Investigate the environmental aspects of the Aabasabad- Estil Non-hunting Wetland restoration plan

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Abstract

Wetlands are exposed to various human and natural threats around the world. Therefore, it is necessary to identify the reasons for the destruction of wetlands and use a strategy for conservation and restoration. Aabasabad- Estil Non-hunting wetland is located in Gilan Province. Recently, the conservation and restoration of the Aabasabad-Estil Wetland have been considered by the authorities with the aim of preserving its function, biodiversity, and developing its ecotourism and tourism capacities. For this purpose, restoration activities have been identified for it in the construction and operation phases. These activities should be done based on proper planning, principled design, and unique characteristics of the wetland. The purpose of this study is to investigate the environmental aspects of the Aabasabad- Estil Non-hunting Wetland restoration plan. First, library, field, and laboratory studies (chemical and microbial) were performed to accurately understand the current state of the environment of this wetland. Accurate data collection can reduce the degree of uncertainty in converting qualitative dimensions of assessment into quantitative scores. Also, the Rapid Impact Assessment Matrix (RIAM) has been used to quantify the environmental impacts of the project activities. According to the results of the present study in August and September 2019, the amount of phosphate in the sediments of the wetland ranged from 5 to 60 mg/kg and the amount of nitrogen from 0.03 to 0.57%. Also, the amount of phosphate in the wetland water was between 0.2 and 0.45 mg / l and the nitrate concentration were equal to zero. Microbial experiments also showed the algal bloom phenomenon of *Microcystis sp.* and *Anabaena sp.* in this wetland. According to the basic information obtained, the summary of environmental scores for the construction phases and operation of the restoration plan of this wetland is -600 and +224. The nature of the final score in the operation phase indicates a reduction in the negative environmental effects at this stage. For the plan to be successful, strategies must be considered to reduce the negative impacts.

Keywords: Estil Non-hunting Wetland, Restoration, Impact Assessment, Algal Bloom.

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