



# 2020 TOP 100 GOOD PRACTICE STORY

**Title of the Story:** Restorative Change Management of the Special Nature Reserve “Tivatska Solila”

**Destination Name:** *(include any state, province or region)*

Special Nature Reserve “Tivatska Solila” (known as “Solila”)

**Country:** Montenegro

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**Nomination Category:** *(Please check the boxes that indicate the focus of your story)*

- Culture & Communities
- Environment & Climate
- Nature & Ecotourism
- Islands & Seaside
- Immediate responses in dealing with the COVID -19
- Post COVID -19 recovery
- One of the 17 SDGs\*** *(if yes, which one)* SDG 15: Life on Land and SDG 17: Partnerships for the Goals

\*The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. The 17 SDGs are integrated—that is, they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. What are the Sustainable Development Goals? <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

For further information on Tourism for SDGs: <http://tourism4sdas.org/>

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### Issues faced

The location of “Tivatska Solila” Special Nature Reserve is a historical one. For more than a millennium, these lowlands at the southwestern end of the Bay of Kotor were valuable salt pans, providing a stable livelihood for the local population. Even in relatively modern times several hundred families were harvesting salt, until in 1960 the production finally ceased and Solila fell into oblivion. What was once a place of civic and community importance fell derelict and became a dumping ground for debris from human and construction activities.

Although the area of Solila deteriorated over the time, the specific biodiversity developed and since it was the rare natural area in the middle of urbanized and industrial settlements, it also became a refuge for numerous animal species. On the other side, the location became interesting for construction development threatening to destroy the last coastal wetland area in this part of Montenegro. The once pride of the area turned into a dump over the years. Solila became a derelict area, filled with various types of waste, from common rubbish to excavated earth, construction debris and septic tank contents. Nevertheless, half a century after the last salt harvest, the significance of Solila became recognized; this time not for salt extraction, but rather as one of the most significant bird and halophyte vegetation habitats in the region of former Yugoslavia. Since 2013, the management activities of the Public Enterprise for Coastal Zone Management improved the area and changed it into an attractive nature “getaway” that is only minutes away from the town of Tivat. The walking trail with information boards with information about the natural and cultural values of Solila is today popular for morning recreation and evening family walks throughout the year, and birdwatching from the towers is attraction for visitors from other towns and from abroad.

The initial dossier prepared by the Nature Protection Institute in 2008, recorded 111 bird species, most of which have a protected status and 11 are listed on Annex I of EU Bird directive, 4 species of amphibians and 10 species of reptiles declared as vulnerable by IUCN. Halophyte vegetation, as the most endangered vegetation in Montenegro, is abundant in the Nature reserve with most widespread representatives: *Salicornia europea*, *Juncus maritimus*, *Carex sp.* and *Phragmites sp.* crating the natural habitats protected by the EU Habitat Directive which makes this Nature Reserve the potential NATURA 2000 site.

Fast forward a half century and Solila again became recognized as a resource, this time not for salt, but for its unique bird and halophyte vegetation habitat, one of the most significant in the former Yugoslavia, and in 2008 Solila was declared a Special Nature Reserve by the Nature Conservation Bureau.

Thereafter a partnership was forged among the Tivat Municipality, the Public Enterprise for Coastal Zone Management (JPMD), the Tourism Organisation of Tivat and the nongovernmental



organization (NGO) Centre for Bird Protection and Research (CZIP) to transform Solila back to a natural state, and further develop it with the means available to each of its respective partners. (Tivat Solila\_Photo 1 - First clean-up works 2011)

Five years later, in 2013, upon the initiative of the Ministry of Sustainable Development and Tourism, Solila was included as a Special Flora and Fauna Reserve in the Ramsar List of Wetlands of International Importance (there under “Tivat Saline”). With the 2014 amendments to the Nature Protection Law, JPMD was entrusted with managing the site; being the first time that this organization was entrusted with managing protected areas.

At the outset of the project, a segment of the local population, some of whom are landowners in the Nature Reserve, were against the change to a protected status fearing it would affect the value of their properties. Furthermore, the area had become a local hunting and fishing area, hence initial activities that spoke to “sustainability” were not welcomed by everyone in the local community.

#### Methods, steps and tools applied

The earliest interventions in the reserve included deep clean-ups of the area from the waste deposited over decades, clearing the canal to restore water circulation, and placing fences in a section of the site to prevent further dumping and biodiversity disturbances. After JPMD had become the site manager, they started allocating €50,000 - €100,000 annually for further development, remediation, monitoring, education, and promotion of the site. The 12 bridges along the existing road dating back to Austro-Hungarian times were fully reconstructed. (Tivat Solila\_Photo 2 - State of the bridges 2011) The rehabilitation of additional embankments of the once saltpans became a 2 km-long recreational path. (Tivat Solila\_Photo 3 - Walking path, infopoint & wildlife observation tower 2018) To prevent motor vehicles from entering the site, gates were placed at both entrances. In cooperation with CZIP, the first activities to promote the site took place, where JPMD established an Information Centre, and CZIP provided a part-time expert guide for education about the Special Nature Reserve. Based on the positive experiences from this pilot project, JPMD introduced a new post into the workforce plan, employed a permanent staff member in charge of information, monitoring and control of the site.

JPMD has continued to invest yearly substantial funds to develop the infrastructure, so far including: Two bird-watching towers, a vantage point, a first floodgate to control the water level, information boards about the Nature Reserve including rules for visitors, eight educational boards along the hiking/cycling paths. These spots are at the same time eight interactive audio-guide points (izi.TRAVEL). Between 2013 and 2019, the total of 350,000€ has been invested in the site infrastructure.

Apart from the comprehensive infrastructure development, further funds are allocated yearly to restore the site to its original state, as well as for the scientific monitoring of the flora and fauna, which is seen as a matter of great importance. Considering that apart from birds (routinely monitored by CZIP), there was not much information about biodiversity at the Solila, JPMD hired



experts to conduct research within the reserve and make inventories of the species of fish, crustaceans, insects, amphibians, reptiles and mammals, as well as fungi and plant species, which led to the collection of significant new data.

Montenegro lacks experience in managing coastal wetlands, which once were saltpans. Therefore, JPMD looked for experience in the region, and commissioned an expert consultant from Slovenia, with strong experience in managing the Sečovlje Salina Nature Park in Piran. The knowledge transfer was precious for proposing measures of water and canal regulation, for implementing conditions to improve biodiversity, to train eight members of the JPMD staff, and to establish cooperation with the local community, followed by education and visibility work.

#### Key success factors

- 1) In time, with a number of outreach actions and through constant interactions, JPMD managed to revert the initial negative attitude of the local population: Today, they visit the site regularly, enjoy it and see it as their local success story -with “emotional ownership”.
- 2) After first establishing cooperation and interactions, the site manager obtained significant information about the previous uses of the site from the locals. Having maintained such good cooperation, today the local community is involved in decision-making and various activities.
- 3) Another key is the fact that a locally employed staff member is knowledgeable about the local traditions and able to create new linkages with the community.
- 4) In cooperation with the relevant institutions, and by educating the local community, hunting was eradicated. Furthermore, the fact that locals together with the site staff saved Solila from a huge wildfire that threatened to destroy the area 2017, is an illustration of the community’s devotion to their Nature Reserve.
- 5) Education and promotion: The JPMD staff put particular emphasis on educating the local population and the general public about the site values. Educational tours and workshops for preschool and school children, as well as for interested groups and individuals are regularly organised. (Tivat Solila\_Photo 4 – Educational visit with a school class 2020) Special activities are organised for the students of the local primary school from the community to which the site belongs, such as tours, workshops, and competitions. For two years already, in cooperation with the University of Montenegro, botany students do their field work in the Nature Reserve. Celebrating important days, such as the World Wetlands Day, the World Migratory Bird Day, the Earth Day, etc. helps raise awareness among children and adults alike about the importance of preserving such sites.
- 6) For visibility, on social media (Facebook, Instagram) regular posts talk about the activities in the reserve, and its natural and cultural values. The Tourism Organisation of Tivat promotes Solila as one of the unique places, and the Municipality shares important news also in a public Viber group channel.



## Lessons learned

**1. Financial resources:** In managing the site it was paramount that JPMD was able to make annual appropriations for improving and maintaining the Nature Reserve. It was only after the site was cleaned, developed and paths for visitors made that prospective partners appeared interested in financially supporting further activities.

**2. Human resources** in the site management, which are required for:

- a) field work (conservation and maintenance, monitoring the condition and any changes),
- b) education and visibility (expert guides, provision of information, maintaining the social media
- c) coordination of investment, monitoring efforts, and cooperation with other institutions.

For these reasons, in 2014 JPMD designated the Sustainable Development Department, with seven staff members, one of which spending full time in the Nature Reserve, to manage the site. One staff member and one volunteer were engaged in monitoring the condition and the changes in the Reserve, while four staff members were trained to work as expert guides.

**3. Community involvement:** From the very start collaboration with the community and their support played a decisive role in the successful restorative turnaround to today's way of site management. Although there was resistance from the local community when the protected status was implemented, today, due to the good management practice, Solila Special Nature Reserve is a popular area for recreation walks for the locals. Their support for the management is growing over the time through the contribution in information, data, and experiences on how the area was used in the past. Through the promotion of the historic and natural heritage of Solila, the local tradition and culture are promoted as well, which is recognized and supported by the local community. Although there was resistance from the local community when the protected status was implemented, today, due to the good management practice, Solila Special Nature Reserve is the popular area for recreation walks for the locals. Their support for the management is growing over the time through the contribution in information, data and experiences on how the area was used in the past. Through the promotion of historic and natural heritage of Solila, the local tradition and culture is promoted as well, which is recognized and supported by the local community.

**4. Knowledge and experience sharing:** Cooperation with domestic and international partners was relevant for knowledge transfer ("what" and "how to"), and the staff trainings.

**5. Visitor management:** Over the years, as the number of individual and group visits has started to increase, practice has shown that the optimal group size is up to 30 visitors at a time. The specific conditions (narrow paths, keeping the environment peaceful for the birds, weather conditions and change of seasons) require the limitation, for keeping the conservation goals in focus and providing visitors valuable experiences.

**6. Cohabitation of nature, culture and sustainable economy** of saltpans: Although designated as natural heritage, the Solila site also abounds in cultural heritage; thus, JPMD prepared a study focusing on the status Solila had through history, presenting the cultural heritage and giving guidance for conservation and safeguarding measures. Remnants of prominent 20th century architecture discovered, identifying Solila also as an important archaeological site and a cultural and historic area. The study proposed to designate Solila in its entirety as immovable cultural heritage, with all its layers and segments of cultural heritage and cultural landscape, from different stages of its development, particularly in the salt harvesting period, but also including other times and purposes. In 2017 JPMD launched an official initiative with the Administration for the Protection of Cultural Properties to list Solila as a cultural property.





The future management of the Solila Special Nature Reserve will focus on the activities that will promote the natural and cultural heritage of the area in a modern and innovative way through the development of the interpretation centre with interactive tools for multi-media presentations and through posting of birdwatching equipment for the better experience of the nature. The activities that will promote local traditions and involve local people for storytelling, production of local food items, demonstration of salt harvesting, bucket vowing, production of clay ornaments etc., will strengthen the ties with the local community. The development of controlled touristic visits to Solila Special Nature Reserve throughout the year, especially during the spring and fall, will help boost the local economy, today mostly based on summer season tourism.

*Like described further above, the solution is based a lot on other successful examples in Slovenia and elsewhere, but we believe that the management experience may be an inspiration, of help and cooperation with other protected areas in the country, such as the Nature Park Ulcinj Salina (declared 2019), being a habitat similar to Solila, and eventually for other comparable, formerly balanced and later troubled areas, along the "Adriatic Flyway" of migrating birds and elsewhere in the World.*

#### Results, achievements and recognitions

- 1) 2018 Tivat Solila became a member of the Parks Dinarides, a network gathering 95 protected areas from 8 countries, which recognised the successful management of this site.
- 2) The international project "Cultural Indicators" implemented in 2017 by JPMD in cooperation with the Mediterranean Wetlands Initiative (MedWet) and Mediterranean Wetlands Observatory (MWO), surveyed for the first time 57 foreign and 100 domestic visitors between May and November assessing that in 2017 the site was visited by 1,500 nature lovers. In 2018 the site had approx. 2,700 individual and 500 organised (group) visits, and in 2019 some 3,500 individual and 700 organised (group) visits.
- 3) JPMD as the site manager has established cooperation with „Saline D’Hyeres” from France, receiving useful advice and recommendations for further enhancement and sustainability, given that these two wetlands share a similar vision for biodiversity protection.
- 4) For years Solila has been on the map of numerous groups of ornithologists from the Netherlands and Switzerland; the increasing domestic and international interest is indicative of the importance of the conservation work. (Tivat Solila\_Photo 5 - Ornithologist group 2019)
- 5) The research of the flora and fauna has set the baselines for monitoring: The checklist of vascular flora at Solila includes 470 species/subspecies, four of which are endemic for the Balkan Peninsula, while the research into fungi revealed the presence of 20 different types. Also, research has taken stock of 10 species of reptiles, and 19 species of mammals. Among amphibians, 5 species are present here, one of them on the list of endemic species for the Balkan Peninsula, while the total of 145 species of insects were recorded, with 16 among them endemic.
- 6) Last not least, the network of "Solila" friends extended considerably with the opening of social media accounts, where the current posts are followed by 2,222 friends on Facebook and 877 followers on Instagram.



### Additional references

- Montenegro GIS Bioportal: <http://www.priodainfo.me/Mapa#/osnovnipodaci/23>
- izi.TRAVEL: <https://www.izi.travel/en/e79c-specijalni-rezervat-priode-tivatska-solila/sr>
- Facebook: <https://www.facebook.com/Tivatska-solilaTivat-salina-1743401355881253/>
- Instagram: [https://www.instagram.com/rezervat\\_priode\\_solila/](https://www.instagram.com/rezervat_priode_solila/)

### Partners:

- Ministry of Sustainable Development and Tourism: <http://www.mrt.gov.me/ministarstvo>
- Public Enterprise for Coastal Zone Management: <http://www.morskodobro.com/>
- Environmental Protection Agency: <https://epa.org.me/>
- Institute of Marine Biology, University of Montenegro: <https://www.ucg.ac.me/ibm>
- Faculty of Science and Mathematics, University of Montenegro: <https://www.ucg.ac.me/pmf>
- National Tourism Organisation of Montenegro: [www.montenegro.travel](http://www.montenegro.travel)
- Tivat Municipality: <https://opstinativat.me/>
- Local Community "Krtoli" : <https://opstinativat.me/lokalna-samouprava/mjesne-zajednice/>
- Tourism Organisation Tivat: <https://tivat.travel/>
- Water Supply and Sewerage of the Municipality of Tivat: <http://www.vodovodtivat.com/>
- Montenegrin Ecologists Society: <http://www.drustvoekologa.me/>
- NGO Centre for Bird Protection and Research (CZIP): <http://www.czip.me/>
- NGO "Expeditio" : <http://www.expeditio.org/>
- NGO "Literary Youth of Tivat": <https://opstinativat.me/ngos-in-tivat/>
- Elementary school "Branko Brinić"
- High school "Gimnazija Kotor": <http://www.gimnazijakotor.me/>
- Radio "Tivat": <https://www.radiotivat.com/>
- Volunteer Fire Brigade of Krtoli
- The Mediterranean Wetlands Initiative (MedWet): <https://medwet.org/>
- Mediterranean Wetlands Observatory (MWO): <https://tourduvalat.org/en/mediterranean-wetlands/mwo/>
- Parks Dinarides: <http://www.parksdinarides.org>
- Ramsar Convention: <https://rsis.ramsar.org/ris/2135>
- Nature Park "Hutovo blato": <http://hutovo-blato.ba/>
- Nature Park "Piva": <https://www.parkpiva.com/>
- National Parks of Montenegro: <http://nparkovi.me/en/>
- Conservatoire du littoral: <http://www.conservatoire-du-littoral.fr/>
- Saline D'Hyeres: <https://metropoletpm.fr/tpm/article/salins-d-hyeres>
- Knowledge transfer from: <https://www.naravanarave.com/>

