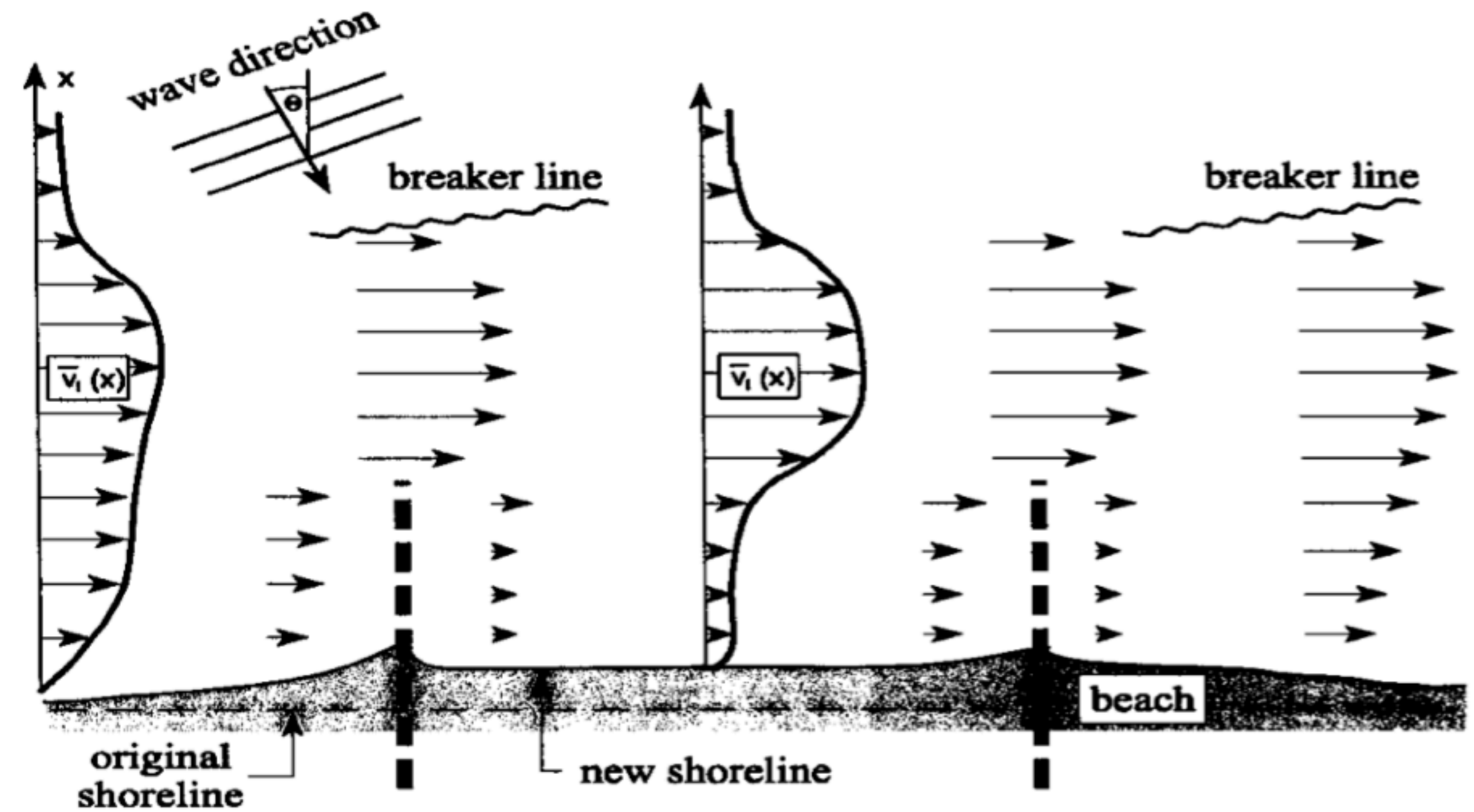
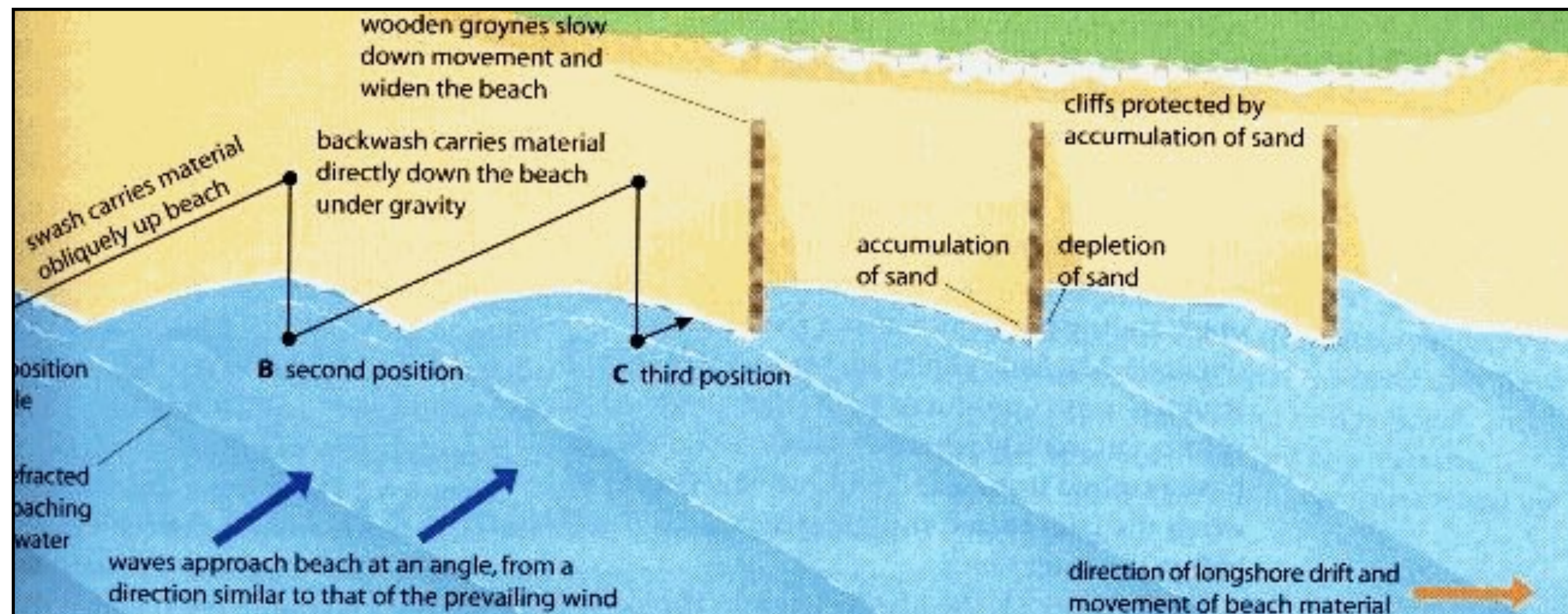


Coastal protection



Flow pattern near permeable wooden groyne field
(Trampenau et al., 2004)



Groynes

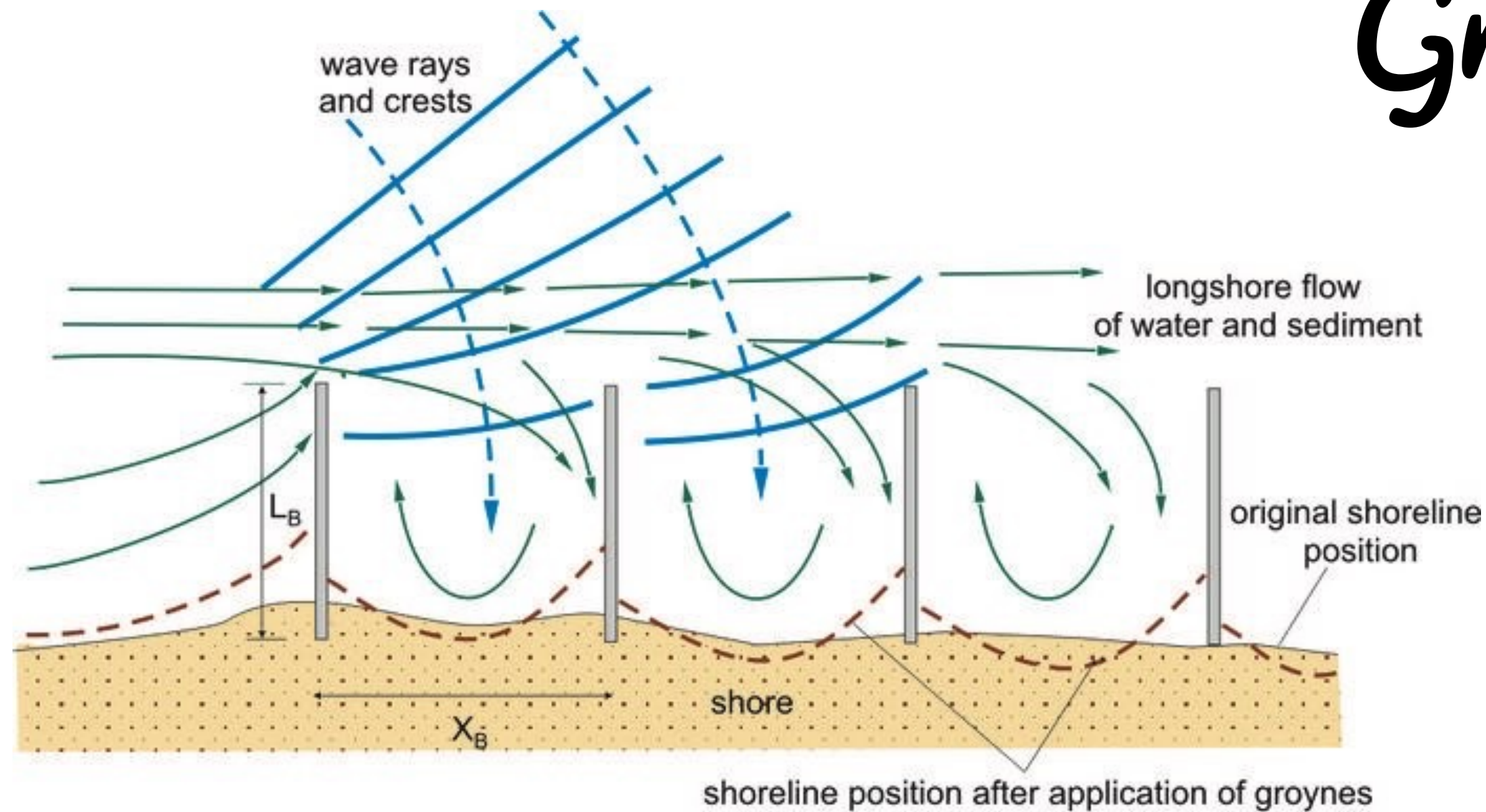


Fig. 1. Scheme of interaction of groynes, waves, currents and shore

Design: Groyne length from shoreline (L) and spacing (X)

- ▶ the tip should be within the surf zone to allow sand to pass around it
- ▶ the spacing should be 2 to 4 times the groyne length to prevent the generation of rip currents and associated excessive erosion between the groynes
- ▶ the spacing should decrease with increasing wave angle
- ▶ maximum groyne length is roughly determined by the mean low water spring line in tidal environments
- ▶ the groyne root should run into the dune over some length or properly attached to a revetment (if present) to prevent outflanking or damage by local erosion

