Steady-State Analysis of a Fishery

NB The following comments refer to the hand-written solution from file `sol-SS-analysis-fishery.pdf`.

6) Comparing an open access regime (OA) with an exclusive property regime (EP)

A first interesting difference comes from the fact that in the case of EP, the SS harvest rate unambiguously increases with the price while the effect is ambiguous with OA. The reason is that in the case of EP, the SS stock level is such that $S_{EP} > S_{MSY}$ while $E_{EP} < E_{MSY}$. Hence, an increase in price brings about an increase in effort which always translates into an increased SS harvest rate. In the case of OA, S_{OA} could be larger or smaller than S_{MSY}. Since the increase in price always results in more efforts, the final effect on harvest would be negative if $S_{OA} < S_{MSY}$. The same conclusions hold for a reduction in input price w.

For similar reasons given above, an increase in productivity e leads to increased harvest rate with EP but the effect on harvest rate is ambiguous with OA. In both cases, the effect on SS effort is ambiguous; this is a classic result in microeconomics whereby increased productivity may lead to more or less effort, since it is total *effective* effort that matters.