LONG TERM PARTICIPANT DEVELOPMENT STRATEGY
ACKNOWLEDGMENTS

The LTPD model is based on the work of Prof. Istvan Balyi

South African Sailing would like to thank our athletes, parents and coaches, as well as the clubs and regional associations who have all helped to make this a living, working and valuable document.

Special thanks to the following groups who have been participants in the process leading to the development of this document:

SAS Council

High Performance Standing committee

Event management Standing Committee

The SAS LTPD Working Group

Prof Istvan Balyi is a world renowned coaching educator and his series on Long-term Athlete Development (LTPD) and periodization have been published in Australia, Canada, the United States and the United Kingdom.

In 2009 Istvan was contracted by the South African Sports Confederation and Olympic Committee to develop a generic LTPD model to be used as foundation for sport-specific LTPD’s in South Africa.

He authored three books, published over seventy five chapters and articles and delivered over four hundred presentations and national and international conferences on LTPD and Planning and Periodization.

Sue McWha, project coordinator on behalf of SAS, without whom this project would not have been possible. Thank you Sue for all your hard work, long hours and tremendous research on LTPD.

Maya van Gent, sport scientist, University of Fort Hare.

Justin Du Randt, sport scientist Sport Science Institute of South Africa

Itumeleng Mudau, sport scientist, Department of Sport and Recreation.

Rob M’Crystal President South African Sailing

Mike Dixon, SAS Chairman

Belinda Hayward High Performance Manager, South African Sailing.

Andrew Tarboton, yacht master, sailor, coach, firefighter and national race officer

Kevin Bingham, SAS National Optimist Class representative.

David Rae, yachtsman, match racing and coach

Dominique Provoyeur, Olympic sailor

Russell Dowse, chairman of SAS Northern region
Rob Holden, SAS National Training manager.

Dave Mealin, regional coach assessor and RYA coach

Dale Rae, yachtswoman and sport scientist

Mark Templeton, Northern Region Events

Di Hutton Squire National Race Officer

Anton Vivier, SAS Council, Eastern Cape

Elfie Holden, SAS Treasurer and regional coach assessor

Trevor Hulleman, SAS Council, Gauteng

SASCOC for creating this opportunity, in particular Desiree Varden and Jabu Malindi

South African Sailing would like to recognise the advice and comment made by many volunteers when reviewing this document.

This plan is endorsed by South African Sailing Council

For further information please contact:

South African Sailing

PO Box 780
Howard Place
7450

E-mail - mail@sailing.org.za

Website - www.sailing.org.za
# Table of Contents

Acknowledgments .......................... 2

A letter from the President of South African Sailing .......................... 5

Letter from Project Leader .......................... 6

Why Sailing Needs An LTPD Model .......................... 6

Executive Summary: .......................... 7

Challenges and Opportunities .......................... 10

The ten key factors influencing participant development .......................... 14

Additional Factors for athletes with a disability .......................... 18

The 10 S’s Of Training And Performance .......................... 19

The Pathway: Stages of South African Sailing LTPD .......................... 26

GLOSSARY OF TERMS .......................... 57

List of References .......................... 59

Additional Resources available in the South African Sailing Website include: .......................... 59

---

**LTPD is a sailing specific adaptation of the South African Long Term Participant Resource, developed by the South African Sports Commission and Olympic Committee (SASCOC). The resource can be viewed at**

[www.sascoc.co.za](http://www.sascoc.co.za)
GOING FORWARD WITH LONG TERM PARTICIPANT DEVELOPMENT

– A LETTER FROM THE PRESIDENT OF SOUTH AFRICAN SAILING

FOREWORD:

For many years now we have been struggling with a decline in the numbers of participants and champions in sailing in South Africa.

The South African Sports Commission and Olympic Committee (SASCOC) has assisted South African Sailing with the development of this Long Term Participant Development document and strategy that will be used to change the face of sailing in our country.

As we put into practice the structures outlined in this document we believe we shall see a huge growth in numbers of sailors of all ages and of all abilities entering and remaining in our sport. The successful implementation of this model will also result in podium finishes on the international racing stage.

The South African Sailing LTPD document provides a framework for the best possible development of athletes from FUNdamentals to Sailing for Life. The South African Sailing Long Term Participant Development (SASLTPD) model is the result of the cooperation between sailors and sport scientists from across the country, all of whom have been recognized in the acknowledgement section of this document.

The South African Sailing Long Term Participant Development (SASLTPD) model confirms our commitment to aligning our systems and programs with the South African Long Term Participant (SAS4L) resource paper.

South African Sailing is proud to be part of the process that will give all South Africans the opportunity to be active and healthy.

Rob M’Crystal
President
South African Sailing
LETTER FROM PROJECT LEADER

WHY SAILING NEEDS AN LTPD MODEL

Sailing is a lifelong sport, with participants ranging from the ages of 5 to 95. Sailing has a place for everyone who wants to have fun on the water, be it recreational or competitive sailing. What makes the sport particularly attractive is that it is a family sport where all members of the family can play a role. It is suitable for males and females and is also an inclusive sport that offers programs for sailors with a disability. Sailing has been an Olympic sport since 1986 and is the only sport in South Africa that has had participants at Olympic level since South Africa’s reentry into the national arena in 1994.

However, our sport faces many challenges. In addition to well-documented shortcomings, which include insufficient government funding support and the lack of physical education and sport in schools, sailing is affected by issues directly related to training and competition, coaches, parents, officials, clubs, and administrators. Over the years, membership rates have declined. Although our sailors have consistently qualified for international events, we have not yet been able to close the gap between their performance and our aspirations.

To improve our international performances the sailing community must do a better job of delivering sailors to the national team program by having a more systematic and integrated LTPD strategy - a blueprint for developing sailors that reflects which skills and tactics should be taught and at what age.

If we want to encourage our children to participate in sport and lifelong physical activity, as well as create the potential to compete internationally, we need to build our sailing programs around LTPD principles that respect the developmental needs of all children. The SAS LTPD Guide is a progressive pathway of development that recognizes the distinct stages of the physical, mental, cognitive, and emotional development of young sailors. It addresses the needs of those who are able-bodied and those who have a disability, and it also addresses both early and late developers. LTPD will guide us in analyzing the South African sailing system and in highlighting its gaps and shortcomings, and will aid in developing solutions. The implementation of the LTPD principles will enable sailing clubs and sailing schools in South Africa to provide participants with positive sport experiences.

Regards,

Rob Holden
EXECUTIVE SUMMARY:

AN OVERVIEW OF LONG TERM PARTICIPANT DEVELOPMENT

Long Term Participant Development (LTPD) is a framework that embraces every element of sailing, which holds the sailor as an athlete as the focus of the sport. The LTPD Guide provides guidance to sailors throughout their lives. At the same time, it introduces children to the skills and progressions that allow them to strive to become the best they can be, whether as a competitive sailor or a recreational sailor who is active for life. The guide also allows those with great aptitude to reach the highest levels in a sequential fashion supported by an integrated system involving skilled instructors, coaches, clubs, organizations, and facilities, rather than by chance.

The LTPD model is based on scientific principles of human growth and development and allows us to support our young sailors throughout a clearly defined pathway to achieve success on the world stage. It is a framework which allows the sport to work as one to effectively achieve 3 aims:

Grow: To give more people the opportunity to sail

Sustain: To keep more sailors in the sport

Excel: To achieve gold medal success on the world stage

The South African Sailing Long Term Participant Development framework provides:

- Sailing specific adherence to the Long Term Participant Development Principles as set forth by South African Sport for Life
- Developmentally appropriate programming for sailing from sport entry through learning and training
- Coaching expertise at all stages of development
- A competitions structure appropriate to the development stages of the athlete
- An official’s development framework
- A vibrant yachting and sailing club support network
- Guidelines for parents
- Guidelines on including athletes with a disability
Long Term Participant Development

- Has an impact on the entire sport continuum, including participants, parents, coaches, schools, clubs, community recreation programs, provincial sport organizations, national sport organizations, sport science specialists, municipalities and several government ministries and departments (including health and education) at all levels.

- Integrates elite sport, community sport and recreation, scholastic sport and physical education in schools.

- Is “Made in South Africa”, recognizing international best practices, research and normative data

- Promotes a healthy, physically literate nation whose citizens participate in lifelong physical activity – “an active and winning nation”

- Supports the goals of the South African Government’s vision for sport “An active and Winning Nation” – and reflects a commitment to contribute to the achievement of these goals.

Going forward with LTPD

SAS has developed a long term plan to ensure that all participants benefit from LTPD. All partners in the system – athletes, coaches, parents and administrators, as well as clubs and regional sailing organizations - will have an important role in the development of this plan, and in its national implementation.

Full implementation of LTPD depends on ongoing monitoring and tracking of our athletes, and on continuous review and evaluation of our programs, in relation to the goals we have set for SAS. We must remain current in our knowledge and be prepared to modify and adapt our programs as we continue to move forward.

The following goals are to be achieved by 2013:

Club Development

An ISAF Accredited Club Development Programme will be fully established.

By 2013, there will be:

- 20 ISAF accredited clubs

- 70 + affiliated clubs (Grass Roots, Learning to Race and Champion Clubs)

This will result in increased participation levels in South Africa (grow, sustain, excel)

Competition Development

Competitions will link to development outcomes in line with LTPD principles. Appropriate limits to the frequency and level of competitions will have been established. SAS will have a high performance system fully operational, and aligned with the SAS LTPD Framework that will result in winning performances at Olympic and Paralympic, world and major events from 2016 onwards.
Coach Education and development

A new coach education programme will have been fully implemented and will align with the South African coaching framework. This will be supported by a network of opportunities for coaches to continually develop through South African Sailing National Academy programme. All coaches will be licensed to ensure quality.

Facilities

In order to achieve these targets, access to facilities, which are both affordable and appropriate to a sailors’ level of development, is crucially important. South African Sailing will work to establish the following:

A greater understanding of the role of sailing in clubs and schools. Linked to the national competition framework for schools.

Leadership

Successful implementation of LTPD will result in increased effectiveness of South African Sailing which will result in

- Satisfied members (sailors, clubs and class associations)

- Improved partnerships with our key South African stakeholders (SASCOC, SRSA, Sport Councils, Provincial Departments of sport, the department of Education and the boat building industry)

- An increase in revenue that will be reinvested into sailing – from all sources.
CHALLENGES AND OPPORTUNITIES

Sport in South Africa is full of examples where we insist on “doing things the way we have always done”. To new sailors, these outdated approaches are assumed to be the best way of doing things — based on the assurances of those who have been around the longest, to be the best way.

SHORTCOMINGS IN THE SOUTH AFRICAN SPORT SYSTEM INCLUDE:

• Developmental athletes over-compete and under-train.

• Adult training and competition programs are imposed on developing athletes.

• Training methods and competition programs designed for male athletes are imposed on female athletes.

• Preparation is geared to the short-term outcome — winning — and not to the process.

• Chronological rather than developmental age is used in training and competition planning.

• Coaches largely neglect the sensitive periods of accelerated adaptation to training.

• Fundamental movement skills and sport skills are not taught properly.

• The most knowledgeable coaches work at the elite level; volunteers coach at the developmental level where quality, trained coaches are essential.

• Parents are not educated about LTPD.

• Developmental training needs of athletes with a disability are not well understood.

• In most sports, the competition system interferes with athlete development.

• There is no talent identification (TID) system.

• There is no integration between physical education programs in the schools, recreational community programs, and elite competitive programs.

• Sports specialize too early in an attempt to attract and retain participants.
CONSEQUENCES

What are the results of these shortcomings?

• Failure to reach optimal performance levels in international competitions.

• Poor movement abilities.

• Lack of proper fitness.

• Poor skill development.

• Bad habits developed from over-competition focused on winning.

• Undeveloped and unrefined skills due to under-training.

• Female athlete potential not reached due to inappropriate programs.

• Children not having fun as they play adult-based programs.

• No systematic development of the next generation of successful international athletes.

• Athletes pulled in different directions by school, club, and provincial teams because of the structure of competition programs.

• Expensive remedial programs, implemented by provincial and national team coaches, to counteract the shortcomings of athlete preparation.

• Fluctuating national and international performance due to lack of TID and a developmental pathway.

• Athletes failing to reach their genetic potential and optimal performance level

Loss of membership in the sport – participants will find a sport where their talents can be developed – or they will leave the sport altogether.
Challenges and Opportunities for Sailing:

South African Sailing had the opportunity to step back and look at our system from the perspective of long term participant development. At the initial meeting with Professor Balyi on 5 December 2009 the South African Sailing working group identified a number of gaps in the current sailing system.

<table>
<thead>
<tr>
<th>ATHLETES</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenges</strong></td>
<td><strong>Opportunities</strong></td>
</tr>
<tr>
<td>• Our sailors over compete and do not train enough</td>
<td>• An LTPD Pathway for South African Sailing</td>
</tr>
<tr>
<td>• Our approach to High Performance sailing is unprofessional</td>
<td>• Successful recruitment programmes</td>
</tr>
<tr>
<td>• Sailors make bad boat choices</td>
<td>• Adequate, long-term support for High Performance Athletes (scientific, financial, career development)</td>
</tr>
<tr>
<td>• No clear pathways (Double vs single, skipper vs. crew)</td>
<td>• Proper periodization for all stages of LTPD</td>
</tr>
<tr>
<td>• Young sailors leave the sport by 16 – 18 years</td>
<td>• Developmentally appropriate competition structure for all stages</td>
</tr>
<tr>
<td>• No role model exposure (marketing)</td>
<td>• A long term focus on junior development</td>
</tr>
<tr>
<td>• Too much pressure</td>
<td>• Recognition, based on merit in schools, clubs and provinces</td>
</tr>
<tr>
<td>• Decline in membership and participation at entry level</td>
<td>• Proper communication to and from the athletes.</td>
</tr>
<tr>
<td>• Poor demographics</td>
<td>• Mentorship</td>
</tr>
<tr>
<td>• Lack of finance</td>
<td>• School Based recognition</td>
</tr>
<tr>
<td>• The sailor mindset that everything has to be for free</td>
<td>• Retain Sailors</td>
</tr>
<tr>
<td>• Existing support is</td>
<td>• Increased membership</td>
</tr>
<tr>
<td>• Short-term and not sustainable</td>
<td>• Better all-round sailors</td>
</tr>
<tr>
<td>• Inadequately administered</td>
<td>• Clearly defined active for life pathways to elite/instructor/mentor/official</td>
</tr>
<tr>
<td>• Not transparent</td>
<td>• Monitoring and evaluation</td>
</tr>
<tr>
<td>• Preparation of Elite Athletes:</td>
<td></td>
</tr>
<tr>
<td>• No Periodization</td>
<td></td>
</tr>
<tr>
<td>• Instant gratification focus, which is outcome focused and not process, focused.</td>
<td></td>
</tr>
<tr>
<td>• NO LTPD</td>
<td></td>
</tr>
<tr>
<td>• Lack of competitive opportunity</td>
<td></td>
</tr>
<tr>
<td>• Lack of recognition for achievement</td>
<td></td>
</tr>
<tr>
<td>• Inconsistent selection policies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COACHES</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Challenges</strong></td>
<td><strong>Opportunities</strong></td>
</tr>
<tr>
<td>• No structure or coach pathways</td>
<td>• Quality coaching in all stages of LTPD</td>
</tr>
<tr>
<td>• No elite level coaches</td>
<td>• A Long Term Coach Development Framework</td>
</tr>
<tr>
<td>• Financially unviable and volunteer driven</td>
<td>• Recognition to all contributing coaches</td>
</tr>
<tr>
<td>• Our coaches are over-used and under resourced</td>
<td>• A Coaches Association</td>
</tr>
<tr>
<td>• Lack of coaches and programmes</td>
<td>• Proper communication and administration at National, Provincial, Regional and Club level</td>
</tr>
<tr>
<td>• Old coaches (70+) Generation Gap</td>
<td>• Career Options for SAS coaches</td>
</tr>
<tr>
<td>• Lack of Continuity</td>
<td>• Better access to resources</td>
</tr>
<tr>
<td>• None for adults, all focus on youth</td>
<td>• Coach Mentorship programmes</td>
</tr>
<tr>
<td>• Our coaches lack knowledge re: growth and maturation, fitness, sport science, recovery and regeneration, nutrition, etc.</td>
<td>• Sufficient funding for High Performance Coaches</td>
</tr>
<tr>
<td>• No financing for information distribution and training</td>
<td>• Proper monitoring system in place</td>
</tr>
<tr>
<td>• Lack of recognition and reward</td>
<td></td>
</tr>
<tr>
<td>• Lack of mentorship</td>
<td></td>
</tr>
</tbody>
</table>
### PARENTS

**Challenges**
- Parents are over-involved and pressure their children for performance
- Involvement lacks continuity and is not based on what is best for sailing
- Parents lack sailing/training knowledge
- Sailors are over protected and pampered
- Parents often live their dream through their children
- Lifestyle changes mean less time and money

**Opportunities**
- LTPD parent’s guide
- Reduce financial burden on parents
- Parents on the water and socialized
- Clearly defined Roles and responsibilities and development pathways to encourage constructive involvement in sailing
- Introduce parents to “Fun” aspects of sailing

### OFFICIALS

**Challenges**
- Our culture of volunteerism at every level
- No new officials entering the sport
- Good ones are over-used
- Lack of training (unprofessional)
- Lack of recognition and reward
- Officials are too old
- Inflexibility
- No development pathway
- Communication Gap between Sailors, Officials, and SAS
- Sailors do not respect officials
- Lack of Continuity and Mentorship
- No National Voice
- No Vision
- No Objectives

**Opportunities**
- To establish professionalism through a clearly defined LTPD official development framework
- The right person for the right job
- To establish communication at National, Provincial, Regional and Club level
- Rationalization of officials’ selection and appointments
- Officials are remunerated and recognized for their contribution
- Independent administration of all disciplines
- Younger people
- Strategic vision
- Transformation
- Coordinated Activities

### FACILITIES

**Challenges**
- Lack of new equipment
- Too many classes
- Not enough school infrastructure at clubs
- Sailing competes with other sports for time and resources
- Clubs are administered and managed unprofessionally
- Clubs have not adapted to changes in the national sport system
- Decline in membership
- Old club culture – clubs are elitist and not accessible
- No link with schools
- No development pathway for members

**Opportunities**
- Improving facilities and equipment to cater for all stages of LTPD
- Inclusion of other sailing related sports
- More boats, coaching programmes at clubs
- LTPD based structures to attract and retain new sailors
- More members
THE TEN KEY FACTORS INFLUENCING PARTICIPANT DEVELOPMENT

LTPD KEY 1: THE FUNdamentals

The FUNdamentals are the basic sport skills necessary to become an athlete in any sport. FUNdamental movement and sport skills are referred to as physical literacy. Fundamental movement skills – agility, balance, coordination – and fundamental sport skills – running and other traveling skills, skating, skiing and other gliding skills, jumping, throwing, kicking, catching and swimming – are the basis for all other sports and are known collectively as Physical Literacy.

The literature on growth and development indicates that individuals who do not master fundamental movement skills and fundamental sport skills before the onset of the adolescent growth spurt are unlikely to achieve success and lifelong enjoyment of sport, including sailing.

Coaches and parents should strive for a healthy balance of fundamental sailing skills and fundamental movement skills.

LTPD KEY 2: THE 10 YEAR RULE

Scientific research in sport has determined that it takes approximately ten years, or 10,000 hours of deliberate training for talented athletes to reach elite status.

This belief contrasts with some coaching practices that emphasize winning at an early age as being of overriding importance. This approach is often referred to as “Peaking by Friday” where the coaching and preparation programme is dominated by the, often weekly, competition schedule. This is particularly relevant to sailing in South Africa where young performers do not train at all during the week, but are required to compete every weekend over an extended period of time. In order to be successful, young performers must dedicate themselves to long-term preparation programmes in order to achieve their true potential. This needs to be reflected in our coaching programmes and practices as well as communicated to other coaches, parents, administrators, officials and participants themselves.

LTPD KEY 3: SPECIALIZATION

Sailing is a late-specialization sport that relies on several components of the sport system to develop physical literacy. Sailors master the required skills after maturation. A sailor’s prime is reached later than most other late specialization sports – the best sailors in the world achieved podium finishes in their thirties. The most successful sailors have participated in a wide variety of sports and physical activity during the FUNdamentals and Learning to Train stages. The movement and sport skills they have developed in these sports have helped them reach the top
levels of the sport. If physical literacy is acquired before maturation, athletes can select a late specialization sport when they are between the ages of 12 and 15 and have the potential to rise to international stardom in that sport.

Research has shown that specialization before the age of 10 can contribute to:

- One-sided, sport specific preparation
- Lack of development of basic movement and sport skills
- Overuse injuries
- Early burnout
- Early retirement from training and competition
- Disenchantment and premature departure from the sport

Disability sports are late specialization sports and it is critically important that children with a congenital disability or early acquired disability be exposed to the full range of fundamentals before specializing in the sport of their choice.

**LTPD Key 4: Developmental Age**

LTPD is based on developmental age, not chronological age. Every child follows the same stages of development from early childhood through to adolescence, but the timing, rate and magnitude of development varies with the individual. Coaches and sailing instructors should be aware of early, average and late-maturers so that they can design developmentally appropriate training and competition programs in relation to optimal trainability and readiness.

A detailed description of growth and development can be found in the SASCOC Sport for Life (SAS4L) guide.

**LTPD Key 5: Trainability**

All physiological systems are always trainable but there are sensitive periods in development when the body is particularly responsive to specific types of training. To reach their genetic potential, athletes need to do the right type of training at the right stage. Athletes who miss these windows of trainability can still compete at the highest level but it will require more time and effort for them to enhance these qualities to the same level as those who did the right training at the right time. The five skills identified by SASLTPD are Stamina, Strength, Speed, Skill and Suppleness. Adhering to the SASLTPD model will ensure the optimal development of these skills in sailors.
LTPD Key 6: Physical, Mental, Cognitive and Emotional Development

Sailing instructors and coaches should recognize that individuals mature at different rates and that the timetable for physical, mental, motor and emotional development varies from athlete to athlete. Instructors and coaches are encouraged to take a holistic approach to teaching and training athletes. This means taking into account a wide variety of psycho-social and emotional factors that influence the athlete day-to-day.

Cognitive, mental and emotional (affective) elements have a significant effect on participants' performance, and must be prioritized in long-term participant development. Mental and cognitive elements are particularly relevant to sailing, and should be the primary focus of development for any coach or athlete. Beyond these elements, instructors and coaches should also consider equipment and environmental factors that impact participation, performance and safety. Ethics, including fair play, respect of self and others, and perseverance should be developed within all stages of long term athlete development.

A complete overview of mental, cognitive, and emotional development characteristics and their implications for the coach, is available on the South African Sailing website.

LTPD Key 7: Periodization

Periodization is a planning technique that provides the framework for arranging training, competition and recovery into a logical and scientifically-based schedule that results in optimal performance at the required time.

Periodization sequences training components into weeks, days and sessions. It is situation specific and relates to the priorities and time available to bring about the required training or competition improvement. A periodized training plan takes into account the growth, maturation and trainability principles of the stage of development of the athlete.

LTPD Key 8: Calendar Planning for Competition

Competition and sailing event calendars should support and be consistent with LTPD principles. In the early stages of LTPD, developing physical capacities is more important than competition and short term success. In the later stages, the ability to compete well becomes the focus.

- Over-competition and under-training at the Learn to Train and Train to Train stages result in a lack of basic skills and fitness.
- The level and length of the competitive season should be aligned with the changing needs of the developmental athlete progressing through LTPD.
• The current system of competition is based upon tradition. National, provincial and club administrators, with the assistance of top coaches, technical experts and sport scientists need to review the existing system from entry to elite level to ensure that it supports optimal training and performance of athletes in each LTPD stage.

• Competitions in South Africa must be created and scheduled considering strategic planning and with due regard for the optimal performance of an athlete and the tapering and peaking requirements.

Table 3 outlines general recommendations for the ratio of training to competition and competition specific training for sailing. Consider how the quantity and quality of the training and competition program changes as long-term plans progress.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Ages</th>
<th>Training (%)</th>
<th>Competition-specific Training (%)</th>
<th>Competition (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(Hours)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fundamentals</td>
<td>6-9yrs</td>
<td>80</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Learn to Train</td>
<td>9-12yrs</td>
<td>70</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Train to Train</td>
<td>12-16yrs</td>
<td>60</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Train to Compete</td>
<td>16-22yrs</td>
<td>40</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Train to Win</td>
<td>22+yrs</td>
<td>30</td>
<td>30</td>
<td>40</td>
</tr>
</tbody>
</table>

**LTPD Key 9: System Alignment and Integration**

The process of designing and implementing LTPD programs is athlete-centred, coach-driven and administration, sport science and sponsor-supported. Partners include parents, coaches, clubs, provincial and national sport organizations, education and health care systems, and all levels of government from municipal to national. All these partners must work together to ensure that competition systems, training camps, coach education programs, skill development programs and athlete selection are aligned with the principles of LTPD and supported to ensure implementation.
LTPD Key 10: Continuous Improvement

The concept of continuous improvement, which permeates LTPD, is drawn from the respected Japanese industrial philosophy known as Kaizen.

Continuous improvement ensures that:

- LTPD responds and reacts to new scientific and sport-specific innovations and observations and is subject to continuous research in all its aspects.

- LTPD, as a continuously evolving vehicle for change, reflects all emerging facets of physical education, sport and recreation to ensure systematic and logical delivery of programs to all ages.

- LTPD promotes ongoing education and sensitization of government, the mass media, sport and recreation administrators, coaches, sport scientists, parents and educators about the interlocking relationship between physical education, school sport, community recreation, life-long physical activity and high performance sport.

Additional Factors for Athletes with a Disability

While there are many similarities between athletes with a disability and able-bodied athletes, there are some differences that change the LTPD process.

Two More Stages of LTPD...

The 7 stages of the SAS LTPD framework represent the “normal” pathway for able-bodied athletes. The framework for athletes with a disability includes two additional stages; Awareness and First Contact/Recruitment.

These two stages are especially important for individuals with an acquired disability who may have no prior knowledge of or contact with sport for athletes with a disability. Some sports are traditionally recognized as appropriate for people with a disability. Sailing is one of the few sports in the world where disabled sailors can compete against able-bodies sailors in the same arena. In South Africa aggressive strategies are required to inform and educate participants that our sport is accessible and feasible for athletes with a disability. The purpose of these two stages is to inform individuals of the range of activities in which they can participate, and to provide ways for them to experience these activities. A positive first experience can go a long way to engaging persons with a disability in both competitive and recreational sailing activities.

The South African Sailing sailability guide provides detailed information on creating opportunities for sailors with a disability. The guide is available on the South African Sailing website.
THE 10 S’S OF TRAINING AND PERFORMANCE

The 10 Ss of Trainability are the cornerstone of LTPD. By delivering targeted and timely training of these 10 athlete capacities during the early stages of LTPD, the long-term performance of athletes is maximized. Athletes and participants also develop the skills and confidence to become lifelong participants in the Active for Life stage of LTPD, the final destination of all South Africans. The following table provides an overview of training and optimal trainability:

![Image of trainability chart]

WINDOWS OF TRAINABILITY

Ideally, the first five Ss (Suppleness, Stamina, Strength, Speed and Skill) receive extra training emphasis during the sensitive periods of accelerated adaptation to training, sometimes referred to as “windows of trainability.” However, the “windows” are never shut and all capacities are trainable at any age.

The sensitive periods vary between individuals according to their genetic makeup and different rates of development. While the sensitive periods follow general stages of human growth and maturation, research shows that humans vary considerably in the magnitude and rate of their response to different training stimuli different ages.

If South African Sailors are to fulfill their genetic potential, correct training must be provided during the sensitive periods. However, since the sensitive periods can vary between individuals according to their growth, maturation, and genetic predisposition, a long-term approach to athlete development is needed to ensure that individuals who respond slowly or late to training stimuli are not deprived of opportunities.

Measurement and monitoring should be used to determine each athlete’s developmental age in accordance with the table above.
### STAMINA (ENDURANCE)

The sensitive period for endurance training occurs at the onset of the growth spurt or Peak Height Velocity (PHV), commonly known as the adolescent growth spurt. Athletes need increased focus on aerobic capacity training (continuous or aerobic interval workloads) as they enter PHV, and they should be progressively introduced to aerobic power training (anaerobic interval workloads) as their growth rate decelerates.

There is a significant physiological stress placed on the elite dinghy sailor. Aerobic fitness is an important element that an elite sailor needs to concentrate on.

Muscular endurance of the hiking muscles, in particular the quadriceps and the abdominal muscles, are crucial to performance. Upper body strength and muscular endurance are also important for correct sail trimming.

Existing literature shows that the average sailor maintains a heart rate during sailing (raizor) of between 130-140 beats per minute. Endurance was measured using 2500m rowing ergo meter—however for children (older than 9 years) the best possible way of assessing endurance is using the bleep test and interpret it to VO2 max. Literature also suggests that for children younger than 9 the one mile run should be used, as they have difficulty understanding the pacing of the bleep test.

Children can also train their endurance in alternative ways than simply sailing exclusively. Research suggests some transferability, between different aerobic exercises such as running, cycling, swimming, and sailing.

**N.B.: The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.**

### BALANCE

Balance is essential in performing a number of motor tasks. Balance can be measured under static or dynamic conditions. It could be assumed that sailors should develop dynamic balance seeing that all tasks are performed in an unstable environment; however specialized equipment is needed for this, for example a stability board.

### SUPPLENESS/FLEXIBILITY

The sensitive periods of trainability for suppleness occur between the ages of six and 10 years in both girls and boys. However, because of the rapid growth special attention should also be paid to flexibility during the growth spurt.

Flexibility in sailors is also expected to improve during sailing season and has been generally measured using sit and reach. Norms are again presented in Appendix A.

**A reminder:** The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.
There are two sensitive periods of trainability for strength in girls: immediately after PHV or after the onset of menarche. Boys have one strength window, and it begins 12 to 18 months after PHV. Again, sport-specific needs will determine “how much strength is enough” in a particular sport, thus minor or major emphasis of training strength will be defined by sport-specific and individual specific needs.

Limited evidence exists showing the effects of maximum strength on sailing performance. Muscular endurance may be a more desirable physical attribute, this can be developed through a planned strength training program. Most assessments of an adult sailor’s strength capabilities contain pull ups, push ups and sit ups. Another method of strength assessment is Isokinetic strength (legs-hamstring and quadriceps) assessment done via Cybex or Biodex machine which is used in “hiking”.

In terms of children it is again advisable that sit ups/curl ups, push ups and pull ups (for boys) and flexed arm hang (girls be used).

Strength Training Requirements for Sailing

- Identify appropriate muscle groups (Legs-Isokinetic, Hip musculature, Upper Body & Mid-section)

- Explosive strength

- Sustained strength over period of time

- Resistance training is fundamental to dinghy sailing. Lot of strength training should be done on the water for the different muscle groups. Prepare muscles together

There are two sensitive periods of trainability for speed. For girls, the first speed window occurs between the ages of six and eight years, and the second window occurs between 11 and 13 years. For boys, the first speed window occurs between the ages of seven and nine years, and the second window occurs between 13 and 16 years. During the first speed window, training should focus on developing agility and quickness (duration of the intervals is less than five seconds); during the second speed window, training should focus on developing the anaerobic alactic power energy system (duration of the intervals is 10-15 seconds).

It is highly recommended that speed should be trained on a regular and frequent basis, for example, at every training session as part of the warm up. Towards the end of the warm up or immediately after the warm up there is no Central Nervous System or metabolic fatigue present in the organism, and so this is an optimal time to train speed. The volume of training should be low and allow full recovery between exercises and sets.

Acceleration, lateral and multi- directional and segmental speed should be trained regularly outside of the window of optimal trainability for speed. In addition, proper blocks of training should be allocated to speed training during the periodized annual training, competition and recovery program according to seasonal and the sport-specific requirements.

A reminder: The windows are fully open during the sensitive periods of accelerated adaptation to training and partially open outside of the sensitive periods.
Girls and boys both have one window for optimal skill training. For girls, the window is between the ages of eight and 11 years, while in boys it is between nine and 12 years, or more precisely before the onset of the growth spurt. During this window, young athletes should be developing physical literacy. Physical literacy is the development of fundamental movement skills and fundamental sports skills that permit a child to move confidently and with control, in a wide range of physical activity and sport situation. It also includes the ability to “read” what is going on around them in an activity setting and react appropriately to those events. Physical literacy is the foundation of life-long involvement in physical activity and also for high performance participation.

**SKILL FOR SAILING**

Fundamental movement skills: Balance coordination pulling pushing flexibility swimming jumping gliding hand eye coordination

Fundamental sailing skills include rigging, launching, tacking, gibing, sailing upwind, sailing downwind, sailing across the wind in varying wind and competitive situations.

Awareness – in and out the boat

Anticipation

Technical skills – tacking gibing sailing upwind, sailing downwind, five essentials

Tactical skills – beginning of tactical skills development

---

**STAGES OF GROWTH**
5 ADDITIONAL S’S....

STRUCTURE / STATURE

This component addresses the six stages of growth in the human body linking them to the windows of optimal trainability. It recognizes stature (the height of a human) before during and after maturation guiding a coach or parent to the measurements needed to track growth. The tracking of stature as a guide to developmental age allows planning to address the sensitive periods of physical (endurance, strength, speed and flexibility) and skill development. Diagnostics to identify individually relevant sensitive periods of accelerated adaptation to training is essential to design and implement optimal training, competition and recovery programs.

Coaches and parents can use stature measurements (i.e. height) before, during, and after maturation as a guide for tracking developmental age. Such tracking then allows coaches to address the critical or sensitive periods of physical development (endurance, strength, speed and flexibility) and skill development. Diagnostics for identifying strengths and weaknesses are critical for properly considering structure and stature in the design of training plans.

For More information on Monitoring Growth and development refer to the CS4L document on Growth and maturation as well as the South African Sailing guide for parents on growth, maturation, recovery and regeneration.

(P)SYCHOLOGY

Sport is a physical and mental challenge. The ability to maintain high levels of concentration, remain relaxed with the confidence to succeed are skills that transcend sport to everyday life. To develop the mental toughness for success at high levels requires training programs which are designed specific to the gender and LTPD stage of the athlete. The training programs should include key mental components identified by sport psychologists; concentration, confidence, motivation and handling pressure. As an athlete progresses through LTPD stages the mental training aspect will evolve from: having fun and respecting opponents; to visualization and self-awareness; to goal setting, relaxation and positive self-talk. To master the mental challenge of sport those basic skills are then tested in increasingly difficult competitive environments. Ultimately the planning, implementing and refining of mental strategies for high level competition will determine medal performances. The mental training program is critical at any LTPD stage as dealing with success and failure will determine continuation in sport and physical activity, therefore dramatically affecting an individual lifestyle.

In sailing, particularly at elite level, the ability to cope with high levels of pressure and stress are what can make or break a sailor’s performance. For example, a sailor about to start the last race one point away from a podium finish will be under pressure to perform at their best. With this amount of pressure to perform mounting, the sailor may begin to feel stress. Stress is one’s appraisal of whether those demands can be successfully met or not.
The by-product of one’s perceived inability to cope with such demands can lead to worry and self-doubt, which in turn can have a negative or sometimes catastrophic effect on performance. There are a number of resources available that addresses mental skills for sailing. These can be sourced amongst others from the RYA Skandia Sail for Gold website. www.rya.org.uk/programmes/

SUSTENANCE

Sustenance recognizes a broad range of components with the central theme of replenishing the body. This is to prepare the athlete for the volume and intensity required to optimize training or living life to the fullest. Areas addressed are: nutrition, hydration, rest, sleep and regeneration, all of which need to be applied different to training (life) plans depending on the stage within the LTPD. Underlining sustenance is the need for optimal recovery management moving the athlete to the 24/7 model which places a high degree of importance on the individual’s activities away from sailing competitions. For proper sustenance and recovery management there is a need to monitor recovery by the coach or parent through the identification of fatigue. Fatigue can come in many forms including: metabolic; neurological; psychological; environmental and travel. While overtraining or over-competition can lead to burn-out, improperly addressing sustenance can lead to the same result. For more information on Sustenance refer to the SAS guide on Recovery and Regeneration.

SCHOOLING

In training program design the demands of school must be considered. This is not only limited to the demands placed by school sports or physical education classes but includes integrating school academic loads, duties, school related stresses, and timing of exams. When possible, training camps and competition tours should compliment, not conflict, with the timing of major schools academic events.

Overstress in children should be monitored carefully. Overstress refers to the everyday stresses of life, like schooling, exams, peer groups, family, boyfriend or girlfriend relationships as well as increased training volume and intensities. Interference from other school sports should be minimized, communication between coaches who are responsible to deliver the training and competition programs are essential. A good balance should be established between all factors and the coach, parents and teachers should be working on this together.

The South African Sailing LTPD stages takes the school calendar into consideration in that sailing clinics and competitions are scheduled to coincide with school holidays and long week-ends. We also encourage sailing schools and clubs to include a non-sailing period of at least three months per year in their sailing calendar.
SOCIO-CULTURAL

The socio-cultural aspects of sport are significant and must be managed through proper planning. Socialization via sport will ensure that general societal values and norms will be internalized via sport participation. This occurs at the club and school level and as an athlete progresses through the LTPD stages can lead to International exposure. This socialization can be broadening of perspective including; ethnicity awareness, national diversity gender equity and any other form of discrimination. Within the travel schedule recovery can include education of competition location including; history, geography, architecture, cuisine, literature, music and visual arts.

Proper annual planning can allow sport to offer much more than simply commuting between hotel room and regattas.

Sport socialization also must address sport sub-culture. What is unique in the sailing sub-culture? Coaches and parents must guard against group dynamics which create a culture of abuse or bullying. Ethics training should be integrated into training and competition plans at all stages of LTPD.

Overall socio-cultural activity is not negative distraction or interference with training and competition activities. It is a positive contribution to the development of the person and the athlete.

Children often choose to play a sport after the windows optimal of trainability for speed, skill, and suppleness have passed. These children are therefore dependent on schools, recreation programs, and other sports to provide timely training in these capacities. LTPD advocates that sports build relationships with these organizations to promote and support appropriate training. If athletes miss these training periods entirely, coaches will need to design individualized programs to remedy any shortcomings.

Again, all of the 10 Ss can be developed at any stage or age, but the sensitive periods of accelerated adaptation to training provide the best opportunity for the greatest gains in the long-term development of the athlete.

The 10 S’s of training and performance have been included in the various stages of SAS LTPD model and identifies the windows of optimal trainability related to the sensitive periods of the maturation process. (Annexure 2)
# Annexure 1: The Pathway: Stages of South African Sailing LTPD

<table>
<thead>
<tr>
<th>LTPD Stage</th>
<th>Active Start</th>
<th>Fundamentals</th>
<th>Learning to Train</th>
<th>Learn to compete</th>
<th>Training to compete</th>
<th>Training to Win</th>
<th>Sailing for life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0 - 6</td>
<td>6 - 9</td>
<td>9 – 12 years old</td>
<td>12 – 16 years old</td>
<td>16-19 +/- years old</td>
<td>19-25 +/- years old</td>
<td>Enter at any age</td>
</tr>
<tr>
<td>Female</td>
<td>0 - 6</td>
<td>6 - 9</td>
<td>9 – 11 years old</td>
<td>11 to 15 years old</td>
<td>15-18 +/- years old</td>
<td>18-23 +/- years old</td>
<td>Enter at any age</td>
</tr>
<tr>
<td>Athletes with a disability (Adapted, congenital or acquired)</td>
<td>Enter at any age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Age of entry into each stage is a function of the type of disability, age at onset of disability, physical literacy and stage of development at time of disability, and of the ability of the participant to acquire specific benchmark skills in a stage.

## Pillars

<table>
<thead>
<tr>
<th>Parents</th>
<th>Clubs, Sailing Schools and Facilities</th>
<th>Officials</th>
<th>Coaches</th>
<th>Leadership and administration</th>
</tr>
</thead>
</table>

## Foundations

<table>
<thead>
<tr>
<th>10 year rule</th>
<th>FUNdamentals</th>
<th>Specialization</th>
<th>Developmental Age</th>
<th>Calendar Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periodization</td>
<td>System integration and alignment</td>
<td>Physical, Mental, Cognitive and Emotional Development</td>
<td>Trainability</td>
<td>Continuous Improvement</td>
</tr>
</tbody>
</table>
Annexure 2: Detailed Description of the LTPD Stages

**Active Start and Awareness**

Age 0 – 6 (girls and boys)

Participants with a Disability: enter at any stage (with or without support person)

Sailing is a late specialization sport and as such, we do not make provision for the active start stage of LTPD. It is important though that coaches and parents understand the importance of this stage, and that they provide opportunities for children to develop the physical literacy skills necessary that will eventually lead to successful participation in sailing. Toward the end of the stage, clubs and classes can provide opportunities for children to “play on the water” using a variety of water craft. It is essential that PDF’s are worn all the time and that all activities are supervised, even if play is unstructured. The information that follows is intended as a general guideline for parent, coaches and clubs to prepare children for a healthy sailing lifestyle.

<table>
<thead>
<tr>
<th>Objective:</th>
<th>Learn fundamental movements and link them together into play. Introduction to sailing</th>
</tr>
</thead>
<tbody>
<tr>
<td>General description of Active start stage</td>
<td>Starting in infancy, parents need to provide opportunities for daily activity that are enjoyable and which incorporate the four pillars of physical literacy. Physical activity through active play is essential for healthy child development. They must encourage the development of basic movement skills — they do not just happen as a person grows older, but develop depending on heredity, activity experiences, and environment.</td>
</tr>
<tr>
<td>SAS key focus for this stage</td>
<td>SAS does not play an active role in this stage other than recommending that children learn to swim and play in boats with their parents as a part of developing physical literacy. SAS however supports all initiatives in South Africa that encourages participation in water sport and aquatic literacy.</td>
</tr>
<tr>
<td>Program</td>
<td>4 pillars of physical literacy: Swimming ; Gymnastics ; Athletics ; Sliding (skiing, skating, boarding)</td>
</tr>
<tr>
<td>Skills</td>
<td>Initiation of basic movement skills: running, jumping, kicking, throwing, catching, swimming, sliding etc.</td>
</tr>
</tbody>
</table>
| Adaptive sailing | For people with a disability, access to age and disability appropriate adapted equipment is an important contributor to success. Organized physical activity and active play are particularly important for the healthy development of people with a disability if they are to acquire habits of lifelong activity. Parents of children with a disability must ensure that activity is part of daily life.  
• because this is a period when children rapidly outgrow their mobility aids, communities need to find effective ways - equipment swaps or rentals, for example - to ensure that all children have access to the equipment they need to be active.  
• Children with a disability tend to be less active than their peers. Ensure that activities are gender neutral and inclusive so that active living is equally valued and promoted for all.  
• Someone who acquires a disability may have no knowledge of what sport opportunities are available. Details of sailing pathways for sailors with a disability are available on the SAS website. |
| LTPD window of opportunity | Initiation of basic movement skills:  
Running, jumping, kicking, throwing, catching, swimming, sliding, wheeling, cycling |
| Physical Development | • provide physical activity every day regardless of the weather.  
• starting in infancy, provide infants, toddlers, and preschoolers with opportunities to participate in daily physical activity that promotes fitness and movement skills.  
• provide parents and caregivers with age-appropriate information.  
• develop gross motor skills with large muscle groups through unstructured activity.  
• develop basic movement skills such as running, jumping, twisting, wheeling, kicking, throwing, and catching from the four pillars of physical literacy. These motor skills are the building blocks for more complex movement and help lay the foundation for lifelong physical activity. |
| Psychological Development | Activity is essential for development; among its benefits, physical activity enhances:  
- development of brain function  
- social skills  
- emotions, attitudes and imagination  
- confidence and positive self-esteem  
- stress reduction by quality of sleep  
• design activities that help participants to feel competent and comfortable participating in a variety of fun and challenging sports and activities |
| Technical Development | • have fun and enjoy water  
|                       | • develop basic swimming skills  
|                       | • develop comfort and safety awareness in boats, around docks, in and around the water |
| Lifestyle             | Active, safe and fun  
|                       | • provide unstructured physical activity — active play — for at least 60 minutes a day, and up to several hours per day for toddlers and preschoolers. Toddlers and preschoolers should not be sedentary for more than 60 minutes at a time except while sleeping.  
|                       | • because girls tend to be less active than boys, and people with a disability less active than their peers, ensure that activities are gender-neutral and inclusive so that active living is equally valued and promoted for all participants.  
|                       | • ensure that games for young children are non-competitive and focus on participation  
|                       | • encourage exploration of risk and limits in a safe environment  
|                       | • develop desire to try sailing  
| Equipment And facilities | • SABS approved personal floatation device (pfd), sun screen and hat  
|                       | • all facilities that provide programs for people with a disability must be accessible and clutter-free (refer to the SAS sailability guide)  |
Fundamentals: (Playing on the Water)

Age 6 - 9 (Girls and Boys) Participants with a Disability: Enter at any stage (with or without support person)

At the entry level or Fundamentals stage of LTPD the children begin the journey by being introduced to sailing at clubs and sailing schools through exposure to a FUNdamentals sailing course. During this phase, which lasts approximately 3-4 years, children can try the sport out and get a basic understanding of basic sailing skills. Those who are identified as having either a more genetic disposition to the sailing or show keenness will in future be introduced to an accredited “learn to race” sailing club which will provide the opportunity for more focused development. The emphasis during this Fundamentals phase is on fun and participation. It aims to develop crucial physical capacities such as agility, balance, co-ordination and speed (ABC’S) alongside basic sailing -specific skills.

Children are encouraged to participate in as many other sports as possible.

Basic sailing related skills such as rigging, launching, sailing into the wind, sailing across the wind, sailing away from the wind, capsizing, boating safety and other sailing related skills are starting to be patterned during this phase.

<table>
<thead>
<tr>
<th>Male and Female</th>
<th>6 – 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage of Maturation</td>
<td>Late Childhood</td>
</tr>
<tr>
<td>Development Stream</td>
<td>Participation (Enter and Enjoy)</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Fun – Playing on the Water</td>
</tr>
<tr>
<td>Primary Objective</td>
<td>Refine fundamental movement skills and acquire basic sailing skills.</td>
</tr>
<tr>
<td>Guiding Principles</td>
<td>Fun, safety, and active participation are of primary importance</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Time Commitment</strong></td>
<td>Regular participation in aquatic activities that encourage participation in rowing, canoeing and sailing</td>
</tr>
<tr>
<td><strong>Conditioning Time Commitment</strong></td>
<td>Children should spend at least an hour per day participating in activities that will develop their physical literacy.</td>
</tr>
<tr>
<td><strong>Conditioning Objectives</strong></td>
<td>Daily participation in sport and physical activities. Fundamental motor skills: ABCs, RJT, KGBs, &amp; PCKs. The FUNdamentals stage should be fun! The emphasis is on developing basic physical literacy and fundamental movement skills. Skills are:- ABCs (Agility, Balance, Coordination, Speed), RJT (Running, Jumping, Throwing), KGBs (Kinesthetics, Gliding, Buoyancy, Striking with the body) and CPKs (Catching, Passing, Kicking, Striking with an implement). Participation in as many sports as possible should be encouraged.</td>
</tr>
</tbody>
</table>
| **LTPD Window of opportunity** | Physiological development  
Beginning of phase:  
– 1st window of opportunity for speed development  
Girls from 6 to 8  
Boys from 7 to 9  
Entire phase:  
Suppleness / Flexibility  
FUNdamental Movement skills  
Free play (deliberate play)  
Emphasis on development of generic sport skills |
| **Mental and Cognitive Development** | Make use of elementary language to guide decision making  
Team building activities – sailing with different personalities (two sailors form a team)  
Communication- working with others  
• Develop reasoning skills through various sports and activities  
• Provide opportunities for activities that:  
• Are FUN, positive and motivating  
• Are exploratory and allow for self-discovery  
• Build confidence with a high rate of success |
<table>
<thead>
<tr>
<th>Purpose of Competition</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of Competition</td>
<td>No structured or formal competition</td>
</tr>
<tr>
<td>Planning &amp; Periodization</td>
<td>Well structured programs</td>
</tr>
<tr>
<td>Adaptive Sailing:</td>
<td>Ensure that adaptive equipment is appropriate in size, weight and design so that the athlete enjoys the best possible experience on the water through maximum ease of movement. This may require equipment to be modified. Parents and support persons must seek and allow opportunities for participation in a variety of activities</td>
</tr>
<tr>
<td>Suitable boats:</td>
<td>“Have boat will sail” – any type of craft that facilitates playing on the water in suitable conditions under adult supervision. PDF’s are compulsory.</td>
</tr>
<tr>
<td>Coaches:</td>
<td>Provide structured opportunities to play on the water with emphasis on physical literacy and basic sailing skills. Encourage sailing with parents and siblings on small keelboats, or as crew for parents toward the end of the stage. Coaches must encourage a positive perception of the activities and of the children themselves. They must create a non-judgmental and unthreatening atmosphere where equal praise is given for all forms of effort and no obvious “school-associated” learning is present. It is important that the children have a positive early experience of sailing if they are to develop a future love for the sport.</td>
</tr>
<tr>
<td>Parents</td>
<td>Provide as any opportunities as possible for children to play on the water. Encourage participation and fun, not competition.</td>
</tr>
<tr>
<td>Clubs</td>
<td>FUNdamentals clubs</td>
</tr>
</tbody>
</table>
LEARNING TO TRAIN

Age 9 – 12 (Boys) Age 9 – 11 (Girls)

Participants with a Disability: enter at any stage (with or without support person)

As the sailors grow and develop they enter the Learn to Train phase. One of the most important periods of motor development is between the ages of 9 and 12. This is a window of accelerated adaptation to motor coordination. At this stage, participants are developmentally ready to acquire the general sports skills that are the cornerstones of all athletic development. In late specialization sports such as sailing, early specialization can be detrimental to later stages of skill development and to refinement of the fundamental sport skills. Participants should be introduced and should develop solid basics in boats that are suitable for the weight and skill level of the athlete.

Participants in this stage are often beginning the growth spurt. Coaches and parents should keep track of regular height measurements to provide an indicator for the onset of peak height velocity (PHV). At the same time, flexibility, particularly in the hamstrings and lower back, should be monitored. The growth spurt typically lasts about 18 to 24 months and the range of maturation is likely to be wide during this phase.

Coaches should ensure that sailors aim for a minimum ratio of 2 practice sessions per regatta during the season if skills are to become more proficient. Sailors should concentrate on building on competencies learnt during the Fundamentals stage, including motor skill and co-ordination development, with an emphasis on further development of safe and sound sailing skills. Whilst sailors are learning to be become better athletes all programs should be fun and activity based. Interclub competitions can be introduced for fun, but they should not be the main focus of the program. Sailors are introduced to general physical conditioning and an awareness program to highlight the importance of physical development for future success in sailing. Coaches need to be positive role models by helping shape the correct values and beliefs. Encourage positive attitudes when faced with challenges and help form coping strategies for winning and losing. It is important that both sailors and coaches place a positive emphasis on the link between physical conditioning and sailing success. This phase is likely to pattern a youngster’s future attitude toward training and how being fit helps both achieve high performance in sailing and leads to a healthier lifestyle.

<table>
<thead>
<tr>
<th>Male</th>
<th>9 – 12 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>9 – 11 years old</td>
</tr>
</tbody>
</table>

33
<table>
<thead>
<tr>
<th>Stage of Maturation</th>
<th>Late Childhood: Early Puberty,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development Stream</td>
<td>Participation</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Lay the Foundations</td>
</tr>
<tr>
<td>Primary Objective</td>
<td>Learn overall sports skills</td>
</tr>
<tr>
<td>Guiding Principles</td>
<td>Athletes must be actively engaged in the activity; motor and cognitive wise</td>
</tr>
<tr>
<td>Time Commitment</td>
<td>2-4 hrs/week; 1-2 sailing sessions per week</td>
</tr>
<tr>
<td>Conditioning Time Commitment</td>
<td>1.5 hrs/week; 3 dry land sessions in a variety of other sports</td>
</tr>
<tr>
<td>Conditioning Objectives</td>
<td>Mastering of fundamental sport skills</td>
</tr>
<tr>
<td></td>
<td>• Narrow focus to a minimum of three sports</td>
</tr>
<tr>
<td></td>
<td>• At this stage participants are developmentally ready to acquire the general sports skills and sailing skills that are the cornerstones of all athletic development</td>
</tr>
<tr>
<td></td>
<td>• Maintain and refine ambidextrous sports</td>
</tr>
<tr>
<td></td>
<td>• Participate in sports that require similar movement patterns: ski, skate, roller - blade</td>
</tr>
<tr>
<td>Monitor growth monthly:</td>
<td>• Keep track of growth spurts by regularly measuring height and looking for a sudden height increase.</td>
</tr>
<tr>
<td></td>
<td>• Growth spurt lasts approximately 12 months</td>
</tr>
<tr>
<td>Early in stage:</td>
<td>Introduce general fitness framework</td>
</tr>
<tr>
<td></td>
<td>1. Warm-up</td>
</tr>
<tr>
<td></td>
<td>2. Balance and coordination</td>
</tr>
<tr>
<td></td>
<td>3. Spatial awareness</td>
</tr>
<tr>
<td></td>
<td>4. Rest and recovery (fuel breaks, lunch, sleep)</td>
</tr>
<tr>
<td></td>
<td>5. Reaction time and agility</td>
</tr>
<tr>
<td></td>
<td>6. Focus on skill and execution</td>
</tr>
<tr>
<td></td>
<td>7. Cool down with short stretch and muscle rebalance – important because of rapid growth of bones and soft tissues.</td>
</tr>
</tbody>
</table>
Later in stage:
Same as 1-7 plus the following:
8. Explosive strength
9. More stretching at the end of the training
10. Monitor volume, intensity, quality and duration of training
   • Develop strength using exercises that incorporate the person’s own body weight, as well as medicine balls and Swiss balls.
   • Continue to develop endurance through games and relays, and develop flexibility through exercises.
   • Speed can be developed by using activities that focus on agility, quickness and change of direction

| LTPD Window of Opportunity | The Learn to Train and Train to Train stages are the most important stages of athlete preparation. During these stages we make or break an athlete!
   | • Sport skills during entire phase
   | • 2nd speed window for girls (age 11 – 13+)
   | • Air awareness
   | • Beginning of window for aerobic stamina (girls 11-14, boys 12+)
   | Participants in this stage are often beginning the growth spurt. Coaches and parents should keep track of regular height measurements to provide an indicator for the onset of peak height velocity (PHV). At the same time, flexibility, particularly in the hamstrings and lower back, should be monitored. The growth spurt typically lasts about 18 to 24 months.
   | Early maturing athletes are undoubtedly better athletes during childhood, however, research strongly suggests that late maturing children may have greater potential to reach elite levels in sailing in the long term. They are likely to benefit from spending longer in the important early stages that pattern future physical literacy, particularly in the FUNdamental and Learn to Train stages of LTPD

| Purpose of Competition | Concentration on skill development
   | Very simple sailing games
   | Adapted rules and equipment – boats that are easy to rig and fun to sail
   | Emphasis on technical skills

| Types of Competition | No formal competition structure
   | Modified on-the –water games
   | Incorporate skill development within competitions
   | Skill competitions
<table>
<thead>
<tr>
<th>Planning &amp; Periodization</th>
<th>Single periodization towards the end of the stage</th>
</tr>
</thead>
</table>
| **Technical and Tactical Skills** | • Continue to encourage unstructured play.  
• Sailors can set up own equipment  
• Participants should be learning how to listen to and follow instructions, and should have a solid understanding of water safety, basic sailing rules and coach signals.  
• Understanding of parts of boat, basic sail trim, basic 5 essentials, basic rules, basic rig setup, sailing small courses and racing for fun. Posture (hiking position and trapezing) is important. Reinforce understanding of technical ideas through games and activities which make participants carry out certain technical skills in order to achieve a goal. |
| **Optimal Practice to Regatta Ratio** | 70 – 20 – 10  
Formal competition can be introduced in this stage, although it is not the focus of training. Competition should be low-key and fun, and structured to address differences in training age and abilities. Athletes should be recognized for their success and achievement. Training should include fun and play activities that develop the ability to sail comfortably. |
| **Supplementary Knowledge** | Enhancement of social skills  
Understanding and adherence to fair play  
Simple work ethic and commitment expectations  
Introduction to ancillary capacities  
Injury prevention and management |
| **Coaches Certification** | ISAF Level 1 Club Coach Special Module: Working with Children Safety Boat Driver Endorsement First Aid |
| **Race Official Certification** | Club Race officer – Novice Course |
| **Facilities** | Fundamentals Club. Adequate liability insurance. Established links with primary schools in area. Suitable equipment to offer sail training to youth and adults – dinghies, RIBs, safety boat and first aid equipment. |
| **Suitable Boats** | Optimist, O9er, suitable double-handed boats such as Hobie Dragoons, Dart Sprints, Mirrors and Class 420’s. Kids crewing for kids |
| **Sailors with a disability** | • Boats should be modified to suit the needs of sailors with a disability. Sailors with a disability should be encouraged to sail with able bodied sailors.  
• Athletes with a disability should have a knowledge of classification criteria (Refer to ISFDA guide) |
<table>
<thead>
<tr>
<th>Ancillary Capacities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Warm-up/cool-down procedures</strong></td>
</tr>
</tbody>
</table>
| **Mental and Cognitive Development** | The Sampling Stage: provide opportunities for the participant to try activities that focus on fun, pleasure and socialization. Encourage Goal-setting that is process-oriented:  
• Long term goals (dream ahead)  
• Short term goals based on skill development, not on competitive results  
Team Spirit: learn how to relate to different groups of peers  
• Development of abilities to Concentrate  
• Development of visualization skills – transfer video image to real life situation  
3 important psychological skills to develop:  
• deliberate effort: the ability to deliver effort and enjoy the feeling of the effort during the activity  
• responsibility: the ability to associate joy with effort and competition  
• success: the ability to take risk and accept failure as a normal occurrence of sport development  
At this stage it is important to create an environment where participants want to sail, enjoy being on the water and are learning sound sailing basics. Lessons must be varied, interesting and fun so they will want to continue. It is important to build interest in the sport, self confidence and an enjoyment of performing. |
| **Nutrition** | Healthy eating habits  
Hydration |
| **Environmental influence** | Understanding wind conditions |
| **Recovery and regeneration** | • Off-season participation in 2-3 other sports (swimming, diving, gymnastics, figure skating, tumbling) is recommended to develop core strength and balance  
Dealing with Hyper and hypothermia  
Refer to the SAS recovery and regeneration guide |
| **Recommendations:** |  |
| **Coaches** | SAS level 1 Coach  
Fundamental understanding of growth and maturation and physical literacy. Basic knowledge of Talent Identification for Sailing. Ability to use TGFU (teaching games for understanding) to teach fundamental sailing skills. “Play Chat Play” |
| **Parents** | Emphasis on overall sport development – less emphasis on winning  
Monitor Growth and Development to determine the onset of the growth spurt. Understand that growth can affect core stability, balance and agility and make provision for this. Focus on the skills, not the competition. |
<table>
<thead>
<tr>
<th>Clubs and Sailing Schools</th>
<th>Fundamentals Club with ISAF accreditation to maintain safety standards. Adequate liability insurance. Established links with primary schools in area. Suitable equipment to offer sail training to youth and adults – dinghies, RIB’s, safety boat and first aid equipment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable Programmes</td>
<td>SAS Youth Level 1, 2, 3 and 4</td>
</tr>
<tr>
<td>Suitable Events</td>
<td>Club fun events, Youth “Olympics” - regional (emphasis on fun and participation) at the end of the sailing season. Participation in Optimist nationals towards the end of the stage.</td>
</tr>
</tbody>
</table>
LEARN TO COMPETE

AGE 12 - 16 (BOYS) AGE 11 - 15 ( GIRLS)

PARTICIPANTS WITH A DISABILITY: ENTER AT ANY STAGE (WITH OR WITHOUT SUPPORT PERSON)

This stage is about “Building the Engine”. This is a window of accelerated adaptation to aerobic, speed and strength training and for maximum improvement in skill development. As well, good training habits are developed during this stage. Technical and fitness training programs should be individualized. While formal competition is included, the focus remains on learning the basics through training, with competition being of secondary importance. Activities should remain as high volume, low intensity, with lots of time on the water to develop an ease of skill performance. Training volume will increase as the athletes progress through the stage.

Towards the end of this stage, athletes will likely begin to specialize in one class. The most talented sailors are likely to be selected to sail in provincial youth sailing regattas where they will be competing against the best sailors from other parts of the country at U13, U14 to U16 level in boats suitable for their age and weight. Towards the end of the phase they will likely take the important first steps into adult sailing. It is vital that levels of competition and involvement in other sports are monitored, if the right balance to assist peak performance is reached. This will mean effective communication between the different interested bodies to ensure that the system remains “sailor-centered”.

It should be remembered that between the ages of 12 and 14/15, the most talented performers may only have a few “meaningful” regattas in which to impress talent identifiers. Whilst regatta performances will not be the only criteria for selection, they clearly take on greater significance as the sailor develops towards the end of this phase. There is a responsibility on all those associated with that sailor to ensure that he or she has the right balance of race:practice:rest to give themselves the optimum chance of performing to their peak each time they sail.

Whilst it remains important that sailors continue to play other sports, for variety and cross-training, the balance during this phase is now firmly toward sailing.

Careful monitoring of the growth of the sailor is critical during this stage using simple height (standing, sitting and arm span) and weight measurements and visual assessment, to ensure that the most appropriate training is introduced at the most appropriate time. Refer to the SAS guide on Growth and Maturation for more information.
Specialization in a position (crew/helm) as well as the appropriate type of competition (fleet, match or team racing) and boats should begin towards the end of this stage.

<table>
<thead>
<tr>
<th>Male</th>
<th>12 – 16 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>11 to 15 years old</td>
</tr>
<tr>
<td>Stage of Maturation</td>
<td>Late Puberty</td>
</tr>
<tr>
<td>Development Stream</td>
<td>Introduction to competition</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Build the Competitive Base</td>
</tr>
</tbody>
</table>
| Primary Objective | • Further develop and consolidate sailing skills  
|                | • introduction to competition  
|                | • develop speed and strength  
|                | • support training by developing stamina and maintaining flexibility |
| Guiding Principles | Intensity must be gradually raised to reach competition requirements |
| Time Commitment | 10-12 hrs/week; 5-6 sailing sessions- including dry land |
| Conditioning Time Commitment | 3 hrs/week; 3 dry land sessions |
| Conditioning Objectives | STABILIZATION AND FOUNDATION BUILDING  
|                        | Proper and regular monitoring of physiological adaptation to training is essential. Continue monthly monitoring for PHV. The average age for girls reaching PHV is 12, for boys, 14.  
|                        | PHV is the reference point to begin a strength training program.  
|                        | Continue participation in complementary sports for  
|                        | • Skill  
|                        | • Speed  
|                        | • Endurance |
• Lifestyle

INTRODUCE SPECIFIC FITNESS FRAMEWORK
Early in stage, dry-land focus on the following:

1. Introduce free weights
2. Injury prevention exercises (high reps, low intensity, focus on execution)
3. Core and stabilizer strength
4. Explosive arm and leg power
5. Maximize speed development
6. Introduction to physical testing and functional assessments 2X/year

INITIATE FIT TO TRAIN
Further in stage:

7. Maximum strength (females and early developing males)
8. Strength endurance
9. Power/speed endurance
10. Build a level of fitness that allows the athlete to maintain high volume, high quality training
11. On-water training develops endurance
12. Maximize stamina/aerobic capacity window of trainability for recovery, regeneration and training capacity
13. Monitor training for high volume, low intensity sessions.

LTPD Window of Opportunity

The Learn to Train and Learn to Compete stages are the most important stages of athlete preparation. During these stages we make or break an athlete!

• Increased strength is optimized for girls 1-2 months after peak of PHV
• Increased strength is optimized for boys 12-18 months after peak of PHV
• The endurance window is between 11 and 15 years old
• The second speed window for boys is between 13 and 16 years old, and for girls is between 11 and 13 years.
Both aerobic and strength trainability are dependent on the maturation levels of the athlete. For this reason, the timing of training emphasis differs depending on whether athletes are early, average, or late maturers. Monitoring for PHV is crucial as almost all participants will move through their major growth spurt during this stage.

Parents and coaches:

• Must consider growth spurt in programming. A decrease in coordination may be expected during this stage.
• Monitor flexibility and emphasize flexibility training given the rapid growth of bones, tendons, ligaments, and muscles.
• Monitor general endurance throughout the stage
| Purpose of Competition | Concentration on skill development  
Introduction of basic tactics in competitive environment – starting, clean air, recovering from mistakes, up wind and down wind strategy, etc. |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Types of Competition   | Club Interclub and inter-school  
Regional club events, Provincial Championships, & Regional Club Championships  
Regional training squad events, National Championships, and Provincial Programs. |
| Planning & Periodization | Single or double periodization (Youth Provincials, Youth Nationals) |
| Technical Skills       | Maintenance and improvement of all skills  
Development of positional skills – crew and skipper  
WHY HOW WHAT of various technical aspects of sailing.  
Developing an understanding of concepts through training exercises and tasks on the water which develop intuitive understanding. |
| Tactical and Regatta Strategies Skills | Introduction and development of basic tactical skills  
Applied decision making (creativity)  
Introduction and development of team work in double handed dinghies  
TRAINING FOCUS: Sail trim, 5 Essentials, Rig set up, Cunningham Kicker Outhaul More Rules, More Starts, Rig set up – Light wind, Medium wind, Strong wind set up. Changing gears transition from Light to medium to strong winds. |
| Optimal Practice to Regatta Ratio | 60 – 20 – 20  
• Include competitive activities in training to develop the ability to perform on demand.  
• Continue participation in other complementary sports, 2-4 times/week, 4-6 times/week in off-season.  
2-5 competitions/year  
• Level of competition: provincial standard events; provincial development team |
| Supplementary Knowledge | Development of ancillary capacities  
Adherence of fair play / sailing rules  
Understanding of the benefits of sport specific training  
Injury prevention and management |
<p>| Coaches Certification  | ISAF Level 3 coach |</p>
<table>
<thead>
<tr>
<th>Race Official Certification</th>
<th>Club, provincial and National Race officers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilities</td>
<td>Clubs and Sailing Schools should have suitable dinghies and coaching equipment for a Learn to race club.</td>
</tr>
<tr>
<td>Suitable Boats</td>
<td>Optimist, RS, Mirror, Laser Radial and 4.7 Hobie Dragoon, Mirror, Dabbie (Athlete’s weight and stature determines the type of boat to be sailed)</td>
</tr>
</tbody>
</table>
| Ancillary Capacities       | Athletes in this stage should be responsible for doing a proper warm-up and cool-down as part of practice.  
• They should also be developing a competition warm-up procedure. |
| Mental and Cognitive       | Reinforce positive visualization  
Introduction to goal setting: individual and team; shared leadership  
Mental rehearsal: regatta situations- individual and team; greater independence  
Develop decision making abilities: regatta situation and on land responsibilities  
Team building activities  
Provide training and competition opportunities that focus performance on a preferred class or discipline (fleet, team or match racing).  
Mental skills learned in the previous stage of athlete development should continue to be practiced and incorporated into all types of training and competitive situations.  
Towards the end of the stage the athlete should:  
• Take personal responsibility for training, preparation, performance and recovery  
• Bring consistent effort to training and competitions  
• Become involved with coaches in decision-making (e.g. drills, exercises, training plan)  
• Identify “what works” in the ideal performance state  
• Be coachable – accept constructive criticism and work with other coaches or athletes  
• Continue basic mental skills development: coping strategies, goal setting, imagery, self-awareness  
• Be introduced to the idea of self-reflection after training or competitions  
• Have a training diary  
• Athletes in this stage are ready to learn how to focus. They can understand that what they feel and think affects their performance, and learn how to develop control over these feelings and thoughts.  
• Effective goal setting becomes more important in this stage and is related to outcomes, process and performance.  
• Introduce athletes to breathing and relaxation skills. |
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition/hydration</td>
<td>Athletes should be aware of the importance of proper nutrition and hydration for competition days.</td>
</tr>
<tr>
<td>Environmental influence</td>
<td>Knowledge of wind, weather, tides and currents.</td>
</tr>
</tbody>
</table>
| Recovery and regeneration      | • Provide variation in dry-land and on-water activities to avoid over-use injuries  
• Emphasize flexibility and stretching exercises to manage the effect of rapid growth  
• With rapid growth and changes in body proportions, athletes may need to re-learn some skills that were previously refined |
| Integrated pre-regatta routines| Physical, mental, nutrition/hydration, preparation and care of equipment, obtaining weather information.                                          |
| Taper and peak                 | Introduction to taper and peak (Refer to the SAS guide on Periodization and competition restructuring).                                         |
| Recommendations:               |                                                                                                                                              |
| Coaches                        | ISAF Level 3 coach. Coaches should have class related technical class specific knowledge.  
Coach within the racing rules of sailing  
Sound knowledge of growth and maturation  
Planning and periodization |
| Parents                        | Less performance pressure - dealing with adolescents.                                                                                         |
| Clubs and Sailing Schools      | Provide suitable introduction to racing and fitness programmes for youth.                                                                      |
| Suitable Programmes            | SAS Introduction to racing, fleet racing, match racing and team racing programmes.                                                            |
| Suitable Events                | Provincials, Youth Nationals, Club and inter-school youth events, Youth team and match racing.                                               |
| Sailors with a Disability      | Continue to introduce athletes with a disability to sport-specific equipment and encourage independence of movement. For all athletes, the use of body-size and skill-level appropriate equipment remains important |
**TRAINING TO COMPETE**

**AGE 16 – 19+ (BOYS) AGE 15 – 18 + (GIRLS)**

Participants with a Disability: enter at any stage (with or without support person)

During the Train to Compete stage, high intensity individual and sport-specific training is provided to athletes year round. The major objective of this stage is to learn to compete under any kind of circumstance. Athletes who are now proficient at performing both basic and sport-specific skills, learn to perform these skills under a variety of competitive conditions during training. Consideration must also be given to athletes who are late entering into the sport. A coach must be aware that these athletes may be at the Train to Compete stage in regards to physical skills but at lower stages in terms of sailing skills. With proper coaching these late entry athletes can be brought successfully into the sailing system. Special emphasis is placed on **optimum preparation** by modeling training and competition.

Fitness programs, recovery programs, psychological preparation and technical development are now individually tailored to a greater degree. This emphasis on individual preparation addresses each athlete’s individual strength and weaknesses.

At this stage of development the serious athlete will be focused and determined to be the best sailor he/she can become. Athletes need significant amounts of technical and tactical feedback if they are to properly develop skills. Athletes must train at a high level of intensity and must be challenged to improve by the coaching staff. During this stage emerging performers are introduced to the international competitive stage.

<table>
<thead>
<tr>
<th>Male</th>
<th>16-19 +/- years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>15-18 +/- years old</td>
</tr>
<tr>
<td>Stage of maturation</td>
<td>Late puberty to early adulthood</td>
</tr>
<tr>
<td>Development stream</td>
<td>Competitive</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Competition: Consolidate individual strengths and rectify weaknesses</td>
</tr>
</tbody>
</table>
| Primary objective | • Preparing For The Competitive Environment  
• Refine Technical Skills  
• Further Develop And Consolidate Sailing Skills  
• Develop Speed And Strength  
• Support Training By Developing Stamina And Maintaining Flexibility  
Maturation is completed during this stage.  
• Ensure that all muscle groups and body alignments are well-balanced, complemented with optimal flexibility ranges.  
• All physiological systems are fully trainable.  
• Use periodized training programs to develop:  
  - Upper and lower body and core stabilization  
  - maximum strength  
  - anaerobic endurance  
  - speed strength |
| Time commitment | 12-15 hrs/week; 5-6 sailing sessions- including dry land |
| Conditioning time commitment | 3 hrs/week; 3 dry land sessions |
| Conditioning objectives | General and specific physical fitness related to the demands of sailing.  
Optimize endurance, strength and speed training.  
• The athlete must have sufficient levels of fitness to withstand the demands of training and competition without sustaining injuries or burnout.  
• Develop individualized programs for fitness and recovery  
• Ensure progressive overload in training relative to the demands of competition |
| LTPD Window of Trainability | The Learning to Train and Training to compete stages are the most important stages of athlete preparation. During these stages we make or break an athlete!  
• Increased strength is optimized for girls 1-2 months after peak of PHV  
• Increased strength is optimized for boys 12-18 months after peak of PHV  
• The endurance window is between 11 and 15 years old  
• The second speed window for boys is between 13 and 16 years old, and for girls is between 11 and 13 years. |
Both aerobic and strength trainability are dependent on the maturation levels of the athlete. For this reason, the timing of training emphasis differs depending on whether athletes are early, average, or late maturers. Monitoring for PHV is crucial as almost all participants will move through their major growth spurt during this stage.

- Must consider growth spurt in programming. A decrease in coordination may be expected during this stage.
- Monitor flexibility and emphasize flexibility training given the rapid growth of bones, tendons, ligaments, and muscles.
- Monitor general endurance throughout the stage

| Purpose of competition | Development of tactical sailing  
Application of techniques within competition context  
Individual and team targets relevant to long-term goals  
Introduction to International competition |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of competition</td>
<td>Club, Inter club events, Provincial Championships, Provincial training events as part of provincial development squad, national championships, provincial teams, &amp; national teams representing South Africa at international pathway events such as Laser Worlds, ISAF Youth Worlds Championships, International 420 worlds, 29er Worlds.</td>
</tr>
<tr>
<td>Planning &amp; periodization</td>
<td>Double or triple (Competing at events in the Northern Hemisphere will require triple periodization)</td>
</tr>
</tbody>
</table>
| Technical skills | Implementing technical concepts. Showing an ability to understand and utilise technical aspects of sailing. This phase should be used to challenge knowledge and extend understanding of various technical aspects of sailing. Advanced rig tuning, Advanced sail trim, Advanced Boat trim, Regatta Preparation ,Advanced boat handling. Advanced Boat tuning and set up – Light wind, Medium wind, strong wind set up. Changing gears: transition from Light to medium to strong winds. Search for speed  
- Competitive events and tournaments should be selected carefully, with a specific purpose and performance objective in mind.  
- Athletes must apply critical reasoning skills to maximize performance in competition.  
- Model high level competitions in training and develop competitive abilities under a range of simulated training conditions.  
- Continue to focus on long-term, not short-term success. |
| Tactical and regatta strategies skills | Offensive and defensive sailing  
Introduction to individual and team performance analysis – single and double handed  
Introducing Advanced Wind strategy - Persistent wind shifts vs oscillating wind shifts, convergence divergence. Wind bends and geographic influence. Importance of wind strategy in understanding overall strategy. Advanced boat on boat tactics. Covering Advanced upwind and downwind tactics. Introduce Zones of concentration – Me zone, Now zone, Next zone, Big picture zone. |
<table>
<thead>
<tr>
<th>Optimal practice to regatta ratio</th>
<th>40 – 30 – 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplementary knowledge</td>
<td>Understanding the added-value of the ancillary capacities</td>
</tr>
<tr>
<td></td>
<td>Development of weightlifting techniques</td>
</tr>
<tr>
<td></td>
<td>Knowledge of competition structures and programs</td>
</tr>
<tr>
<td></td>
<td>Development of performance analysis</td>
</tr>
<tr>
<td></td>
<td>Understand rules and protests</td>
</tr>
<tr>
<td>Coaches certification</td>
<td>ISAF Level 3 Coach:</td>
</tr>
<tr>
<td></td>
<td>Provincial Coach</td>
</tr>
<tr>
<td></td>
<td>National Coach</td>
</tr>
<tr>
<td></td>
<td>High Performance Coach</td>
</tr>
<tr>
<td>Race official certification</td>
<td>Provincial, National and International</td>
</tr>
<tr>
<td>Facilities</td>
<td>Champion Clubs</td>
</tr>
<tr>
<td></td>
<td>Provincial and National Academies</td>
</tr>
<tr>
<td></td>
<td>Athlete support by SISSA and SASCOC</td>
</tr>
<tr>
<td>Suitable boats</td>
<td>Olympic Pathway classes = Lasers, 420 and 470, women’s keelboat, Finn, Star and Hobie 16 with Spinnaker</td>
</tr>
<tr>
<td>Ancillary capacities</td>
<td>• The athlete must learn to balance the demands of training, competition, school, university, employment, family and social life.</td>
</tr>
<tr>
<td></td>
<td>• The athlete makes a full commitment to specialization in a class or discipline.</td>
</tr>
<tr>
<td></td>
<td>• As more travel is required, athlete must learn to travel with a team, adapt to new environments and make choices for meals, hydration, rest and recovery that promote sound training and meeting competition performance goals.</td>
</tr>
<tr>
<td></td>
<td>• Athlete is an ambassador for South Africa, must adhere to SAS and SASCOC code of conduct.</td>
</tr>
<tr>
<td>Mental preparation</td>
<td>Attentional and emotional control (consolidate)</td>
</tr>
<tr>
<td></td>
<td>Stress management and coping strategies (consolidate)</td>
</tr>
<tr>
<td></td>
<td>Pre-race, race, and post-race routines (refinement)</td>
</tr>
<tr>
<td></td>
<td>Visualization and decision making (refinement)</td>
</tr>
<tr>
<td></td>
<td>Team dynamics, and independence (consolidate)</td>
</tr>
<tr>
<td></td>
<td>• The athlete in this stage takes full responsibility for his/her training and competitive performance.</td>
</tr>
<tr>
<td></td>
<td>• Work with coaches is more collaborative, as athlete is capable of self-analyzing and correcting and refining skills.</td>
</tr>
<tr>
<td></td>
<td>• Goal setting is important to give direction and purpose to the training program.</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Regatta and lifestyle specific</td>
</tr>
<tr>
<td>Environmental influence</td>
<td>Currents, tides, winds, knowing your limits</td>
</tr>
<tr>
<td>Recommendations:</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Coaches</td>
<td>Introduction to racing, goal oriented, class specific evaluation of events and results High Performance Coaching. Liaison with SSISA to develop athlete fitness programmes and develop talented athletes for medal performances</td>
</tr>
<tr>
<td>Parents</td>
<td>Financial and emotional support</td>
</tr>
<tr>
<td>Clubs and sailing schools</td>
<td>High Performance Clubs and class programmes, zone squad and High performance training</td>
</tr>
<tr>
<td>Suitable programmes</td>
<td>Intermediate and advanced racing with SSISA support</td>
</tr>
<tr>
<td>Suitable events</td>
<td>Provincial and National regattas Introduction to International Competition. ISAF Youth Worlds Championships Commonwealth and All Africa Games.</td>
</tr>
<tr>
<td>Sailors with a disability</td>
<td>• At this stage, sailors will be well beyond the basics and require more training time and advanced instruction than is typically provided through Sailability programs. Preparation for International Disabled sailing events.</td>
</tr>
</tbody>
</table>
**TRAINING TO WIN**

**AGE 19 – 25+ (BOYS) AGE 18 – 23 + (GIRLS)**

Participants with a Disability: enter at any stage (with or without support person)

At this point the athlete should have a very good understanding of all the sailing specific skills that are needed to be successful and the sport-specific fitness that is required to compete. The athlete should understand that a great deal of time must be spent refining these skills in order to be competitive at the highest levels. The athletes must also understand that they must train at a high level of intensity under regatta/pressure situations in order to continue to improve.

- Performance-on-demand is the criterion standard.
- Training focus shifts to maximum performance, and peaking for major tournaments.
- Training should be at high intensity and relatively high volume.

The athlete has gained experience in competing in pressure situations at the highest possible level. S/he will continue performing, and winning consistently at a high level for an extend period of time

- All aspects of training are directed toward ensuring consistent performances at the highest level
- Injury prevention and recovery strategies are crucial in this stage. Allow frequent preventative breaks to prevent physical and mental burnout.
- The athletes in this stage will be the top international performers in the next four years and beyond. It is important to build a winning strategy with these athletes, and to individualize training and recovery programs to prevent over-training.
- Model all possible aspects of training and performance.

<table>
<thead>
<tr>
<th>Male</th>
<th>19-25 +/- years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>18-23 +/- years old</td>
</tr>
<tr>
<td>Stage of maturation</td>
<td>Early Adulthood/Adulthood</td>
</tr>
<tr>
<td>Development stream</td>
<td>Competition</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Road to Excellence</td>
</tr>
<tr>
<td>Primary objective</td>
<td>International Excellence And Podium Performances At World Championships</td>
</tr>
<tr>
<td>Guiding principles</td>
<td>Modeling all possible aspects of training and performance</td>
</tr>
<tr>
<td>Time commitment</td>
<td>18-20 hrs/week; 6-8 sailing sessions- including dry land</td>
</tr>
<tr>
<td>Conditioning time commitment</td>
<td>6 - 10 hrs/week</td>
</tr>
</tbody>
</table>
| Conditioning objectives | Specific physical fitness related to position on boat  
- All the athlete’s physical capacities are fully established and the focus shifts to maximizing performance  
- Continue to improve/maintain ideal strength, speed and power requirements of the class  
- Ensure (through monitoring) that athlete’s fitness level supports the intensive training regimen to avoid injuries and burnout, and supports maximum performance  
- Training remains at high intensity and fairly high volume  
- Shift focus to optimizing performance |
| LTPD Window of Trainability | Specific individual training program based on:  
- 6 S’s of physical training: Stamina, Strength, Speed, Skill, Suppleness and Stability  
- 7 C’s of psychological training: Cohesion (team spirit), Control (emotions), Concentration, Centre (goal setting), Condition (ideal performance state), Critical reflection, Confidence  
- Tactical skills according to the class  
Creative and innovative strengths in:  
- Psychology  
- Strategy  
- Training specificity  
- Technology |
| Purpose of competition                                                                 | Building competitive system through exposure to highest level of sailing available in SA  
                             | Promotion of sailing through SASCOC and SAS  
                             | Participation and performance at international level |
| Types of competition                                                                 | Provincial Championships, National Club Championships, national championships, national high performance teams.  
                             | Grade 3 and 4 international events leading to grade 2 and 1 events |
| Planning & periodization                                                             | Double and triple periodization is appropriate, depending on competition calendar (including selection events). |
| Technical skills Skill perfection                                                   | • The athlete has reached the pinnacle of performance in the sport. In this stage the athlete can display true mastery of the sport through creative and innovative performances that challenge the limits of the sport, or that result in new skills.  
                             | • The athlete has the ability to change and adjust to regatta conditions to compete consistently at a strategic level. |
| Tactical and regatta strategies skills                                               | Refinement and perfection of advanced tactical skills  
                             | Increase sophistication of performance analysis  
                             | Developing Personal Strategy vs Personal tactics, Develop Zones of concentration – Me zone, Now zone, Next zone, Big picture zone. Developing personal strategy for upwind and downwind tactics to suit personal sailing style. Developing personal techniques for filtering and utilising information |
| Optimal practice to regatta ratio                                                    | 30:30:40 |
| Supplementary knowledge                                                             | Understanding the added-value of the ancillary capacities  
                             | Refine mental training skills  
                             | Consolidate recovery and regeneration skills  
                             | Communication skills with media, sponsors, and VIPs |
| Coaches certification                                                               | Competition- Development Provincial Coach  
                             | Competition National and High- Performance |
| Race official certification                                                         | National and International accreditation |
| Facilities                                                                        | Clubs and High Performance academies  
<pre><code>                         | National and international arena |
</code></pre>
<p>| Suitable boats                                                                     | Olympic Pathway – 470, Laser, Windsurfing, Women’s Keelboat, Finn, Star |</p>
<table>
<thead>
<tr>
<th>Ancillary capacities</th>
<th>The athlete must work with a team of specialists to ensure maximum benefit and integration of physical, technical and psychological preparation, recovery and regeneration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental preparation</td>
<td>Goal setting, coping with regatta pressures, dealing with poor race results, staying motivated</td>
</tr>
<tr>
<td></td>
<td>• Maintain mental preparation skills that have been developed and focus shifts to optimizing performance. Mental skills and routines should be well-developed, refined and individualized.</td>
</tr>
<tr>
<td></td>
<td>• Athlete should have a well-developed will to win, concentration and focus.</td>
</tr>
<tr>
<td></td>
<td>• Attention to detail in the training and performance environment will assist in managing distractions.</td>
</tr>
<tr>
<td></td>
<td>The athlete should:</td>
</tr>
<tr>
<td></td>
<td>• Be clear about life after sport and give full commitment to his/her athletic career</td>
</tr>
<tr>
<td></td>
<td>• Be confident, motivated and highly competitive; have a will to win</td>
</tr>
<tr>
<td></td>
<td>• Have the constant desire to improve and tinker with his/her performance</td>
</tr>
<tr>
<td></td>
<td>• Have well-developed, refined and individualized mental skills and routines</td>
</tr>
<tr>
<td></td>
<td>• Be open to new ideas, different coaches and coaching methods</td>
</tr>
<tr>
<td></td>
<td>• Be creative and innovative</td>
</tr>
<tr>
<td></td>
<td>• Prepare and implement a pre-competition and competition plan</td>
</tr>
<tr>
<td></td>
<td>• Learn to interact with a team of coaches, sport science professionals and media</td>
</tr>
<tr>
<td>Nutrition/hydration</td>
<td>Regatta specific – Sport science guidance</td>
</tr>
<tr>
<td>Environmental influence</td>
<td>Ability to apply knowledge of weather conditions and sailing conditions to regatta situations</td>
</tr>
<tr>
<td>Recovery and regeneration</td>
<td>• Must conduct regular medical monitoring</td>
</tr>
<tr>
<td></td>
<td>• Monitor for symptoms of fatigue and/or under recovery</td>
</tr>
<tr>
<td></td>
<td>• Monitor to ensure that training program supports performance goals</td>
</tr>
<tr>
<td></td>
<td>• Test and monitor class-specific performance factors</td>
</tr>
<tr>
<td>Coaches</td>
<td>Advanced racing skills training, sport science based coach development, understanding athlete needs, sound knowledge of regatta tactics and strategies for international competition.</td>
</tr>
<tr>
<td>Parents</td>
<td>Financial and emotional support</td>
</tr>
<tr>
<td>Clubs and sailing schools</td>
<td>Champion Clubs Provide suitable opportunities to train (sailing and fitness)</td>
</tr>
<tr>
<td>Suitable programmes</td>
<td>Advanced racing programmes</td>
</tr>
<tr>
<td>Suitable events</td>
<td>Provincial, national and international events.</td>
</tr>
<tr>
<td>Equipment and facilities</td>
<td>• Athletes at this level of performance must have access to the most up-to-date, world-class equipment.</td>
</tr>
<tr>
<td></td>
<td>• Equipment must be fine-tuned to the demands of the sport and to the requirements of the athlete.</td>
</tr>
</tbody>
</table>
**SAILING FOR LIFE**

**ENTER AT ANY STAGE**

Participants with a Disability: enter at any stage (with or without support person)

The age of transition from competitive sport to lifelong physical activity. SAS is structured to allow participants to continue competing in age group levels up to any age, at club, national and international level. Clubs welcome and encourage participants of all ages and abilities, and there are many opportunities for adults and seniors to continue to enjoy the sport at their own level of performance.

A positive experience in sport is key to retaining athletes after they leave the competitive stream.

In this stage participants are encouraged to:

- Try a different discipline of the sport.
- Make a transition from competitive to recreational activities.
- Participate in age group competition such as Master’s Games.
- Enter sport-related careers such as coaching, officiating, sport administration, small business enterprises, or media.
- “Give back” to the sport through volunteering

<table>
<thead>
<tr>
<th>Male</th>
<th>Enter at any stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Enter at Any Stage</td>
</tr>
<tr>
<td>Development stream</td>
<td>Instruction/ Enjoyment</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Sailing for Life</td>
</tr>
<tr>
<td><strong>Primary objective</strong></td>
<td>A smooth transition from an athlete's competitive career to lifelong physical activity and participation in sailing</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Guiding principles</strong></td>
<td>Create sailing opportunities for all ages-sailor, coach, administrator, volunteer, and official</td>
</tr>
<tr>
<td><strong>Time commitment</strong></td>
<td>3-6 hrs/week; 1-3 sailing sessions</td>
</tr>
<tr>
<td><strong>Conditioning time commitment</strong></td>
<td>(Optional) Recommended for adults over 40: 30 minutes a day</td>
</tr>
<tr>
<td><strong>Conditioning objectives</strong></td>
<td>General physical fitness; be active on land and in the water</td>
</tr>
<tr>
<td><strong>Purpose of competition</strong></td>
<td>Provide sailing opportunities for people of all ages Participation Modified racing rules (simplify to have fun)</td>
</tr>
<tr>
<td><strong>Types of competition</strong></td>
<td>Club, provincial and masters events in all classes in fleet, team and match racing events with emphasis on fun and participation</td>
</tr>
<tr>
<td><strong>Planning &amp; periodization</strong></td>
<td>No periodization (single periodization for athletes competing in Masters Events)</td>
</tr>
<tr>
<td><strong>Technical skills</strong></td>
<td>Maintenance and improvement of sailing skills</td>
</tr>
<tr>
<td><strong>Tactical and regatta strategies skills</strong></td>
<td>Basic sailing decision making skills Introduction and development of basic tactical skills Understanding of all positions (general ability to sail most type of boat) Introduction and development of special teams</td>
</tr>
<tr>
<td><strong>Optimal practice to game ratio</strong></td>
<td>Sail for fun</td>
</tr>
<tr>
<td><strong>Supplementary knowledge</strong></td>
<td>Development and understanding of ancillary capacities Adherence of fair play Injury prevention and management Education on healthy eating habits Education on coaching, official, and administrative/ volunteering opportunities</td>
</tr>
<tr>
<td><strong>Coaches certification</strong></td>
<td>Participants often are self and club coached, but may seek out qualified coaches at the appropriate level. ISAF Level 1 Coach</td>
</tr>
</tbody>
</table>
| Race official certification | Club  
|                            | Provincial  
|                            | National  
| Facilities                 | Family Oriented Yacht Clubs  
| Suitable boats             | All – Multihull, keelboats and dinghies  
| Ancillary capacities       |  
| Warm-up/cool-down procedures | Age appropriate  
| Mental preparation          | Positive, fun, and stress free environment  
|                           | Team building activities  
|                           | Self-esteem and confidence building  
|                           | Communication- working with others  
| Nutrition                  | Healthy living  
| Environmental influence     | Novice sailors need to be aware of wind conditions  
| Recovery and regeneration  | As appropriate for master games  
| Recommendations:           |  
| Coaches                    | Emphasis on fun and Retainment  
| Clubs and sailing schools  | Provide suitable facilities – mooring, launching, social events  
| Suitable programmes        | Sailing for fun, round the island, Saturday racing  
| Suitable events            | Masters, club and class events  

GLOSSARY OF TERMS

**Adaptation** refers to changes in the body as a result of a stimulus that induces functional and/or morphological changes in the organism. The degree of adaptation is dependent on the genetic endowment of an individual. However, the general trends or patterns of adaptation are identified by physiological research, and guidelines are clearly delineated of the various adaptation processes, such as adaptation to muscular endurance or maximum strength.

The terms “adaptation” and “trainability” are often used interchangeably in coaching. However, the difference between them is significant.

**Adolescence** is a difficult period to define in terms of the time of its onset and termination. During this period, most bodily systems become adult both structurally and functionally. Structurally, adolescence begins with an acceleration in the rate of growth in stature, which marks the onset of the adolescent growth spurt. The rate of statural growth reaches a peak, begins a slower or decelerative phase, and finally terminates with the attainment of adult stature. Functionally, adolescence is usually viewed in terms of sexual maturation, which begins with changes in the neuroendocrine system prior to overt physical changes and terminates with the attainment of mature reproductive function.

**Ancillary capacities** refer to the knowledge and experience base of an athlete and includes warm-up and cool-down procedures, stretching, nutrition, hydration, rest, recovery, restoration, regeneration, metal preparation, and taper and peak. The more knowledgeable athletes are about these training and performance factors, the more they can enhance their training and performance levels. When athletes reach their genetic potential and physiologically cannot improve anymore, performance can be improved by using the ancillary capacities to full advantage.

**Childhood** ordinarily spans the end of infancy — the first birthday — to the start of adolescence and is characterized by relatively steady progress in growth and maturation and rapid progress in neuromuscular or motor development. It is often divided into early childhood, which includes preschool children aged 1 to 5 years, and late childhood, which includes elementary school-age children, aged 6 through to the onset of adolescence.

**Chronological age** refers to “the number of years and days elapsed since birth.” Growth, development, and maturation operate in a time framework; that is, the child’s chronological age. Children of the same chronological age can differ by several years in their level of biological maturation. The integrated nature of growth and maturation is achieved by the interaction of genes, hormones, nutrients, and the physical and psychosocial environments in which the individual lives. This complex interaction regulates the child’s growth, neuromuscular maturation, sexual maturation, and general physical metamorphosis during the first 2 decades of life.

**Critical periods of development** refer to a point in the development of a specific behaviour when experience or training has an optimal effect on development. The same experience, introduced at an earlier or later time, has no effect on or retards later skill acquisition.

**Development** refers to “the interrelationship between growth and maturation in relation to the passage of time. The concept of development also includes the social, emotional, intellectual, and motor realms of the child.”

**Developmental age** refers to the degree of physical, mental, cognitive, and emotional maturity. Physical developmental age can be determined by skeletal maturity or bone age after which mental, cognitive, and emotional maturity is incorporated.

**Growth and maturation** The terms “growth” and “maturation” are often used together and sometimes synonymously. However, each refers to specific biological activities. Growth refers to “observable, step-by-step, measurable changes in body size such as height, weight, and percentage of body fat.” Maturation refers to “qualitative system changes, both structural
and functional in nature, in the organism’s progress toward maturity; for example, the change of cartilage to bone in the skeleton.”

**Peak height velocity (PHV)** is the maximum rate of growth in stature during the growth spurt. The age of maximum velocity of growth is called the age at PHV.

**Peak strength velocity (PSV)** is the maximum rate of increase in strength during growth spurt. The age of maximum increase in strength is called the age at PSV.

**Peak weight velocity (PWV)** is the maximum rate of increase in weight during growth spurt. The age of maximum increase in weight is called the age at PWV.

**Physical literacy** refers to the mastering of fundamental motor skills and fundamental sport skills.

**Post-natal growth** is commonly, although sometimes arbitrarily, divided into 3 or 4 age periods, including infancy, childhood, adolescence, and puberty.

**Puberty** refers to the point at which an individual is sexually mature and able to reproduce.

**Readiness** refers to the child’s level of growth, maturity, and development that enables him/her to perform tasks and meet demands through training and competition. Readiness and critical periods of trainability during growth and development of young athletes are also referred to as the correct time for the programming of certain stimuli to achieve optimum adaptation with regard to motor skills, muscular, and/or aerobic power.

**Sensitive period of development** refers to a point in the development of a specific capacity where training has an optimal effect. Other factors are readiness to train and sensitive periods of trainability during growth and development of young athletes, where the stimulus must be timed to achieve optimum adaptation with regard to motor skills, muscular, and/or aerobic power.

**Skeletal age** refers to the maturity of the skeleton determined by the degree of ossification of the bone structure. It is a measure of age that takes into consideration how far given bones have progressed toward maturity, not in size, but with respect to shape and position to one another.

**Trainability** refers to the genetic endowment of athletes as they respond individually to specific stimuli and adapt to it accordingly. Malina and Bouchard (1991) defined trainability as “the responsiveness of developing individuals at different stages of growth and maturation to the training stimulus.”

**Acronyms used in this document**

- **SASCOC** South African Sports Commission and Olympic committee
- **SRSA** Sport and Recreation South Africa
- **DOE** Department of Education
- **DOH** Department of Health
- **SAS** South African Sailing
- **LTPD** Long Term Participant development
- **WOT** Windows of trainability
- **AWAD** Athlete with a disability
- **PHV** Peak height velocity
- **PSV** Peak strength velocity
- **PWS** Peak weight velocity
LIST OF REFERENCES

- Groff, Philip and Jen Ghadali, Will it Float?
- Mactavish, J. (2003, November)
- Stafford, Ian Coaching for Long Term Athlete Development
- Rowing Canada Long Term Athlete Development Plan for Rowing: An Overview, 2006
- Special Olympics Canada, Long Term Athlete Development, 2006

RESOURCES AVAILABLE ON THE SOUTH AFRICAN SAILING WEBSITE:
South African Long Term Participant Development plan
Growth and Maturation poster
Physical, mental, cognitive and emotional development summary
SAS LTPD Skill Matrix
Posters
Guide for Coaches
Guide for Parents
Guide for Officials
LTPD/ LTCD Integration
Competition restructuring guide
South African Sailing Implementation plan