

Oar gearing spreadsheet to illustrate potential for oar/back clashes between rowers of the St Ayles Skiff

From a tracing of the boat plan, assuming rowers are 18 inches wide and seat themselves so that their body side furthest from the kabe lines up with the inboard end of the oar when it is square to the gunwale and assume that rowers are reaching further than the near edge of the seat aft of them To get rowers staggered enough to avoid clashing, inboard length needs to be more than say 44 or less than say 35. There is some transition (coloured white) where clashes depend on rower body width (mine is 18 inches), rower preference as to where the handle ends up against their body, and how well the crew keep together in timing.

If rowers take short strokes (reach no further than the forward edge of the seat aft of them) no clashes will happen.

Cell number is inboard length in inches

Green cells no clash, white cells potential clash, pink cells likely clash.

Dark green cells are in optimum gearing of 2.8 to 3.

oar length (feet)	Optimum						Gearing (outboard length divided by inboard length)					
	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3	3.1	3.2	3.3	
9.5	34.5	33.5	32.6	31.7	30.8	30.0	29.2	28.5	27.8	27.1	26.5	
10.0	36.4	35.3	34.3	33.3	32.4	31.6	30.8	30.0	29.3	28.6	27.9	
10.5	38.2	37.1	36.0	35.0	34.1	33.2	32.3	31.5	30.7	30.0	29.3	
11.0	40.0	38.8	37.7	36.7	35.7	34.7	33.8	33.0	32.2	31.4	30.7	
11.5	41.8	40.6	39.4	38.3	37.3	36.3	35.4	34.5	33.7	32.9	32.1	
12.0	43.6	42.4	41.1	40.0	38.9	37.9	36.9	36.0	35.1	34.3	33.5	
12.5	45.5	44.1	42.9	41.7	40.5	39.5	38.5	37.5	36.6	35.7	34.9	
13.0	47.3	45.9	44.6	43.3	42.2	41.1	40.0	39.0	38.0	37.1	36.3	
13.5	49.1	47.6	46.3	45.0	43.8	42.6	41.5	40.5	39.5	38.6	37.7	
14.0	50.9	49.4	48.0	46.7	45.4	44.2	43.1	42.0	41.0	40.0	39.1	
14.5	52.7	51.2	49.7	48.3	47.0	45.8	44.6	43.5	42.4	41.4	40.5	
15.0	54.5	52.9	51.4	50.0	48.6	47.4	46.2	45.0	43.9	42.9	41.9	
15.5	56.4	54.7	53.1	51.7	50.3	48.9	47.7	46.5	45.4	44.3	43.3	
16.0	58.2	56.5	54.9	53.3	51.9	50.5	49.2	48.0	46.8	45.7	44.7	
16.5	60.0	58.2	56.6	55.0	53.5	52.1	50.8	49.5	48.3	47.1	46.0	
17.0	61.8	60.0	58.3	56.7	55.1	53.7	52.3	51.0	49.8	48.6	47.4	

Short oars

Long oars

Absolute maximum inboard for stroke is 49.5 inches

Conclusion is that longest short oar is about 11.5ft and shortest long oar is about 14.5ft, in the optimum range of gearing, which appears to be between 2.8 and 3.0.

Oar lengths between 11.5ft and 14.5 ft risk clashes.