In 1773 Kerguelen was despatched from France in command of a squadron to complete his discoveries in the neighbourhood of the island that bears his name, which he sighted again on the 14th December, making the land on the parallel of 49° 10′ S. just north of Cape St. Louis, from thence he stood north, discovered the Cloudy Islands and Bligh's Cap, and rounded the north end of the main island; but although he remained in the vicinity until the 18th January 1774, never anchored. A boat from one of his consorts succeeded in reaching the shore, and M. de Rosnevet landed in Christmas Harbour, and again took possession of the island in the name of the King of France, leaving a bottle with a paper in it, which was afterwards found by Cook in his third voyage. Kerguelen gave names to the Cloudy Islands and the capes at the northern end of the island, which they still retain with two exceptions. The islet which he called "Reunion," being now known as Bligh's Cap, and "Bay de l'Oiseau" as Christmas Harbour.

On the 24th December 1776, Captain Cook, then on his third celebrated voyage, made the island, and on the 25th anchored in Christmas Harbour, thus accomplishing in one day what Kerguelen had failed to do in a month. On the 29th December, after watering and cutting grass for his sheep and cattle, Cook left Christmas Harbour and proceeded to the southeastward along the leeward side of the island. His track can be traced from the bearings given in his narrative; some of these bearings are, however, referred to the true and some to the magnetic meridian. Passing outside Howe Island, and between it and the Dayman Islands, dangerously close to the Spry Rock, which he did not see, and steering outside Sibbald Island, he found himself amongst a large field of kelp, and thick weather coming on, thought it unwise to proceed further, so anchored for the night in a harbour which he named Port Palliser. Leaving Port Palliser on the 30th, Cook proceeded in his exploration of the leeward side of the island, and steered towards a conspicuous hill which he named Mount Campbell, and which he well describes as appearing like an island when seen from a distance. After passing the Kent Islands, he rounded Capes Digby and Sandwich, and stood southward as far as Cape George, giving the names of Royal Sound, Prince of Wales Foreland, Charlotte Point, &c., to the conspicuous inlets and capes on the southeast side of the island, and being satisfied from the swell coming round Cape George that the land could not trend much further, if at all, to the southward, he bore up for Tasmania.

From 1776 to the present date Kerguelen Island has been more or less frequented by whaling and sealing vessels, whose captains have explored the whole of its coasts, and anchored in most of its numerous harbours, the positions of which they have delineated on rough charts for their own use, giving names to the different anchorages and points, often quaint but frequently appropriate. The vessels generally employed in the seal and whale fishery at this island were strongly built ships, of from 300 to 400 tons burthen; they usually took out with them, in their holds, in pieces, a cutter or two of about 40 tons burthen, which they put together on reaching a secure harbour. Sealing and whaling were then