The Injection-production Ratio plays a very important role in the high water cut stage in oilfield development. If the Injection-production Ratio is unreasonable, this will result in serials problems, such as sever water breakthrough in high permeable layers, decrease on the water injection effectiveness and water sweep efficiency, serious depletion of reservoir, etc. All those will further lead to acceleration of water cut increase and production decline, and as a result, directly affects oilfield development effectiveness.

Water-cut of Area 1 of PL oilfield is 69% at present. A number of problems about the Waterflooding have arisen, and the injection-production ratio is unstable. It is quite necessary to research the reasonable injection-production ratio. In this paper, based on the detailed analysis on formation pressure and injection-production ratio change, a multi factor linear regression model of injection-production ratio was established according to the actual production data and its influencing factors. The test and verification show that the model is highly accurate and has conformance to the basic rule of water flooding. And by combining the model with type “A” water drive curve, the reasonable injection-production ratio has been predicted, the result is similar to oil reservoir numerical simulation’s, so the reasonable injection-production ratio of Area 1 of PL oilfield is 1.05 at present. This shows that the predicting reasonable injection-production ratio method which is based on water drive curve is accurate and reliable. So this method can directly guide fine water injection management, also can provide lessons and guidance to determining reasonable injection-production ratio in other similar blocks and oilfields.