



Sail America  
America's Cup New Zealand Challenge  
Rigid Wing Sail for Catamaran  
1988



# The Development Program (1)

Two sailboats were planned, a conventional soft-sail Catamaran and a radical fixed WingSail with 3 airfoil segments. The WingSail would require a super light carbon composite structure.

Although the New Zealand Challenge was made in July 1987, it took until December 1987 for Dennis Conner to arrive at Scaled, to kick off the WingSail Program. We added John Roncz to our team, to do the Aero Design.

About Feb 1988 we kicked off a rush program to design, tool, build, paint and deliver a ~94-foot tall, 3-segment WingSail. WingSail experts Dave Hubbard and Duncan Maclane joined our team. The expert soft-sail folks at San Diego called us the “Wing Nuts”. The WingSail was delivered 11 weeks later – yep, just a tad over 2.5 months!

## The Development Program (2)

The WingSail was designed for the expected winds of the Long Beach harbor, the expected race venue. However, when Sail America was offered cash from San Diego to hold the race there, a lot of things changed; Diego winds are lighter, requiring larger sails. The soft sail folks extended their mast and ordered up larger fabric sails. The wing-nuts were doomed, since 11 weeks was too long to get a new wing into sail testing.

Scaled huddled for a day and then promised we could build a new, ~108-ft WingSail in 8 weeks. They rounded up some more \$ and we went back to work, delivering the new wing in 8 weeks.

Before the big, America's cup race with New Zealand, Sail America raced the soft sail Cat against the WingSail Cat. The Wing Nuts won all eleven of the races, and was thus selected, to the dismay of the conventional sail experts.



## 1988 San Diego

The incredible confrontation between a catamaran and a giant monohull.

Surprise move. It was July 17, 1987, and the San Diego Yacht Club received an unexpected challenge from the small Mercury Bay Boating Club of New Zealand. It was a one-on-one race to be contested by vessels that could reach the maximum dimensions permitted by the old Deed of Gift - up to 90 feet at the waterline!

The challenge came from millionaire Michael Fay, who wanted to exploit to his advantage a series of loopholes in the original document governing the America's Cup. In the subsequent months the two parties clashed in a violent battle of law firms until, on January 19, 1988, Conner announced that he would defend the Cup with a catamaran, economical and surely much faster than a 90-foot monohull. The international sailing elite was left speechless: a competition between two such different boats made no sense... in fact the catamaran Stars & Stripes crushed the New Zealand giant 2-0 with enormous leads, 18 and 21 minutes. The "bizarre" 1988 Challenge eventually was sailed on September 7th and 9th off San Diego. It would be useless to hold forth on the 'mismatch' on the water. The Stripes & Stripes crew won easily. One matter was certain, this dramatic turn of events put an end to the 12-metre era and opened the way for the present International America's Cup Class boats.

And that was not the end of it, because Fay presented a petition against the legality of the match. Unbelievably, the judges responded that San Diego had to be eliminated, and Fay thus became the only challenger in history to have captured the America's Cup without winning a single race. San Diego presented an appeal of course, and the court surprisingly reinstated Conner as winner. The saga continued when a new appeal was presented. The final decision came on April 26 1990: the Cup was staying in San Diego.

Program name:

WHTCAPS

Walk-away High Technology Catamaran Propulsion  
System



David Hubbard and Duncan MacLane, the WingSail experts

# Tooling

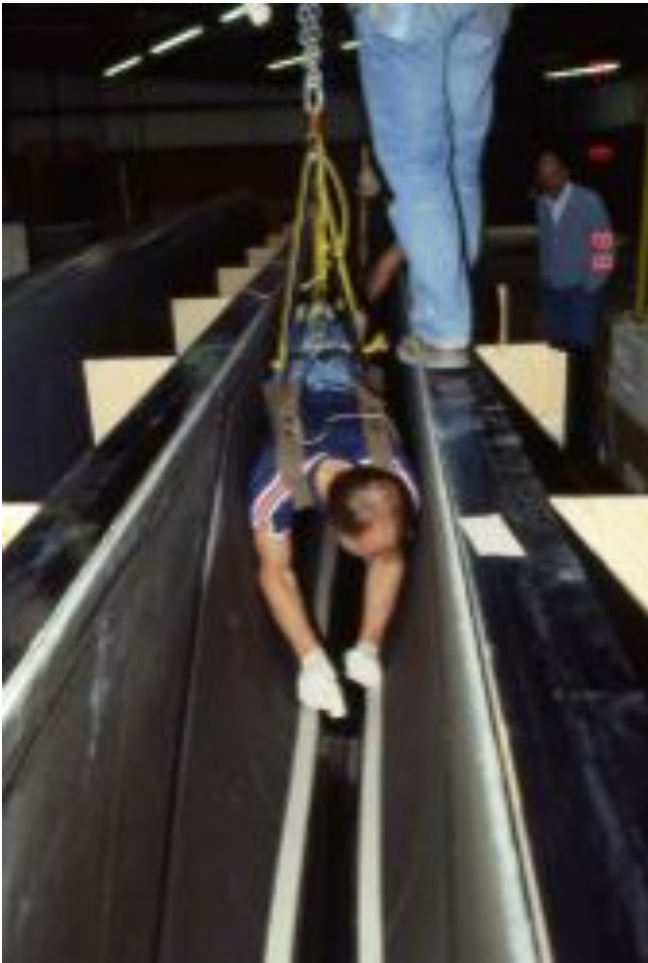
## Pre-CAD and Pre-CAM





## Touch-wheel Tow impregnation













Ball mount for entire wing



Busy shop - Note T-34C turboprop chase aircraft, Triumph and ATTT/SMUT







Proof Load Testing





Delivery Day



One day before delivery





An outdoor job in San Diego

# Delivery of the first (small) wing







Other tough work in San Diego



## Boredom of the Big Race





# The loser, today in Auckland Tourist Area

