Kandalakshsky Zapovednik:
Protecting Russia’s Northern Maritime Wonders

by Alexander S. Koryakin and
Alexandra Goryasbko*

As one of Russia’s maritime reserves, Kandalakshsky Zapovednik unites small clusters of archipelagoes and coastal territories scattered throughout the Barents and White Seas. Here in the far north of Russia’s Kola Peninsula, nature’s rhythm is set by the midnight sun in June and the polar nights of December. Its marine and coastal ecosystems come to life each year for a short but intense summer of light and activity.

The bearded seal (Erignatus barbatus) is one of the marine mammals inhabiting Kandalakshsky Zapovednik. Photo by Yu. Krasnov

Russian Conservation News
Kandalakshsky Zapovednik was officially designated in 1939. Originally created on an area of 116.4 km²/11,660 ha, the Zapovednik has since grown and is now comprised of 13 units that are administered by two separate branches (the White Sea and Barents Sea Branch). Today the total area of the reserve is 705.3 km². *(Please refer to accompanying map).* While Kandalakshsky Zapovednik harbors old-growth spruce and pine forests, it is especially known for its role in conserving marine mammals and birds. In fact, 70 percent of its territory is marine and coastal habitat. Its importance in coastal wetland conservation was recognized in 1976, when the Zapovednik’s White Sea territories were designated as a Wetland of International Significance, as defined by the Ramsar Convention.

Indeed the Zapovednik is critical for protecting habitat for a diversity of bird species, particularly seabirds. One sea duck, the common eider (*Somateria mollissima*), is at the heart of Kandalakshsky’s history.

Renowned for the extraordinary insulating qualities of its down feathers, the eider has long been a target of commercial use in Russia. Already in the seventeenth century, Russia was a major exporter of down to the West. Exploitation of this species was ruthless: hunters collected down during the eider’s mass nesting period, with little concern for managing the resource over a long-term period. Often the careless hunters, having reached these nesting areas, would take the eider eggs and chicks as well, as though for sport. As a result of this gluttony, by the middle of the eighteenth century, the eider had nearly vanished from the Kola Peninsula and its numbers had visibly declined throughout

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**Kandalakshsky Zapovednik: Biodiversity Conservation in the High North**

In addition to the eider, the Zapovednik serves as a vital breeding ground for the great cormorant (*Phalacrocorax carbo*). In the Murmansk Oblast, the northern gannet (*Sula bassana*), greylag goose (*Anser anser*), common shelduck (*Tadorna tadorna*), and great skua (*Stercorarius skua*) nest in the Zapovednik only. The protected waters of the Barents Sea are also an important region for the migration and wintering of Steller’s eider (*Polysticta stelleri*).

Although seabirds are the primary focus for conservation and research at Kandalakshsky, the Zapovednik also considers as priority the continuation of the long-term species and ecosystem monitoring that began in the early 1930’s. Data on phenology, vegetation productivity, temporal and spatial distribution of species, reproductive success as well as abiotic factors and human influences on the protected territories are collected annually for the *Letopis*’ *Prirody* (*Chronics of Nature*) volumes. The yearly reports contain information on 200 to 250 species, including: 120 plants; 30 marine invertebrates; 60 insects; 5 amphibians and reptiles; 80 birds; and approximately 30 mammal species.

As is evident in the *Letopis*’ *Prirody*, Kandalakshsky is home to many plant species. The warm Gulf Stream current moderates the climate of the Zapovednik’s Barents Sea Islands, preventing the formation of ice around them during the winter months. The islands are vegetated by plants characteristic of the stony-lichen, shrub-lichen, and scrub tundras. These plants include crowberry (*Empetrum nigrum*), bilberry (*Vaccinium myrtillus*), northern bilberry (*V. uliginosum*), cowberry (*V. vitis-idaea*), and dwarf birch (*Betula nana*). In contrast, the waters in Kandalaksky Bay ice over from late November to May. Tundra communities with crowberries are characteristic of some islands in this Bay. An amazing two-thirds of the pine and spruce forests that cover Kandalakshsky are old-growth.

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Kandalakshsky’s Red Data Book Species

Plants
Lady’s slipper
(Cypripedium calceolus)
Calypso (Calypso bulbosa)
Ghost Orchid (Epipogium aphyllum)
Narrow-leaved Marsh Orchid
(Dactylorhiza traunsteineri)
Cotoneaster cinnabarinus
Carex livida
**Whitlow-grass (Draba insularis)
**Rock-rose
(Helianthemum arcticum)
**Dandelion
(Taraxacum leucoglossum)

Lichens
Bryoria fremontii
Lobaria pulmonaria

Birds
European Shag
(Phalacrocorax aristotelis)
Osprey (Pandion haliaetus)
White-tailed eagle
(Haliaeetus albicilla)
Gyr falcon (Falco rusticolus)
Peregrine falcon (Falco peregrinus)
White-billed Diver (Gavia adamsii)
Lesser White-fronted Goose
(Anser erythropus)
Great Gray Shrike (Lanius excubitor)

Mammals
Atlantic gray seal (Halichoerus grypus), a species included in the Red Data Book of Russia.

**Species endemic to the region of the Zapovednik

As eider populations began to slightly recover in the early twentieth century, the extermination of this species for down once again resumed. This period, however, also marked the beginning of a significant and purposeful protection effort for the eider. The leader of this conservation attempt was the famous Russian zoologist, A. N. Formozov. After observing the rampant destruction of eider nests during an expedition along the Bering Sea Coast in 1929, Formozov launched a campaign to protect the species. His efforts were fruitful: as a result of this campaign, the collection of down, eggs, and skin by private individuals was completely prohibited by the federal Soviet government. This prohibition,

Table 1. Kandalakshsky Zapovednik’s significance for seabird communities is illustrated in the figures below. (KZ = number of pairs in Kandalakshsky Zapovednik; KZ% = percent of the region’s breeding pairs found in the Zapovednik)

<table>
<thead>
<tr>
<th>Species</th>
<th>Total for Region</th>
<th>KZ</th>
<th>KZ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Gannet (Sula bassana)</td>
<td>15</td>
<td>15</td>
<td>100</td>
</tr>
<tr>
<td>Great Cormorant (Phalacrocorax carbo)</td>
<td>1750</td>
<td>330</td>
<td>20</td>
</tr>
<tr>
<td>Common Shag (Phalacrocorax aristotelis)</td>
<td>500</td>
<td>450</td>
<td>90</td>
</tr>
<tr>
<td>Common Eider (Somateria mollissima)</td>
<td>10500</td>
<td>9000</td>
<td>90</td>
</tr>
<tr>
<td>Oystercatcher (Haematopus ostralegus)</td>
<td>1350</td>
<td>1010</td>
<td>80</td>
</tr>
<tr>
<td>Great Skua (Stercorarius skua)</td>
<td>6</td>
<td>Max 10</td>
<td>-</td>
</tr>
<tr>
<td>Herring Gull (Larus argentatus)</td>
<td>9600</td>
<td>8000</td>
<td>80</td>
</tr>
<tr>
<td>Great Black-backed Gull (Larus marinus)</td>
<td>3650</td>
<td>3130</td>
<td>90</td>
</tr>
<tr>
<td>Mew Gull (Larus canus)</td>
<td>&gt;2700</td>
<td>&gt;2100</td>
<td>80</td>
</tr>
<tr>
<td>Black-legged Kittiwake (Rissa tridactyla)</td>
<td>130000</td>
<td>30000</td>
<td>20</td>
</tr>
<tr>
<td>Arctic Tern (Sterna paradisaea)</td>
<td>&gt;2200</td>
<td>&gt;1400</td>
<td>60</td>
</tr>
<tr>
<td>Murres (Uria sp.)</td>
<td>11000</td>
<td>6000</td>
<td>60</td>
</tr>
<tr>
<td>Razorbill (Alca torda)</td>
<td>490</td>
<td>410</td>
<td>80</td>
</tr>
<tr>
<td>Black Guillemot (Cepphus grylle)</td>
<td>2260</td>
<td>2000</td>
<td>90</td>
</tr>
<tr>
<td>Atlantic Puffin (Fratercula arctica)</td>
<td>7500</td>
<td>5000</td>
<td>70</td>
</tr>
</tbody>
</table>
though, did not apply to government agencies.

Another highly progressive step toward preserving the eider was taken in 1931 when a decree was signed on the protection and sustainable use of the eider in Kandalakshe Gulf. And, in 1932, plans for Kandalakshe Gulf Zapovednik were made. Although it was several years before the reserve was officially established, the attention by scientists and planners began to have an effect, and the eider population began to increase steadily. Whereas about 300 eider nests were recorded in 1933, 417 were counted in 1934, 550 in 1935, and finally, 682 in 1936.

Since the post-war period, scientists have conducted regular inventories of the Zapovednik’s bird populations. Since 1967 these studies have covered the majority of the Zapovednik’s islands (approximately 350). Their research now shows that the eider population at the Zapovednik has stabilized and is one of the largest in Russia.

With all of the challenges in maintaining Russia’s nature reserve system today, this success story is a refreshing reminder of important role Zapovedniks play in conserving and restoring the world’s biological diversity.

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New Protected Area Appears in the Russian Far East

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A new Zakaznik (special purpose preserve), Urochishche Urkun, was recently created on an area of approximately 7,000 ha in the southeastern corner of the Amur Oblast. This territory was created in close proximity to a reservoir that will be formed upon completion of the Bureiskiy Hydroelectric Station. This Zakaznik is characterized by steppe vegetation typical of Mongolia and northern China, including 30 rare plant species that are listed in the Russian Red Data Book.