

# Foil History

Hydrofoil technology has been explored since the early 1900's when Alexander Graham Bell in conjunction with his chief engineer, Casey Baldwin explored the use of a hydrofoil on boats, based on designs by the Italian Inventor, Enrico Forlanini, which ultimately resulted in the creation of the first passenger and naval hydrofoil boats. Starting in the sixties hydrofoils made their way into recreational activities like water skiing and knee boarding. Leading the way were the likes of Walter Woodward and Lucas Emmanuell (DynaFlite) and Mike Murphy, Brad Barnett and Bob Woolly (Air Chair).

In 1963, the first hydrofoil "waterski" was patented by Walter Woodward and Lucas Emmanuell. The hydrofoil structure was attached to the bottom of a pair of fixed water skis with the rider towed by boat. Walters company, Custom Dynamics, Inc. would go on to sell the DynaFlite successfully for over 20 years.

In 1983 Woodward's patents expired and new designs began to emerge which took advantage of improved materials and designs.

In the 1980's Bob Woolley and Mike Murphy (later to start SkySki in 1998) began working on the first sit-down hydrofoils, the Air Chair. With these designs a rider is towed behind a boat, seated in a chair above a cast aluminum hydrofoil assembly. It was stronger, more stable and much lighter than the original DynaFlight. Air Chair introduced the world to hydrofoiling in 1990. By 1999 it was a well established competitive sport attracting riders from all over the world.

Then in 2003 the surf world was put on notice of the possibilities of the foil when Dana Brown's Movie Step Into Liquid filmed Laird Hamilton surfing Jaws on a foil board that Laird modified from an Air Chair. In the early 2000's Laird Hamilton began riding a modified Air Chair around the north shore of Kaua'i. He removed the chair and attached a pair of snow board boots to the deck of the board. Laird along with the rest of the legendary big wave riders known as the Strapped Crew towed each other on the custom foils in calm water near Tunnels Beach and Hanalei Bay, and then started to charge the massive waves at the outer reefs of Kaua'i and Maui. They found that due to minimal surface contact with the water, hydrofoils rode smoothly through the chop. By tapping into the energy below the surface, they could let go of the line and surf a powerful wave like Jaws. These legends drove foil boarding forward by standing up and harnessing the energy beneath the surface of several of the largest waves on earth.

This attention to the sport created more notice on the sport which drove innovation mainly in the form of better materials such as lightweight aircraft grade aluminum. The result was more efficient wings and lighter masts. These efficiency gains combined with weight reduction meant less energy was required to get on foil. This drove a rise in the kite and wind foil market, which was beginning to develop at the time. For the next decade steady improvements were made to equipment and technique, but the use of an external power source such as tow or wind were still required to foil board.

Then 13 years after Laird's foil scene in Step Into Liquid came the next big event for foil surfing. In 2016, came what is the internet viral video of Kai Lenny on what amounted to a downwind SUP board that was modified and equipped with a foil. Kai blew minds as he was able to do a down wind run that was never before imagined. This single moment changed the direction of the foil market and opened doors to foiling boarding without the need for and some external

power source other than yourself. Kai followed this up with a YouTube video release called “Kai Lenny Hydrofoil Surfing” where Kai is shown not only catching waves but pumping back out and connecting multiple wave within a single ride, This completely elevated their possibilities of foil wave surfing.

The sports progression and design went into overdrive the next few years. From the Kai’s modified SUP downwind board to modified SUP boards and surfboards and now a whole market focused on foil specific board designs and a gamut of foils wings designed for specific fit and purpose.

The possibilities seem endless as people are finding new ways to ride and new places to go on a pace never previously experienced in a water sport.