Sailing for the Disabled

A report written following a 1996 Winston Churchill Memorial Fellowship

sponsored by

John Fairfax Holdings

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National Sailability Coordinator, 1996-2000
National Chairman, Sailability Australia, 1995-6

Australian Yachting Federation

Ref: my documents/work/ayf/Churchill/9
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Executive Summary

A Winston Churchill Memorial Fellowship, sponsored by John Fairfax Holdings, was undertaken in 1996. The recipient of the Fellowship was Phil Vardy, Chairman (later Coordinator) of Sailability Australia, the national disabled sailing program.

The Fellowship enabled the recipient to visit disabled sailing programs in the USA, Canada and the UK. There knowledge of craft, modifications, innovations, facilities, structure, organization and funding was acquired.

At the time of application, the Australian disabled sailing movement was in its infancy, and Australia was unprepared for the Sydney 2000 Paralympics. Now, some five years later, the Australian disabled sailing movement is world class. With the possible exception of the UK, Australia may now have the World's highest per capita population of disabled sailors. Moreover, Australia staged a spectacularly successful regatta at the Sydney 2000 Paralympics (the first in which sailing was a full medal sport), and won gold in the three-person keelboat event.

Some of the above success can be attributed to the Winston Churchill Memorial Trust. This report contains much of the knowledge gained on the Fellowship, and describes the result of applying that knowledge.

The contribution of the Trust and Fairfax Holdings is most gratefully acknowledged.
**Introduction**

Most people love activities they do well. And most people do well at activities they love. In this regard, however, I’m an exception: I love sailing, but I’m not particularly good at it. I thrill to the rhythm of the wind and the waves, but I rarely win races. Fellow sailors sometimes describe me as competent or seamanlike; however, they never describe me as talented!

My lack of talent, however, has not stopped me talking about sailing. Indeed, telling others about this wet and windy recreation has become a major focus of my life. I’m especially keen to communicate the joy of sailing to disabled people like myself for whom the sport provides an unparalleled sense of freedom and independence.

In late 1993, I floated the idea of disabled sailors contesting the 50th Sydney-Hobart yacht race. From that call, the organization Sailors with disAbilities (SWD) developed. An SWD crew, including people with disabilities, has attempted every Sydney-Hobart since 1994.

In 1995, I became National Chairman of Sailability Australia, the fledgling disabled sailing program of the Australian Yachting Federation. At that time, Australia was unprepared to host a major international disabled regatta and unable to field a competitive crew in the Sydney Paralympic Games, then five years away. I therefore resolved to do all that I could to ensure that the 2000 Paralympic regatta would be world-class, and that Australia would win gold. I also resolved that through Sailability, all disabled people in Australia would be able to enjoy the wind and the water.

It was one thing to wish for the above lofty aims; it was another, however, to bring them into effect. The main difficulty was ignorance of successful programs overseas. I therefore applied for a Winston Churchill Memorial Fellowship, an award that enables recipients to study overseas. The Fellowship is named after Sir Winston Churchill, Britain’s stalwart Prime Minister of World War II.

My Fellowship enabled me to travel to the US, Canada, the UK and France for three months in 1996 to study sailing for people with disabilities. Since then, the Australian disabled sailing movement has come of age:

- Sailability organizations have been established in each state and the ACT. Many of these organizations have established branches. At the time of writing, Sailability NSW has 14 branches. With the possible exception of the UK, Australia has the World’s largest *per capita* population of disabled sailors.
- The Access dinghy, a simple boat featuring some revolutionary features, has been encouraged as a national entry-level class, and has been adopted by many disabled sailors, nationally and internationally. Technology has been developed to enable the profoundly disabled to sail solo. The 2000 Access Dinghy Championship was the World’s largest disabled sailing regatta to date.
- Construction of the International 2.4mR was undertaken in Australia; the 1999 World Championship was held in Melbourne (the first in the Southern Hemisphere); and two Australians are currently the World’s top disabled sailors in this class.
- The organization Sailors-with-disAbilities survived the 1998 storm and won a division of the Sydney-Hobart Race.
- Two Australians contested the Melbourne-Osaka Classic and, in doing so, became the first all-disabled crew to complete a major ocean race.
- A disabled Australian has circumnavigated the world – solo, non-stop and unassisted.
- The Salvo, a new class of sloop suitable for disabled sailors, was developed and built in Australia.
- Australia has staged a spectacularly successful regatta at the Sydney 2000 Paralympics (the first to feature sailing as a full medal sport).
- Australia won gold in the three-person keelboat discipline at the 2000 Sydney Paralympic regatta.

It would be patently untrue to claim that all the above happened because of this Fellowship or because of Phil...
Vardy. The above happened because of the efforts of many Australians and others. I lay claim only to the privilege of working, occasionally and peripherally, with a few of the many people who made it all happen. However, I can say that this Fellowship greatly assisted me in the part that I played as Chairman and later as National Coordinator of Sailability Australia.

This report is late, very late. In other circumstances, the value of this report would have been significantly devalued by the passage of time since my return from the Fellowship. In this case however, much of the knowledge has been applied, and most of what I learned on the Fellowship has already been published in

- *Sailability News*, the newsletter of Sailability Australia that I established and edited before relinquishing editorship to Kathy McLean and Sharlene Mulvenna, and
- *World Disabled Sailor (WDS)*, the newsletter (now yearbook) of the International Foundation for Disabled Sailing (IFDS), that I established and now edit with Pauline Harrison in the UK. References to articles published in *WDS* are included in the Bibliography (p.46) and indicated throughout this report by **bold**, *italic*, (parenthesised), letters e.g. (*m*).

Nevertheless, my tardiness is inexcusable and I apologize to the Winston Churchill Memorial Trust, which granted this Fellowship, and to John Fairfax Holdings which sponsored it. I also sincerely thank both of these organizations.

To travel overseas, I took holiday and study leave from my job as National Coordinator of Sailability Australia. I thank the Australian Yachting Federation (AYF) for its investment in the future of disabled sailing in this country. My referees for this Fellowship are aware of my dept to them. Thank you gentlemen:

- Mr Alastair Mitchell, National Coaching Coordinator, AYF;
- Dr Alan Rose, founding Chairman, Sailability Australia; and
- Prof Keith Williams, School of Biological Sciences, Macquarie University.

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December 2000
Preface

How to read this report

Structure
I applied to the Winston Churchill Memorial Trust to study the following aspects of sailing for people with disabilities.

- Craft (The type of boats used by overseas disabled sailing organizations);
- Modifications (The way in which craft are changed to make them suitable for disabled sailors);
- Innovations (The ancillary equipment used by disabled sailors);
- Facilities (The construction of infrastructure on-shore to facilitate disabled sailing);
- Structure (The way in which disabled sailing organizations are set up); and
- Funding (The manner in which disabled sailing organizations were financed).

Initially, I planned to organise this report under the above headings. Later, however, I found that such headings did not give the reader any sense of geography or what was achieved by the Fellowship. I therefore decided to organise this report as follows.

- Centres Visited,
- Craft,
- Innovations,
- Formulae for Delivery, and
- Outcomes.

Editoralisation
Some degree of editorialising occurs in most reports. This report is no exception. I’ve tried to be objective and to report the facts as I saw them. However, I found that it is impossible to report on a subject like disabled sailing without forming opinions. I don’t apologise for this. Indeed, I feel that part of the purpose of a Churchill Fellowship is to form opinions (and to allow others to benefit from them). I don’t claim that the opinions included here are right; I do however claim that they are my own.

References
Cited references [e.g. Bloggs, 1995] refer to articles that are readily available. These references are listed in the Bibliography at the end of the report.

Numbered references [e.g. (14)] refer to articles that are not readily available. Often anonymous and undated, these references are listed in each section describing the venue/event visited.

Alphabetacised references [e.g. (m)] refer to articles written by me and published in the international newsletter World Disabled Sailor. These references are numerous; they are listed separately in the Bibliography to avoid excessive self-reference in the text.

All literature cited is held by me and is available for loan (See Introduction for postal address).

Abbreviations
APC Australian Paralympic Committee (formerly APF)
APF Australian Paralympic Federation (later APC)
ARATA Australian Rehabilitation & Assistive Technology Association
ASC Australian Sports Commission
ASF Australian Sports Foundation
BAADS Bay Area Association of Disabled Sailors (San Francisco)
CRAB Chesapeake Region Adaptive Boating (Annapolis)
CYA Canadian Yachting Association
1996 John Fairfax Holdings Churchill Fellowship, Sailing for the Disabled, Phil Vardy

DSASC  Disabled Sailing Association of Southern California (Los Angeles)
DSABC  Disabled Sailing Association of British Colombia (Vancouver)
FSA    Footloose Sailing Association (Seattle)
GRP    Glass Reinforced Plastic (“Fibreglass”)
GLSAPD Great Lakes Sailing Association for the Physically Disabled
IFDS   International Foundation for Disabled Sailing (The Netherlands)
ISAF   International Sailing Federation (Southampton)
JGASP  Judd Goldman Adaptive Sailing Association (Chicago)
OSSB   Olympic Sailing Shore Base (Rushcutters Bay, Sydney)
Para   Paraplegic – a person whose lower limbs are paralysed (to some degree)
Quad   Quadriplegic – a person whose lower and upper limbs are paralysed (to some degree)
RYA    Royal Yachting Association (UK)
SOCOG Sydney Organising Committee for the Olympic Games
SPOC   Sydney Paralympic Organising Committee
TD     Technical Delegate
VIP    Visually Impaired Person
WDS    World Disabled Sailor, the newsletter of IFDS

Glossary of sailing terms used
Abaat   adj. Closer to the stern than another part of a vessel.
Batten  n. A thin strip of wood or other material inserted into a sail to alter its shape.
Block   n. A mechanical device consisting of one or more grooved pulleys mounted in a casing or
        shell to which a hook or the like is attached, used for transmitting force or changing direction
        of motion.
Boom    n. A long pole or spar used to extend the foot of certain sails.
Cat     n. A single-sailed vessel with a single mast set well forward and often unstayed.
Catamaran n. Any craft with twin parallel hulls.
Centreboard n. A temporary projection from the hull of a boat, providing varying degrees (by being raised
        or lowered) of lateral resistance to the water. Also called daggerboard.
Dinghy  n. A small sailing boat whose lateral resistance is provided by a centreboard (as opposed to a
        keelboat).
Dolly   n. A wheeled supporting frame into which keelboats are placed when out of the water.
For’ard  adj. Forward; Towards or at the front.
Flake   v. To stow a sail in a series of serpentine folds.
Freeboard n. The distance on a boat from waterline to gunnel.
Gunnel  n. Gunwale; The upper edge of the side of a boat
Gybe    v. To turn a boat so that the wind direction, relative to the boat, changes from one side to the
        other via the stern (as opposed to tack).
Hardstand n. A concrete platform built on the shore at he water's edge, upon which boats are stored and
        from which boats are launched by crane.
Head    n. A ship's toilet.
Hound(s) n. A mast fitting into which stays insert.
Jib     n. A small fore-and-aft sail set for’ard of the mast of a sloop.
Keel    n. A permanent downward projection from the hull of a boat, providing a fixed degree of
        vertical stability to the boat and lateral resistance to the water.
Keelboat n. A boat with a keel (as opposed to a dinghy with a centreboard).
Lazy Jacks n. A series of guiding lines affixed between boom and mast which cause a lowered sail to fold
        in flakes atop the boom.
Leech   n. The sternmost edge of a fore& aft sail.
Leeward adj., adv. Of or moving towards the direction in which the wind blows (as opposed to
        windward).
Mainsail n. A large sail set abaft the mast of a sloop.
Monohull n. A boat with one hull (as opposed to a catamaran or trimaran)
Pontoon  n. A floating platform, able to rise and fall with the tide (as opposed to a fixed wharf).
Pram  
*n.* A small cat-rigged blunt-nosed sailing craft.

Reef  
*n.* Part of a sail that is rolled or tied so as to reduce the area exposed to the wind.

Servo  
*n.* Servomechanism; A device for converting a small mechanical force into a larger force, especially for control purposes; a control motor.

Sheet  
*n.* A rope fastened to the lower after corner of a sail or to the boom of a sail to control its trim.

Sloop  
*n.* A single masted sailing vessel rigged fore and aft and setting two sails, a jib and a mainsail.

Sole  
*n.* The floor of the cockpit of a boat.

Stay  
*n.* A strong rope, now commonly of wire, used to support a mast. Back/side/forestay.

Tack  
*v.* To turn a boat so that the wind direction, relative to the boat, changes from one side to the other via the bow (as opposed to gybe).

Thwart  
*n.* A transversely mounted seat or bar extending from one gunnel of a boat to the other.

Tiller  
*n.* The handle attached to the rudder which enabled a boat to be steered.

Trampoline  
*n.* A tough fabric sheet stretched taught between the members of a frame commonly attached to the hulls of a catamaran.

Transom  
*n.* The sternmost face of the hull of a boat.

Traveller  
*n.* A transversely-mounted track which permits lateral movement of the lower point of attachment of the mainsheet of a sailboat.

Trim  
*v.* To adjust sails with reference to the direction of the wind and the course of the boat.

Trimaran  
*n.* A boat with a main middle hull and two outer hulls, usually smaller, acting as floats to provide stability.

Vang  
*n.* A light tackle passing from near the foot of the mast to the boom somewhat abaft the mast and used to heave the boom downward so as to flatten the sail.

Wharf  
*n.* A structure, supported by piles driven into the sea bed, projecting out into the harbour, Stream or the like, to which vessels moored alongside (A fixed structure as opposed to a floating pontoon)

Windward  
*adj., adv.* Of or moving away from the direction in which the wind blows (as opposed to leeward).
Listed below are details of the locations I visited on this Fellowship. Details of each location are organised under the following headings: Date of visit, Contacts, Boats, Literature & Notes. The themes emerging from the observations made at these locations are described elsewhere.

Disabled Sailing Association of Southern California (DSASC)
United States Sailing Centre
5489 East Ocean Boulevard
Long Beach CA 90803-4405 USA
Tel. +1 562 433 7939
Fax. +1 562 433 3668

Date of Visit
6 August 1996

Contacts
Peter Hudson
6280 Marina View Dr.
Long Beach CA 90803 USA
Tel. +1 310 493 9377
Lance Toguchi Tel. +1 310 437 0551

Boats
Defender 12 (6)
Cal 20 (2)
Martin 16 (1)

Literature
2. Pacific Pipeline Newsletter of the US Sailing Centre, Long Beach CA (Several editions)

Notes
The Disabled Sailing Association of Southern California (DSASC) is a chapter of the Pacific Coast Sailing Foundation. PCSF is a non-profit, public-benefit corporation that seeks to provide facilities, equipment and programs that improve education in the sport of sailing in the Western US.

Given the population of LA, DSASC is quite small. The chapter operates from the US Sailing Centre at Long Beach. The centre features a hard stand and floating pontoons accessed by ramps of low gradient. One pontoon floats immediately adjacent to the seaward edge of the hard stand. A large crane lifts boats from the handstand, over the pontoon, and into the water (See p.5, Pacific Pipeline, for illustration).

The above arrangement allows disabled sailors to launch their boats, and then access them (Many other arrangements do not permit immediate access; rather, a boat, once launched, must brought to an accessible pontoon by an able-bodied assistant). Some of the design features of the Long Beach centre were incorporated into the design of the Olympic Sailing Shore Base at Rushcutters Bay, Sydney (See Handbook of Design, p.40)
Sea Legs Adaptive Sailing Program
Berth 75
Ports o’Call
San Pedro CA 90731 USA
Tel. +1 310 831 1094

Date of Visit
7 August 1996

Contact
Gianni Brill, President

Boats
Cal 20 (Sea Legs 20) (4)

Literature
1. Sea Legs Folder  History, Facts in Focus, Executive Summary, List of Directors
2. Sea Legs 20  A brochure detailing modification to a Cal 20 to enable disabled people to sail that craft.

Notes
Sea Legs is a non-profit public-benefit corporation that operates in conjunction with Port o’Call, a private business. The business gains from a small disabled clientele, and the clientele gains from use of four modified boats (See Cal 20, p.26). The organization uses an engine hoist to lift disabled people on board a boat. Engine hoists are inexpensive and robust (See also Hoists, p.33)

Bay Area Association of Disabled Sailors (BAADS)
PO Box 193730
San Francisco CA 94119-3730 USA
Tel. +1 415 281 0212

Date of Visit
8-9 August 1996

Contact
Tom Fowle, Commodore

Boats
Independence 20 (2)
Ericson 27 (1)

Literature
1. BAADS Handbook  An excellent introduction to the association, and an operations guide for members. This handbook is highly recommended as a model for Australian Sailability groups, especially those that sail medium-sized keelboats.
2. Ahoy The BAADS newsletter. Copies of Ahoy are sent to Sailability Australia, and copies of Sailability Australia News are sent to BAADS.
3. Adapted Boating  A list of references and resources compiled by Glo Webel of the Lake Merritt Adapted Boating Program. Adapted Boating is a very useful bibliography of disabled sailing.

1 The Lake Merritt Adapted Boating Program (Office of Parks & Recreation) in Oakland CA was one of the first disabled sailing programs in the US. It started in 1981 following the receipt of grants from several bodies including the Heritage Conservation & Recreation Services, US Dept. of the Interior. The Lake Merritt Program is the parent of BAADS.
Notes
BAADS is a non-profit, tax-exempt organization serving San Francisco (SF). Given the size of SF, BAADS is quite small; nevertheless, it is a dynamic, well-organised association. BAADS is run by members and volunteers; there is no paid staff. It is an excellent model for a medium-sized disabled sailing organization that uses medium-sized keelboats. The strength of BAADS lies in its communications, resources and organisational infrastructure.

In SF, the local marina (South Beach Harbour) is required to provide a limited number of berths free to disabled sailors. BAADS therefore enjoys low-cost access to the water. I feel that in Australia, in return for occupancy of the foreshore, new commercial marinas should be required to provide berths for the craft of disabled sailing organizations or equivalent. Members of BAADS receive (automatic) "special" membership of the nearby South Beach Yacht Club.

BAADS has a telephone “Sailmail” facility – local members phone 415 281 0212 for a frequently updated “news” message about BAADS. The facility is excellent for blind and severely disabled people. A similar facility is highly recommended for local Australian disabled sailing organizations.

Blind sailors at BAADS sail to the “tune” of small bells sewn on to the leech of the spinnaker and jib. The swivelling seats (See Freedom Seat, p.34) in BAADS’ boats (See Independence 20, p.28) have been removed.

Disabled Sailing Association of British Columbia (DSABC)
Jericho Sailing Centre
1300 Discovery St.
Vancouver BC V6R 4L9 Canada
Tel. +1 604 222 3002
Fax. +1 604 222 3004

Date of Visit
10-11 August 1996

Contacts
Sam Sullivan², Founder
Helen Drost
Michael Rahmberg

Boats
Sunbird (8)
Martin 16 (2 in 1996)

Literature
1. CYA Disabled Sailing Information (http://www.sailing.ca/general/disable.html)
2. Jericho Sailing Centre Association, Vancouver’s Seaside Community Centre (Undated, current 1996)
3. What is the Sip and Puff Boat? A brochure about a modified Sunbird dinghy
   Disabled Sailing Association of BC (Undated, current 1996)
4. The Martin 16 Fleet Project, a sponsorship booklet about Canada’s disabled sailing boat
   Disabled Sailing Association of BC (Undated, current 1998).

Notes
In 1996, there were nine programs in Canada run by/for people with physical disabilities. Details of the nine programs can be found in Disabled Sailing Information, a list compiled by the Canadian Yachting

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² Sam visited Australia in 1998.
Association. I visited only the Vancouver chapter of DSABC. Unlike the Americans, whose programs generally use medium-sized multi-person keelboats, the Canadians generally use single-person keelboats - Sunbirds (See p.32) and Martin 16s (See p.30). Bethune (1998) also describes these boats.

DSABC is one of several sailing programs run from the Jericho Sailing Centre Association, a non-profit organization (2). At JSCA, various clubs, fleets and schools provide a wide range of opportunities for non-motorised recreational access to English Bay, the body of water adjacent to Vancouver. JSCA is an excellent example of a large community-based sailing program. Similar community-based aquatic centres could be set up in Australia.

JSCA has no floating pontoon. From MARs (See Mobile Access Ramps, p.33), disabled people transfer from wheelchairs to boats (on trailers) that are then winched down a long ramp into the water. Alternatively, disabled people are hoisted into boats (on trailers) using an especially built gantry. DSABC (Vancouver) therefore needs a lot of volunteers. In Summer, DSABC employs a coordinator, often a graduate student, to manage volunteers who assist disabled sailors. Much of the coordinator's time is spent liaising with short-stay volunteers. To some degree, therefore, the association has a "helper & client" focus.

DSABC was the first organization to develop facilities that enable severely disabled people to sail. DSABC's "Sip & Puff" technology is a mouth-controlled system that enables those with no hand movement to control a sailboat - via electric motors linked to sail and rudder controls (Guttmann & Evetts, 1993).

Sip & Puff systems are complex and expensive; their maintenance requires significant expertise in electronics. In contrast, servo-assisted controls, developed in Australia for the Access dinghy, are simple and inexpensive; moreover, they can be serviced by the average handyman with parts from the local electronics store.³

DSABC facilitated the development of the Martin 16, a single-person keelboat suitable for disabled and able-bodied people (See Martin 16, p.30). The organization also developed waterproof neoprene “coveralls” to keep the lower halves of disabled sailors dry in wet single-person boats (See Staying dry, p.36).

DSABC initiated the Mobility Cup, Canada's international regatta for disabled sailors. Several Australians have attended the Mobility Cup in recent years. Staff from Access Dinghy Sailing Systems, the Australian firm that manufactures Access dinghies, made presentations at the International Disabled Sailing Symposium held at the 1999 Mobility Cup.

Footloose Sailing Association
2319 North 45th St. #142
Seattle WA 98103 USA
Tel. +1 206 382 2680
Email: mailto:drj@aa.net
Web: http://www.dsusa.org/~dusa/regions/nwreg/footloose/

Date of Visit
10-11 August 1996

Contact
Bob Ewing⁴
3049 68th Av. SE
Mercer Island WA 98040 USA
Tel. + 1 206 236 2498

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³ Jackie Kay, Vice-chairman of Sailability Australia, advises that the Canadians are considering the substitution of microswitches activated by breath for those activated by (direct) muscle movement.

**Boats**
Columbia 21 (2)

**Literature**
1. Bylaws of Association
2. *Windward* Footloose newsletter (Several editions)

**Notes**
Footloose is a non-profit educational/charitable corporation in the State of Washington. It operates out of Leschi Marina, Seattle, and is a chapter of Disabled Sports USA. The association is a good example of a small, recreation-focused, disabled sailing program.

Like most disabled sailing programs in the US, Footloose utilises medium-sized multi-person keelboats. To facilitate access by disabled people to the two Columbia 21 sloops owned by Footloose, the association uses transfer boxes (See *Footloose Box*, p.33). Similar boxes were used at the Sydney 2000 Paralympic Regatta.

**1996 Paralympics**
Lake Lanier, Atlanta, Georgia.

**Date of Visit**
15-22 August 1996

**Literature**
1. *Xth Paralympic Games August 15-25 1996 Official Program*  
   Disability Today Publishing Group Inc., Oakville, Canada  

**Notes**
Much has been written about the 1996 Atlanta Paralympics. There seems little point in reproducing any of it here. For general descriptions of the 1996 games, refer to (1) above and Kaminker (1966). For descriptions of Australia's involvement, refer to (2) above. For descriptions of the sailing event, refer to reports by the IFDS Technical Delegate (Hatzmann, 1996), the Chairman of the Race Committee (Turner, 1996), the Competition Manager & Bosun (Merkle & Hinkel, 1996), and myself (a).

Almost all my time was spent at the venue for the demonstration sailing event at Lake Lanier, north of Atlanta. I observed no other Paralympic event; I travelled into Atlanta only for meetings of the International Foundation for Disabled Sailing (IFDS; See p.19).

The eight days spent in Georgia were exceptionally fruitful. No Australian was officially posted to Atlanta to observe the Paralympic regatta (the Olympic regatta was held at Savannah, not Atlanta). The information I gathered as an unofficial observer was useful in planning for the 2000 Paralympics and preparing the Australian team for competition in the Paralympics (See *Sydney 2000 Paralympics*, p.40 and *APC*, p.40).

With Pauline Harrison Sailing (IFDS; See p.19), I assembled a network of correspondents for the international newsletter *World Disabled Sailor*, and launched the *ISAF Sailing Manual* that we had written.
Judd Goldman Adaptive Sailing Program (JGASP)
676 St. Clair, Suite 2150
Chicago IL 60611 USA
Tel. +1 312 644 3200
Fax. +1 312 644 3577

Date of Visit
23-30 August 1996

Contacts
Peter Goldman, Director
Gerry Dahl, Bilateral foot amputee
Ted Sutherland, Instructor

Boats
Independence 20 (6)

Literature
1. Brochure about JDASP
2. Constitution, Great Lakes Sailing Association for the Physically Challenged (GLSAPD)

Notes
The Judd Goldman Adaptive Sailing Program (JGASP) was started by Peter Goldman in memory of his father, Judd, a Chicago businessman who contracted a disabling bone disease at the age of 17, but went on to sail for the next 58 years.

The program is an excellent (unique?) example of a private initiative in partnership with a public agency. The Chicago Park District operates the program and hires the instructors; the Judd Goldman Adaptive Sailing Program purchases the boats and pays salaries. To fund the program, Peter Goldman harnesses considerable support from Chicago society, especially at an annual benefit diner that, in 1995, attracted nearly 500 people. Peter Goldman's company provides significant support for the foundation by way of office accommodation and secretarial assistance.

In 1995, over 700 people with disabilities experienced the joy of sailing through JGASP. Nearly 100 courses of five lessons were completed in the six Independences (See p.28) owned by the program.

The Independence Cup/North American Challenge Cup, a highly sponsored regatta sailed in Independences, is hosted annually on Lake Michigan by the JGASP. In this regatta, two disabled people race with two able-bodied people. I witnessed the 1996 Judd Goldman Cup.

The program sails from Rainbow Fleet Boathouse at Burnham Harbour on the shore of Lake Michigan. Access is adequate. Assistance from relatively able-bodied people is necessary to bring boats from moorings to the wharf.

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5 Gerry died late in 1999. A short obituary was published in WDS.

6 I did not visit GLSAPC at Grosse Point Farms, MI. In 1996, the program was intent on building and sailing trimarans. In this regard, the program would be well advised to study the British experience with the Challenger trimaran (See Craft, p. www).
Chesapeake Region Adaptive Boating (CRAB)
PO Box 6564
Annapolis MD 21401-0564 USA
Tel. +1 410 974 2628
Fax. +1 410 267 6796

Date of Visit
31 August – 6 September 1996

Contact
Don Backe, Director

Boats
Independence 20
Various others

Literature
Brochure about CRAB

Notes
Chesapeake Bay is a large body of water on the Eastern seaboard of the US. Baltimore and Annapolis are adjacent to the bay; Washington DC is a short distance inland.

CRAB is an all-volunteer, non-profit organization dedicated to providing boating opportunities for disabled people. It operates from docks at Sandy Point State Park in Annapolis MD. The docks are wheelchair accessible. The organization is interested mostly in recreational sailing; nevertheless, two of the bronze medal-winning team in the 1996 Paralympic regatta were from CRAB. Given the large population of the mid-Atlantic region, it is surprising that CRAB is the only disabled sailing program on Chesapeake Bay.

Don Backe of CRAB has considerable experience in running a disabled sailing program: he was, for some time, the Executive Director of the National Ocean Access Project (NOAP). It seems that NOAP was set up to be an umbrella administrative organization for the US. It was, on the whole, funded by sponsorship from an individual benefactor. The project stalled when income from the benefactor ceased. The lesson for Australia from NOAP is to secure funding for a national disabled sailing program. NOAP developed the Kaufman Drop-in Seat (See p.34).

From May to October each year, CRAB offers free come&try opportunities on the last Sunday of every month. These so-called “sail-free days” enable anyone, disabled or able-bodied, to experience sailing on Sandy Point Lagoon (a small sheltered arm of Chesapeake Bay) or the bay proper. A well-organized team of volunteers assists with these introductory Sundays.

CRAB funds itself through traditional fundraising and through the following.

Membership
The program offers membership to organizations and individuals, able-bodied and disabled, who are interested in CRAB and support its efforts.

<table>
<thead>
<tr>
<th>Membership Level</th>
<th>Membership Benefit</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>Receives Newsletter</td>
<td>$10</td>
</tr>
<tr>
<td>Crew</td>
<td>Receives above plus notice of special events</td>
<td>$25</td>
</tr>
<tr>
<td>Skipper</td>
<td>Receives above plus 10% discount on boat hire</td>
<td>$50</td>
</tr>
<tr>
<td>Captain</td>
<td>Receives above but with 25% discount on boat hire</td>
<td>$100</td>
</tr>
<tr>
<td>Admiral</td>
<td>Receives above but with free lessons and sailing</td>
<td>$300</td>
</tr>
<tr>
<td>Family</td>
<td>Receives above for four family members</td>
<td>$350</td>
</tr>
<tr>
<td>Corporate</td>
<td>Call for information</td>
<td>$500+</td>
</tr>
</tbody>
</table>

16
Teaching
CRAB runs a sailing school for disabled and able-bodied people. The cost of these courses is approximately half that of similar commercial products. And the courses provide approximately twice the amount of on-water time.

Sales
Boats are often donated to CRAB. Some of these craft are more punishment than profit; many are excess to requirements. CRAB sells boats to able-bodied and disabled clients.

Rent
CRAB offers its fleet of boats for rent to both able-bodied and disabled community groups. The organization offers boats for $25 per hour or $75 per half-day or $125 per full day.

A Coincidence
While in Annapolis, I spent an afternoon making notes in the West Street Library. There, another Australian noticed the Sailability NSW logo on my shirt and engaged me in conversation. The Australian was none other than Murray Fuller, an agricultural specialist. He too was a 1996 Churchill Fellow - woody weed control!

Shake-a-Leg (SAL)
200 Harrison Ave.
Newport RI 02840-3781 USA
Tel. +1 401 849 8898
Fax. +1 401 848 9072

Date of Visit
7-10 September 1996

Contacts
Paul Callahan, Chairman
Robie Pierce, Sailing Director
Sarah Everhart, Program Director

Boats
Independence 20 (5)
Sonar (2)

Literature
1. Brochure about SAL
2. Flyer about Independence Square Foundation
3. Brochure on Handi-Move hoist & frame

Notes
Shake-a-Leg (SAL) was one of the first disabled sailing organizations to operate in the US. Founded by Harry Horgan in 1982, SAL is a large residential rehabilitation facility based at Newport, RI. The following statement, taken from a brochure about SAL (2), aptly summarises the philosophy of the organization.

During their rehabilitation, and periodically throughout their lives, physically challenged people need a place where they can build confidence, strengthen their bodies, have fun, grow, learn, benefit from group support, and discover the world of possibilities that life still holds for them.

Until 1998, SAL was housed at the Independence Square Foundation, an institution dedicated to providing first-class office, program training and meeting space for organizations that work with, or support persons with disabilities. SAL is now associated with Salve Regina University.
As expected in a town intimately associated with the New York Yacht Club\(^7\) and the America’s Cup, sailing is an important rehabilitation program of SAL. SAL claims to have pioneered sailing for people with disabilities (1986); however, it appears that the Lake Merritt Adapted Boating Program started earlier (1981). Nevertheless, the SAL program has become the model for disabled sailing throughout the US.

In the Summer of 1986, more than 600 adults and children with developmental and physical disabilities sailed with SAL for recreation, instruction and/or competition. Currently, the statistics are 300 per week.\(^8\) SAL hosts three 2-hour sessions daily. This amounts to more than 2000 hours of volunteer time per season. A weekly racing program is integrated into the local sailing club fleet. There is a very successful SAL disabled sailing facility in Miami Fl (See Appendices, p.47).

In 1996, Robie Pierce was chairman of the Sailors with Special Needs Committee of US Sailing. Robie and I spoke at length about the possibility of the NYYC and SAL hosting the World Disabled Sailing Championship at Newport. This possibility became reality in 1998.

**Boston Public Sailing (BPS)**

Piers Park Sailing Pavilion  
95 Marginal St.  
E. Boston MA 02128 USA  
Tel. +1 617 567 6400

**Date of Visit**  
10-14 September 1996

**Contact**  
Stephen Spinetto, Commissioner for Disabilities, City of Boston

**Boats**

Sonar (10)  
Martin 16

**Literature**

Brochure on Boston Public Sailing

**Notes**

Strictly speaking, Boston Public Sailing (BPS) is not a disabled sailing program. It is a public facility that is completely accessible to people with disabilities.

The program uses Sonars (See p.31), boats that are suitable for both disabled and able-bodied people. Wharf facilities are state-of-the-art. An innovative two-stage ramp enables access by wheelchair-users despite the large tidal variation at Boston.

It is unlikely that such excellent facilities could be developed outside the public arena. Usually, disabled sailing organizations are insufficiently well funded to afford state-of-the-art marinas, and clubs are insufficiently public-minded. For equity of access to the water, BPS is a world model.

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\(^7\) The administrative headquarters of the NYYC are in New York; the clubhouse is in Newport, RI.

\(^8\) Kate Jennings, an Australian, is currently Director of Sailing at SAL. When I first met Kate (on the Fellowship), she was a volunteer with SAL.
International Foundation for Disabled Sailing (IFDS)
(Ian Harrison, Chairman)
16 Church Rd.
Wanlip
Leicestershire LE7 4JP UK
Tel./Fax. +44 116 267 7138

Date of Visit
Various, September -October 1996

Contacts
Ian Harrison MBE
Pauline Harrison

Notes
The International Foundation for Disabled Sailing (IFDS) is the world governing body for the sport. A Dutch stichting (foundation), IFDS oversees the development of disabled sailing worldwide. It is a member of the International Paralympic Committee (IPC).

The President of IFDS is HRH Princess Cristina of Spain. The Chairman (Ian Harrison, see below) is based in the UK. Members of the executive are located in several countries. The secretariat is based in Holland but will soon move to England. Meetings of the executive are held at convenient locations around the world e.g. at the Atlanta 1996 Paralympics.

IFDS is primarily concerned with racing although it also encourages recreational sailing. The Foundation has a Technical Committee which oversees all technical aspects of the sport and produces the IFDS Race Management Manual. It also has a Medical Committee which oversees the classification of disabled sailors and produces the IFDS Functional Classification System. IFDS publishes World Disabled Sailor, an international newsletter edited by Pauline Harrison and me.

Ian Harrison is also Chairman of the Disabled Sailing Committee of the International Sailing Federation (ISAF), Vice-Chairman of RYA Sailability (the national disabled sailing organization in Britain) and Vice-chairman of the International 2.4mR Association.

Pauline and Ian are mines of knowledge and experience. On and off, I spent several weeks with the Harrisons – talking, visiting various centres and editing the second edition of World Disabled Sailor in which I was to publish much of what I learned on this Fellowship (Bibliography, p.46).

At my suggestion, Ian was appointed Technical Delegate to the Sydney 2000 Paralympic regatta. This proved to be a wise appointment: it ensured that the first (full medal) Paralympic sailing event was a great success.

Meeting with Ian and colleagues greatly assisted me in developing a role within IFDS. As a result, IFDS and Australia have benefited. I have held the following positions within IFDS

- Member, Executive
- Member, Technical Committee
- Member, Medical Committee
- Chairman, Trapseat Working Party
- (Co)Editor, World Disabled Sailor
RYA Sailability
Romsey Rd.
Eastleigh
Hampshire SO50 9YA  UK
Tel. + 44 1703 627 400  Fax. +44 1703 620 545

Date of Visit
Various, September -October 1996

Contact
Julian Mandiwall, Director

Boats
Challenger Trimaran
Sunbird
International 2.4mR
Sonar
Drascombe Lugger

Literature
1. Flyer about RYA Sailability.
2. *Turning the Tide in Sailing*  A large brochure about RYA Sailability.
3. *Keynotes*  A series of brief papers providing hints for those interested in assisting disabled sailors. The series was later incorporated into Harrison & Vardy (1996).
4. Constitution, RYA Sailability
5. *Guidance Notes, Sailing with Deaf and Hard of Hearing People*  A short brochure
6. *Guidance Notes, Sailing with VIPs (Visually Impaired people)*  A short brochure
7. Discussion Paper on Regional Development
8. *Some Notes on Special Needs Sailing*
10. *RYA Sailability*  Vision of the Future and summary business plan
11. *RYA Sailability News*  Several editions of this newsletter (Later replaced with Foghorn)
12. *Yearbook 1994-5*  RYA Seamanship Foundation

Notes
RYA Sailability is Britain’s national disabled sailing organization. It is the biggest in the world. RYA Sailability was formed in 1995 from the merger of the Seamanship Foundation of the Royal Yachting Association (RYA) and Sailability UK.

RYA Seamanship Foundation
The RYA Seamanship Foundation was formed in 1973 as a charity. Whatever its original purpose, the Foundation soon became involved in three principal projects:
- The Young Skippers Scheme,
- Sailing in all forms for visually impaired people (VIPs), and
- The Challenger (a trimaran, p.27)

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9 Julian is no longer Director of RYA Sailability. Many regret his early retirement.

10 RYA Sailability is a national organization. Its many members sail a great variety of craft.

11 The Disability Awareness Manual produced in Australia by Jackie Kay is more comprehensive than this.

12 The law in Australia prevents purely sporting bodies from becoming charities (perhaps because an administrative nightmare might result – a plethora of sporting charities). In Australia, tax-free donations to sport are made through the Australian Sports Foundation (ASF).
The Foundation’s third director was Bugs Hughes whom I was to meet in his capacity as director of the 1997 World Blind Sailing Championship. The fourth director was Julian Mandiwall who was appointed in late 1994 when Bugs retired due to ill health. I have had many long and fruitful discussions with Julian.

The financial base of the foundation was a series of endowments, voluntary contributions, bequests and covenants. The Guide Dogs Adventure Group made substantial contributions due to the Foundation’s involvement with the blind. Each year, RYA donated £2600, housed the Foundation, and met certain office costs - telephone, lighting heating and photocopying. The Sports Council made a grant through the RYA. The proceeds of collecting boxes, raffles and donations added to income.

The Foundation was managed by a Committee of eight, and supported by a large number of volunteers. The office was run by a staff of four/five. The 1994-5 Yearbook and Annual Report of the Seamanship Foundation (12) portrays the charity at its height.

Sailability (UK)
In 1986, to satisfy a growing demand for “club” activity, disabled sailors in Britain formed Sailability UK. Sailability aimed to promote integration within conventional sailing clubs. By 1994, Sailability had
- Established training and coaching programs;
- Organised cruising weekends on yachts at sea;
- Held a conference annually;
- Set up competition in Sunbirds, Challengers and International 2.4mRs (all single-person boats); and
- Managed international disabled competition on behalf of the RYA.

An all-volunteer “members’ organization,” Sailability was run by its elected officers. Hugh Campbell was the first commodore, and Ian Harrison was the first secretary.

Merger
In 1995, the Seamanship Foundation of the Royal Yachting Association merged with Sailability UK to form RYA Sailability. Following the merger, RYA increased its grant to RYA Sailability from £2600 to £8000.

The following office staff ran RYA Sailability in 1998.
- Director          Julian Mandiwall
- Assistant Director (with responsibility for events)  Debbie Brown
- PA to Director    Gill Bignall
- Development Director  Tim Feak
- Regional Development Manager  Angus Peel
- PA to Development Director  Linda Pragnell
- Event Administrator  Ann Skinner
- Technology Administrator  Joanna Mawby
- Book Keeper (part time)  Angie Carlton

The Committee of Management of RYA Sailability consists of
- Three members appointed by RYA Sailability,
- Three members elected, and
- Three members co-opted by the above six.

From among its members, the committee elects its chairman (currently Geoff Holt), vice-chairman (currently Ian Harrison) and treasurer.

RYA Sailability is a registered charity. The charity however is not incorporated. Under Australian law, non-incorporated status exposes employed staff and committee members to possible litigation. The law in Britain may be more protective of committee members than that in Australia; nevertheless, I feel that the national disabled sailing program in this country should either operate under the auspices of the Australian Yachting Federation or be an incorporated organization (See Structure, p.38)
In operation, RYA Sailability is a network of disabled sailing organizations. Some of these organizations use the name Sailability (e.g. Rutland Sailability which operates on Rutland Water in Leicestershire); others do not (e.g. The Fieldfare Trust which operates Sea Legs, an accessible 10m Prout Catamaran that undertakes voyages around the British Isles.

As one would expect, RYA Sailability does good work. The charity is, after all, very well funded and very well staffed. In recent years, it has produced some excellent resources.

- Research into the potential for disabled sailing in Britain
- RYA Sailability News
- Directory of Equipment and Service (Suresh et al. 1999)
- On-shore Facilities for Sailors – A design guide of facilities for disabled users (Heddle et al. 1998)

Despite its name, RYA Sailability remains independent of the Royal Yachting Association. Nevertheless, it retains an excellent working relationship with the RYA. Elite disabled sailing is managed by the Royal Yachting Association rather than RYA Sailability.

The Seamanship Foundation fostered the development of the Challenger (p.27), and the acquisition of these trimarans. Sailability UK fostered the use of the Sunbird (p.32). Since the merger of these two organizations, RYA Sailability has continued to support the use of the Challenger while encouraging the International 2.4mR (p.29) and Sonar (p.31). Australia’s Access dinghy (p.42), first introduced in concept by me at Rutland Sailability, continues to make inroads in Britain.

Because of its size and success, RYA Sailability serves as a model for every other national disabled sailing organization. With some qualifications, Sailability Australia should aspire to the status and success of RYA Sailability.

RYA Sailability mounted a display at the Southampton and Birmingham Boat Shows. Many of the design features of the British display were later incorporated into the Sailability Australia display.

The Ro-Ro Project
64 Hambledon Rd.
Waterlooville
Hampshire PO7 7UB UK
Tel./Fax. +44 1705 254 254
rorohq@aol.com

Date of Visit
24 September 1996

Contact
Mike Wood, Director

Boats
Verity K, a modified Countess 35

13 RYA Sailability News, a photocopied newsletter, has been replaced with Foghorn, a glossy, full colour magazine. Sailability Australia receives several copies of each edition of Foghorn.
Literature
1. The Ro-Ro Project, Wheelchair Accessible Yachts  A colour flyer on the Verity K
2. The Ro-Ro Sailing Project  A spiral-bound brochure on the Ro-Ro Project
3. The Shape of the Future
4. Tradewind Trans-World Expedition, the impossible dream

Notes
The Ro-Ro Project is an initiative of Mike and Jane Wood. Mike, a paraplegic, was dissatisfied with the number and type of sailing opportunities available in the UK for disabled people. He therefore started the Ro-Ro Sailing Project.

The Ro-Ro Project is a venture of the Thomas Morley Trust, a registered charity. It aims to provide “real sailing for people with any type of disability.” The Trust has an impressive list of Vice-Patrons (2).

Ro-Ro has planned a number of projects including
- The Verity K (1)
- A 10m wheelchair accessible catamaran (3),
- A scheme to sail around the world with disabled crew in a Marquise 56 catamaran (4).

To my knowledge, only the Verity K project of the above has been completed. The Verity K is a Countess Ro-Ro (roll on, roll off), a 35’ sloop rigged keelboat modified for wheelchair users.

I inspected the Verity K, and spoke at length with Mike Wood. The Verity K is the result of some innovative thinking. The concept should be reproduced worldwide to enable disabled people access to ocean cruising (c). See also p.32.

RYA Sailability and the Ro-Ro Project have similar aims. However, there seems to be a degree of friction between the two organizations (5). The lesson for Australia is to avoid such situations. This, I believe, can be achieved by Sailability Australia
- Fostering the development of any project which empowers the disabled, and
- Responding to criticism.

The Jubilee Sailing Trust (JST)
Jubilee Yard
Merlin Quay
Hazel Rd
Woolston
Southampton SO19 7GB  UK
Tel. +44 1703 449 108 (Trust office)
   +44 1703 449 138 (Voyage department)
Fax. +44 1703 449 145

Date of Visit
25 September 1996

Contact
Pippa Byrne

Ship
STS Lord Nelson
Literature
1. **Jubilee Sailing Trust** A colour brochure
2. **Tall Ship Sailing 1997** Application document
3. **Shorewatch, Shipbuilding Holidays with the Jubilee Sailing Trust** A brochure on building a square-rigger suitable for the disabled

Notes
The Jubilee Sailing trust was established in 1978 with a donation from the Queen Elizabeth Silver Jubilee Appeal Fund. The Trust seeks to promote the integration of able-bodied and physically disabled people through the medium of tall ship sailing. It achieves this by offering adventure sailing holidays on board the sail training ship (STS) **Lord Nelson**, a 490-ton steel-hulled three-masted barque (d).

The **STS Lord Nelson** is fully accessible for disabled people. Powered lifts move people between flat decks. A speaking compass is installed for blind helmspersons, and a bright-track radar is available for partly sighted crew. An induction loop and vibrator alarms are installed for hearing impaired participants. Cabins, toilets and showers are modified for wheelchair users.

Since her maiden voyage in October 1986, **STS Lord Nelson** has taken many thousands of people sailing on 4-11 day voyages around the British Isles, Northern Europe and the Canary Islands. Disabled people are matched with able-bodied partners (2).

The Jubilee Sailing Trust is building a second boat. Able-bodied and disabled people can participate in **Shorewatch**, a scheme to involve the public in the construction of a 65m wooden square-rigger (3).

Australia’s sail training ship is the **New Endeavour**, a centennial gift from the UK. The **New Endeavour** caters for some disabled people; however, it does not cater for wheelchair users. Sailability Australia should encourage those without severe disabilities to crew on board the **New Endeavour**. It should encourage those with severe disabilities to crew on board the **Lord Nelson**.

When it is time to replace the **New Endeavour**, Australia should think about the construction of a fully accessible square-rigger. Should the JST ever consider selling the **Lord Nelson**, Australia should consider buying it (possibly as a replacement for the **New Endeavour** which, perhaps, could be given to NZ).

The BT Global Challenge
Ocean Village
Platform Rd.
Southampton UK

Date of Visit
26 September 1996

Contact
James Hatfield MBE

Boats
Time&Tide

Literature
BT Global Challenge Training Manual, Parts 1 & 2 1996
Notes
The BT Global Challenge was a race around the world in 1996-7 by 14 identical 67’ steel yachts. Hailed as the World’s toughest yacht race, each boat logged over 30,000 miles against the prevailing winds and currents: Southampton to Rio de Janeiro to Wellington to Sydney to Cape Town to Boston to Southampton. One of the yachts, the *Time&Tide*, was raced by an all-disabled crew led by James Hatfield. (Cantacuzino, 1997) (e) (f).

I visited the *Time&Tide* in Southampton before the race. The experience helped place two Australians on board - Greg Hammond (Cape Town - Boston) and Grahme Rayner (Sydney - Cape Town - Boston - Southampton). Both participants have since contributed significantly to the Australian disabled sailing movement. Experience gained with the *Time&Tide* will contribute to Project 360, an Australian initiative (Appendices, p.48).

The 1996 World 2.4mR Championship
Cannes Yacht Club, France

Date of Visit
8 - 13 October 1996

Boats
International 2.4mR

Notes
The International 2.4mR is a deep displacement, single-person 14’ keelboat (See p.29). The 2.4 is now used in the Paralympics. In 1996 however, the International Paralympic Committee (IPC) was still to be convinced that the class should be included in the Paralympics. To increase the number of nations competing, I contested the 1996 World 2.4mR Championship (g).

In Cannes, I made many contacts with members of the International 2.4mR Class Association and had many fruitful conversations. The class was soon afterwards introduced to Australia, and Norlin Mark IIIIs were soon being manufactured here. See also *Sydney 2000 Paralympics*, p.40 and *APC*, p.40.
Craft

The most frequently asked question in the disabled sailing world is “What sort of boats do you sail?” The answer to this question is not easy. General answers are provided in the IFDS Sailing Manual (Harrison & Vardy, 1996): *Almost any craft will do provided it is:*

- **Reasonably stable**
- **Designed with a good-sized, uncluttered cockpit**
- **Sensible for the sailing conditions at the venue.**

Despite the above, it is clear that some boats are more suitable than others.

Several authors have attempted to review boats suitable for disabled people (McCurdy, 1991; Blundell, 1993; Belson, 1998). Following are descriptions of various classes assessed by me on this Fellowship and at other times. These descriptions may give some indication as to why Australia has chosen to adopt certain craft and not others (See Craft, p.41).

**Cal 20**

The Cal 20 is a 6.6m, 2/3-person, sloop-rigged keelboat designed by William Lapworth. Over 2000 Cal 20s were built in the USA and Canada by Jensen Ltd. and Bangor Punta Ltd. Production of Cal 20s ceased in the late 1970s.

By modern standards, the Cal 20 is heavy and slow. Recently, however, the class has undergone a revival: boats are purchased for about US$1000 and extensively refitted (cost: US$3000-4000) to produce a good tactical boat, easy to sail in all conditions but difficult to race at elite levels.

Sea Legs of Los Angeles (see p.9) modified the Cal 20 by replacing the top (deck-cockpit) with a new moulding that features an enlarged cockpit. The modified Cal 20 is called the Sea legs 20. The mainsail of the Sea Legs 20 is fully battened and easily (slab) reefed with a single control. Lazy jacks eliminate the need to flake the mainsail. The jib, on a roller reefing system, is self-tacking and can be trimmed from either windward or leeward. All controls are within easy reach; some of them are positioned bilaterally. Main sheeting is in two places off the high-set boom so that either the skipper or the for’ard hand can control the mainsail. “Oxen” mainsheet blocks are easily controlled: the sheet can be cleated and released with the flick of a wrist. The traveller is positioned over the tiller – out of the way aft (The rudder on the Cal 20 is hung from the transom; the tiller therefore takes up very little room in the cockpit).

Two swivel seats enable disabled sailors to change sides. Unlike those in the Independence 20, the seats are not counterweighted (this feature is thought to be dangerous). Rather, the seats are mounted on “special bearings” beneath the sole of the cockpit. The bearings appear free of the maintenance problems of those on the Independence 20. The foot of the jib, set on a boom, is placed well above the flat deck; it thus affords a clear view for’ard.

The Sea Legs 20 shows some intelligent design features. Modifying an existing class is highly cost effective. It avoids the stigma of a “crip boat” and permits disabled sailors to race against able-bodied sailors in local regattas. Many of the features of the Sea Legs 20 were incorporated into the design of the Salvo (p.42).
Challenger

Until recently, the Challenger has been the “unchallenged” entry-level boat for disabled sailors in the UK. Championed by the RYA Seamanship Foundation that held rights to the design, the Challenger class has grown to over 150 in number in the UK.

The Challenger is a single-person trimaran. It is fast, safe and stable. The sailor sits facing forward in a cockpit within the main hull. There is no need for the sailor to move his or her body weight about the boat which is steered with a joystick rather than a tiller.

The beams affixing the outriggers to the hull are set forward so that a disabled person can manoeuvre a wheelchair to a position immediately adjacent to the cockpit. This configuration makes it easy for
- A disabled sailor to transfer into the boat, and
- An able-bodied people to assist in transferring a disabled person.

The Challenger Mark I was cat-rigged; subsequent versions are sloop-rigged or “Aero-rigged” (See p.35). On the Mark I, the vang is replaced by a novel device which prevents the boom from lifting: the boom is extended forward of the unstayed mast; a line between the anterior end of the boom extension and a point half way up the mast is tensioned so as to tighten the leach of the sail. The mast and sail are therefore free to “weather-cock”(rotate through 360º). This facility enables a sailor to let go all sail in an emergency.

Trimarans are off-the-beach classes; they are not usually sailed from a wharf or pontoon. A disabled people usually transfers to the cockpit of a Challenger while it is on shore – secured on a trailer. Unless the trailer is low to the ground, the transfer from wheelchair to cockpit can be challenging. Rutland Sailability employs a crane fitted to a road trailer to facilitate transfers (See Rutland Lift, p.33). Once the disabled sailor is on board, the trailer and boat are lowered down a ramp until the Challenger floats free. The boat is then rotated (if necessary) and pushed off. It therefore requires a team of able-bodied people to enable a disabled person to sail a Challenger. All disabled sailing groups that use these craft may need a high volunteer-to-sailor ratio.

Until recently, all Challengers were the property of the RYA Seamanship Foundation (held in trust by organizations or collectives). Such an arrangement enabled disused boats to be moved to locations where they could be put into service. This policy however guaranteed that the Challenger Class Association would never become strong. Indeed, a member of staff at RYA Sailability is needed to organise events. This situation has relevance for Australia where most Access dinghies are owned by Sailability groups. The Challenger Association in the UK does not appear to be dominated by the manufacturer.

Despite their obvious disadvantages, trimarans are fast and exciting. Australia could benefit from the introduction of a simple trimaran as an introductory class. It remains to be seen whether that trimaran is the Challenger or some less expensive craft. See Access Dinghy, p.42.

Specifications (Mark II)

<table>
<thead>
<tr>
<th>Manufacturer: Anglo Marine Services Essex Ltd.</th>
<th>Manufacturer: Anglo Marine Services Essex Ltd.</th>
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<tr>
<td>L.O.A. 15’</td>
<td>Gorse Lane Industrial Estate</td>
</tr>
<tr>
<td>Beam 11’6”</td>
<td>Clacton-on-Sea</td>
</tr>
<tr>
<td>Sail Area 85sq. ft.</td>
<td>Essex CO15 4LT UK</td>
</tr>
<tr>
<td>Weight 260lb</td>
<td>Tel. +44 255 420 717</td>
</tr>
<tr>
<td>Construction GRP</td>
<td>Fax. +44 255 850 322</td>
</tr>
<tr>
<td>Floats are foam-filled</td>
<td></td>
</tr>
<tr>
<td>Designer: Roderick MacAlpine-Downie</td>
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</tbody>
</table>

14 The Access dinghy is now sailed in the UK. Assembled from locally manufactured hull & deck and imported rig & fittings, the dinghy enjoys a growing following.
Hobie Cat with Trapseat

Catamarans are fast and stable. For these reasons, many disabled people are attracted to them (despite the fact that cats are hard to tack and difficult to right after capsize).

The Hobie 16 is arguably the world’s most popular catamaran. Almost everyone has seen the brightly coloured sails of a Hobie powering two 5m-fibreglass hulls across a swell. And the craft lends itself to disabled sailing: asymmetric hulls eliminate the need for daggerboards (the Hobie can therefore be run up on a beach), and the frame of the raised trampoline permits the attachment of a trapseat, a hammock-like device that enables a disabled person to sit comfortably and safely on board (See p.34). Most Hobie trapseat sailing is undertaken by a disabled person who steers, and an able-bodied crew who handles both sails (h).

Trapseat sailing was conceived by Mike Strahl, a quad who regularly races Hobies on Whiskey Lake in Redding, California from where trapseat sailing spread along the West Coast of the US to Canada and beyond.

We have tried hard to establish trapseat sailing downunder. Australia hosted the 1995 South Pacific Trapseat Championship in Melbourne, and two international trapseat championships in Sydney (i)(j). Australia also established the IFDS Trapseat Working Party and drafted standard rules for use at national and international competitions. However, trapseat sailing has not taken on in this country. Disabled people find it difficult to rig a Hobie (the mast is tall) and to get on board (a wheelchair user must push over the sand of a beach, transfer onto the trampoline and wait while able-bodied people push the craft into the water).

Hobie trapseat sailing by disabled Australians should be fostered - but as a splinter activity of a well-established movement.

### Specifications
- LOA 5.05m
- Beam 2.41m
- Minimum weight 145.1kg
- Draft 25cm
- Mast length 8.08m
- Sail Area 20.25sq.m
- Hull material: GRP foam sandwich
- Max. load 363kg

### Manufacturer
- Hobie Cat
- PO Box 1008
- Oceanside CA 92051
- USA
- Fax. +1 619 758 1841

Independence 20

In the early 1980s, the founder of Shake-a-Leg (Harry Hogan; see Bernon, 1994) approached yacht designer Everett Pearson about a boat that could be sailed by paras and quads. Essential design parameters were stability, rig simplicity, and body support. Pearson, with the aid of his quad nephew, experimented with a variety of systems. Gary Mull, designer of the Freedom 28, 30 & 36, incorporated the ideas into the Freedom 20 that was launched in 1986. The boat, now called the Independence 20, is manufactured by Catalina Yachts in Woodland Hills, California.

The Independence 20 is a 6.1m sloop-rigged keelboat. At first glance, it appears to be a conventional daysailer with several attractive features:

- The cockpit is large;
- The rudder is suspended from the transom and thus the tiller takes up little room in the cockpit;
- The traveller is set aft (above the tiller) and does not divide the cockpit;
- The mainsail is sheeted from the boom rather than from the traveller;
- The mast is unstayed;
- The jib is self-tacking and self-furling; and
- Lazy-jacks facilitate mainsail flaking;

Only two swivel seats allude to disability. These seats, counterbalanced by weights below the cockpit sole,
pivot from one side to another. They enable paras and quads to change sides as the boat gybes or tacks (See Freedom Seat p.34).

Critics say that the Independence lacks performance and is overdesigned (it caters too much for disability). The small rig, large keel and weighted seats do not make for exciting sailing. Nevertheless, I found the Independence very easy to sail. I can certainly see why quads are attracted to it.

In recent years, few Independences have been built, and I know of none that have been exported to other nations. The popularity of the Independence may therefore be waning. Certainly, the Judd Goldmann Adaptive Sailing Program (p.15) has stopped adding Independences to its fleet. Instead, JDASF now adds Sonars.

The Independence may, or may not, become a success. Certainly, it has contributed to the design of boats for people with disabilities. If the Independence had not been built, other nations would have experimented with a similar concept. The international trend seems to be towards boats that can be sailed by disabled people but are not “disabled-specific.” Many of the features of the Independence were incorporated into the Salvo (p.42).

**International 2.4mR**

The 2.4 is a single-person, deep-displacement sloop of Scandinavian origin (k).

As a development class, the 2.4 is built to a formula that resolves to 2.4 metres (See Specifications below). As a result, there are numerous versions of the 2.4 e.g. Norlin (Sweden), Howlett (UK), Olsen (Denmark), Eide (Norway) and Södergren (Sweden). Of these, the Norlin Mark III is the most competitive, and the most numerous.

In the 2.4, lines that control the sophisticated sail-plan are led into the deep cockpit where the skipper reclines facing fore-aft, with most of the body below the waterline, and just the head protruding above the deck. The boat is steered by moving:

- A joy-stick located in front of the skipper,
- Handles attached to rods on either side of the cockpit, or
- Foot pedals.

At first, the steering on a 2.4 seems rather odd compared with that on a conventional boat. However, the novice soon gets used to it. Also, the hull appears to heel quite alarmingly and take water readily. However, 165kg of lead in the keel ensures stability; high flotation standards guarantee buoyancy, and an on-board pump deals with water intake, which is considerable (2.4s are very wet boats). The fixed keel of the 2.4 demands the use of hardstand and cranes.

The 2.4 is the only class of significant international standing in which the disabled are competitive against the able-bodied. That competitiveness, however, is reduced to some degree for the very disabled in rough weather.

The 2.4 is recognised by the International Sailing Federation (ISAF) and was the single-handed craft for the 2000 Paralympics. Recently, recommendations were made concerning the 2.4 as an Olympic class. Such status would enable the able-bodied and the disabled to compete against each other at the highest level of competition. However, it would also force the very disabled from elite competition.

International 2.4mRs are now manufactured in Australia, and Australians are among the World’s top disabled sailors in the class.
Specifications
Norlin Mark III
Length (overall) 4.182m (waterline) 2.978m
Beam 0.720m
Draft 1.000m
Displacement 255kg
Sail area (rated) 6.965m²

Manufacturers
Vene-Björndahl
Vasarakuja 6
67100 Kokkola
Finland
Tel. & Fax. +358 (0) 6-831 7950

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8 Ballarat St.
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Formula
\[
L + 2D - FS^2 = 2.4 \text{ metres} \\
\text{2.37}
\]

(L = length, F = freeboard, D = girth, S = sail area)

Martin 16
Before 1994, there were few boats that a severely disabled person could sail independently without significant compromise. The Disabled Sailing Association of British Columbia in Canada (p.12) therefore initiated the High Quad Boat Project (I).

The aim of the project was to design a safe modern sailboat that took into account the needs of severely disabled people. Key design criteria were safety, stability, ergonomic seating and power assistance. At the same time, the result had to be attractive to the best able-bodied sailors. It was envisioned that fleets around the world would be integrated and allow everyone to sail as equals. The result was the Martin 16.

The Martin 16 is a GRP sloop-rigged keelboat for one or two people. Nearly five metres in length, the hull is narrow and easily driven. A lead-filled pod at the tip of a deep, high-performance lifting keel confers stability. A high freeboard ensures that the deep, low-volume cockpit remains dry.

The helmsperson sits low in the cockpit; the forward-facing seat is adjustable and ergonomically designed. An instructor or companion may sit behind the helmsperson. Sheets for mainsail and self-tacking jib are led to a double cleat, directly in front of the helmsperson who may therefore control both sails with one hand. Steering is by a joystick connected to lines that move the tiller of a transom-mounted rudder. For further details, see www.axionet.com/Martin_Yachts/martin1

Significantly, the Martin 16 has been designed so that steering and sheeting can be servo-assisted. For further details, see www.inventmgmnt.ab.ca/sipandpuff

The Martin 16 is an excellent boat. It is easier to sail than a 2.4 and is certainly more comfortable. The retractable keel enables the boat to be launched from a trailer. This means that Martin 16s can be sailed from boat ramps and do not need complex infrastructure such as hardstand and crane.

At C$16,000 however (1996 price), the Martin 16 is expensive. In Australia, one could purchase several Access 303s for the price of one Martin 16 in Canada. This price differential is reflected in different approaches to those who fund the acquisition of boats. DSABC acquires a Martin 16 by soliciting C$25,000 from a firm (after significant “schmoozing”¹⁵) on the promise of providing exposure. Sailability in Australia acquires an Access dinghy by approaching a service club (usually Rotary) and asking for a gift. As a result, there are many hundreds of Access dinghies in Australia. It is unlikely therefore that the Martin 16 will take off in this country.

¹⁵ Schmoozing is a term used by Sam Sullivan, founder of DSABC. It implies a degree of sycophancy affected to solicit donations.
The Martin 16 fits in a niche between the Access 303 and the International 2.4mR. If the International 2.4mR becomes an Olympic class, I can imagine that IFDS would consider the Martin 16, or possibly the Access 303, as a Paralympic class.

**Specifications**
- LOA 4.9m
- Beam 1.21m
- Total weight 318kg
- Draft - keel up 400mm
  - keel down 1.0m
- Mast length 6.15m
- Sail Area 9.5m²
- Ballast 150kg

**Manufacturer**
- Martin Yachts Ltd.
  - 302, 2350 – W 1st Av.
  - Vancouver
  - British Columbia V6K 1G2
  - Canada
  - Tel. +1 604 731 7338
  - Fax. +1 604 733 6050
  - Email: salvey@arclite.co
  - Web: www.canyacht.com/reviews

**Sonar**
The Sonar is a 23’ keelboat of American origin. Designed by Canadian naval architect Bruce Kirby (who designed the Laser, an Olympic class), the Sonar is a three/four person, one-design club racer/day sailer (m).

The Sonar is wide and heavily ballasted. These factors make it stable and eliminate the need for hiking. The cockpit is large and uncluttered despite the fact that it is divided in two by the traveller. The cockpit is also flanked on either side by wide (17”) moulded seats with high sloping backs. The base of the seating slopes out 15° thus ensuring stability for paraplegic crew when the boat heels.

The Sonar is fractionally rigged; for its size, it has a relatively large main sail and a small jib. The mast is set atop the keel and can be chocked with positioning blocks on the top of the cabin. Backstay tension can be controlled from mid-cockpit (either side). The mainsheet can be trimmed from either forward or aft of the traveller. Jib sheets come back to small winches mounted on the cabin top. The tiller is vertically hinged.

The Sonar was used in the demonstration sailing event in the 1996 Paralympics and the full medal sailing event in the 2000 Paralympics. It will be used in World disabled sailing championships and Paralympic regattas until, at soonest, the end of 2004.

Skip Shumway holds international rights to manufacture the Sonar. Some time ago, we sought the right to manufacture the Sonar in Australia. The plan was that various nations would purchase Australian-made boats, and would contest the Paralympic regatta in them. We thought that the low Australian dollar would make this scheme attractive. However, we failed to convince Skip that sufficient boats would be sold to warrant Australian manufacture. This setback was a blessing in disguise – it led to the design and manufacture of the Salvo (p.31).
Sunbird

The Sunbird is a 12’ single-person sloop of British origin. Although designed for use by able-bodied people, the Sunbird has been sailed widely by disabled people in Britain where the boat’s retractable keel, forward-facing seat and joystick-steering appeal to those with limited mobility.

When first released, the Sunbird was revolutionary. Now, however, the boat is somewhat dated in design. In Britain, the Sunbird has given way to the International 2.4mR, and in Canada, the Sunbird has given way to the Martin 16. Nevertheless, the influence of the Sunbird can be seen in the design of the Martin 16.

Others

Almost any boat in excess of 30’ can be modified to accommodate disabled sailors. The Verity K, a modified Countess 35 of the Ro-Ro Project in the UK, shows some intelligent adaptations: inmast roller reefing, wheelchair access to cockpit from dock, lift to saloon, wheelchair access to controls and all features below deck. See also The Ro-Ro Project, p.22.

Various other smaller craft were examined and sailed e.g. Seafly, Minije, Olsen Twin, U20, Squib, Windrider, Illusion and Folkboat. Each of these craft has its merits; however, those merits are insufficient to justify their inclusion here. Files are kept on these craft.
Innovations

The following are innovations observed on the Fellowship. Interested readers are referred to an excellent directory of equipment and services published by RYA Sailability (Suresh et al. 1999), and to a brief overview of design innovations by McCurdy (1991).

Getting on board
For the disabled, one of the biggest deterrents to sailing is getting on and off a boat. Some disabled sailing organizations (e.g. DSABC, Vancouver) use gantries to lift people on board. Others use a miscellany of devices such as the following to facilitate transfer from wheelchair to craft.

Transfer Boxes
Footloose Box
The Footloose box (my phrase) is a stable cuboid of marine ply used to facilitate transfer from wheelchair to boat. The length and width of a Footloose box varies; the height is 60-90% of that of a wheelchair seat. Paraplegic sailors transfer from wheelchair to box, and then slide along a board extending from box to boat.

Transfer boxes are in use at many disabled sailing venues in the US. The boxes at Shake-a-Leg Newport feature a handrail. I coined the term “Footloose box” because I first saw this type of transfer aid at Footloose, Seattle. Similar boxes were designed and built for the Sydney Paralympic Organising Committee for the 2000 Paralympic regatta.

Challenger/Sunbird Transfer Board
In Britain, Chris Face has designed platforms to facilitate transfer from wheelchair to Challenger and Sunbird. One end of the platform affixes to the edge of the cockpit of the boat; the other end is supported by legs.

Hoists
Pool Lifts
Shake-a-Leg Newport uses the Handi-Move hydraulic poolside hoist and the Handi-Move frame with leg supports (Surehands International) to transfer disabled people into boats (a). Rutland Sailability uses the Oxford Poolside Dipper Hoist (Sunrise Medical). Both hoists are good; the Handi-Move frame is excellent.

Surehands International
982 Route 1
Pine Island NY 10969
Tel. 800 724 5305
Fax. 914 258 6634

Sunrise Medical Ltd.
High St.
Wollaston
West Midlands DY8 4PS UK
www.sunrisemedical.com

Rutland Lift
The Rutland Lift (my phrase) is worthy of mention. It consists of a crane mounted on a trailer otherwise used to transport Challenger catamarans. At Rutland Sailability, the crane is used as a mobile hoist at Rutland. It can be disassembled, stored under a Challenger, and transported to a distant venue for reassembly. Elegant lateral thinking. See also Sea Legs Adaptive Sailing Program, p.11.

Mobile Access Ramps
When a keelboat is out of the water (on a dolly or trailer), the deck of the boat is often above the head of a wheelchair-user. This makes it impossible for a paraplegic to carry out maintenance or to transfer into the boat prior to launching.
The Disabled Sailing Association of British Columbia has overcome this difficulty with mobile access ramps (MARs). Essentially, a MAR is a raised platform that can be accessed by ramp. A wheelchair-user pushes him/herself up the ramp and on to the platform. From the platform, a simple side transfer permits access to the deck of a boat. Wheels at one end of the MAR allow it to be easily relocated.

Seating

For severely disabled people, seating is important. Indeed, seating clinics are part of most spinal rehabilitation centres. Seating is particularly important for disabled sailors who cannot use their legs to counteract the pitch and roll of a boat. It is even more important in medium-sized craft where sailors must change sides when a boat tacks (on a small boat, a disabled sailor sits in the middle, facing forward). Several seats are available to secure disabled sailors on board medium-sized boats.

Freedom Seat

Freedom Inc. tackled the problems of stability and mobility for disabled sailors by designing a counter-weighted, swivelling seat for the Independence 20. The seat, moulded in plastic with a sloping back, is attached to one end of an S-shaped length of metal tubing. A heavy counterweight is attached to the other end of the tubing. The vertical mid-piece of the S-shaped tubing passes through a bearing set in the sole of the cockpit. The counterweight and the bearing permit a disabled sailor to swing (in the seat) from one side of the boat to the other. At the end of its arc of travel, each seat locks into position.

Opinion is divided about the efficacy of swivel seats. Some sailors say that the seats are greatly empowering; others said that if one were not disabled before using the seats, one would surely be disabled afterwards (limbs and digits can become caught between stationary and moving parts)! Another criticism is the maintenance required on the swivel seat bearings. On the two Independences owned by BAADS, the swivel seats have been removed.

Kaufmann Drop-in Seat

The Kaufman Drop-in Seat resembles a cradle designed to adult proportions. Moulded in fibreglass, the seat is supported on a short vertical aluminium post whose lower end fits into a bush set in a removable thwart. The seat pivots on the post. Bags of lead shot, added to the foot-well of the cradle, counterbalance the weight of a disabled sailor sitting in the seat. Velcro straps secure the sailor in the seat; tethers secure the seat in desired position.

Trapseat

A trapseat is a sling suspended in a tubular aluminium frame that attaches to the trampoline of a Hobie Cat. A disabled sailor steers the catamaran while reclined in the trapseat. If necessary, the crew handles both jib and mainsheet.

Trapseats were conceived by Mike Strahle, a quadriplegic who regularly races Hobies on Whiskey Lake in Redding California. The original Strahl seat called for struts to be attached to the hull. Australia experimented with trapseats supported by a wire attached to the hounds on the mast. The wire, however, was thought to be dangerous in the event of a capsize. Current designs are standardised - the trapseat is attached to the trampoline of the Hobie without struts or wires:

Mike Strahl
2551 Park Marina Drive #14
Reding CA 96001 USA
Tel. +1 530 243 7719
Fax. +1 530 243 1871
Facilitating operations on board

*Easy-Winch*

A winch is a boon to any sailor, able-bodied or disabled. Winches however sometimes present difficulties for a disabled person because their operation may require considerable strength.

The Easy-Winch is a torque converter that fits into the handle socket of any top-acting winch and reduces the effort required to “grind” the winch. Manual and electric-powered Easy-Winches are sold (q).

**JP Designs**
The Round House
Burgh, Woodbridge
Suffolk IP13 6SU UK
Tel. +44 1473 738 293

*Setamar Winches*

Many disabled sailors are not strong enough to use a conventional winch. Some have only one hand available for grinding because they must use the other to stabilise themselves. Others find it difficult to turn a winch handle at arm’s length. The Setamar range of winches however, overcomes many of these problems (q).

Setamar’s ST-R winches are single and two-speed, forward and reverse winding, and self-tailing. Each requires less than one turn of the rope to operate; the winch has no drum.

The winch permits continuous, precise adjustment of lines in and out. Halyards can be cleanly and easily released under heavy loads by people with weak hands. Sheets may be cleated or released when the crew is some distance away. One does not have to remove the handle to wrap sheets around a drum or remove them. This saves time. And because loose lines coil less, they tangle infrequently.

The Setamar winch handle can be operated conventionally or in ratchet mode (forward or reverse). This means that one does not have to move the handle through an arc at arm’s length.

**Setamar Yachttechnik GmbH**
Kronskamp 99
D’22880 Wedel (Hamburg)
Germany
Tel. +49 4103 918 681
Fax. +49 4103 918 683

*AeroRig®*

AeroRig is a frame, consisting of an unstayed mast and boom, to which a mainsail is attached. To set the sail to the wind, the boom is not moved relative to the mast; rather, the frame (mast and fixed boom) is rotated about the vertical axis. The arrangement allows the sail to be weathercocked – set so that the leech of the sail is directly downwind from the mast regardless of the orientation of the boat to the wind. Weathercocking permits the mainsheet to be released, and all wind to be spilled from the sail regardless of the direction from which it blows. This facility increases safety for a disabled sailor.

The Challenger trimaran can be ordered with AeroRig as a standard feature. A jib can be added by extending the boom forward.

**Spinlock Tiller Extension**

The Spinlock tiller extension (Product code CJ/E) consists of a ring attached to a shaft whose length can be varied at the press of a button. The extension enables those with poor hand grip (*e.g.* quads) to manoeuvre the tiller; it also enables those with limited movement to steer within their effective range of movement.
Staying dry
Coveralls
On the cold waters around Vancouver, the Disabled Sailing Association of British Columbia sails Sunbirds and Martin 16s. To keep sailors dry, DSABC has developed waterproof neoprene “coveralls.”

The coveralls enclose a disabled sailor (including clothes and footwear) from chest to toe. Full-length zippers down each leg enable the coveralls to be opened wide. With the DSABC coveralls, a sailor with paralysed lower extremities does not need to struggle into a close fitting garment; rather he/she transfers onto the open garment and then closes the zips.

The neoprene of the coveralls is relatively thick (similar to wet-suit material). It is therefore warm and protective. One size fits all.

Facilitating Operations on Shore
Mr Shifta Caravan Mover
It is difficult for disabled people to manoeuvre boat trailers on land. Often the surface is rough and the gradient is steep. Shifta in the UK has developed a battery-powered device that greatly facilitates the manual manoeuvring of caravans into and out of tight places. The device, Mr Shifta Caravan Mover, can move boat trailers. It can be operated by wheelchair users.

Shifta Products Ltd.
103 Oakleys Rd.
Long Eaton
Nottinghamshire NG10 1FH UK
Disabled sailing started spontaneously at various locations around the world. At these locations, pioneers in disabled sailing did not apply a formula; rather, they simply started sailing as they thought best. As a result, several different formats and organisational structures developed. Each of these formats and structures has advantages and disadvantages.

One of the aims of this Fellowship was to study the above advantages and disadvantages with a view to recommending a format and organisational structure for Australia. Since this Fellowship was taken, disabled sailing in Australia has grown in a way that embraces many of the advantageous and avoids many of the disadvantages of overseas programs. More importantly however, it has grown as a result of embracing new formats and structures. The result is something to be proud of (See Introduction, p.5).

In this section, the format of disabled sailing overseas is outlined, integration is discussed, and structure of local and national disabled sailing programs is described. Analysis occurs, and recommendations are made.

**Format**

For disabled sailing, some nations prefer small single-person boats and other nations prefer medium-sized multi-person boats. The single person format is preferred by the Canadians with their Sunbirds and Martin 16s, and to some degree by the British with their Sunbirds and Challengers. The multi-person format is preferred by the Americans with their Independences, Cal 20s and the like (DSASC, BAADS, Footloose, JGASP, CRAB, Shake-a-Leg etc.)

Each of the above formats has its merits and detractions. Single-person boats are relatively inexpensive and require little infrastructure; they also empower the individual and provide isolational recreation. Multi-person boats permit group interaction and extended voyages; they also facilitate training. People who argue that one format is better than the other are driven less by reason and more by tradition and philosophy. In reality, of course, both formats are necessary and desirable.

In this country, disabled people have enthusiastically embraced the Access dinghy (p.42). Australia may therefore appear to be following the Canadian/British model; however, this is not the case. The growth of the Access dinghy class in Australia has been spontaneous: disabled Australians sail Access dinghies because these little boats are readily available, inexpensive, easily transportable and simple. The two-seater version of the Access dinghy also permits instruction.

Australians have set a new trend with the Access dinghy which is now being exported to several countries overseas. However, disabled Aussies are also beginning to embrace medium-sized multi-person keelboats e.g. the Salvo. The ideal format for a national disabled sailing movement perhaps is to embrace both formats: first, small boats; and then, medium-sized boats. In this regard, Australia is on track.

The above comments do not refer to elite competition. The Sonar, a three-person keelboat, is sailed in the Paralympics and at World Disabled Championships; however, few countries (the US and UK are exceptions) sail Sonars for recreation and club competition. The International 2.4mR, a single-person keelboat, is also sailed in the Paralympics and at World Disabled Championships; however, only Scandinavia sails 2.4s for recreation and club competition (The 2.4 in Sweden is as to the Martin 16 in Canada).

**Integration**

There is significant international debate about integration. Some say that the disabled should sail with the disabled. Others disagree. The non-integration view is, at least to some degree, inadvertently reinforced by IFDS. The racing rules of that body ensure that the disabled race against the disabled; indeed, the rules demand an equivalent degree of disability between competing crews. The integration view is, at least to some degree, reinforced by Blind Sailing International (BSI) and the IFDS Trapseat Working Party, both of which...
require disabled sailors to sail with able-bodied crews (integrated crew against integrated crew).

Proponents of single-person keelboats say that in Martin 16s and International 2.4mRs, the disabled can race against the able-bodied with equal opportunity. However, the evidence does not support this view. Other factors being equal, an able-bodied sailor performs better in open competition than a disabled person. Only once has a disabled person won an (open) World 2.4mR Championship.\(^\text{16}\) Clearly therefore, there will always be a strong need for an event at which disabled people can fairly compete against each other. In this regard, the role of IFDS in Paralympic Regattas and World Championships is to be applauded.

At the recreational level, most disabled sailing programs involve both able-bodied and disabled people. Integration, therefore, seems relatively easy. But all is not as it seems. Generally, integration is the result of able-bodied people joining disabled sailing programs. Rarely, integration is the result of disabled people joining able-bodied programs. Most yacht clubs do not embrace disabled sailors. The reason for this may be the cost of making clubhouses accessible. Sadly therefore; the need for disabled-specific programs remains strong.

**Structure**

**Local**

At the local level, there seem to be four structures that facilitate sailing for disabled people. These structures form a spectrum of inclusion with reference to the traditional yacht/sailing club – from independence to complete integration.

1. Disabled programs independent of a traditional yacht club.
2. Disabled programs appended to (affiliated with) a club.
3. Disabled programs within a club.
4. Activity by disabled people within a club.

Most of North American programs are independent of traditional yacht clubs (1. above). Rather, they are associated with community sailing centres, commercial ventures or the like:

<table>
<thead>
<tr>
<th>Program</th>
<th>Affiliate</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSCSC</td>
<td>US Sailing Centre, Long Beach</td>
</tr>
<tr>
<td>Sea Legs</td>
<td>Port o’Call (a private business), San Pedro</td>
</tr>
<tr>
<td>BAADS</td>
<td>South Beach Harbour (a marina) (and South Beach Yacht Club), San Pedro</td>
</tr>
<tr>
<td>DSABC</td>
<td>Jericho Sailing Centre, Vancouver</td>
</tr>
<tr>
<td>Footloose</td>
<td>Leschi Marina, Vancouver</td>
</tr>
<tr>
<td>JGASP</td>
<td>Burnham Harbour (Chicago Parks District) and Goldman Inc. (a private business)</td>
</tr>
<tr>
<td>CRAB</td>
<td>Sandy Point State Park, Annapolis</td>
</tr>
</tbody>
</table>

In the US and Canada, I saw no programs that were totally integrated within a club.\(^\text{1}\) By this statement, I do not mean to imply that sailing clubs in these countries do not facilitate disabled sailing. Rather, I mean only that I did not see any. I know, for instance, that the St. Petersburg Yacht Club in Florida has an active disabled sailing program. Nevertheless, given the list above, it seems that disabled sailing in North America is generally facilitated outside the club system. One reason for this may be that the club system is less strong in the US. Another may be that the US lacks a strong central administration for sailing. By this, I do not mean to imply that the governing body, US Sailing, is weak. Rather, I mean only that in the US, a federation, Americans prefer not to centralise power. As a result the funding of federal bodies is often limited.

I’m less familiar with disabled sailing at the local level in Britain. Nevertheless, my impression is that most disabled sailing facilities are integrated within (3. above) clubs. One reason for this may be that the club

\(^{16}\) Sweden’s Carl-Gustaf Fresk has Friederich’s Ataxia. Gustaf won the 1995 World 2.4mR Championship in Aahus, Denmark.
system is strong in the UK. Another (possibly a consequence of it) is that the governing body for sailing in the UK (the Royal Yachting Association) is strong.

Australia is a federation like the USA, but it has inherited its system of yachting administration from the UK. The Australian club system is therefore strong, but the primary loyalty of most sailors is to their state Yachting Association. To some degree, it was predictable therefore that disabled sailing in this country would

- Start within the club system;
- Move outside the system to grow, and then
- Re-establish itself within the system.

Disabled sailing at the local level in Australia is generally appended to (affiliated with) a club (2. above). In this regard, it sits between the US system (1. above) and the UK system (3. above). Given the success of the Australian disabled sailing movement (See Introduction, p2), the structure of disabled sailing at the local level in Australia should, perhaps, stay as it is.

**National**

In the US, the administration of disabled sailing at the national level is undertaken by the Committee for Sailors with Special Needs. That body is a committee of US Sailing, the governing body for sailing in the US. At one stage, the National Ocean Access Program (NOAP) undertook a national role. Unfortunately, NOAP ceased to exist when its source of funding (private patronage) stopped. The American approach to national coordination of disabled sailing is therefore minimalist. As a result, the number of classes sailed by disabled people in the US has increased resulting in a diluted national standard of competition. This is despite the fact that the Sonar, a Paralympic class (See p.31), is manufactured in North America. Another result is that the 2.4mR class remains weak.

In the UK, the administration of disabled sailing at the national level is undertaken by RYA Sailability, a registered charity. Despite its name, RYA Sailability is independent of the Royal Yachting Association (See p.20).

The approach to the national coordination of disabled sailing in Britain is anything but minimalist. As a result, RYA is a massive organization that draws criticism because it is seen to be top heavy and detached from grass roots sailing. Nevertheless, the UK has done more than any other nation to foster sailing for disabled people.

RYA Sailability acts more like a conglomeration of autonomous units than a unified whole with multiple branches. Membership of RYA Sailability is open to anyone interested in disabled sailing. Membership is not open to “affiliated organizations”. There are no membership fees. RYA Sailability therefore represents a miscellany of individuals rather than a defined number of branches or autonomous disabled sailing organizations. This structure, I feel, leaves the organization vulnerable to pressure groups.

In Australia, the administration of disabled sailing at the national level is undertaken by Sailability Australia, a committee of the Australian Yachting Federation (AYF). The administration of disabled sailing at the state level is undertaken by state Sailability organizations, each of which is an independent incorporated association. The administration of disabled sailing in Australia therefore resembles that in the US: a committee at national level and incorporated association at state/local level. Recently however, moves have been made to make the Australian system more like the British i.e. to incorporate Sailability Australia. I support such moves, but only if an independent incorporated Sailability Australia can generate sufficient funds to be viable. If it cannot, I fear that independence for Sailability Australia may be a retrograde step.

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17 The administration of elite disabled sailing in Australia is undertaken by the AYF. This situation is not unlike that in the UK. Given the success of Australians in recent Paralympic and World Championship regattas, there is nothing to be gained in changing this arrangement.
Outcomes

There have been numerous outcomes from this Fellowship – all of them good. Some outcomes can be directly linked to the Fellowship; others can be linked only indirectly. But whatever the outcome, this Fellowship has contributed significantly to the development of the Australian disabled sailing movement (See Introduction, p.5); and it has done so during the period leading up to the 2000 Paralympics, the first to feature sailing as a full medal sport.18

Following are the major outcomes of the Fellowship. Minor outcomes are included in Centres Visited.

Book
This Winston Churchill Fellowship report is the basis of Sailing for the Disabled, a monograph that I am writing. The monograph will be published and distributed internationally by Human Kinetics, Champaign, IL, USA.

Handbook of Design
Features observed on the Fellowship were incorporated into the design of the Olympic Sailing Shore Base (OSSB) at Rushcutters Bay, Sydney (r). Completed in 1998, and tested at the 1998 and 1999 Sydney Olympic Regattas, OSSB is considered to be a world class disabled sailing facility. It was used for the Paralympic regatta in 2000 and, it is hoped, will remain as an Olympic legacy to Australian Sailing. OSSB provides the only suitable access to Sydney Harbour for disabled sailors.

A document written by me to facilitate the design of the OSSB has been copied and widely circulated as a de facto planning aid for yacht clubs, harbour authorities, city councils and government departments. The copying and use of this document prompted me to approach Standards Australia about developing an appropriate standard for the design of facilities to allow the disabled to cross the land-water interface. Standards Australian suggested that a handbook be written. The worldwide distribution of such a handbook (Vardy, in prep.) is being negotiated through IFDS and ISAF. The OSSB planning document also forms the basis of the IFDS Recommendations for the design of future Olympic marinas (Vardy & Harrison, in prep.).

Sydney 2000 Paralympics
As a result of the Atlanta experience, I have been able to advise SOCOG and SPOC on staffing, volunteers, equipment and scheduling for the 2000 Paralympic regatta. While much of this information was formally provided by the IFDS Technical Delegate to the 2000 Paralympics (Ian Harrison, UK), SOCOG has been grateful to have access to an Australian with at least some instant answers.

APC
In Atlanta, I observed preparations and performance at the elite level of disabled sailing. I was later able to assist in the formation of the Sailing Advisory Committee (SAC) of the Australian Paralympic Committee (APC). SAC, now a committee of the AYF, has overseen the development of elite disabled sailing in Australia. It led, directly and indirectly, to Australia taking Gold in the three-person keelboat event at the Sydney 2000 Paralympics.

Sailability Australia
Knowledge gained on the Fellowship greatly assisted me in my role as National Coordinator of Sailability Australia, the national disabled sailing program. As a result, the program grew, and many disabled Australians were able to enjoy freedom on the water (See also Introduction, p.5).

18 Sailing was a demonstration sport at the 1996 Paralympics in Atlanta.
Craft

Australia is in the fortunate position of having developed a disabled sailing movement after several other countries had experimented with the concept. Australia therefore has been able to

- Avoid craft that are less than suitable;
- Develop craft that are very suitable; and
- Prevent a proliferation of classes.  

Prior to this Fellowship, disabled sailors had experimented in Australia with the following classes.

- Access 2.3
- Illusion
- Folkboat
- Hobie 16 with trapseat
- J24
- Lexcen
- Sunbird
- Topper
- Yngling, and
- A miscellany of other (mostly larger) craft

Prior to this Fellowship, disabled Australians had experimented overseas with the following classes

- Challenger Trimaran
- Hobie 16 with trapseat
- International 2.4mR
- Olsen Twin
- Sonar
- Squib

Since the Fellowship (but not necessarily because of it), Sailability Australia has endorsed the following classes, which, it would appear, constitute a successful formula.

**Entry-level**

- **Access 2.3 dinghy** - a 7’ one/two-person cat-rigged pram with weighted centreboard and joystick steering (p).

**Intermediate level**

- **Access 303 dinghy** - a 9’ two/one-person sloop (sensu stricto a schooner) with weighted centreboard and joystick steering.

- **Salvo** - a 24’ three-seven person sloop-rigged keelboat (See below).

**Advanced level**

- **International 2.4mR** - a 14’ single-person sloop-rigged keelboat (a Paralympic Class, see Craft p.28)

- **Sonar** - a 23’ three/four-person keelboat (a Paralympic Class; see Craft p.30)

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19 Proliferation is a problem: not every class reaches critical mass, and as a result, a low(er) standard of competition results.

α Denis Critchley, John Woodward and PV at the 1994 World Disabled Sailing Championship, Rutland, UK.

β Mick O’Connor at a 1993 Trapseat Championship in Redding California USA

χ Jamie Dunross & PV at the 1995 World 2.4mR Championship, Aarhus, Denmark.

δ Denis Critchley, John Woodward and PV at the 1996 Pre-Paralympic regatta, St. Petersburg, Florida, USA.
**Access Dinghy**

On this Fellowship and at other times, I extolled the virtues of Australia’s Access dinghy. My actions led directly to the introduction of the class to the UK in 1997-8 (Sailability Rutland), and indirectly to the US in 1999-2000 (Shake-a-Leg, Miami). During my travels, I became (even more) convinced that

- The Access dinghy is an ideal introductory boat for disabled people, and
- Australia was fully justified in embracing it as an introductory class.

At the time of writing, I feel that Australia (and the rest of the World) would benefit if the Access dinghy had a major competitor. I do not mean to challenge the concept of ultrasimple sailing craft. Indeed, I believe that such craft will empower some hundreds of thousands of disabled people, and will make a significant contribution to this sport. Rather, I mean that Access Dinghy Sailing Systems cease to be the sole manufacturer of ultrasimple sailing craft suitable for the disabled. I hold this opinion because I feel that ADSS and its associated Access Foundation will, if unchallenged, come to dominate any national disabled sailing movement that embraces the class.

At this time, I also feel that entry level sailing for people with disabilities would benefit from an alternative to the ultrasimple dinghy. There is, for example, great fun to be had in a single-person trimaran – nothing as complex and expensive as the Challenger but rather, a simple off-the-beach trimaran like the build-yourself trimaran available in kit form from:

**Duck Flat Wooden Boats**
230 Flinders St
Adelaide SA
Tel. +61 8 8232 2344
Fax. +61 8 8232 2477

**Hobie 16**

On this Fellowship, I also became convinced that Australia should continue its experimentation with the Hobie 16 with trapseat. Accordingly, upon my return to Australia, I established the IFDS Trapseat Working Party and chaired the committee hosting of the 1996 and 1997 International Trapseat Championships at Pittwater NSW. We hoped to introduce the Hobie with trapseat as a Paralympic class. In this endeavour, however, we were unsuccessful. Indeed, trapseat sailing has failed to thrive in this country and overseas. Time will tell if our efforts to develop the class were premature, or wishful.

**International 2.4mR**

The 2.4mR is now a Paralympic class. There is now an active Australian class association. Two Australians are the top disabled sailors in the class. The 1999 World Championship was held in Melbourne. The class has been manufactured in Australia since 1997:

**Metreboats Australia**
Sun Theatre
Yarraville VIC 3013
Australia
Tel. +61 (0)3 9362 0339
Fax. +61 (0)3 9362 0338

**The Salvo – an Australian success story**

The Salvo is a 24’ glass-sheathed strip-planked sloop-rigged keelboat designed in Australia for disabled sailors. The development of the Salvo can be traced to craft observed on this fellowship.

The Salvo project originated in 1997 when The Salvation Army’s Oasis Youth Support Network applied for a grant under the Federal Government’s Work-for-the-Dole scheme. The grant was to fund the construction of a boat for Sailability Australia. When the grant became a reality, the Army engaged Ian Smith of the Sydney

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20 An exception is Redding in California where the inventor of the trapseat, Mile Strahle, continues to lead an active band of Hobie trapseat sailors.
Wooden Boat School to supervise construction of the boat, and Christine Murray of the Salvation Army to coordinate the project.

Unable to build a Sonar (p.31), Ian suggested that we approach David Payne, a naval architect, to design a disabled-specific boat. The result, after six months of work by Ian, Christine, David and 35 unemployed young people, was Independence, the first of the Salvo class of racer/day-sailer. The Hon. Tony Abbott MP, Federal Minister for Employment and Youth Affairs, launched Independence in 1998. The class won the prestigious 1999 ARATA Better Technology Award for Excellence.

The Salvo can be raced by a crew of three disabled people. Alternately, up to seven people can enjoy the boat as a trainer/day-sailer. The small cabin contains a head that enables disabled sailors to enjoy extended outings on the water. The large cockpit can accommodate a variety of specialised seating devices; it also enables room for assistants. To reduce headsail changes, the sail-plan features a large reefable main and a small jib.

Stability is conferred by a beam of maximum trailerable width and a deep efficient keel with a bulb at the tip. Benches and side decks are ergonomically designed for seating. The large semi-balanced rudder is hung from the transom so that little room in the cockpit is taken up by the tiller. The traveller is set aft above the tiller and thus does not effectively divide the cockpit in two. Mainsail sheeting is from a high-set boom. Most lines are led back to controls on the cabin top. There are four winches. Handholds have been incorporated into the gunwales, seat edges and seat backs. Moveable thwarts allow the crew to transfer from one side of the boat to the other. See also Payne (1998), Smith (1998a, b, c) and Smith (1999).

At the time of writing, four Salvos have been launched and two others are under construction.

<table>
<thead>
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<th>Name</th>
<th>Builder</th>
<th>Place</th>
<th>Owner</th>
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<tbody>
<tr>
<td>Independence</td>
<td>Salvation Army</td>
<td>Surry Hills, Sydney</td>
<td>Sailability Australia21</td>
</tr>
<tr>
<td>Intrepid</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Freedom</td>
<td>Mission Employment</td>
<td>Nerang, Gold Coast</td>
<td>Sailability Queensland</td>
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<td>Spirit</td>
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**Specifications**

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<tr>
<td>LOA</td>
<td>7.4m</td>
<td>David Payne</td>
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<tr>
<td>DWL</td>
<td>6.85m</td>
<td>18c Kirkoswald Av.</td>
</tr>
<tr>
<td>Beam</td>
<td>2.45m</td>
<td>Mosman NSW</td>
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<tr>
<td>Draft</td>
<td>1.5m</td>
<td>Australia</td>
</tr>
<tr>
<td>Displacement</td>
<td>1800kg</td>
<td>Tel. +61 (0)2 9969 1563</td>
</tr>
<tr>
<td>Sail area</td>
<td>28.1m²</td>
<td>Fax. +61 (0)2 9969 7874</td>
</tr>
</tbody>
</table>

21 Placed under contract with Sailability NSW
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(b) Review: Access Design for Clubs and Marinas WDS 5:4
(c) Ro-Rolling Soon WDS 2:3
(d) Tall Sailing WDS 2:3
(e) Disabled Crew in Around the World Race WDS 2:1-2
(f) Much More than Last Among Equals WDS 3:4
(g) 2.4mR Worlds WDS 2:6
(h) Craft Suitable for Disabled Sailors – Hobie Cat WDS 4:7
(i) 1996 Trapeseat Championship WDS 2:?
(j) 1997 Trapeseat Championship WDS 3:?
(k) Craft Suitable for Disabled Sailors – International 2.4mR WDS 3:6-7
(l) Craft Suitable for Disabled Sailors - The Martin 16 WDS 5:7
(m) Craft Suitable for Disabled Sailors - Sonar WDS 1:3
(n) Craft Suitable for Disabled Sailors – Medium Sized Keelboats WDS 6:7
(o) Hoist Solutions WDS 3:4
(p) Mobile Access Ramp WDS 3:6
(q) Winch Wisdom WDS 3:4
(r) Paralympic Countdown – A Harbour for Everyone WDS 4:4-5
(s) Craft Suitable for Disabled Sailors – Access 2.3 WDS 2:5
Appendices

Shake-a Leg, Miami

Address
2600 South Bayshore Drive
Miami FL 33133 USA
Tel. +1 (305) 858 5550
Fax. +1 (305) 858 6262

Contact
Harry Horgan II, CEO

Craft
Independence 20 (6)

Notes
I did not visit Shake-a-Leg (SAL) Miami on the Churchill Fellowship; in April 1996 however, I visited Florida’s St. Petersburg Yacht Club that hosted the 1996 Pre-Paralympic regatta. There, I met Kerry Gruson, a former journalist who had been beaten up by a Vietnam vet and left severely disabled. Kerry provided details about SAL Miami that are reproduced here.

SAL Miami was once SAL Newport. SAL Miami separated from SAL Newport in September 30, 1995. It is the biggest disabled sailing program in the country.\(^{23}\) In 1995, SAL Miami facilitated 5000 “person sails” (5000 “bums-on-boats”).

SAL Miami caters for all disabilities – physical, developmental, mental and sensory. It also caters for all ages - adults and children. For the latter, it hosts

- Programs for blind children
- Summer camps for blind children
- A Spring racing series
- A Fall (Autumn) racing series.

The office is staffed by four full-time employees: Office Manager, Program Director, Fund Raiser and Administration Assistant

The PD sets up basic sail classes (each five weeks in duration - three hours each Saturday) which lead to certification by graduates by US Sailing. The ratio of training to recreation is about 3:2. When other programs are not running, people can sail every day of the weekend (80-110 people-sails/month).

The program is funded by grants from private foundations (80%), fundraising (20%) and fees. During a fundraising drive, 2500 people on a mailing list are solicited and donate between $8000 and $10,000. Of each 100 respondees, five donate >$500, 20 donate >$100, 60 donate > $50 and the rest donate about $25.

Postscript
At the 1998 world disabled sailing championship hosted by the New York Yacht Club in Newport RI (August 6-12), I meet Harry Hogan II, executive director of SAL Miami (for further details on Harry, see Bernon, 1994). I discussed disabled sailing at length with Harry and received some literature from him.

\(^{22}\) SAL Miami now also used Access dinghies.

\(^{23}\) When I applied for a Churchill Fellowship, I did not know that Shake-a-Leg Miami was a separate organization; rather, I assumed that SAL Miami was a branch of SAL Newport and therefore did not warrant a visit. Now, I would recommend a visit to SAL Miami to any one who is interested in disabled sailing.
Project 360

The voyage of the *Time&Tide* did not significantly advance disabled sailing worldwide (See *The BT Global Challenge, p.*.24). This is because little promotion occurred in each port-of-call prior to the arrival of the boat, and no promotion occurred following its departure. An exception is the effort of Grahme Rayner who promoted disabled sailing in South Africa during the stopover in Cape Town.

Lessons learned from the *Time&Tide* have been incorporated into a concept document for Project 360, a scheme to introduce disabled sailing to numerous countries by:

- Building a 70’ boat on the Work-for-the-Dole scheme (Like the Salvo, p.42);
- Sailing the boat around the world with all-disabled crews; and
- Building the infrastructure for a national disabled sailing organization in each country visited.

Project 360 will require significant support from organizations like the UN and World Rotary. It will also require a major sponsor. Such support, it is firmly believed, will be forthcoming. It is hoped that the voyage will be undertaken before the 2004 Paralympics in Greece. Project 360 was devised by John Weaver.

Great Quotes

Kerry Gruson  *WE Magazine* July August 1998
“It gives me a sense of freedom, of potential. It exercises my mind as well as my body, and there are some fabulous people doing it. It makes me happy.”

Hugh Eliott  *WE Magazine* July August 1998
“What we are demonstrating now is that sailors with disabilities can compete with the best of them because when you get out on the water the disabilities disappear.”

Dave Shroeder  *WE Magazine* July August 1998
“Sailing delivers those rare moments of beauty, virtue and grace. I rarely think of myself as disabled. Being disabled is an accident in my life. It’s not an accomplishment. My education, sailing and my students are accomplishments. Sailing is a metaphor for living well.”

John Carter  *Sailing World* 1991
“You leave your wheelchair on the dock. You are one to one. Others see you for your potential.”