

RUSSIAN AGGRESSION IN UKRAINE AND ITS IMPACTS ON ECOSYSTEMS AND BIODIVERSITY

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Ukraine faces negative environmental impacts from the time of the Russian occupation of Crimea and proxy hostilities in the part of the Donetsk and Luhansk regions (2014) (Averin et al. 2022).

Full-scale Russian aggression in Ukraine raises a broad range of problems, and the direct/indirect and short-term/long-term destruction of the natural and human (rural and urban) environment is among them.

- The full-scale unprovoked Russian aggression in Ukraine (24 February 2022) changed the world drastically. The scale of it and its national, European, and global impacts raised numerous questions, concerning human rights, international safety, justice, sustainability, etc., all requiring solutions both urgent and viable from the long-term prospect.
- War is a factor of large-scale, complex, and long-lasting threats, risks, and harm that result in the degradation of both the natural and human environment.

In my presentation, characteristic/description of war impacts on biodiversity is descriptive because:

- My task is outlining the problem, rather than analyzing massive data and figures;
- The situation changes day by day, and so does the data;
- It is difficult to estimate precisely the military actions' impacts on the environment, ecosystems and biodiversity due to the complexity of natural ecosystems and the non-linear causal relationships between different parts of them.

However, the scale of military effects is extensive and covers directly or indirectly the entire territory of Ukraine and have transboundary impacts.

In short, there are following groups of environmental impacts of aggression and hostilities.

The current Russian aggression affected about 20% of the Nature Protection Fund of Ukraine:

there are 900 protected objects of different statuses with 1.2 million hectares, mainly in the South and East of Ukraine. (<https://wownature.in.ua/>)

Almost all objects of the Nature Protection Fund of Ukraine of the Azov-Black Sea region are under the occupation

Tuzly Lagoons National Nature Park is the only single park in the region in the territory controlled by Ukraine.

I. Hostilities destroy landscapes, ecosystems, habitats, and species populations and violate the integrity of the Biosphere and functioning of the natural life support systems and natural services (like climate support systems, soil fertility, purification of water and air, pollination, etc.).



II. Raising the risks of technogenic catastrophes, including damage to nuclear facilities, and triggering widespread environmental technogenic pollution by the targeting of industrial objects.



III. High levels of emission of harmful substances into the atmosphere resulting from the use of military vehicles and other weapons systems and technogenic pollution by the targeting of industrial and infrastructure objects



IV. Destruction, pollution, and withdrawal from the use of farmlands; water pollution and restriction the water access, etc.



Biosphere Nature Reserve Askania Nova (established in 1898 by Friedrich-Jacob Falz-Fein)(33 307 ha) located in Kherson Oblast, Ukraine, within the dry Taurida steppe (<https://www.nationalparks.in.ua/zapovidnyky/biosferni/askaniya-nova/>)

- a part of the Emerald Network,
- under protection of the Ramsar and Bonn Conventions;
- active member of the UNESCO *Man and the Biosphere Program*⁴
- a research institute of the Ukrainian Academy of Agricultural Sciences.
- the reserve consists of a zoological park, a botanical (dendrological) garden, and an open territory of virgin steppes.



Holy Mountains National Nature Park is located along the chalk cliffs and river terraces of the Donets River in Eastern Ukraine. The park is located in the administrative districts of **Sloviansk**, **Lyman**, and **Bakhmut**; all in the north of Donetsk Oblast (<https://npp-svyatygory.com.ua/>)



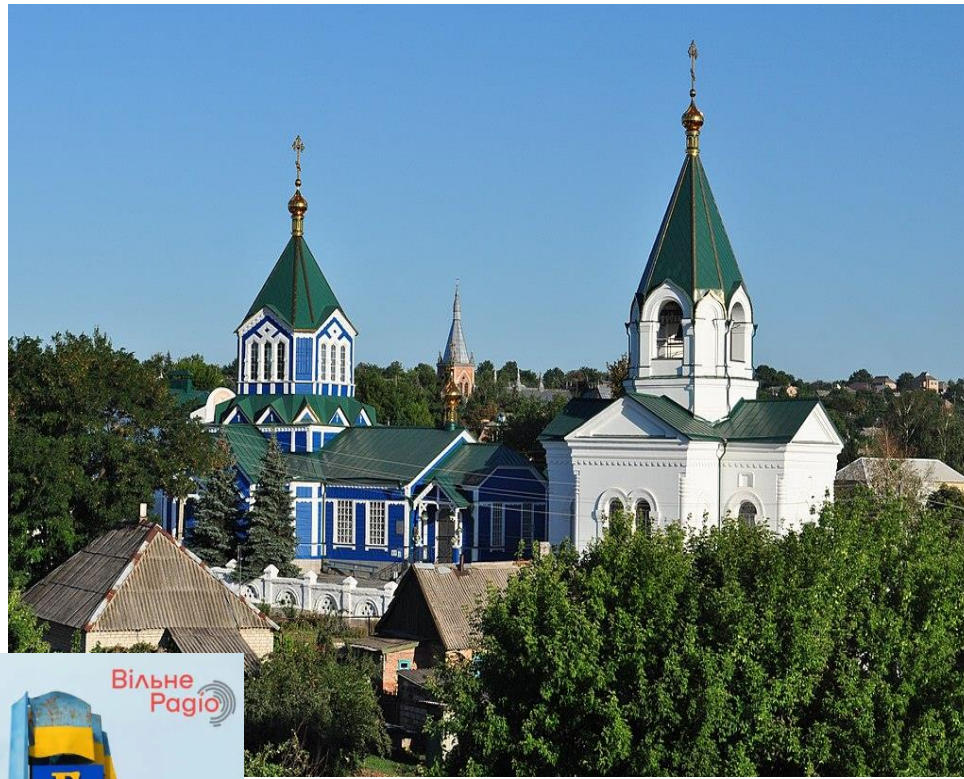
The NPP is endangered by forest fires caused by ongoing 2022 Russian invasion of Ukraine and the heavy military operations in the area.

Photos are kindly submitted by *Olena Kravchenko*, ICO Environment-People- Law, and *Oleksandr Khodosovtsev*, Kherson State University. The photo were made during the expedition in May 2023 with risk to lives



Bakhmut

(70.000
people before the
war)

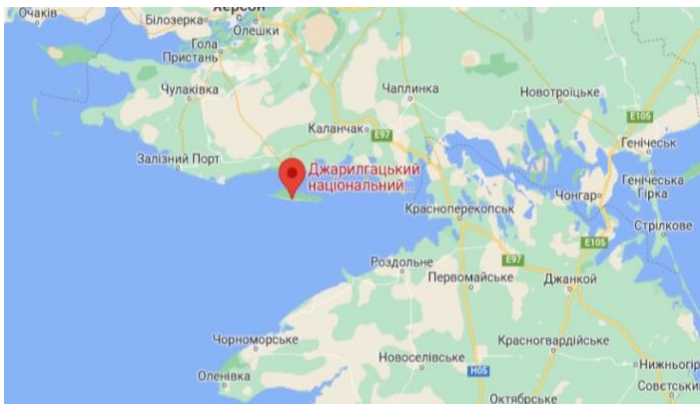


Dzharylhak National Nature Park covers Dzharylhach Island and the adjacent Karkinit Bay in the northern reaches of the Black Sea.

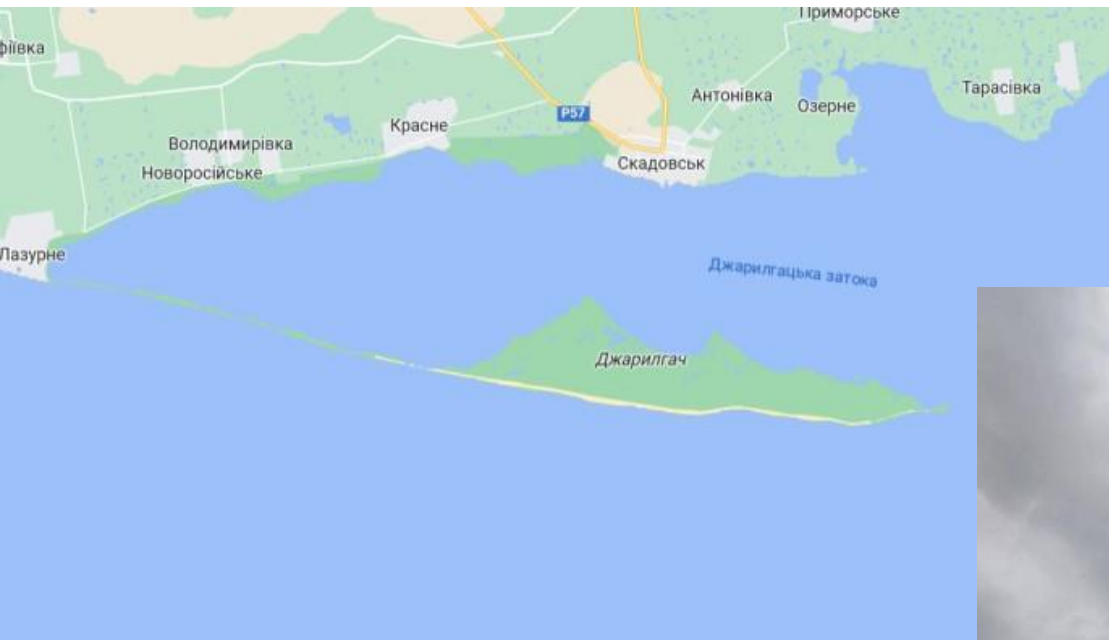
Famous for clean sandy beaches and mineral springs in its many small lakes, Dzharylhach is the largest island in the Black Sea. Part of the park have been protected nature reserves for almost 100 years

The occupiers stationed on Dzharylgach Island about 3000 of their troops and 15 boats taken from local residents and set up a military training ground on the island

They connected the island with the mainland part of Kherson region, that threatened the Park's unique island and aquatic ecosystems.



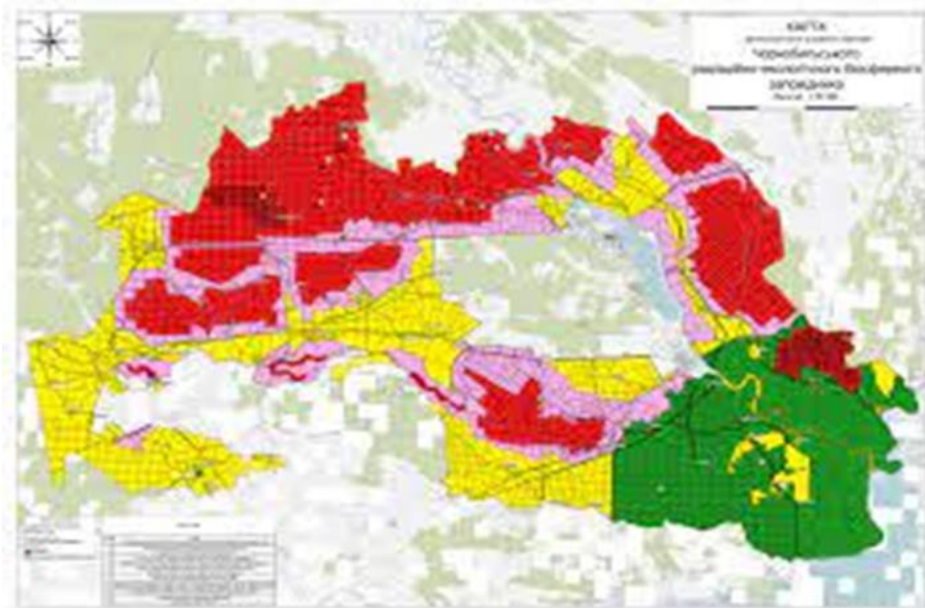
Actions were held in a number of European cities in UK, Germany, Norway, and Czech Republic against the Russian ecocide on the island of Dzharylgach (<https://life.pravda.com.ua/society/2023/05/22/254410/>)



More than 50,000 dolphins died in the Black Sea due to the war, and hundreds were injured. (https://ukrainian.voanews.com/a/u-chornomu-mori-cherez-viinu-zagynuly-delphiny/7090817.html?fbclid=IwAR06N3_S0ZcaGjdAe8fODOs-3bGDVaAehJgLC4iOTidb8yK323IW3x9VnWg)



Chornobyl Radiation and Environmental Biosphere Reserve was designated as an area of global importance (GEF, UNEP)



The nuclear risk resulting from the Russian aggression in Ukraine deserves special attention in Ukraine and the world from environmental, security, political, ethical, moral, and psychological positions.

- The Chernobyl NPP and Exclusion Zone was occupied by Russians from 24 February to 1 April 2022;
- Any intervention results in radiation dangerous because it leads to the intensification of radionuclides migration processes;
- Activity that violates the operation and regulation rules at the Chernobyl NPP and in the exclusion zone increases the risk of radionuclides entering the environment;
- Military activities in the Chernobyl zone are dangerous due to violation of operation of spent nuclear fuel storage and confinement where 98% of radionuclides are stored .

- Damaged buildings;
 - Stolen equipment and transport;
 - Intervention to the “Red Forest”;
 - Mining the territory is a problem for many years;
 - Animals from the Red Book were killed and eaten.
- (Photo: Agency of Ukraine for Exclusion Zone Management)



Both fighting sides damage the environment during the war, that their responsibilities are different

- Defending its sovereignty Ukraine uses conventional weapons according to internationally accepted laws and customs of war, while Russia violates these rules and even weaponizes food, water, electricity, fuels, civic nuclear objects, etc.
- These result in additional pressure on the environment and natural resources.

According to international legislation [Rome Statute] the approaches to the assessment of the actions of the aggressor and the victim of the aggression cannot be the same.

- Russian Federation is the side that commits an act of aggression and war crimes;
- Ukraine is the victim of aggression and war crimes.

Russian Federation committed planned and unprovoked aggression in Ukraine, while Ukraine is defending its independence, sovereignty, and territorial integrity.

According to international legislation, an **aggressor is solely responsible for the consequences of his aggression** [Jeff McMahan, 2022].

All military actions and hostilities take place in the territory of Ukraine resulting in the environmental harm mentioned above. Thus, Ukraine's territory is the most impacted one.

However, other countries are also at risk of transboundary pollution from hostilities or collateral damage by missiles or their parts (as precedented in Moldova, Poland, Romania).

The military actions devastate the natural ecosystems, habitats, flora, and fauna, which are “silent victims” of the war in the territory of Ukraine, but also have a transboundary effect.

From an ethical position, these can be assessed as:

- neglecting the intrinsic, or inherent value of nature and non-human species (Dale, 2008);
- the violation of inherent “rights of Nature”, or “Nature’s right to exist”;
- the crime against future and future generations “compromising the ability of future generations to meet their own needs” [Our Common Future] and, consequently, violates the principle of intra- and intergeneration justice.

The violation of the principle of biophilia (E. Wilson); Russia is a society in which the ideology of necrophilia is cultivated:

- Disrespect for life and lack of empathy is manifested not only in relation to people, but also in relation to all manifestations of life. (There are many cases of killing and abuse of domestic animals and animals in zoos in the occupied territories.)

The scale of environmental damage rises the question “Is the Russian aggression in Ukraine ecocide?” within discussions about ecocide as 5th international crime against peace.

- Ecocide is broadly understood to mean mass damage and destruction of ecosystems – severe harm to nature which is widespread or long-term. [<https://www.stopecocide.earth/what-is-ecocide>];
- Ecocide “means unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts.” [*Independent Expert Panel for the Legal Definition of Ecocide 2021*]
- Many farmlands become the targets of collateral or purposeful destruction due to minelaying and intense shelling. According to Arthur H. Westing, these actions correspond to the criteria of ecocide, as the very environment becomes the target for destruction.

- Crimes against nature have not only legal, but also social, ethical, and existential dimensions;
- Recognition of crimes against nature belongs not only to the sphere of law but also to the research in anthropology, sociology, ethics, social psychology, public opinion, advocacy, and activism.

Even the brief overview demonstrates the serious environmental challenges for Ukraine, Europe, and the globe caused by Russian aggression in Ukraine.

- The sooner the war ends, the less damage will be done to the environment.
- The end of the war is not only the cessation of hostilities but also the demilitarization and denuclearization of Russia in order to prevent further acts of aggression and blackmail.
- Europeans together with Ukrainians have to think about the methodology for assessment of the environmental cost of war as well as overcoming the environmental challenges, diminishing the current impacts of the war, and post-war restoration of Ukraine and revitalizing the European environment as the common living space in terms of environmental safety, economy, and social welfare (under the condition of severe competition for the natural resources).

- We need to do a lot for nature restoration and rehabilitation.
- The tasks of postwar restoration will be very challenging in terms of strong competition for natural resources and lands under the slogan “Economy first!”
- At the same time, it might be a window of opportunities to change the model of social-economic development for sustainable nature and natural resources use.
- We may think in this direction and about the project and funds, taking into account the Euro-integration aspiration of Ukraine.