Environmental risk assessment of wetlands using SAW and EFMEA (Case study: international wetland Anzali)

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Abstract

The wetlands are most important and vulnerable environmental resources of the world. These ecosystems usually faced with the threat of demolition and destruction. Although wetlands become dry during their evolution, but human activities accelerate this trend and cause premature death. This study with the aim of identification and analysis ofthe risks that threaten Anzali wetland was done in 2012. Anzali wetland is locatedin the south of Caspian see in Gilan province. After identifying the risks, analyzing and ranking of them was done by using SAW. Analytical Hierarchy Process (AHP) was used for determining occurrence probability and Environment Failure Mode and Effect Analysis (EFMEA) were used for determining other criteria. Results showed that the risk of wetland water pollution caused by industrial wastes and eutrophication in priorities were the first to second. After determining the risk priority number by SAW, risk levels were determines that shown the priorities of management to control the risks. Due to the importance of preserving the life of Anzali wetland region, especially in the Caspian environment, better understanding of the water quality of the pond seem to be necessary.

Key Words: Environmental risk assessment, Anzali wetland, Gilan province, EFMEA, SAW, AHP.