

# The 25 Largest Unfragmented Areas in the Arctic



A report produced by UNEP-WCMC and UNEP/GRID-Arendal for  
WWF Arctic Programme

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A/N 22027

UNEP-WCMC Repats OL

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**DECEMBER 2001**

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## INTRODUCTION AND DISCLAIMER

In 2000 the World Wildlife Fund's (WWF) Arctic Programme called upon GRID-Arendal and UNEP-WCMC to produce a new report on Arctic wilderness by analysing impact of man-made infrastructure on nature and define the 25 largest wilderness areas, following the work done in 1995 on the same subject.

The scarcity of publicly available, up to date digital geographic data on infrastructure features at medium resolution proved the work more difficult than anticipated. We found ourselves obliged to use the same old Digital Chart of the World (DCW) for most of the Arctic region, given the tight schedule imposed and limited funding available.

In parallel, search for better data started, and certain areas of the Arctic are now covered by such data in our database, but mostly could not be used because of the imminent quality differences in the result.

The DCW data (roads, rail, settlements) over some areas (such as Siberia and parts of Canada) have been further improved during this project, using local expertise and review. WWF Canada staff, in light of the many changes that occurred during last years, reviewed settlement names in Canada but certain mistakes might still prevail. Readers are encouraged to contact us for any updates or corrections.

However, the result of this project, this Arctic Wilderness report should not be seen as the exact reflection of present-day wilderness status in the Arctic. While efforts have been made to improve the base data used in the analysis, as stated, the overall DCW dataset is of course outdated, but was the only public global dataset that could be used for our purposes. The results therefore reflect more the situation 10-15 years ago.. However, some recent development in the American Arctic might not been captured this way.

Practical experience showed that in order to achieve full coverage of the Arctic with newer, better, larger scale digital geographic base infrastructure data that is also publicly available would require another year or even more from now. The resources needed for this are much larger as the frame of the present project would have allowed.

Furthermore, specific areas of intense development in the Arctic such as Prudhoe Bay in Alaska or some mining areas in Siberia could not possibly be fully represented by this analysis, given the lack of access to the necessary data on those changes.

However, GRID-Arendal and UNEP-WCMC in general are committed to improve their data holdings for generating better quality products, and look forward to sharing results of any future updates with WWF and other interested organizations. This project should be looked upon as an improvement towards the 1995 project but also as a long and ongoing process, rather than an isolated product.

**The authors, December 2001**

## DESCRIPTION OF THE PROJECT

The main purpose of this project was to explore where the last remote wilderness areas, resorts for nature, man and biodiversity can be found in the Arctic, as well as the pressures they are subjected to and their main threats. Since the Arctic Environment Protection Strategy (AEPS), the awareness of large undisturbed areas in the Arctic has grown, as well as the realisation of the threats and the speed of fragmentation.

There are two terms mentioned in the title, which require further explanation and definition.

What is **the Arctic region** and when is an area classified as a wilderness area?

The Arctic region has been defined several times and always differently, depending on the purpose and objectives. (see CAFF, AMAP and PAME). For this report we agreed with WWF on the most southern boundary of all definitions, including most of Alaska and many of the northern states in Canada, as defined by the WWF (see figure 1 and 2)..

The term **wilderness** has been interpreted differently and is not always understood in the same way by everybody. This has been discussed on various occasions and should be referred to (Fritz 1999, Nellemann et al. 2001, Kapos, Lysenko & Lesslie, 2000).

In summary, we have defined wilderness areas as areas un-fragmented by any permanent physical man-made structures, such as roads, railways, power transmission lines or pipelines or settlements. Roads and settlements in the wilderness area will not exclude the very area from being classified as a wilderness area, as long as these roads are not connected to the main road network. Of course, they have to be regarded as areas of disturbance to the wilderness, and a buffer around these structures inside the wilderness areas shows the level of impact, as demonstrated in figure 1..

The impact of air transport and via rivers on boat or with heavy vehicles along the frozen rivers in winter to many of these remote places is significant, but is not part of this assessment.

Another important distinction has to be made between **winter and summer roads**. In the past there has been a lot of confusion and misinterpretation about the terms. Whereas formerly winter roads have been regarded as strong and physically

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