

Minor Boundary Modification

Colchic Rainforests and Wetlands

Georgia

1 February 2023

In response to Decision 44 COM 8B.8 (5) of the World Heritage Committee, the State Party of Georgia hereby proposes a minor boundary modification (buffer zones) of the Colchic Rainforests and Wetlands in line with §107 of the Operational Guidelines for the Implementation of the World Heritage Convention.

The State Party proposes three specific minor boundary modifications (Figure 1), extending the buffer zones of the Churia, Nabada and Grigoleti component areas of the series. The proposed combined increase of buffer zone area is 1,203 ha. No reduction of any buffer zone and no modification of any boundary of any inscribed component area of the series is being proposed.

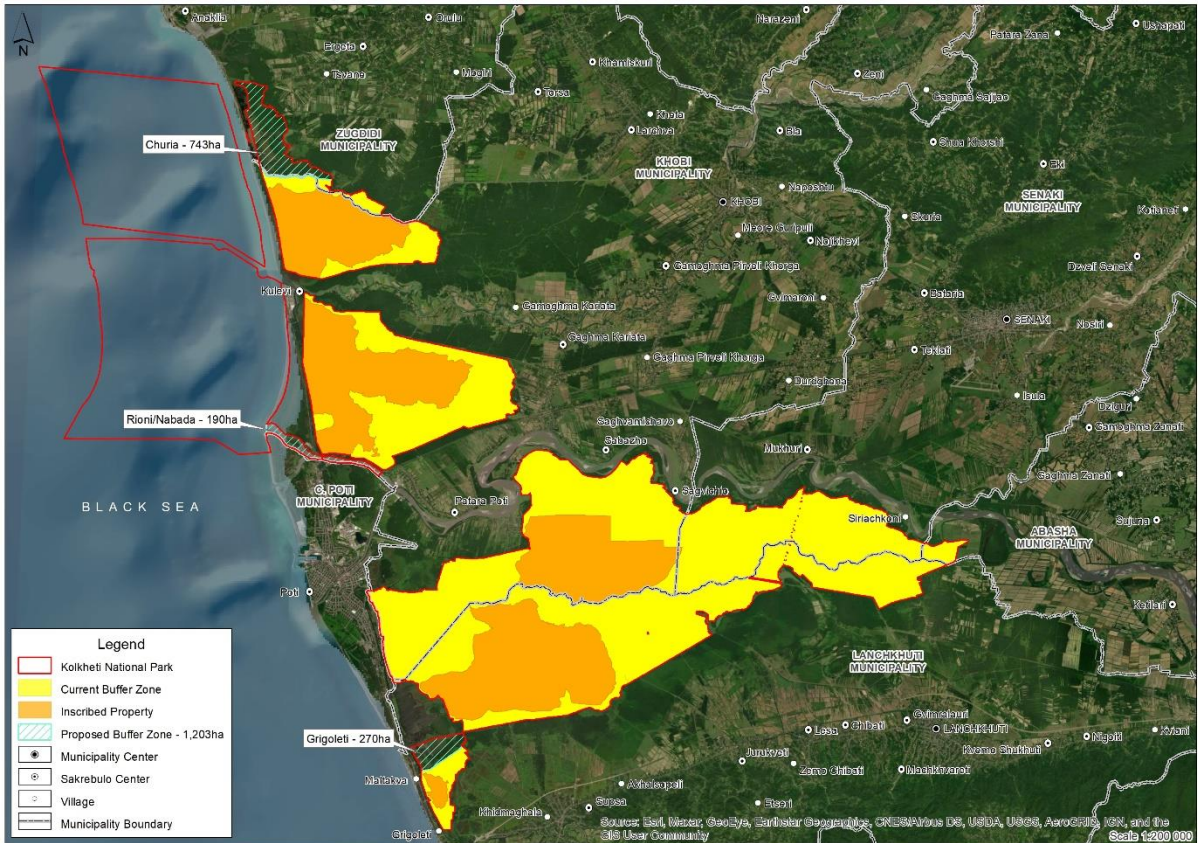


Figure 1. Overview of the three proposed minor boundary modifications in relation to the inscribed component areas of the Colchic Rainforests and Wetlands. See Appendix 1 for detailed maps.

1. Area of the three buffer zone extensions

Table 1 provides the names and areas of the component areas of the series adjacent to the buffer zones to be modified, the area of these buffer zones as inscribed, and the area of each proposed buffer zone extension.

Table 1. Areas of proposed buffer zone extensions.

Name of component area	Area (ha)	Buffer zone - inscribed (ha)	Buffer zone extension (ha)
Churia	1,943	879	+743
Nabada	2,976	2,586	+190
Grigoleti	125	328	+270

2. Written description of the buffer zone modifications

2.1. Churia buffer zone extension

This proposed buffer zone modification extends the existing buffer zone of Churia component area to the North of the Churia River, prolonging the western border of the existing buffer zone towards the North for about 4.8 km. This western border continues to run parallel to the Black Sea coast and about 300- 780 m from it, until it reaches the border of the lands of Anaklia village. There it turns eastwards and continues for about 1.7 km along that border, before turning towards the Southeast and continuing in this overall direction for about 8 km. The boundary of the proposed extended buffer zone re-joins the boundary as per inscription about 4.1 km east of where it deviates from it, and about 700 m North of the Churia River.

This part of the proposed extended buffer zone coincides entirely with existing, gazetted and demarcated parts of Kolkheti National Park, including the northernmost parts of the Strict Protection Zone (344 ha) and of the Traditional Use Zone (399 ha).

2.2. Nabada buffer zone extension

The Nabada buffer zone extension extends the buffer zone of the Nabada component area towards the South and Southwest, adding valuable river and sturgeon habitats: The buffer zone boundary begins opposite the southernmost tip of the buffer zone as per inscription and follows the right bank of the lower part of the Rioni River in a northwesterly direction for about 6.5 km, all the way to the northern mouth of its delta. There it turns to the Southwest and then to the Southeast, following the left bank of the northern channel of the Rioni River and then the left bank of the Rioni River itself, until it returns to the southernmost tip of the buffer zone as per inscription.

This part of the proposed extended buffer zone coincides fully with a newly established, gazetted and demarcated part of the Strict Protection Zone of Kolkheti National Park.

2.3. Grigoleti buffer zone extension

This proposed buffer zone modification extends the buffer zone of Grigoleti component area towards the North: Starting from the northwestern corner of the existing buffer zone, it prolongs its western border northwards along the right bank of the Karpacha River to the Cherpalka Canal, for about 1.4 km. There it turns to the East and follows the southern bank of the Cherpalka Canal for about 2.7 km, before turning back South and rejoining the buffer zone as per inscription near its northeastern corner, after about 0.9 km.

This part of the proposed extended buffer zone coincides fully with an existing, gazetted and demarcated part of Kolkheti National Park, including parts of the Strict Protection Zone (4 ha) and of the Traditional Use Zone (266 ha) to the north of Grigoleti Mire.

3. Justification of the buffer zone modifications

All three proposed buffer zone extensions add buffer against potential harmful anthropogenic impacts on the integrity of the OUV of their corresponding component areas in the ways described below. In addition, the proposed extension areas also hold significant conservation value in their own right, to varying degrees.

In its Decision 44 COM 8B.8 (5), the World Heritage Committee strongly encouraged the State Party of Georgia submit extensions of the buffer zones of the Churia component part towards the North and of the Nabada component part to support the conservation of the sturgeon population as a minor boundary modification.

3.1. Churia buffer zone extension

The Churia buffer zone extension adds an additional layer of protection of Churia component area of the series from the North. Its main justification lies in its (1) hydrological buffering function, (2) its buffering role against nutrient and pesticide inputs from agricultural areas to the North and Northeast into the highly oligotrophic Churia Mire, and (3) its barrier function against impacts and encroachment of potential future infrastructure development¹ – including that of port infrastructure and related transport infrastructure – in the Anaklia area.

The area is part of Churia peatland, which belongs to the type of minerotrophic peat mires and is a home to numerous peatland species mainly dominated by moor grass (*Molinia littoralis*) and woollyfruit/wlender wedge (*Carex lasiocarpa*). There are also the following species represented in this area - marsh helleborine (*Epipactis palustris*), european speedwell/brooklime (*Veronica becca-bunga*), gipsywort (*Lycopus europaeus*), seashore mallow (*Kosteletzkya pentacarpos*), royal fern (*Osmunda regalis*), chinese spiranthes (*Spiranthes sinensis*), white beak-sedge (*Rhynchospora alba*), swamp sawgrass (*Cladium mariscus*), bogbean/buckbean (*Menyanthes trifoliata*).

The central part of the peat mires includes a mesotrophic plant community and a shed created by papillose peatmoss (*Sphagnum papillosum*), which is populated by buckbean (*Menyanthes trifoliata*), roundleaf/common sundew (*Drosera rotundifolia*) and moor grass (*Molinia littoralis*).

Relict forest adjacent to the peat mires consists of Caucasian wingnut (*Pterocarya fraxinifolia*), strandzha oak (*Quercus hartwissiana*), alder, maple, and elm. The vegetation forms a three-storey structure with the first story represented by woody species typical for forests on the Kolkheti lowland: Caucasian wingnut (*Pterocarya fraxinifolia*), black alder (*Alnus glutinosa* subsp. *barbata*), hedge maple (*Acer campestre*), common hornbeam (*Carpinus betulus*). The second storey consists of guelder-rose (*Viburnum opulus*), hawthorn (*Crataegus microphylla*), colchic/black sea holly (*Ilex colchica*), butcher's-broom (*Ruscus ponticus*). The third storey is fern and grass species including male fern (*Asplenium filix mas*), spiny/sharp rush (*Juncus acutus*), cattail (*Typha angustifolia*), ground-ivy (*Glechoma hederaceae*), wood sedge (*Carex sylvatica*), and invasive species of browntop (*Microstegium japonicum*), mock strawberry (*Duchesnea indica*) and knotweed (*Polygonum thunbergii*).

3.2. Nabada buffer zone extension

The justification of the Nabada buffer zone extension differs from that of the two other proposed extensions in that it is a section of the Rioni River which is a critical habitat for sturgeon and a part of their migration corridor to the spawning grounds in the upstream part of the river, in the surroundings of Samtredia Municipality. Six species of sturgeon found in Georgian waters of the Black Sea watershed belong to two genera of *Acipenser* and *Huso*: Colchic sturgeon (*Acipenser persicus colchicus*), Russian sturgeon (*A. gueldenstaedtii*), Ship sturgeon (*A. nudipectus*), Stellate sturgeon (*A. stellatus*), European sturgeon (*A. sturio*), and Beluga (*Huso huso*). Like elsewhere in the world, their conservation status remains critical - all species of sturgeon native to Georgia are listed as Critically Endangered globally by the IUCN Red List.

The Rioni is the last remaining sturgeon spawning river on the eastern side of the Black Sea which makes the Rioni river a global hotspot of critical importance for the survival and conservation of

¹There are currently no concrete plans to develop any such infrastructure.

sturgeon. The main threats to sturgeon in the Rioni include habitat loss, habitat degradation, poaching and pollution. In response to these threats, Kolikheti National Park was extended in 2022 and now incorporates part of the critical reach for sturgeon along 6.5 km of the Rioni river. This includes the lower reach and river mouth, representing key transitional areas for sturgeon migration during spawning season.

This means that its buffering function is of a more broad significance for the entire biota of the Colchic wetlands including waterbodies in all component areas of the series connected to the Black Sea, rather than merely buffering any specific mire.

3.3. Grigoleti buffer zone extension

Similar to the Churia buffer zone extension, The Grigoleti buffer zone extension adds an additional layer of protection to Grigoleti Mire to its North. Its main justification lies in its (1) hydrological buffering function and (2) its buffering role against nutrient and pesticide inputs from agricultural areas to the Northeast into Grigoleti Mire.

The extension area consists mainly of wetlands, with some additional alder swamp forest and stands of willow (*Salix alba* and *S. caprea*). Drainage canals and ponds formed as a result of past and since discontinued peat extraction on the territory have formations of Trapeta with rare relict species such as buffalo nut (*Trapa natans*), common frogbit (*Hydrocharis morsus-ranae*), European water-plantain (*Alisma plantago*), European speed well (*Veronica baccabunga*), and water pepper (*Polygonum hydropiper*). Closer to the banks, there are marsh seedbox (*Ludwigia palustris*), willowherbs (*Epilobium palustris*), three-lobed beggarticks (*Bidens tripartite*), marsh woundwort (*Stachis palustris*) and thunbergs (*Polygonum thunbergia*). The area also holds Junceta (Parviunceta) formations together with association of hydro-hygrophilous species, and Phragmitetum formations dominated by common reed (*Phragmites australis*).

Hypothetical more drastic changes in the hydrological regime around Grigoleti Mire would lead to further degradation of mixed grass Tepheta formations and the replacement of hydrophilic species by mesophilic ones. The buffer zone extension would protect against this trend.

4. Contribution to the maintenance of the Outstanding Universal Value of the series

The proposed buffer zone extensions will contribute to the integrity of their adjacent component areas – and hence to the integrity of the overall series – through three principal mechanisms:

- **Buffering against external threats:** All proposed buffer zone extensions – particularly those of *Churia* and *Grigoleti* – will protect their component areas against impacts of current or potential anthropogenic threats originating in the vicinity, particularly alterations of the hydrological regime from draining of surrounding lands and (partly past) peat extraction, nutrient input from agricultural fertilizers, pesticide input from nearby agricultural areas, and encroachment of transport and recreational infrastructure and activities with associated ecological and aesthetic impacts.
- **Improved ecological and hydrological connectivity:** The *Grigoleti buffer zone extension* will dramatically improve connectivity between the Grigoleti and Imnati component areas of the series, as it is located between them. The *Nabada buffer zone extension* will improve connectivity between the Nabada component area and the Rioni River. It will also contribute to the conservation and functionality of the Rioni River itself, as one of the main landscape scale connectors of the Colchic lowlands. As the lowland part of the series is nested within this wider landscape, this will not only support the conservation of globally threatened sturgeon

species, but also improve the integrity of the series. The **Churia buffer zone extension** will not contribute to connectivity between component areas, as it is located to the North of the northernmost component area. At the same time, this will offer a transition area through which the Churia component areas interact – e. g. through species migration – with other ecosystems of the wide landscape to the North and Northeast.

- **Ecological reservoir function for inscribed areas:** The proposed buffer zone extensions hold habitats – though typically in a slightly degraded and recovering state – and species similar and sometimes identical to the features of Outstanding Universal Value of their inscribed areas. They could therefore function as a reservoir to replenish some populations and initiate re-establishment of habitats and ecosystems in case of – hypothetical – perturbations, contributing to ecological resilience. This is particularly true for the Colchic lowland forests of the proposed **Churia buffer zone extension** and the wetlands of the proposed **Grigoleti buffer zone extension**. The sturgeon populations of the Rioni River within the proposed **Nabada buffer zone extension** will hopefully become a re-colonization source for other rivers in the Colchic Lowlands, including those inside the inscribed component areas such as the Churia River (Churia component area) and the Pitshora River (Imnati and Pitshora component areas).
- **Restoration potential:** The proposed buffer zone extensions of **Churia and Grigoleti** comprise degraded mires and associated wetlands, which could be restored in the future. This would increase the completeness, area extent and connectivity of Colchic mires throughout the property.

5. Implications for legal protection

All three proposed buffer zone extensions consist of exactly the same legally established PA designation as those buffer zones that are already inscribed. They are all part of the Strict Protection Zone and the Traditional Use Zone of Kolkheti National Park, as the existing buffer zones around the same component areas as per inscription. Article 44 of the legally binding management plan prescribes the permitted and prohibited activities in these zones. These are consistent with the buffering function of the extended buffer zones for the OUV of the neighboring component areas of Kolkheti National Park.

All information on the legally established protection regime of Kolkheti National Park and its foundations as summarized in Chapters 5.A, 5.B, 5.C and 7.B.3 of the nomination dossier (2019) fully applies to all the proposed buffer zone extensions.

6. Implications for management arrangements

All three proposed buffer zone extensions are already being managed, and will continue to be managed, as part of the Strict Protection and Traditional Use Zones of Kolkheti National Park, in exactly the same way as the already existing buffer zones of the Churia, Nabada and Grigoleti component areas of the Colchic Rainforests and Wetlands as per inscription. The management authority will remain the administration of Kolkheti National Park. This means that no new management entities or arrangements need to be established for their effective management.

The practical management system for the extension areas is based on the legally binding management plan of Kolkheti National Park (see Chapter 7.B.3 of the nomination dossier) and is identical in terms of resources and processes to that of existing buffer zones. Four rangers in Churia, four rangers in Nabada and one ranger in Grigoleti are responsible for patrolling the buffer zone extensions.

All other information on the management arrangements of Kolkheti National Park as summarized in Chapters 5.C and 7.B.3 of the nomination dossier (2019) fully applies to the proposed buffer zone extensions. The integrated management and monitoring framework of the Colchic Rainforests and

Wetlands shall apply to the buffer zone extensions in exactly the same way as to all existing buffer zones as per inscription.

7. Maps

Maps of the proposed buffer zone extensions in line with the list of requirements of Annex 11 of the Operational Guidelines for the Implementation of the World Heritage Convention are enclosed as Annex 1 and enclosed as a separate file.

8. Photos

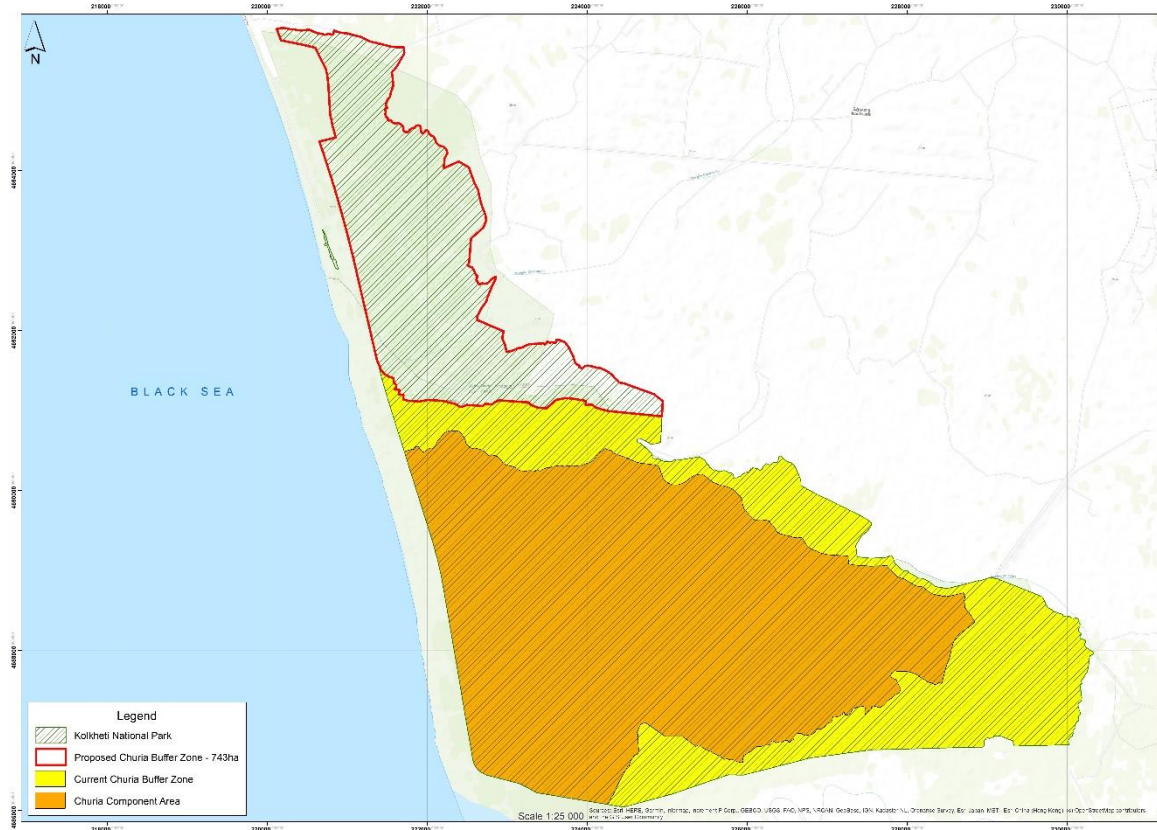
Photos of the extension area with information on its state and suitability as a buffer zone are documented in Annex 2 and enclosed as a separate file.

Annex 1 – Maps of the three proposed minor buffer zone extensions

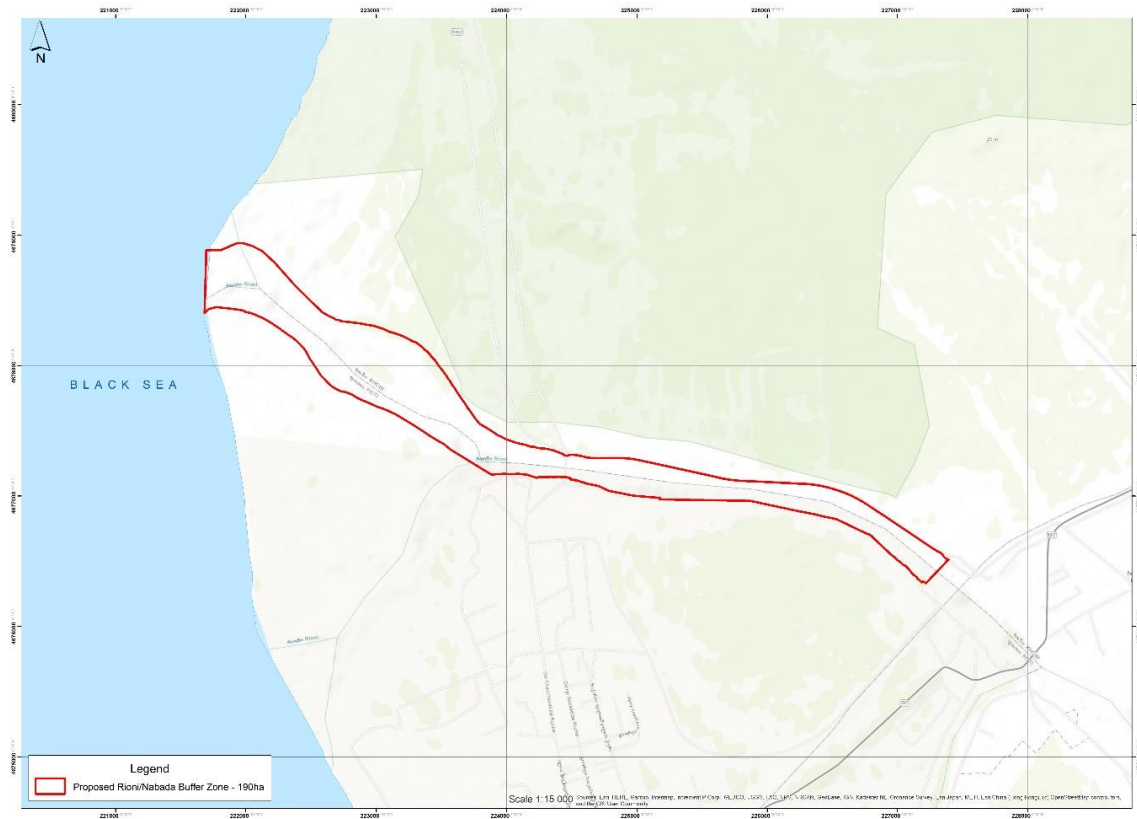
Map1: Proposed Churia buffer zone extension



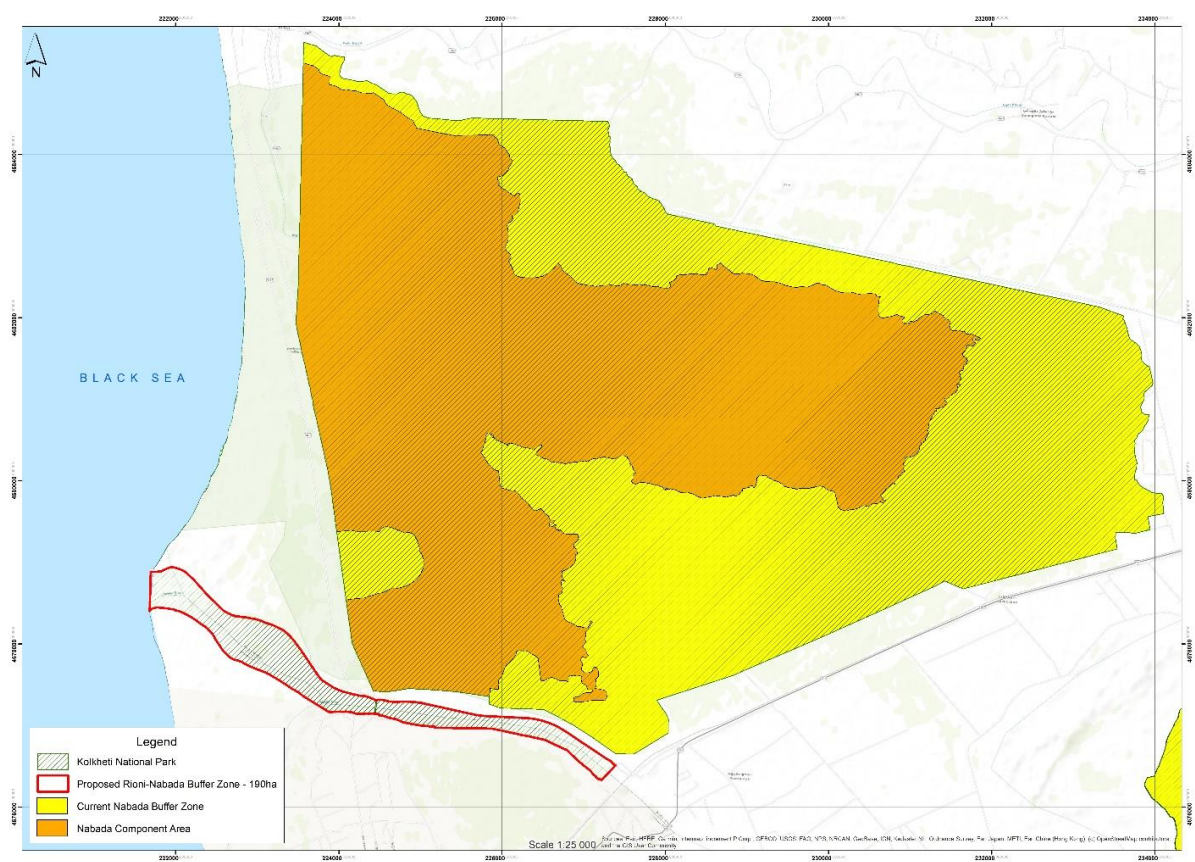
Map 2: Proposed Churia buffer zone extension, Churia component area and its current buffer zone



Map 3: Proposed Nabada buffer zone extension²



Map 4: Proposed Nabada buffer zone extension, Nabada component area and its current buffer zone

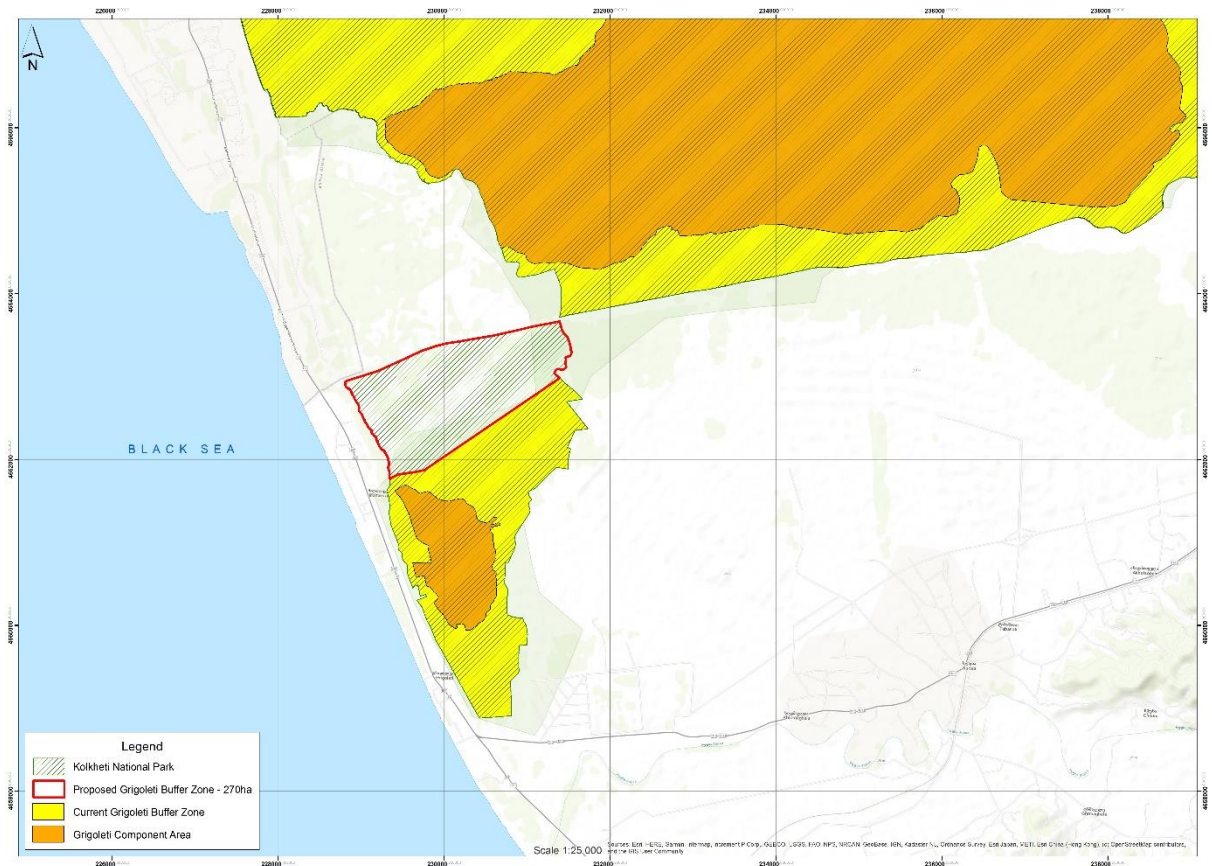


² Referred as Rioni-Nabada proposed buffer zone on the map.

Map 5: Proposed Grigoleti buffer zone extension



Map 6: Proposed Grigoleti buffer zone extension, Grigoleti component area and its current buffer zone



Annex 2 – Photos of the three proposed minor buffer zone extensions

Photos of proposed Churia buffer zone extension

Photos of proposed Nabada buffer zone extension

Photos of proposed Grigoleti buffer zone extension

Feasibility study on expanding the buffer zones around the component areas of Grigoleti, Imnati, Pitchora, Nabada and Churia (Colchic Rainforests and Wetlands, Georgia)

Summary and Conclusions

1 February 2023

Background and justification of the feasibility study

Decision 44 COM 8B.8 (Article 6a) of the World Heritage Committee requested the State Party of Georgia to

“Continue to assess the feasibility of expanding the buffer zones around component parts 4, 5, 6, and 7 to ensure that they have higher connectivity, and to provide further details of the conclusions of this feasibility study to the World Heritage Centre, for review by IUCN ...”.

Decision 44 COM 8B.8 (Article 6b) of the World Heritage Committee further requested the State Party to

“Continue to assess the feasibility of expanding the buffer zone to protect coastal dunes that provide a barrier between the unique percolation mires and the Black Sea”.

These requests arose partly from earlier discussions between IUCN and the State Party during the nomination process on how buffer zones could be used more effectively to protect the integrity of those component areas of the series that are located within Kolkheti National Park in the Colchic lowlands.

In addition to these requests, the World Heritage Committee strongly encouraged the State Party to

“... submit the proposed extensions of the buffer zones of the Churia component part towards the North and of the Nabada component part to support the conservation of the sturgeon population as a minor boundary modification, if possible, by 1 February 2023...” (44 COM 8B.8, Article 5).

Decision 44 COM 8B.8 thus contains several requests of various urgency to expand buffer zones around several component parts of the series within Kolkheti National Park, with several proposed rationales.

To ensure a scientifically based, systematic, consistent and efficient approach to the modification of these buffer zones for improved integrity of the OUV of the Colchic Rainforests and Wetlands, the State Party – with support of World Wide Fund for Nature (WWF) Caucasus Programme Office – has studied the justification, added protective value, and feasibility of all the buffer zone extensions requested in Decision 44 COM 8B.8.

Scope, approach and methodology

Geographical scope

The geographical scope of the feasibility study comprises the potential locations of all buffer zone extensions requested in Decision 44 COM 8B.8, plus one more potential buffer zone extension

between component areas 3 and 4 (Grigoleti and Imnati mires). The study area was broken up into six separate assessment areas, for in-depth analysis of justification, added protective value, and feasibility of potential buffer zone extensions (Table 1, Figure 1). No assessment area was established between the Imnati and Pitshora component areas (No. 4 and 5), because these already share a continuous buffer zone.

Table 1. Assessment areas for potential buffer zone extensions around component areas 3-7 of the Colchic Rainforests and Wetlands. Numbers in Column 1 refer to assessment areas, whereas numbers in Column 2 refer to component areas of the series as inscribed.

No.	Name and location	Area (ha)	Reference to requests of 44 COM 8B.8
1	Churia 1 Wetlands to the north of Churia component area (No. 7)	743	44 COM 8B.8 (5)
2	Churia 2 Dune between Churia component area (No. 7) and the Black Sea	407	44 COM 8B.8 (6b)
3	Khobi Khobistskali valley between Nabada and Churia component areas (No. 6 and 7)	2,906	44 COM 8B.8 (6a)
4	Nabada 1 Coastal area between Nabada component area (No. 6) and the Black Sea	646	44 COM 8B.8 (6b)
5	Rioni Rioni valley between Nabada component area (No. 6) and the Imnati/Pishora (No. 4 & 5) component areas	5,590	44 COM 8B.8 (5), 44 COM 8B.8 (6a)
6	Patara Paliastomi Area between the Imnati and Grigoleti component areas (No. 3 and 4) and to the West of Imnati component area and its buffer zone	1,192	Not explicitly mentioned but would contribute to connectivity between components in line with 44 COM 8B.8 (6a)
	Sum	11,483	

Approach and methodology

For each of the assessment areas, the following sequence of questions was answered based first on studies of individual technical experts and then on a consultation workshop on 22 November 2022:

1. What are the main pressures and potential threats to the integrity of the OUV of the neighboring component areas of the Colchic Rainforests and Wetlands?
2. Where do these threats originate from?
3. Which buffer zone regime – in terms of use and access restrictions, active buffer zone management etc. – would be needed, and where exactly, to contribute to reducing these pressures and potential threats?
4. Which options could be considered for the legal establishment of the required buffer zone regime in each of these assessment areas?

WWF Caucasus commissioned a series of studies in July 2022 – December 2023 to provide the necessary input to answer these questions. These included an assessment of wetland habitats and biodiversity, an assessment of the hydrological regime, an appraisal of connectivity needs based on the two previous analyses, a socio-economic analysis, and an identification of land cover, land use and land ownership patterns.

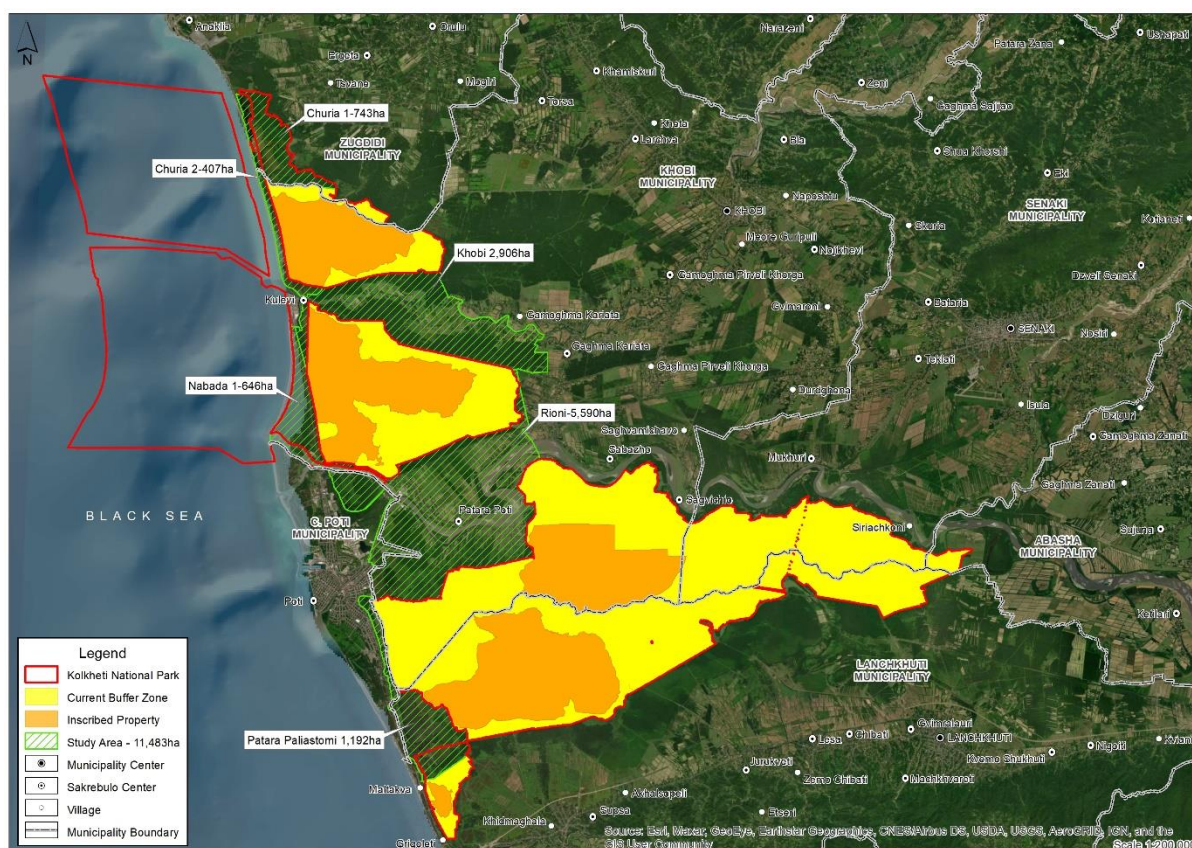


Figure 1. An overview map of assessment/study areas for potential buffer zone extensions around component areas 3-7 of the Colchic Rainforests and Wetlands

Main findings

Needs for and feasibility of buffer zone extensions

The specific needs for and feasibility of buffer zone extensions for each of the assessment areas are summarized in Table 2. The buffer zone extensions recommended as a result of this assessment are shown in Figures 2 and 3.

According to the analysis, there are two principal types of buffer zone extensions. Three buffer zone extensions are recommended for immediate proposal to UNESCO based on a minor boundary modification, whereas another seven buffer zone extensions are recommended for the medium term (two to five years), using different legal mechanisms.

Buffer zone extensions proposed for immediate minor boundary modification (Figure 2)

- **Churia - 1:** This buffer zone extension of 743 ha was considered in response to 44 COM 8B.8 (5). It is justified because it will contribute to better protection of the OUV of Churia component area (No. 7) against hydrological disturbance, nutrient and pesticide contamination of the oligotrophic mires, and infrastructure development. It is also feasible immediately because this area is already part of the Strict Protection and Traditional Use Zones of Kolkheti National Park. A minor boundary modification including this extension (called “Churia” there) has been submitted on 1 February 2023.
- **Rioni:** This buffer zone extension of 190 ha was considered in response to 44 COM 8B.8 (5). It is justified because it will contribute to better protection of the crucial sturgeon habitats of the Rioni River, and therefore of aquatic habitats within the series in general. This buffer zone

extension is feasible immediately because this area is already part of the Strict Protection Zone of Kolkheti National Park. A minor boundary modification including this extension (called “Nabada” there) has been submitted on 1 February 2023.

- **Patara Paliastomi - 2:** This buffer zone extension of 270 ha was not explicitly requested in Decision 44 COM 8B.8, but contributes to improved connectivity between the Grigoleti and Imnati component areas (No. 3 and 4) in line with Decision 44 COM 8B.8 (6a). It is also justified because it will contribute to better protection of the OUV, particularly of Grigoleti component area (No. 3) against hydrological disturbance, nutrient and pesticide contamination. This buffer zone extension is feasible immediately because this area is already part of the Strict Protection and Traditional User Zones of Kolkheti National Park. A minor boundary modification including this extension (called “Grigoleti” there) has been submitted on 1 February 2023.

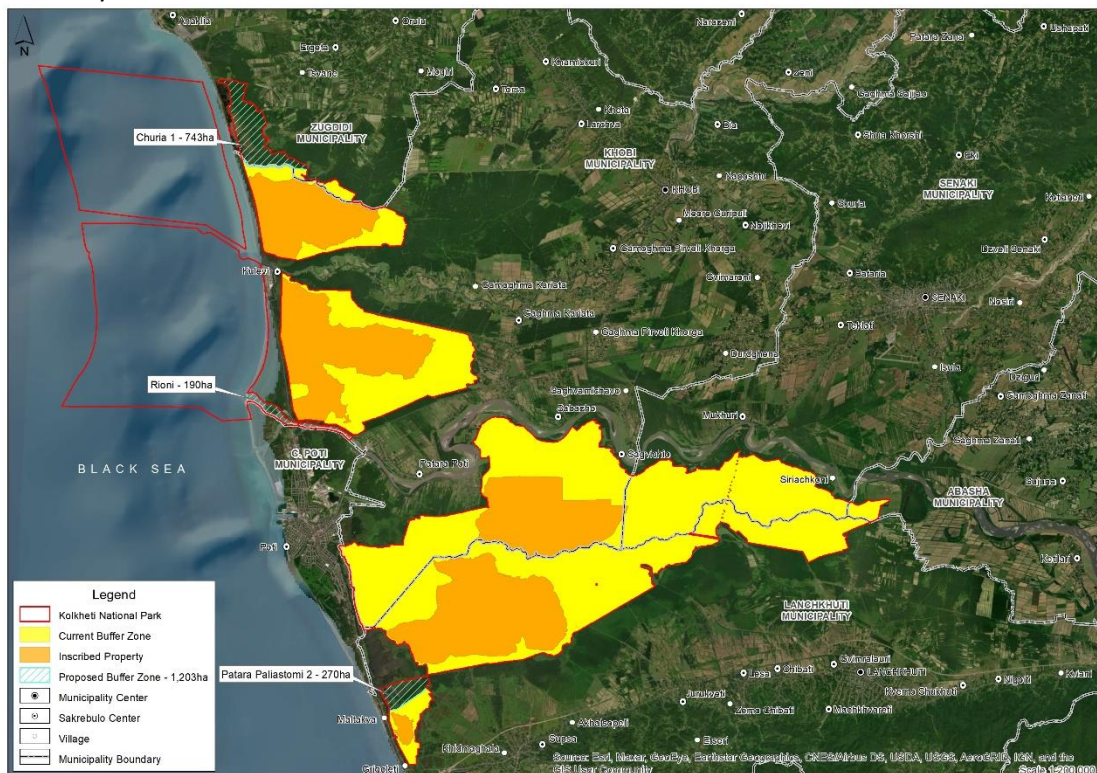


Figure 2. Proposed immediate buffer zone extensions of Churia-1, Rioni and Patara Paliastomi 2.

Table 2. Summary of results of the needs and feasibility assessment for each assessment area.

No.	Name and location	What are the main pressures and potential threats?	Where do they originate from?	Which buffer zone regime is needed to minimize threats?	Which options or approaches could be applied for the legal establishment of the buffer regime?
1	Churia 1 Wetlands to the north of Churia component area (No. 7)	1. Disturbance of the hydrological regime of Churia mire from draining of wetlands in its vicinity (some draining in the past)	Wetlands to the N and NE of Churia mire	Prohibition of further draining of wetlands, hydrological management to maintain good hydrological regime within a buffer zone	Immediately: Minor Boundary Modification (buffer zone) based on the existing designation of Kolkheti National Park. See the proposed future extension area of Churia 1, Figure 2.
		2. Nutrient and pesticide inputs into Churia mire from the vicinity (current pressure)	Agricultural areas to the NE of Churia mire, within Zugdidi Municipality	Prohibition of fertilizers and pesticides within a buffer zone	
		3. Encroachment of infrastructure development (tourism and transport) and secondary effects such as pollution and disturbance (potential, not existing plans)	Mainly along the coastal dune, from N	Prohibition of development of touristic and transport infrastructure on the coastal dune (and elsewhere)	
2	Churia 2 Dune between Churia component area (No. 7) and Black Sea	1. Saltwater incursions from the Black Sea into Churia mire (potential)	The Black Sea (potentially enhanced by climate change)	Prohibition of destructive coastal works along the dune	Medium-term (after PA legal reform): explore a new mechanism for the legal establishment of a buffer zone to extend it to the coastal dune to the W of the Churia component area along with the coastal dune and wetlands to the N of the mouth of the Churia river (i.e., to the W of the Churia 1 buffer zone extension) and the wetland areas to the S of Churia mire on the right bank of the Khobistskali river (total area 381 ha). See Figure 3.
		2. Development of touristic infrastructure in the dune area and secondary affects such as pollution, disturbance (potential, no existing plans)	All along dune	Prohibition of development of touristic infrastructure on the dune	
		3. Development of transport infrastructure in the dune area and secondary affects such as pollution, disturbance (potential, no existing plans)	All along dune	Prohibition of the development of transport infrastructure on the dune	
		4. Disturbance from unregulated visitor access along the dune, and in the immediate vicinity of Churia mire	All along dune	Visitor management and possibly caps to visitor numbers if these grow excessively	
3	Khobi Khobistskali valley between Nabada	1. Disturbance of hydrological regime of Churia and Nabada mires from draining of	Along the entire central Khobistskali valley	Prohibition of further draining of wetlands, hydrological management to	Medium-term (after PA legal reform): Expansion of the southern buffer zone of Churia component area (No. 7) to

	and Churia component areas (No. 6 and 7)	wetlands in their vicinity (some draining in the past)		maintain good hydrological regime within a buffer zone	the S by adding 465 ha, and of the northern buffer zone of Nabada component area (No. 6) to the north by adding 1,029 ha, by the inclusion of State-owned forestry lands with a low-intensity management regime, which is sufficient to support the necessary buffer zone regime. See the proposed future extension areas of Khobi-1 and Khobi-2, Figure 3.
		2. Nutrient and pesticide inputs into Churia and Nabada mires from their vicinity (current)	From central Khobistskali valley	Prohibition of fertilizers and pesticides within a buffer zone	
		3. Encroachment of infrastructure development (industrial and transport) and secondary effects such as pollution and disturbance (potential, not existing plans)	Potentially along the entire Khobistskari valley	Prohibition of development of touristic and transport infrastructure on the coastal dune (and elsewhere)	
4	Nabada - 1 Coastal area between Nabada component area (No. 6) and the Black Sea	1. Saltwater incursions from the Black Sea into Churia Mire (small threat, because of wide dune and naturally accumulating coastline near Rioni river mouth)	Black Sea (potentially enhanced by climate change)	Prohibition of destructive coastal works along the dune	Medium-term (after PA legal reform): explore a new mechanism for the legal establishment of a buffer zone to extend it to the part of the coastal dune between the Kulevi railway and the Nabada component area, along with forest and wetland areas along the Tsiva river to the E of the Kulevi oil terminal (total area: 212 ha). See the proposed future extension area of Nabada-1, Figure 3.
		2. Development of infrastructure in the dune area immediately adjacent to Nabada component area in the W and secondary affects such as pollution, disturbance (potential, no existing plans)	Eastern part of the dune area immediately adjacent to Nabada component area (No. 6)	Prohibition of development of touristic infrastructure on the dune areas immediately bordering Nabada component area (No. 6)	
		3. Pollution from existing transport infrastructure in the eastern dune area (railway to Kulevi terminal)	All along dune	Incident risk reduction, maintenance of intact vegetation and soil between the Kulevi railway and Nabada mire	
5	Rioni Rioni valley between Nabada component area (No. 6) and the Imnati/Pishora (No. 4 & 5) component areas	1. Illegal and/or unsustainable fishing of sturgeon	Rioni River	Ban on sturgeon fishing and effective enforcement	Immediately: Minor Boundary Modification (buffer zone) based on existing designation as part of the Kolkheti National Park for the "Rioni" extension area along the lower Rioni River (190 ha). See the proposed future extension area of Rioni, Figure 2.
		2. Local point-source pollution of sturgeon habitats	Rioni River	Prohibition of river pollution and effective enforcement	
		3. Changes in flow regime with negative impacts on sturgeon habitats	Rioni River	Ban on hydrological works on the lower Rioni River	
		4. Disturbance of hydrological regime of Churia and Nabada mires from draining of wetlands in their vicinity (some draining in the past)	Along the entire central Rioni valley	Prohibition of further draining of wetlands, hydrological management to maintain good hydrological regime within a buffer zone	Medium-term (after PA legal reform): Expansion of the southern buffer zone of Nabada component area (No. 6) to the S by adding 271 ha, and of the buffer zone of Pitshora component

		5. Nutrient and pesticide inputs into Churia and Nabada mires from their vicinity (current pressure)	From agricultural areas along both sites of the Rioni river to the NE of Poti City	Prohibition of fertilizers and pesticides within a buffer zone	area (No. 5) by adding 23 ha, by the inclusion of State-owned forestry lands with a low-intensity management regime, which is sufficient to support the necessary buffer zone regime. See the proposed future extension areas of Nabada-2 and Pitshora-1, Figure 3.
6	Patara Paliastomi the area between the Grigoleti and Imnati component areas (No. 3 and 4) and a narrow zone to the west of Imnati and Lake Paliastomi	1. Disturbance of hydrological regime of Grigoleti and Imnati mires from past draining of wetlands in its vicinity (draining in the past)	Wetlands to the N of Grigoleti mire	Prohibition of further draining of wetlands within a buffer zone, hydrological management to maintain a good hydrological regime	Immediately: Minor Boundary Modification (buffer zone) based on existing designation as part of the Kolkheti National Park. See the proposed future extension area of Patara Paliastomi 2, Figure 2.
		2. Disturbance of hydrological regime of Grigoleti mire from potential future draining of wetlands in their vicinity	Wetlands to the N of Grigoleti mire	Prohibition of peat extraction within a buffer zone and hydrological management to maintain a good hydrological regime	
		3. Nutrient and pesticide inputs into Grigoleti and Imnati mires from the vicinity (current pressure)	Agricultural areas to the E of Grigoleti mire, within Lanchkhuti Municipality	Prohibition of fertilizers and pesticides within a buffer zone	
		4. Lack of nutrient and gene flow between Grigoleti and Imnati mires and their biota (potential threat)	The area between both component areas	Spatial configuration to improve connectivity between component areas Grigoleti and Imnati (No. 3 and 4)	
		5. Disturbance of hydrological regime of Imnati mire from potential future draining of wetlands in their vicinity	Wetlands to the W of Imnati mire	Prohibition of peat extraction within the buffer zone and hydrological management to maintain a good hydrological regime	Medium-term (after PA legal reform): explore a new mechanism for the legal establishment of a buffer zone to extend it to the part of the wetlands areas to the W of Imnati mire. See recommended future extension area of Patara Paliastomi - 1, Figure 3.

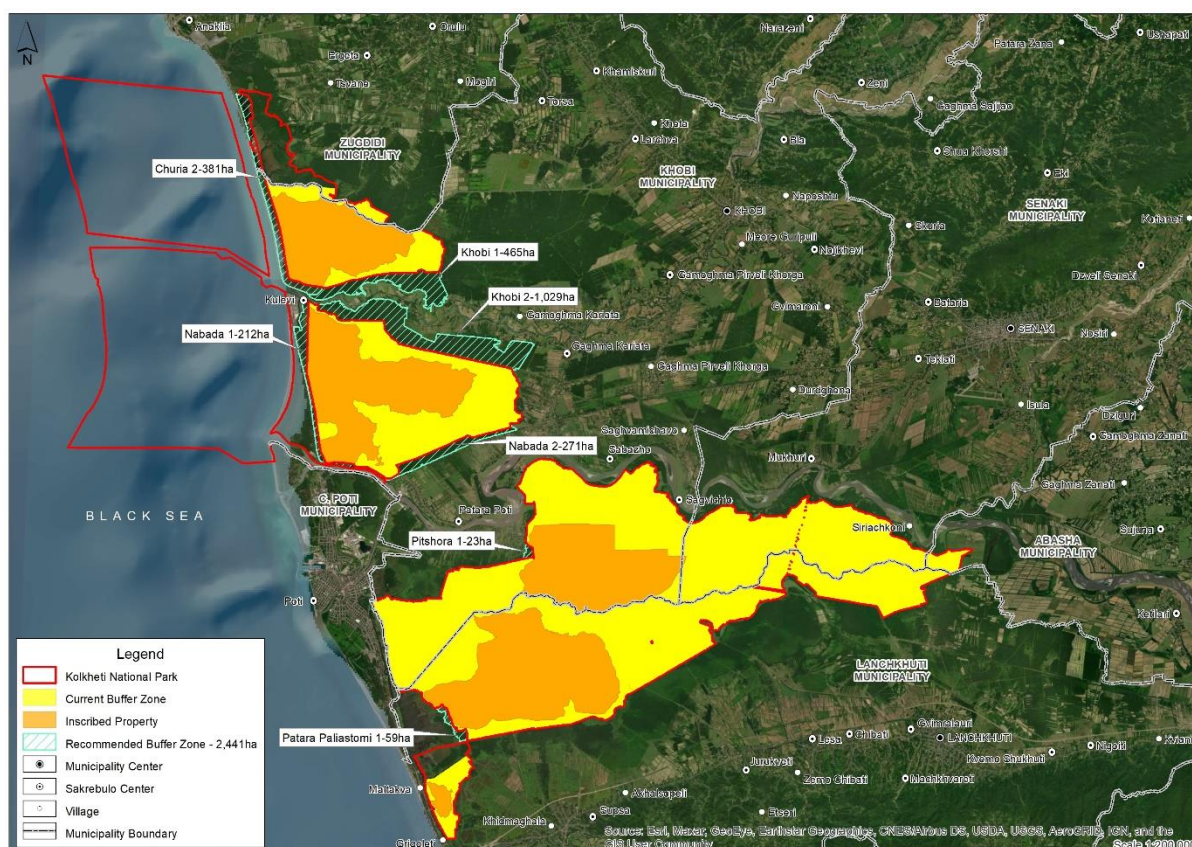


Figure 3. Recommended future buffer zone extensions of Churia-2, Khobi-1, Khobi-2, Nabada-1, Nabada-2, Pitshora - 1 and Patara Paliastomi - 1.

Buffer zone extensions recommended for medium-term implementation (Figure 3)

- **Churia - 2:** A buffer zone extension of 382 ha onto the dunes between Churia component area (No. 7) and the Black Sea was considered in response to the request in Decision 44 COM 8B.8 (6b) to “*continue to assess the feasibility of expanding the buffer zone to protect coastal dunes that provide a barrier between the unique percolation mires and the Black Sea*”. Such an extension should also extend to the wetland areas on the right bank of the Khobistskali River to the South of the component area and the wetland areas to the west of the Churia – 1 buffer zone extension to be fully effective. It is justified because it would contribute to better protection of the OUV of this mire against potential future threats including saltwater incursions, infrastructure development along the dune – particularly, in its northern part near Anaklia village. A new mechanism for the legal establishment of buffer zone needs to be explored following the finalization of the legal reform of PA.
- **Khobi - 1:** The need for and feasibility of buffer zone extensions in this assessment area were considered in response to 44 COM 8B.8 (6a), which requests that the State Party “*Continue to assess the feasibility of expanding the buffer zones around component parts 4, 5, 6, and 7 to ensure that they have higher connectivity*”. In contrast to the underlying assumption of this request, the hydrological and biological feasibility study concluded that lack of connectivity in terms of hydrological linkages, nutrient and/or energy flows or migrations of biota is not among the critical threats to the integrity of the OUV of Nabada and Churia component areas (No. 6 and 7). This is because these have always been separate, unconnected mires, separated

by a river valley and hydrologically controlled mainly by atmospheric precipitation, smaller local rivers, mire respiration and the stabilizing impact of the Black Sea's saltwater body and because no large fauna which would require protected migration corridors contributes to the OUV of these component areas under World Heritage criterion x. Establishing a continuous buffer zone between both component areas was also deemed unfeasible, because of the existence of several villages and multiple uses – including agriculture on drained plots – within the central Khobistskali valley. At the same time, there is a need to improve the buffering of Churia component area (No. 7) against potential hydrological disturbance from immediately adjacent areas, as well as nutrient and pesticide contamination. This can be achieved by adding 465 ha of forested lands to the South of Churia component area to its buffer zone. The vast majority of these lands belong to State-owned forests and already have a management regime that would ensure their buffer zone functionality. Nevertheless, they should only be formally designated as buffer zone extension once a legal basis for ensuring the designation of buffer zone and the relevant management regime is in place following the finalization of the national reform of PA legislation.

- **Khobi - 2:** Analogous to the case of Khobi - 1, the assessment showed that there is a need to improve the buffering of Nabada component areas (No. 6) against potential hydrological disturbance from adjacent areas, nutrient and pesticide contamination. This can be realized by adding 1,029 ha of forested lands to the North of Nabada component area to their buffer zones. As in the case of Khobi - 1, the vast majority of these lands belong to State-owned forest and already have a management regime that would ensure their buffer zone functionality. Nevertheless, the same prerequisite as in the previous case needs to be met before this buffer zone extension can be realized.
- **Nabada - 1:** Similar to the case of Churia – 2, a buffer zone extension between Nabada component area (No. 6) and the Black Sea was considered in response to the request in Decision 44 COM 8B.8 (6b) to protect coastal dunes that provide a barrier between the Nabada mire and the Black Sea. The situation in this dune area differs significantly from that at Churia - 2, as the coastal strip here is much wider (up to 1.2 km), situated behind a naturally accumulating coast immediately North of the Rioni river's mouth, and as there is already industrial (Kulevi oil terminal) and transport infrastructure (Kulevi railway) located there, with several additional projects under consideration. Because of this, inclusion of the entire coastal dune area of Nabada - 1 is neither necessary – in terms of reducing current or potential threats - nor feasible. At the same time, closing the large buffer zone gap along the western flank of Nabada component area would contribute to conserving the integrity of the OUV of this mire, by reducing the risk of pollution and disturbance from existing transport infrastructure and excluding the possibility of any infrastructure encroachment into the immediate vicinity of the inscribed property. Therefore, the assessment recommends designating the area between the Kulevi railway and the inscribed property between the Rioni river and the Kulevi oil terminal as a buffer zone (212 ha), including also the area covered by forests and shrubs on the left bank of the Tsiva River and the wetland area on the right bank of the same river in the northern part of this assessment area. This would also create a buffer zone between the Nabada component part and the Kulevi terminal. A new mechanism for the legal establishment of a buffer zone needs to be explored following the finalization of the legal reform of PA as in the case of the recommended buffer zone extension of Churia – 2.
- **Nabada - 2:** In addition to the buffer zone extension in response to 44 COM 8B.8 (5), further buffer zone extensions in the Rioni assessment area were also considered in response to the request to improve connectivity – in this case between the Nabada component area (No. 6) in the North and the Imnati/Pitshora component areas (Nos. 4/5) in the South – in Decision

44 COM 8B.8 (6a). The conclusions of the needs and feasibility assessment for the Rioni valley correspond to those for the Khobi assessment area. In addition, industrial activity near Poti City would further complicate the designation of a large-scale buffer zone there. Consequently, the assessment recommends a future buffer zone extension of the Nabada component area (No. 6) by 271 ha to the South and Southeast, on land overwhelmingly belonging to the National Forestry Agency and under a management regime that would ensure its buffer zone functionality. The prerequisite for this area is the same as for the Khobi – 1 and Khobi - 2 recommended buffer zone extensions.

- **Pitshora – 1:** In response to the same request from Decision 44 COM 8B.8 (5) and based on the same rationale as for the Nabada - 2, the assessment identified a need to close the only gap (23 ha) in the joint buffer zone of Imnati and Pitshora component areas (Nos. 4 and 5) near the village of Shavghele, on land overwhelmingly belonging to the National Forestry Agency and under a management regime which would ensure its buffer zone functionality. . The prerequisites for this area are the same as for the Khobi - 1, Khobi - 2 and Nabada - 2 recommended buffer zone extensions.
- **Patara Paliastomi 1:** This buffer zone extension was also not explicitly requested in Decision 44 COM 8B.8, but would buffer Imnati mire against the impacts of potential future peat extraction to the West. This buffer zone extension of 59 ha is feasible, however, the prerequisite for this area are the same as for Churia 2 and Nabada 1.

Justification of the options considered for the legal establishment of the recommended buffer zones

According to §104 of the Operational Guidelines, buffer zones should have complementary legal and/or customary restrictions placed on their use and development, to give an added layer of protection. They should protect the immediate setting of the property, important views and other areas/attributes that are functionally important as a support to the property and its protection. Using this as a criterion, the assessment considered four different mechanisms for the establishment of buffer zone extensions in the various assessment areas:

- **Designation of buffer zones on the territory of existing protected areas:** The suitability of the Traditional Use Zone of Kolchheti National Park was already confirmed during the evaluation of the original nomination of the Colchic Rainforests and Wetlands, which support many of the originally designated buffer zones of the series. Therefore, the designation of additional buffer zones on other parts of the Strict Protection and Traditional Use Zone is the most straightforward way of establishing new buffer zone extensions. This instrument has been used for the Churia - 1, Rioni and Patara Paliastomi - 2 buffer zone extensions.
- **Designation of buffer zones on areas without current particular/site-based management regime:** This option is more challenging and slower in administrative terms and is currently also hampered by the evolving legal framework for PAs in Georgia. Therefore, the study recommends exploring a new mechanism(s) following the finalization of the PAs-related national reform to support the buffer zone extensions of Churia - 2, Nabada - 1, and Patara Paliastomi - 1.
- **Designation of buffer zones on forestry lands:** Some forested areas that could become buffer zones (i. e., Khobi - 1, Khobi - 2, Nabada - 2 and Pitshora - 1) are managed by the National Forestry Agency. Their current management regime would already be compatible with the buffering requirements; however, they could only be formally designated as buffer zones extension once a legal basis for ensuring the designation of a buffer zone and the relevant management regime is in place following the finalization of the national legal reform of PA.

- **Designation of buffer zones on newly designated protected areas of IUCN WCPA PA management category VI (protected area with sustainable use of natural resources):** Currently, buffer zones of protected areas in Georgia could only legally be designated as Category VI protected areas. However, this is likely to change in the course of the current reform of Georgia's PA legislation and would anyway be an untypical and inappropriate use of this PA management category for relatively small-scale areas. Therefore, this option has been excluded from the range of options to support newly designated buffer zones of the Colchic Rainforests and Wetlands.

Overall conclusions

The needs and feasibility assessment concludes that:

- Three buffer zone extensions (Churia - 1, Rioni and Patara Paliastomi - 2) - are immediately feasible in response to Decision 44 COM 8B.8 (5); a corresponding minor boundary modification has been proposed by the State Party on 1 February 2023.
- Another three buffer zone extensions (Churia - 2, Nabada - 1, and Patara Paliastomi - 1) will be feasible in the medium term as soon as a legal basis ensuring a mechanism for buffer zone designation and the relevant management regime is in place following the finalization of the PAs related national legal reform.
- An additional four buffer zone extensions (Khobi - 1, Khobi - 2, Nabada - 2 and Pitshora - 1) will be feasible in the medium term on lands managed by the National Forestry Agency, as soon as a legal basis ensuring a mechanism for buffer zone designation and the relevant management regime is in place following the finalization of the PAs related national legal reform.
- The creation of continuous buffer zones enveloping the Imnati/Pitshora, Nabada and Churia component areas (Nos. 4/5, 6 and 7) is neither necessary to safeguard the OUV of these component areas nor feasible in socio-economic terms.

The State Party considers the conclusions of the feasibility assessment positively and expresses its readiness to initiate the necessary steps to address the buffer zone extensions as soon as a new PA-related legal basis enables.

