CHAPTER 5

CONCLUSIONS

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5.1 Concluding statements

At the end of this study, it can be concluded that predictive rule set can be generated by using the Hybrid Evolutionary Algorithms (HEA) for ecological data of high complexity. By the application of HEA, structure of rule sets are evolving rapidly by the genetic programming and their parameters are optimized by the intelligent features of genetic algorithms.

It has been successfully applied and proved to be reliable to data measured for mesotrophic man-made Putrajaya Lake and oligotrophic Tasik Bera (Bera Lake). HEA was able to discover the rule sets that can predict the pattern of dissolved oxygen with high accuracy.

The predicted ecological parameter, in this case, the dissolved oxygen was highly representing the observed parameter value. Slight difference may due to certain factors that are not taken into consideration, especially the weather factor which is one factor that may affect the water quality in return affect the abundance of dissolved oxygen as well.

Our second objectives were also accomplished, where relationship between the water quality parameters and dissolved oxygen concentration in both lakes are well represented and supported with literature from previous studies.