

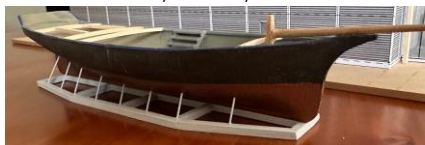
Dear friends of the Daring

The Daring continues to draw a lot of attention from the community and several volunteers have come on board to bring new dimensions to the project.

Digital imagery and research

When we uncovered the Daring at Yachting Developments Ltd yard at Hobsonville Point, in preparation for trucking her to Mangawhai, we took the opportunity to have Recon complete a further laser scan of the boat. We shared the resultant cloud point data with naval architects Lomocean, the designers of the cradle that the Daring now sits on.

3D printed model of the Daring as she will appear in the Daring Discovery Centre - by LOMOcean



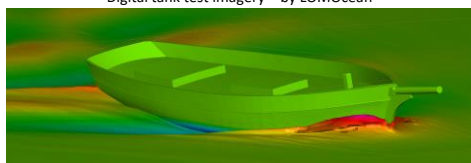
Craig, Andre and their Lomocean team have totally exceeded our expectations in what could be produced from this data. They have carried out two dimensional analysis around the twist, hog, sprung planks and asymmetry of the vessel to gain a good understanding of the original lines and manipulated the data to remove these

blemishes. A close study of images of similar circa 1860 vessels has given them a greater understanding of missing aspects of the Daring such as the transom which was removed by souvenir hunters not long after the Daring emerged from the iron sands of Te Oneone Rangatira beach.

All of this research and analysis has enabled the Lomocean team to create a three dimensional digital surface model from which formal line plans can be created and hydrostatic modelling has been enabled. Our

understanding of the Daring has been incredibly enhanced from this work which means models of the boat can be crafted by hand or 3D printer and the Daring can be digitally 'tank tested' to understand her probable performance including speed, load carrying capacity and windward capabilities.

Digital tank test imagery - by LOMOcean



Surface model of the Daring after many months of work by the LOMOcean team



Craig Loomes says they have tried to get into the designer / boat builder's head to understand what he would have envisioned her

to look like and Craig believes that if the man came back today and looked he would say yep that's what she's supposed to look like.

Fully loaded to the muntz metal line the Daring would have displaced 35 tons and her centre of buoyancy was pretty much smack on 50% of the waterline length. There will be plenty of this detail and imagery available as part of the curation of the Daring Discovery Centre once the building to house the Daring is complete.

Sailing scale model of the Daring

While the Lomocean team were working on the digital modelling of the Daring, world renowned boat builder Steve Marten had become intrigued by the Daring and the history of 1860's New Zealand she was uncovering. Steve visited the Daring and quickly decided that a model of the Daring was a must and to start with a half model, as Donald McInnes would have done originally. To build the half model Steve used a laser to create a horizontal plane and a tape measure to measure to the sheer line at two metre intervals, followed by taking regular measurements of the beam. Using photographs, videos and his trained eye from many years of boat building, he created his own drawings, without the hogging and reshaping that the Daring had suffered. From the line drawings Steve was able to create a half model in laminated kauri.



Steve Martens half model of the Daring



Steve Marten's 1:24 scale model

Every detail of the Daring has been reconstructed through studying the large number of photos of the Daring as she emerged from the sands. Detail such as the scarfed timber joints on the cap rail have been reproduced. The standing and running rigging, sails and steering system have been created after studying photos of similar NZ built vessels of the era, discussions with maritime historian Baden Pascoe and review of Steve's father's boat building books. Factored into the rig design was the knowledge that coastal vessels of this era were often handled with small crew numbers, often only two.

Steve built the 1:24 scale model in as close as possible to the same way that the Daring would originally have been built, beginning with the keel, keelson, rudder post transom and stem. Temporary frames were then built to create the shape before the sawn frames were constructed. Steve's first task was to build a small table saw with a 30cm x 20cm top with a 90mm tungsten blade. This allowed him to cut scale size kauri planking (1.5mm x 8mm) for the hull and decks together with larger pieces for the keelson, spars and frames. An addition made by Steve was to add some small ring frames at each mast to stabilise the shape of the model. The carvel planking was edge glued to the frames. The big addition to the inside of the model is the servo equipment and batteries. A



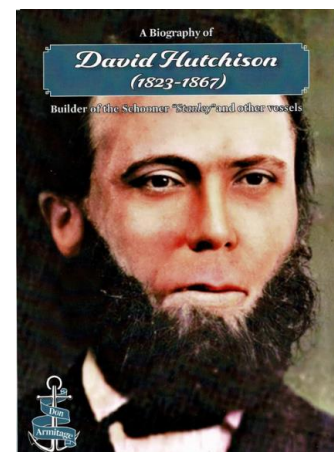
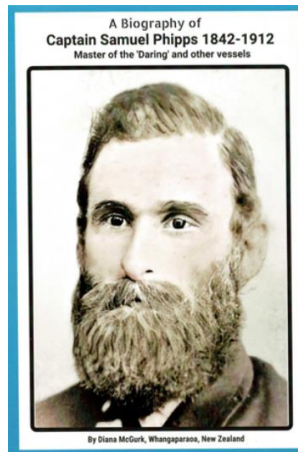
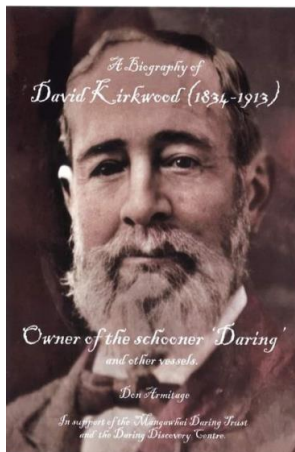
Under full sail Judges Bay Auckland photo by Roger Mills

removable bulb keel has been added for stability and to enable the model to be sailed to windward.

The sailing model has been filmed in action by videographer Roger Mills using, camera, video and drone footage. Craig Loomes has supplied the calculations required to scale the film speed down to create the illusion that the model is the real Daring underway. This footage will be available in the Daring Discovery Centre in the future.

The people of the Daring

Since release of the booklet “A Biography of David Kirkwood” by historian Don Armitage two further biographies in the series of the people of the Daring have been released; “A Biography of David Hutchison, builder of the Stanley and other vessels” by Don Armitage and “A Biography of Captain Samuel Phipps, Master of the Daring and other vessels” by Diana McCurk. All three booklets can be purchased from our website www.daring.org.nz



The Daring Discovery Centre

Plans and costings for the Daring Discovery Centre to house the Daring are close to being finalised. The final building will be located partly on the land currently occupied by the Daring. Thankfully the cradle the Daring rests on was designed by Lomocean to allow us to easily lift the Daring and we'll readily be able to move the vessel and tenting to a temporary site to allow construction of the new building.

Fund raising remains a priority and as we head into the most expensive part of the project we are looking to attract major sponsors and partners who understand the project well, know where we are heading and provide the support needed.

Thank you to all who have already given generously with their time, sponsorship, donations, discounted supplies and materials and/or professional expertise. We very much appreciate your growing support of the Daring.

Warm regards

Jim Wintle
Chair | Mangawhai Daring Trust