Norcal) Crew – Redwood City, CA



Pacific Rowing Club – San Francisco, CA



RowLA – Marina Del Rey, CA



Stanford Rowing Center Juniors – Redwood City, CA



Xavier College Prep – Phoenix, AZ

Rowing Glossary

The sport of rowing has been around for a long time and has developed its own, sometimes peculiar terminology.

2- Symbol for a —pair (2 rowers, sweep, no cox).

2+ Symbol for a —coxed pair (2 rowers, sweep, cox).

2x Symbol for a —double (2 rowers, sculling).

4- Symbol for a —straight four (4 rowers, sweep, no cox).

4+ Symbol for a —four (4 rowers, sweep, cox).

4x Symbol for a —quad (4 rowers, sculling, no cox).

4x+ Symbol for a —coxed quad (4 rowers, sculling, cox).

8+ Symbol for an —eight (8 rowers, sweep, cox).

Blade The face of the oar that pushes against the water

Body angle The forward lean of the body from the hips that is achieved during the first part of the recovery.

Bow The front of the boat. Also the term used for the person rowing in 1st seat.

Bow ball A rubber ball used to protect the boat during a collision.

Bow coxed boat A shell in which the cox lays feet first in the bow of the boat. This position helps to reduce wind resistance.

Button/Collar A wide ring on the oar that keeps it from slipping through the oarlock.

Catch The entry of the blade into the water at the beginning of the stroke; the point at which the oar is placed in the water.

Cox box Amplification system with a headset, microphone, and speakers that allows the coxswain to convey instructions to the entire crew.

Coxswain/Cox'n/Cox [kok-suhn] The coxswain commands the crew, steers the boat, and is responsible for the safety of the crew and the boat. During a regatta, the coxswain is responsible for implementing the race plan established by the Coach. Experienced coxswains are valued as Assistant Coaches, and the coxswain is the only one other than the Coach to tell the oarsmen what to do.

Crab Being unable to take your blade out of the water at the release. This action destroys the rhythm, set, run, and momentum of the boat and is often referred to as “catching a crab”. This can stop a boat dead in the water and can also throw a rower out of the boat.

Drive Power portion of the stroke. When the blades are in the water, the boat is in the “drive” phase of the stroke cycle.

Feather The action of rotating the blade so that it parallels the water on the recovery. This minimizes resistance to air and water.

Finish/Release End of the drive during which the blade comes out of the water in preparation for the recovery.

Gunwale [guh-n-l] The sides of the boat, the edge of the shell’s cockpit. When rowers carry a shell to the dock, the gunwales rest on the rower’s shoulders.

Hold Down/Hold Water/Hold The action of square the blade in the water to stop the forward motion of the shell.

Inside Hand The hand that is closest to the oarlock (right for ports, left for starboards).

Lightweight A term referring to the rowers, not the boats. There is a maximum weight for each rower in a lightweight event as well as a boat average.

Masters Rowers over the age of 27

Novices/Novies First year rowers. Novice designation lasts for the academic year, but does not carry over the summer.

Oar (sweep) Used in pairs, fours, and eights. Each rower uses one oar. Just over 12 feet in length, oars may be made of wood or carbon fiber. They are generally painted with the team’s colors.

Oarlock Device that holds the oar and is the fulcrum for the oar. The lock consists of the pin and the gate. The gate is held closed by a threaded nut that is loosened to allow the rower to open the gate and insert an oar into the oarlock. The gate is then closed, and the nut is hand tightened.

Port Left side of the boat, facing the direction of travel (the bow). Red is the color that corresponds with port side.

Power 10 (20) A call for rowers to do 10 (or 20) of their best, most powerful strokes. A strategy used to pull ahead of a competitor or to focus the rowers’ attention.

Puddle The disturbance left in the water by the blade as it is removed from the water. Puddles are visible during the recovery and help to gauge the “run” of a boat.

Recovery This is the time from the release of one stroke to the catch of the next stroke; the time the blade is out of the water. During the recovery, the

rower moves his or her body and seat into position to prepare for the next catch.

Rigger The triangular shaped metal device that is bolted onto the side of the boat and holds the oars.

Rudder About the size of a credit card, the rudder is part of the skeg that swivels to steer the boat. Sometimes, the rudder is separate from the skeg.

Run The glide that occurs during the recovery, or the distance the shell moves during one stroke. You can figure it by looking for the distance between the puddles made by the same oar.

Scull Oar used in singles, doubles, and quads. Sculls are 9½ feet long and may be made of wood or carbon fiber. Sculls have a smaller handle than a sweep oar, but the parts are the same as a sweep oar.

Sculling One of the two disciplines of rowing. Each person has two oars.

Set Set is the stability of the boat side to side, and its ability to ride level without leaning to the star-board or port. A boat is "set" by the rowers.

Shell Term used interchangeably with "boat"

Single A shell with one rower (a sculler) who uses 2 oars to propel the boat.

Skeg A fin attached to the bottom of the boat near the stern that helps keep the boat on course and balanced.

Slide Ratio The ratio of time spent during the drive versus the recovery. The goal is to spend longer on the recovery than the drive. This maximizes the run of the boat as well as the amount of rest the oarsperson gets during the recovery phase of the stroke.

Split The time to row the equivalent of 500 meters on an Erg.

Starboard The right side of the boat when facing the direction of travel (the bow). Green is the color associated with Starboard.

Stern The rear of the boat; the direction the rowers are facing.

Stretcher/Foot Stretcher Where the rowers' feet go. Shoes may be permanently attached to the boat or adjustable straps hold rowers' own shoes to the footboard. Footstretchers adjust to accommodate rowers' height/leg length.

Stroke The cycle of the oar during rowing. One stroke consists of the catch, drive, finish, and recovery.

Stroke Seat/Stroke The rower who sits closest to the stern. The stroke sets the stroke rate and rhythm for the boat.

Stroke Rate or Rating The cadence of strokes per minute.

Sweep Rowing/Sweep One of the two disciplines of rowing where rowers use only one oar.

Swing The elusive feeling when near-perfect synchronization of motion occurs in the shell, enhancing the performance and speed.

Weight (or Way) Enough (sounds like “way-nuff”) A command given by coaches and coxswains to stop an action.

College Rowing

Introduction

Many SDRC Junior rowers have gone on to row at the collegiate level or beyond. Studies have shown that of high school athletes, over 50% of rowing women and nearly 20% of rowing men were offered college scholarship or aid. Obviously, there are many factors to consider when choosing a college, with the rowing program being one of them. Coaches can be influential in the college admissions process, primarily with Division I programs. There are numerous recruiting rules and academic requirements which can be quite complicated. The NCAA rules begin to apply once the prospective student-athlete begins 9th grade. We have a number of links on our SDRC Juniors website to provide you more information and we encourage rowers and families to review them and seek other resources as well.

Overview. There are approximately 140 NCAA varsity status women's rowing programs. These programs are further divided into NCAA Division I, Division II and Division III programs. A listing of schools that sponsor women's rowing, separated by division, is available at www.ncaa.org. There are varsity status men's rowing teams as well. However, because the NCAA does not sponsor men's rowing as a championship sport, NCAA rules have not been written specifically for men's rowing. Nevertheless, most varsity status men's programs follow most of the NCAA rules for their recruits.

Coach Communication. There are specific rules restricting college coach/student communications, with the restrictions weighing primarily on the college coaches. These rules involve timing of communication (e.g., specific date a coach may contact a student), form of communication (phone call, letters, email, in-person), number of times a student may visit (including "official" and "unofficial" visits), and others. Knowing these rules is important in understanding the timing and form that coaches can communicate with students. So don't necessarily take it badly if a coach does not call you back or see you in person – they may be very interested in you but can't call because of NCAA rules!

Process and Timing.

- Freshman & Sophomore: Review college rowing programs. Attend college-based summer rowing camps. Visit ("unofficially") college campuses to get a feel for what you may like – urban vs rural; small vs large, etc.

- Junior: At the beginning of the Junior year, complete the recruiting forms at school's web sites. You can email coaches and they can respond. You can call coaches but Division I coaches can't call you back until July 1 of your Junior year (Division II is earlier). Give coaches updates on erg times and race results. During the summer after your junior year visit the schools you are interested in.
- Senior: Before the senior year starts, narrow the field to a small number of schools. Tell coaches where they stand. If invited, make "official" campus visits as early as possible in the senior year. Make your top priority schools early in the fall. Devise an "early action" or "early decision" strategy with parents and counselors – you may need to make a college decision by October 1.

US Junior National Rowing Team

Overview

US Rowing's Junior National Team represents the U.S. at the World Rowing Junior Championships each year, typically in late July and August, as well as other international events. Athletes are selected to the junior national team through a Selection Camp or trials (discussed below). Athletes who show potential but are not quite at the Selection Camp level may be invited to a High Performance or Development Camp. Selection, High Performance and Development Camps take place in the summer in various locations throughout the U.S. More information is available at usrowingjrs.org.

Camps: ID, Development, High Performance, Selection Camps

- ID Camp. Identification Camps are a means for national team coaches to identify potential national team athletes. It is also an opportunity for athletes to meet with national team coaches and discuss training goals and programs. An athlete's performance at an ID camp can contribute to their invitation to a junior national team Selection, High Performance or Development Camp. Coxswains have a separate ID camp process and are typically notified of invites to Selection, HP or Development Camp in late May.

On the day of the ID camp, rowers will complete a 2k erg test. Depending on the weather and the condition of the water, athletes will participate in an indoor tank, erg/core session, and/or rowing session. ID camps are one day, typically 3 – 5 hours and take place in late winter through spring at various locations throughout the U.S. Dates and times for the ID camps are listed on the usrowingjrs.org website. Athletes selected for future camps are typically notified in early April.

- Development Camp: The goal is to provide the foundation for the Junior National Team in two years. The Development Camp experience can be likened to a 'Rowing Laboratory' with a focus on both "on water" and "off water" training and education.
- High Performance Camp: The HP Camps provide young, talented athletes with an experience in either a sweep or sculling setting that incorporates the on land 'learning lab' environments of Development Camp, with a competitive training and racing component. After the first phase of HP camp, athletes may be selected to represent the U.S. at Junior Worlds or other regattas or participate at US Rowing Club Nationals.

- Selection Camp: Selection Camp invitations are provided to the male and female athletes that show the strongest qualifications to represent the U.S. in international rowing competition. These camps also have 2 phases with the first phase involving training in the U.S. and the second phase including participation at Junior Worlds or other regattas.

Trials: There are two ways to be selected to the junior national team – through a Selection or HP Camp or at trials. Boat classes that are selected at a camp are M8+, M4+, M4x, W8+, W4-, and W4x. All other junior national team boats are selected at the Junior World Championship Trials Regatta, held in Princeton in July.