Wetlands of the Balkans

Noé Conservation

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Environmental Impact Assessment

Project " Conservation of Pelicans, a Key Biodiversity Species of Skadar Lake"

Application code: 63087

Written by Bjanka Prakljacic

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Introduction

CMS

This is the Environmental Impact Assessment prepared in the framework of the Project "Conservation of Pelicans, a Key Biodiversity Species of Skadar Lake" as part of the regional Program “Wetland Management and Dalmatian Pelican Conservation in the Mediterranean Basin” led by Noé Conservation and financialy supported by Critical Ecosystem Partnership Fund, MAVA fondation, CMS and other donnors.

The EIA has been prepared for some physical works to be undertaken in the Hum hill area in Skadar Lake for renovation of a small building to be transformed as ranger and info centre, cleaning of a channel to be used for boats and cleaning an area for campsite and parking. The aim of the EIA is to ensure that all physical works will be undertaken in line with the natural conditions of the area and accompanied with measures to mitigate the environmental impacts.

Short description of the Area

Skadar lake (key zone No.774, Appendices No. 1, CEPF ecosystem profile) is a wetland of international importance, stepping stone on the Adriatic Flyway and encircled by monuments of exceptional cultural heritage. Located in the northern branch of the lake, special nature reserve "Pančeva oka" is the main pelican breeding site with oldest nesting colonies of Dalmatian pelican.

Main human influence on "Pančeva oka" originates from village Podhum composed mainly of families providing incomes from fishing and agriculture.

There are many entrances to "Pančeva oka" and fishermen use them throughout the year depending on the water level. The main and the most used entrance is Samobor, under Hum hill, that brings fishermen to "Pančeva oka" in less than 15 minutes by boat. Samobor is also the main gathering area for the community of Podhum used for recreation, preparation of fishing trips and selling of the daily catch.

Physical works and justification

Samobor, area under Hum hill, has a long history of human activity. As visible on Picture 1 it holds traces of private, military and government use.

Picture 1 - *Samobor entrance with the access road*

Access road from Podhum village leads to the two houses, one in use by Public Enterprise National Parks of Montenegro (PENP), one ruined old military object, and overgrown area on both sides of the road and an access point for the old trail on Hum hill.

On the right side of the road is an old overgrown bridge and a natural water channel - Picture 2.

Picture 2 - *Red line represents the trail on Hum hill, blue square is the house used by PENP, yellow square is the collapsed military object, orange lines represent the natural water channel and green line represents the old bridge.*

House (shown in blue on Picture 2) needs to be renovated in order to be used as a Ranger station and Info Center (Activity 3.3.2.1). By activating the house, ranger efficacy at Pančeva oka will significantly increase due to fast access from Samobor water entrance. Ranger presence will bring better control of the fishing activities from coast to water, and better cooperation with fishing associations. Info Center will promote tourist offer of Podhum as well as the old attractions such as the trail on Hum hill and the old bridge.

The physical works are described as following:

House Renovation includes repairing the house, providing electricity by solar panels, providing video monitoring and illumination of the area around the house, providing running water and inner plumbing, providing heating via wooden pellets.

Natural water channel will be cleaned and used by rangers and locals for safe storage of boats(shown in orange on Picture 2). This will also remove the boats from Samobor entrance which will only be used for docking. The works are part of the activity 3.3.2.2.

On the Picture 3 works on the creation of camp site and parking spot are shown. Camp site (shown on Picture 3 as pink surface) will include **cleaning of the area from vegetation and rubble, and leveling of the ground.** After works the area will be planted with grass and used for camping. The works are part of the activity 3.3.2.2.

Parking site (shown on Picture 3 as green surface) will include **cleaning of the area from vegetation and rubble, and leveling of the ground** with the dirt and debris gathered from clearing of the area for camp site. The ground will then be in level with the road creating a plateau. Dirt on the plateau will be compacted and it will be used for car and trailer parking. This will also remove cars from access point to Samobor making it easy for the boats to dock. The works are part of the activity 3.3.2.2.

Picture 3 - *blue square is the house used by PENP, yellow square is the collapsed military object which will be removed, orange line is the surface of the cleaned water channel, green surface is the future parking spot and pink surface is the future camping spot.*

Impact on nature

Impact on biodiversity

The physical works will not have any negative impact on the biodiversity in this area. Activation of Ranger station/Info center - majority of the works will be done inside the house and it does not include any construction works that will demand using the surrounding area for storage or preparation of the materials. Only the digging of the bio disc septic tank will be done outside the side wall in the vicinity of the house. Digging will be done via excavator on the plateau encircling the house which was cleared and managed by humans for prolonged period of time (grass cutting, clearing of the high vegetation). After the placing of the bio disc and connection to the house plumbing , the area will be restored to its previous state.

Clearing of the area for camp site - area has been under human influence for prolonged period of time. Regular burning and vegetation cutting was done for years with the exception of the collapsed building that is littered by trash. Clearing of the area will remove the rubble, vegetation and trash and the site will be converted in to lawn. Clearing will be done via manual work (workers with grass cutters and hand tools) and via heavy machinery (bulldozer). Presently the surface is mostly covered by grassland so the clearing will not damage the surrounding ecosystem nor will the clearing influence present high vegetation - cypress and fig trees.

Clearing of the area for parking spot - clearing and leveling of the plateau used for parking will include removal of thorn bushes and compacting dirt and silt extracted from the channel and from the leveling camp site area. Vegetation on plateau is a result of seasonal burning practiced by the locals and is composed of wild blackberry bushes with sparse low vegetation. This is a contrast to the surrounding "makija" and Salix forests and reed beds that are the typical ecosystem of the lake, and the clearing of the area will not influence it.

Usage of camp site and parking - it is important to state that both area that will be converted in to camp site and parking spot have regular human activity which resulted with absence of animal activity, for example bird nesting. The human presence will increase but the effects will be localized to a small area as the physical

entrance of tourists to further parts of the coast is blocked by thick vegetation. Increased presence of tourist activities on water (for example tourists joining fishing trips and bird watching tours) will be regulated by the ranger service and is covered by other project activities - development of sustainable tourism that will not have harmful effects on pelicans. Increase in the number of visitors on the existing trail on Hum hill will also not harm the ecosystem of the hill as the trail is avoiding damage to high vegetation. The damage can be expected on the narrow strips of land used as the trail, but this will not bare any adverse effect on the area.

Clearing and usage of the water channel - the water channel going along the main access road is natural and was used for storing boats up to several years ago when it was blocked during high floods. By clearing of the channel the area will be returned to its previous state. Clearing of the channel can contribute to the ecosystem as it will once again be used by fish and amphibians as spawning place and nursery, and a feeding place for birds such as egrets.

Impact on water

Activation of Ranger station/Info center - house will be fitted with the toilet with bio disc septic tank preventing the mixing of waste water with the lake water. This will improve the situation as the locals and tourists are currently using the whole area for the same purpose. Technical water in the house will be provided from the lake, via pump, and stored in the cistern. Wastewater resulting for the use of technical water will be eliminated via septic tank. Drinking water will be brought to the house via field car of National Park Skadar lake (in containers) and stored via cistern. There will be no mixing of the wastewaters from the house and the lake water while usage of the lake water will have no influence on the water quality or balance of the area.

Clearing of the area for camp site and parking spot - both areas will have no influence on the lake water (no landslides or dirt and debris going in to the lake during or after the construction phase). The drainage of the camp site area will remain the same, while the drainage of the plateau for parking will decrease due to compacted ground. However the area used for parking is too small to have a

significant effect on the water balance and valuable habitats such as Salix forest and reed beds are located beyond the water channel which will regulate water flow.

Usage of camp site and parking - increased frequency of tourists and vehicles can bring damage to the area during the peak of tourist season, However these impacts will be mitigated through the waste disposal methods. more about this in the chapter "Waste management and site restoration".

Clearing and usage of the water channel - by clearing of the water channel the water flow will be returned to its previous state. This will benefit the area by improvement in drainage and by minimizing the effects of high water fluctuations thus preventing the destruction of coast.

Impact on soil

Activation of Ranger station/Info center - majority of the works will be inside of the house. Digging done on the plateau surrounding the house will be followed by restoration of the area to its previous state. All works involving digging and disturbance of the soil are od small scale and will not bring any harm to the ecosystem.

Clearing of the area for camp site - works include removal of the earth mounds, loose rock and rubble. All works described will only influence the surface layer with no harm to the deeper layers of the area thus no harm will be done to the soil.

Clearing of the area for parking spot - excess dirt from the camp site and dirt collected during the clearing of the channel will be compacted on the plateau used for parking. The compacting will affect the surface layer with no harm done to the deeper layers of the soil. This action will mainly influence the water drainage, but the area is too small to bring significant influence on the ecosystem.

Usage of camp site and parking - prolonged use of the camp and parking area can influence the surface layer during the peak of the tourist season (damage during setting of tents, lighting of fires etc.). However the ground will recover during months outside tourist season.

Clearing and usage of the water channel - clearing of the water channel will benefit the drainage of the soil thus maintaining the integrity of the soil during high rains.

Impact on air

Activities such as burning of the wooden pellets used for heating, lighting of fires and the increased presence of cars are expected to increase the air pollution. However, even during the peak of tourist season, available surface for camping and parking limits the number of tourists to 50-80 tents depending on their size thus keeping the level of pollution low and without any significant influence on the ecosystem.

During the construction works sound pollution is expected lasting 4 to 7 days depending on the work conditions. The air distance between the construction site and pelican nesting sites is 2940.65 m and 3196.24 m (active colonies from 2014). Between the pelican colonies and construction zone there is a marsh area covered with willow trees and reed beds that will reduce the noise distance, but the distance alone is enough to avoid any pelican disturbance. The immediate area around the construction zone is mostly populated with white egrets that use the channels for feeding, however they are used to human presence and the noise of fishing boats. Temporary allocation can occur but will not cause permanent damage. Opening of the natural channel is expected to attract birds feeding in shallow water.

Waste management and site restoration

Wastewaters from the house at Podhum will be processed via bio disc. The presence of a toilet and technical water in the Ranger station/Info center will decrease the organic pollution of the area. The available surface for camping and parking limits the number of tourist present under Hum hill for prolonged period of time, but in case of numerous visits PENP will react accordingly by placing of eco toilets or construction of public toilets.

Littering caused by locals and visitors will be managed through the placement of trash cans that will be cleaned by the Communal service. A Memorandum of Understanding will also be signed with the locals stating that they can use the area for free if they maintain it by regular cleaning from trash and advancing vegetation.

Mitigation measures

Proposed action	Environmental implications	Environmental impacts	Proposed mitigation measures	Authority
Activation of house at Pdhum	➢ repairs to the house ➢ setting of solar panels ➢ setting of video monitoring ➢ setting of external illumination ➢ activation of toilet ➢ technical water	➢ temporary noises during the works ➢ digging of septic tank and connecting to the house plumbing ➢ light pollution via external illumination	➢ minimizing noise by closing windows and doors during repairs ➢ after digging returning the spot in previous condition (use of excavated rock and compacting the top layer of soil) ➢ for external illumination use only reflectors that are insect friendly	PENP
Creation of camping site	➢ cleaning of the area ➢ leveling of the ground ➢ area used by tourists and locals	➢ temporary noises during work ➢ damage to the superficial layer of soil during construction and camping ➢ littering ➢ prolonged presence of people (campers)	➢ use small machinery sufficient just for the given task ➢ optimize the working hours of the machinery and include human workers to reduce damage to soil ➢ enable soil recovery outside tourist season and if needed repair the damage ➢ organize garbage disposal, include local community in cleaning of the trash ➢ rangers follow the number of campers present and stop any reckless behavior producing damage to the area or high noise	PENP, rangers, locals
Creation of parking spot	➢ cleaning of the area ➢ leveling of the area ➢ compacting of the dirt ➢ area used by locals and tourists	➢ temporary noises during work ➢ further compacting of the soil ➢ presence of cars: noise, exhausts	➢ use small machinery sufficient just for the given task ➢ optimize the working hours of the machinery and include human workers to reduce damage to soil ➢ number of cars and type of cars regulated by the rangers to stop any reckless behavior producing damage to the area or high noise	PENP, rangers,
Cleaning of the water channel	➢ extracting dirt from the channel ➢ channel used for anchoring boats	➢ temporary noise during construction ➢ presence of boats in the channel	➢ use small machinery sufficient just for the given task ➢ ranger service regulates the number and type of boats present	PENP, rangers,