

4.4 CREW SELECTION *by: Mike Purcer*

Rowing, except for the single sculling event, is a team sport that requires athletes to come together in crews to compete. Crew selection can be challenging for coaches and athletes because of their emotional ties to others in the program. During the selection process, athletes are highly stressed and may feel disconnected as they compete against their friends for a spot in the boat. Coaches can be apprehensive because of preconceived notions and expected outcomes of the selection process. Coaches and athletes often have intuitive feelings about who should be selected or deselected, based on their knowledge and experience within the athlete group. The athletes must feel that the selection process is fair and will result in a crew makeup that reflects the best athletes, ultimately leading to the fastest crew.

Selecting a team or a specific crew from within the group must be done through a process that provides a fair opportunity for all athletes. Coaches and selectors must be unbiased, and crew selection must be objective, with quantifiable evaluation results. Crews selected without a process or by the coach's subjective feelings may leave deselected athletes feeling that they have not been treated fairly. Additionally, there is no evidence that the fastest crew has been selected, and athletes may be deterred from joining the program in the future due to perceived bias by the coach.

Athletes often have a sense of who they believe are the top athletes within the group, and coaches may have their own opinions. At times, an individual's perception of the best athletes may conflict with the results of selection events. For this reason, evaluation methods, procedures and results must be transparent. Following the selection, all athletes should be satisfied that they have had a fair

opportunity to succeed, and coaches should be confident that the best team has been selected.

Coaches have occasionally struggled with leaving a top athlete on the dock due to poor performance during selection events. The saying, "the eight best does not always make the best eight," resonates with coaches searching for crew rhythm and the intrinsic value of a crew working together. The selected team may not inspire confidence in everyone, but the process is a crucial step towards moving forward.

The crew selection process must occur early in the season to allow crews to come together after selection and develop their timing and speed. Ultimately, the selection process serves as an opportunity to unify the team. A well-executed process will be transparent and demonstrate respect for both the athletes and the coach's unbiased goal of assembling the best team possible. Athletes should feel confident that the most qualified individuals have been chosen for the crew. Those who are deselected or retained as spares ought to feel they have received a fair opportunity, as they may represent the program's future.

A comprehensive plan for crew selection, including all related details, is known as the Selection Document. This document outlines every aspect of the selection process, including dates, requirements, and athlete evaluation events. Communicating the plan to athletes and coaches well in advance of the process is vital to demonstrate transparency and fairness. More extensive rowing programs should have a selection policy that outlines the development and publication dates for the Selection Document, which will be updated annually.

4.4.1 Selection Document

The selection document outlines how athletes will be evaluated for selection to teams and crews. Additionally,

the document must include information on how athletes can register for the program and any required prerequisites.

The selection document may include the following section headings:

1. Objectives
2. Athlete Eligibility
 - a) prerequisites for participation
 - b) minimum standards of performance
 - c) registration/fees
3. Schedule
4. Athlete's Commitment if Selected
5. Athlete Rights
6. Selectors
 - a) conflict of interest
7. Evaluation Events
 - a) description, format, assessment outcomes
 - b) objective values recorded
 - c) subjective criteria (objective notes recorded)
 - d) athlete compatibility
 - e) coxswain evaluation process
8. Coach Input
9. Methodology
 - a) ranking and rating
 - b) successive elimination events
 - c) aggregate score evaluation
10. Sickness/Injury
11. Communicating Results
12. Appeal Process
13. Unforeseen Circumstances
14. Ongoing Performance
15. Glossary of Terms
16. References

The selection document should be published several months prior to the start of the selection process and must be accessible to all potential participants.

Objectives: The objectives section of the selection document should outline the program's goals, including the major regatta(s) in the forthcoming competition phase. It should also clarify the specific objectives of the selection process, which may include the size of the team or particular crews to be identified.

Athlete Eligibility: The selected athletes must be eligible to compete in the scheduled regattas. For example, competing on school teams may require athletes to be full-time students. Club membership may be required at club regattas, and national citizenship may be mandated at international regattas. Other examples include physical requirements, such as those in PARA rowing classifications or weight-restricted events. The selection document must outline any eligibility criteria, and the process must ensure that these requirements are verified and met before selection.

The program may have performance requirements that athletes must meet before participating in the selection process, such as submitting a minimum erg score or achieving results at designated events, including a qualifying regatta. If there are prerequisites for athletes to attend the selection process, they must be included in the published Selection Document. Publishing prerequisites well in advance is the first step for athletes to compete in the selection process. These requirements will exclude athletes who do not meet the team's required level.

Schedule: This document outlines the dates and locations of the athlete evaluation events. Some selection event dates may be confirmed, while others, such as on-water racing, may be tentative due to weather conditions. Certain events may be provisional or required based on previous athlete scores. The selection process is often challenging, but every effort should be made to adhere to the schedule.

Keeping all athletes informed about team options during the process shows respect for the athletes and helps alleviate stress and anxiety.

Athlete Commitment if Selected: Before the selection process begins, athletes must be informed of their responsibilities if selected for the team. Commitments may include time for training and travel, relocation costs, living expenses, team expectations, and rules. The selection document will provide a written record of the athlete's requirements.

Athlete Rights: The selection process can be stressful for athletes, and many may feel overwhelmed or intimidated when asking questions. The document should outline the opportunity for athletes to access a representative while remaining anonymous when seeking information. Athletes should choose a representative to serve as a confidential resource. Those who prefer not to ask coaches questions directly can contact the representative. The athlete representative may also be asked to attend team or individual meetings.

Athletes' Rights
1. To know and understand the selection process.
2. To have a fair opportunity to participate in the process.
3. To see the results.
4. To ask questions personally or through a confidential representative.
5. To be able to express concerns to coaches or the selection committee.
6. To make written appeals on selection decisions (based on data and explaining the reasons for the appeal) and receive written explanations in a timely manner.

Communication among athletes and selectors/coaches is critical throughout the selection process. Athletes may

have strong feelings or aversions to competing in a specific boat class and may hold personal goals. They should not be compelled to race against their will, and any conflicts between athletes must be addressed, as team unity is paramount to success.

Selectors: A brief section on selectors in the document will provide athletes with a clear understanding of the personnel involved. Depending on the size of the program, the individuals responsible for analyzing the results and deciding which athletes advance or are deselected may range from the coach alone to a coaching staff or a combination of a coach and a group of selectors. Occasionally, the coach might not participate in the selection process, allowing a fresh start with the crew when the team or crew is chosen.

Developing a selection committee to lead the process and analyze the results is often preferable, as it helps ensure coaches appear neutral. All selectors must disclose any conflicts of interest, including personal or professional ties to athletes in the group. Coaches who have previously coached athletes may exhibit bias based on those past experiences. New athletes in the program may perceive bias between the coach and athletes from the coach's previous team. Advanced-level programs may require selectors to sign a declaration of independence, attesting to their impartial status regarding all athletes involved.

Evaluation Events: The selection process may include several athlete evaluation events, such as on-water speed trials (time trials and seat racing), aerobic and anaerobic testing on the ergometer (6k, 2k, Max Watts), laboratory tests such as MaxVO₂, and various strength evaluations. Coaches have also used running or bike ergometer tests to assess aerobic fitness. Other assessments, such as rowing technique, are subjective, while some may consider years

of experience or age, allowing for future involvement and development within the program.

Evaluation of coxswains is unique and may include a review of their ability to steer the shell, identify bladework errors, provide leadership within the group and others. Coaches may request that coxswains submit audio recordings of themselves from practices or races. A coxswain's experience may be considered, and coaches sometimes seek feedback from the rowers. A specific section outlined in the selection document is required for coxswains.

The selection document will outline the events used to evaluate athletes. These events should relate to rowing performance, yield objective and quantifiable results, be reliable and repeatable, and be cost-effective to organize. The selection document should also detail the events and the scoring system that will be used to rank or rate the results. Athlete evaluations in selection events must provide scores and values for comparison and ranking. A list of typical events can be found in Section 4.4.2 Selection Events.

Coach Input: The need to unite athletes in crews requires compatibility in stroke length (reach) and power capacity. When selecting a specific crew, a coach's input can significantly inform the ongoing integration of the athletes' rowing technique. Although the coach's input is subjective, it is extremely valuable for continuous crew development.

Sickness/Injury: The selection document should clearly outline the process for athletes who are ill or injured during the selection process and ensure they have a fair opportunity to succeed. Athletes who are unable to participate in a selection event may be required to submit documentation of their condition. Athletes should expect to

remain in the program based on their results from the previous year.

Publication of Results: The selection document will outline how results will be shared with athletes. This is a critical time, and results will be published only within the team. Published scores or times should include raw data, such as start and finish times. When meeting with individual athletes, the coach can share that person's score while maintaining the anonymity of the others. This will prevent speculation during individual meetings between coaches and athletes.

Results from event evaluations should be shared with the team upon completion of the individual meetings. Typically, individual results are communicated to the athlete first if they are deselected.

Appeal Process: The selection committee must establish a clear and transparent appeal process. During the selection process, athletes may, at the appropriate time, ask questions to clarify the event setup. Questions about how the event results will be used are not deemed appropriate.

Athletes may ask questions or raise concerns through an appointed representative to maintain their anonymity. Once the results are shared or published and the next steps are determined, athletes can typically appeal the decision within a limited time frame, usually 24 or 72 hours. The appeal must be in writing, and the reasons for the appeal must be clearly explained. The coach or selection group must respond in writing. If the athlete's appeal is rejected, they may wish to escalate the matter. There should be a higher authority above the coach or selection committee to hear the appeal and make the final decision.

Unforeseen Circumstances: The selection document outlines the process, events, and timelines; however, in the

event of unforeseen circumstances that necessitate changes to the process, the selection document should specify how those changes will be implemented. If necessary, the selectors and the administration must carefully review the available options. Athletes must be informed of any changes as soon as possible and given the opportunity to provide feedback.

Ongoing Performance: Athletes must remain committed to continuous crew development and improved performance. Crews that fail to improve, as indicated by time trials and regatta performance, may be subject to review. Injuries within the team may necessitate coaches reevaluating boat lineups. Coaches will monitor both crew and individual athlete progress.

Glossary of Terms: If necessary, a glossary of terms should be included, complete with descriptions. For instance, the Gold Medal Standards (GMS) ought to be identified and explained.

References: The selection document may reference other documents, such as the organization's policies or associated rules. The titles, publication dates, and locations of the related documents should be listed in the selection document and made accessible to athletes.

4.4.2 Evaluation Events

There are several methods to assess athlete performance. All evaluation events have inherent advantages and disadvantages. The events should relate to rowing performance, yield objective, quantifiable results, be reliable and repeatable, and be economical to organize.

Typical rowing-related events may include:

- rowing on-water time trials
- seat racing
- ergometer testing (2k, 6k, and max watts)

- rowing-specific force/power measurements

Less specific events might include aerobic or strength testing that can be utilized for programs with limited resources.

- max strength
- strength endurance
- aerobic testing
- anthropometric (body) measurements
 - weight, height, stroke length
- lab tests

There may be subjective criteria related to athlete evaluations.

- rowing technique
- coachability
- athlete compatibility

All evaluation events must be included in the selection document.

Ergometer evaluations may be the best test of an athlete's strength and endurance in the rowing motion. However, they do not accurately reflect the athlete's on-water rowing technique or blade work. Additionally, lighter athletes face a disadvantage, as less muscle mass may limit erg scores, while greater mass poses a disadvantage on the water. The lighter athlete would be faster in the boat (all else being equal) due to reduced resistance on the hull. It is essential to consider body weight when evaluating ergometer scores.

Concept2 provides a formula that considers body weight as a factor and adjusts the erg score time.

$$\text{WEIGHT FACTOR} = \left(\frac{\text{BODY WEIGHT}}{270} \right)^{0.222}$$

$$\frac{\text{WEIGHT ADJUSTED TIME}}{\text{ACTUAL TIME (SECONDS)}} = \text{WEIGHT FACTOR} \times$$

Using the above calculations provides a comparison of ergometer times adjusted for weight.

Seat racing is a series of intrasquad races in which athletes switch crews to evaluate their boat-moving skills. This evaluation method reflects athletes' performance in a racing context and provides objective results by comparing race times. Seat racing is likely the most common approach to comparing athletes during the final stage of the crew selection process. Both athletes and coaches widely accept seat racing as a fundamental part of the selection process. Section 4.5, Seat Racing, provides a comprehensive description of the procedure.

Although widely accepted as an evaluation method, seat racing results (like race results) are inconsistent. Athletes' performance can vary from day to day and race to race. Therefore, seat racing results should be thoroughly analyzed. Another challenge is that seat racing results can be specific to boat classes. An athlete who performs well in pairs may not do as well in fours within the same evaluation group. However, like race days, seat racing requires athletes to perform at a specific time, and everyone has the same opportunity.

Subjective evaluations are difficult to defend if challenged and may lead to appeals. Subjective assessments must adhere to a scoring system. The criteria should be included in the selection document or clearly communicated to athletes before evaluation. Ranking athletes subjectively in events should be thoroughly documented, including the details of their performance observations. The selection document that contains subjective evaluations, such as effective rowing technique and coachability, should specify a scoring method, including a description and minimum and maximum ranking values. The selection process aims to evaluate athletes using criteria that yield consistent and repeatable

results, especially given that athletes often perform inconsistently.

4.4.3 Coach Input

Coaches continually assess athletes' strength and endurance to modify training programs or support individual athletes' training.

Assessing athlete compatibility is essential to ensure selected athletes can develop together. Their individual rowing techniques (biomechanical movements) influence how they apply power and move in the boat, which in turn affects hull speed. Compatibility is often overlooked or evaluated only in the context of team events, such as seat racing. Boating athletes with significant physical differences may limit opportunities for improvement. For this reason, specifying priority boats may hinder the selection process, as all athletes will wish to be in the priority boat. During the selection process, coaches aim to identify the top athletes in all selection events; however, at times they do a disservice by neglecting to consider compatibility when forming top crews.

4.4.4 Events Methodology

Coaches and selectors should conduct pre-briefs to explain the event setup before all selection events. These should occur on the days leading up to the event. The pre-brief will provide athletes with the opportunity to ask questions about the event setup and its details. A second pre-brief just prior to the event will enable a quick review of the process. However, evaluators should refrain from discussing post-event plans based on results.

Immediately after the event, there should be a debrief with athletes to review and provide an opportunity for athlete feedback. This is not the time to share results, as

the data must be verified and speculation about the next steps may be premature if the results affect those steps.

Recording data during the event is critical, as is maintaining the original records. Racing times must include backup timers. Records should include a full description of the event and notes taken throughout the process. This information may include weather and water conditions, start times, and boats used. These details will be essential if appeals are received and will serve as a valuable reference for the future.

Coaches must write detailed notes to support their evaluation scores. Evaluating athletes using subjective criteria may invite questions and criticism.

Start and finish times must be recorded, and calculations should be verified. Data transcribed into a different format, such as from watch times to paper, must also be reviewed. The quality of the selection process depends on the quality of the records and notes taken.

Details of the events must be recorded, including the date, time, location, equipment, selection process, and personnel. If the event is held outdoors, weather conditions should be documented.

Results must be checked, and recorded scores and raw data should be kept on file. Legibility is crucial, and a photo of the recorded times can serve as a backup. A video of the watch while times are being recalled can serve as a permanent record.

4.4.5 Event Results and Analysis

Results from selection events can be determined by time or by numerical scores. Each set of event results must be thoroughly analyzed to identify any anomalies in the data. Scores can be assessed by ranking them in order or by comparing them to a standard value. Standard values, such as Gold Medal Standards (GMS), can be used to

express the athlete's score as a percentage for comparison. Score values can also be compared to the highest score in the group, which is expressed as a percentage. Rating scores as a percentage of a standard provides a comparison that may reveal significant or insignificant performance differences.

A hundredth of a second can determine the difference between gold and silver medals at a regatta. However, it is nearly impossible to replicate the exact same results. During selection events, athletes understand that they must perform, and team selection is at stake. Minor differences in selection event scores may not significantly affect decision-making, as results can be influenced by various factors. Both significant and insignificant value differences should be assessed before the event begins. For instance, is two-tenths of a second on a two-kilometre ergometer test substantial enough to decide which athlete should advance in the selection process?

The coach or selection committee should consider the data to be collected. Seat racing, presented in a matrix format, for instance, provides times for each crew in each race. The results can include.

- a) The athlete's total overall time from all races, if they have rowed equally with all other athletes they are being compared against.
- b) The largest time difference between two crews in a seat race.
- c) The fastest time achieved during all races (this may not consider fatigue or environmental conditions).

Ranking athletes by their scores in an event provides an organized list reflecting performance. Athletes are ranked first, second, third, fourth, and so on for the entire group that completed the event. Ranking athletes in order gives selectors an objective basis to continue the process.

However, ranking scores in order does not fully account for their comparative value.

Rating score values allow for a comparison of results and enable a deeper analysis. Score values measured against a standard yield a value or percentage difference. Comparing athletes' score values may reveal significant or insignificant differences. Rating based on a percentage of a standard or the top score should be conducted whenever possible.

Figure 4.4.5a Ranked and Rated Scores, presents the scores of five athletes in a 2k ergometer event. The athletes' 2k times are shown, along with their finish order in the Rank column. A more detailed evaluation entails calculating the scores using a comparator or standard to derive a percentage value. The difference (Diff) column compares each athlete's erg finish time to the fastest time to illustrate the comparative value difference. Further analysis compares the erg times to the 2k erg standard of 6:32.0, which enables the calculation of a percentage of the standard value.

Analysis of the percent of standard values shows that, while there is a difference between athletes ranked second and third, their scores are quite close.

Figure 4.4.5a *Ranked and Rated Scores*

Name	2k time	Rank	Diff. *	% Standard Rating **
Carol	6:38.9	1	0.0	98.27%
Jessica	6:47.2	2	8.3	96.27%
Natasha	6:48.3	3	9.4	96.01%
Wendy	6:59.8	4	20.9	93.38%
Cathy	7:04.5	5	25.6	92.34%

* Note: Diff is calculated from the fastest time

** Note: 2k erg standard is 6:32.0

On-water time trials are often expressed as a percentage of the Gold Medal Standard (GMS). Event results must be thoroughly analyzed before athletes are selected or deselected. Scores with minimal differences should not be used to separate athletes into different groups.

Selection by Elimination Events or Aggregate Scores

The selection process often involves multiple evaluations, such as ergometer scores and seat racing. Athletes who advance through the selection process achieve high scores and are promoted to the next evaluation, while those with lower scores may be eliminated from further selection events. This elimination process enables top-scoring athletes to move forward, while others with lower scores are either deselected or assigned to secondary crews.

An example of the elimination process is illustrated in Figure 4.4.5b, Progression Summary, which shows the results of 12 athletes' erg tests, with the top 8 advancing to a singles time trial.

Figure 4.4.5b Progression Summary

	2K Score	2k Erg Weight Adjusted			1x Trial		Doubles Matrix	
Name	2k Erg	body weight (kg)	2k erg adjusted	Rk	TOTAL TIME	RANK	2k Erg	Rk
Scott	6:15.2	72.0	05:33.5	1	7:25.65	3	18:12.56	2
Ben	6:45.0	55.0	05:39.1	2	7:29.35	5		
Tom	6:20.0	74.0	05:39.8	3	7:20.26	1	18:09.15	1
Tim	6:26.0	71.0	05:42.0	4	7:27.52	4	18:18.25	4
Jordan	6:34.5	68.0	05:46.2	5	7:22.52	2	18:14.58	3
Frank	6:29.9	72.0	05:46.5	6	7:35.65	6		
Corey	6:32.0	72.0	05:48.4	7	7:40.56	7		
Jordan	6:56.0	62.0	05:57.7	8	7:49.47	8		
Alex	6:53.4	66.0	06:00.4	9				
Jacob	6:42.0	75.0	06:00.5	10				
Bobby	6:49.7	74.0	06:06.4	11				
Mike	6:58.3	73.0	06:12.9	12				

In the progression example, the four fastest singles then proceed to a seat-racing doubles matrix to determine the fastest double.

Selection through elimination events provides a straightforward method for choosing designated boats. However, early deselection of athletes limits the available boating options and prevents athletes from showcasing their abilities across all events.

Selection by aggregate scores involves evaluating all athletes across multiple events. The results of these evaluations can be compiled, and a total score can be calculated based on the points assigned to each event. Figure 4.4.5c Aggregate Score Summary, shows results from a 2k Erg test and seat racing. In this example, the erg score is weighted at 40 percent, while seat racing accounts for 60 percent of the total point value.

Figure 4.4.5c *Aggregate Scores Summary*

	2K Erg Score				SEAT RACING				Results	
	05:50.0	Standard			21:13.6	Standard			SCORE	
	40	point value			60	point value				
Name	2k Erg	RANK	percent of standard	earned points	TOTAL TIME	RANK	percent score	earned points	Total Points	RANK
Scott	06:15.2	1	93.3%	37.31	21:15.35	2	99.9%	59.92	97.23	1
Tom	06:20.0	2	92.1%	36.84	21:20.95	3	99.4%	59.65	96.50	2
Tim	06:26.0	3	90.7%	36.27	21:13.58	1	100.0%	60.00	96.27	3
Frank	06:29.9	4	89.8%	35.91	21:34.25	5	98.4%	59.04	94.95	5
Corey	06:32.0	5	89.3%	35.71	21:43.25	8	97.7%	58.63	94.35	6
Jordan	06:34.5	6	88.7%	35.49	21:23.65	4	99.2%	59.53	95.02	4
Jacob	06:42.0	7	87.1%	34.83	21:38.25	6	98.1%	58.86	93.69	7
Ben	06:45.0	8	86.4%	34.57	21:46.58	9	97.5%	58.48	93.05	8
Bobby	06:49.7	9	85.4%	34.17	21:46.95	10	97.4%	58.47	92.64	9
Alex	06:53.4	10	84.7%	33.87	21:40.85	7	97.9%	58.74	92.61	10
Jordan	06:56.0	11	84.1%	33.65	21:56.29	12	96.8%	58.05	91.71	11
Mike	06:58.3	12	83.7%	33.47	21:49.85	11	97.2%	58.34	91.81	12

All athletes have the opportunity to participate in every event, with the final selection based on the aggregate score.

4.4.6 Communicating Results

Following evaluation events, once the results have been checked, they should be communicated to athletes as quickly as possible. Individual athlete debriefs will provide a private opportunity for athletes to review their results and discuss future opportunities.

When athletes are selected for the next round of event evaluations, individual meetings provide an opportunity for feedback and input. Individual debriefs should be organized to a) solicit athlete feedback, b) share results, c) provide analysis, d) offer suggestions for athlete development, and e) establish future goals and the rowing program for deselected athletes.

Each athlete deselected from the group must receive an individual debrief. The meeting should include a review of the athlete's future goals, recommendations for their development, and a determination of where they should continue their rowing development. If requested by the athlete, the meeting may include an athlete representative and should always include two coaches/selectors.

At times, it may be necessary to debrief deselected athletes before the team is announced. The data provided before athletes are deselected should consist of scores without reference to other names to maintain anonymity until the team is revealed. Athletes can view their scores and those of others without names. This approach may help athletes understand their ranking within the group.

4.4.7 Selection Complete

Once the team or crew is selected, all event information should be filed in case of objections or future appeals. At that point, the coach should focus on training and developing crew speed.