



High Conservation Value Forests

In Practice

"In Practice" is an occasional publication detailing lessons learned in field projects in the European Forest Programme. It is produced to help spread knowledge throughout the WWF European Forest Programme, and more broadly both within WWF and outside the network.

1. Background

The High Conservation Value Forests (HCVFs) concept was developed by the Forest Stewardship Council (FSC) in 1999. The concept has subsequently received high interest for its use both within the FSC system and more widely. This rapid uptake reflects the elegance of the concept, which moved the debate away from definitions of particular forest types (e.g. primary, old growth) or methods of timber harvesting (e.g. industrial logging) to focus instead on the values that make a forest important. By identifying these key values and ensuring that they are maintained or enhanced, it is possible to make rational management decisions that are consistent with the maintenance of the important environmental and social values. The HCVF approach is therefore increasingly being promoted for mapping, landscape management and conservation decision-making approaches to forest resources. It is also being used in purchasing policies and environmental safeguards guidelines by banks and corporations. Recently it has begun to appear in discussions and policies of government agencies.

Table 1: Definition of High Conservation Value Forests

<p>HCVF's are those that possess one or more of the following attributes:</p> <p>HCV1 Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).</p> <p>HCV2 Forest areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.</p> <p>HCV3 Forest areas that are in or contain rare, threatened or endangered ecosystems.</p> <p>HCV4 Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).</p> <p>HCV5 Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).</p> <p>HCV6 Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in co-operation with such local communities).</p> <p>FSC Principles and Criteria, February 2000</p>
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Despite the interest in HCVF, there are currently only a few examples of the concept at work on the ground. Most notable are the HCVF methodologies produced by WWF Canada and WWF in the Komi Republic in Russia, which are remarkably similar to each other. The work in Komi is arguably the most advanced example in the world, with the HCVF concept now incorporated in legislation by the Government, and the HCVF inventory process carried out over 5.5 million hectares.

This paper aims to provide an insight into the mechanisms and benefits of HCVF by describing how the concept was used in the Komi Republic in Russia.

2. Komi Republic, its Forests and Economic Development

The Republic of Komi is situated 1000km NW of Moscow (Map 1) and borders Archangel'sk province (to the west) and the Ural Mountains (to the east). Komi has a population of 1.2 million people. Forests cover over 70% of the territory and extend to 33million hectares, an area larger than the forest estate of Sweden. The annual allowable cut is 26Mn m³, yet the current harvest is only 7Mn m³.

The forest sector has traditionally played a major economic role and is seen as offering significant future potential. The local Government have outline plans for 2 pulp/paper mills, and a variety of panel mills and sawmills. The major company is Syktyvkar Forest Enterprise which exports sawnwood and paper products throughout Europe and Asia. A variety of other companies such as Chovskiy DOK and Syktyvkarsky LDK have long developed export markets in Europe.

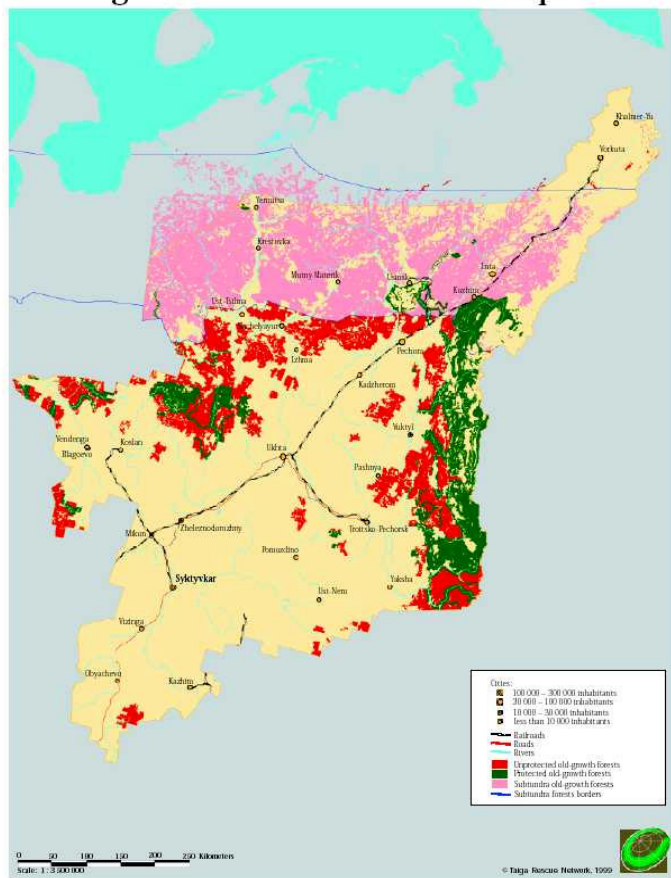


Map 1: Location of Komi Republic

In addition to the forest industry the Republic of Komi has reserves of oil and gas as well as minerals such as gold, titanium, iron, coal, bauxite and manganese. Plans are well advanced for the development of better rail links from the Republic to the port of Archangel'sk which will facilitate their development.

The Republic has a high proportion of old growth forests, and Europe's largest protected area - the Pechoro-Ilychskiy Reserve and Yugud-Va National Park (together with a World Heritage Site designation over 3.2 million ha of pristine Ural landscape). The balance between forest conservation and economic development is an important one. Komi has already protected 15% of its forests, (a higher proportion than the rest of Russia and almost two and a half times the European average). Nevertheless the protection is concentrated in the Ural mountains and important forests remain unprotected. However, forests are crucial to economic and social development, either for wood harvesting or mineral and oil extraction. Some of the development projects are located in areas of old growth forests, and many of the existing companies are sourcing wood from old growth areas.

Old-growth Forests in the Komi Republic



Map 2: Old-growth Forests in the Komi Republic, based on satellite data. Red areas are unprotected old-growth forests. Green areas are protected old-growth.

Lilac areas are partially protected sub-tundra forests. The forest industry is concentrated in the south, the main mining areas in the central part and north of the Republic.

Maps of old-growth forests already exist and are available from Taiga Rescue Network (see Map 2) and Global Forest Watch. However, these can only be considered as a starting point, in that they are derived from satellite data, and describe the intact blocks of old growth forest greater than 50,000 hectares. This is an arbitrary figure. Roads, rivers, smaller settlements and agriculture have fragmented the landscape and mask the bigger picture: it is estimated that upto 70% of Komi's forests are classified as mature, or over-mature and therefore potentially old-growth.

More than 30% of the population of the Komi Republic are economically dependent on forests. Any exclusion of old growth forests from harvesting planning and the annual allowable cut will negatively impact on the local population and local economy. A rational framework is therefore needed to balance the economic, social and ecological interests, and provide guidance for Government planners and the corporate sector.

This framework should work both at a macro, planning level, as well as at the micro, operating level. The High Conservation Value Forest concept is one such suitable framework.

3. Priluzye Model Forest

Since 1996 the Swiss Agency for Development and Co-operation have financed a model forest in the Komi Republic focussed on boreal forest conservation and management. The Priluzye Model Forest area is 800,000ha, and is situated in the south west of the Republic (Map 1). The project goal is to ensure the adoption of sustainable forestry in the Komi Republic and to disseminate the new experience in North West Russia. From 1996-2002 WWF was responsible for the project implementation. Since mid 2002 the Swiss Agency for Development and Co-operation have implemented the work directly through the newly formed Silver Taiga Foundation, with WWF focussing on the development of market based levers to facilitate the uptake of the concepts developed by the project.

Early on in the project the issue of old-growth, or pristine (the term used in Komi), forests was at the heart of the work. This set out to develop sustainable forestry incorporating forest certification as well as a biodiversity conservation system for the pristine forests. The HCVF methodology described in this paper was born from this work.

5. Defining and Identifying HCVF

The Model Forest team involved a variety of stakeholders in the HCVF process to define and identify the Pristine Forests.

Government Stakeholders	Companies	Others
Government of Komi Republic	Local harvesting company concessionaires	Institute of Biology (Syktyvkar)
Republican State Forest Service	Syktyvkar Forest Enterprise	NGO's of the Komi Republic, including WWF
Ministry of Natural Resources of the Komi Republic		Local population
Local Forest Service representatives (Priluzskij Leshoz)		Forest Research Institute, Archangel'sk
State Forest Inventory and Planning Service (Vologda)		Syktyvkar State University
Local Regional Administration		

The process can be divided into five stages (further details on these are available in the Annex) :

- i) Office based exercise: identification of "potential" pristine forests
- ii) Field Survey: data collection in "potential" pristine forests
- iii) Data analysis
- iv) Grouping of stands by value class
- v) Definition of actual pristine (high conservation value) forest areas

- i) Office based identification of "potential" pristine forests

All stands classified as mature or over-mature are the starting point of the exercise. The pristine forest definition involves the absence of "significant industrial and human influences". These were defined to include different kinds of cutting, slash and burn agriculture, intensive forestry, visible human activity near settlements, industry and roads. All mature or over-mature stands within 10km of old and current forest roads, populated areas and rivers suitable for floating logs are then analysed, and eliminated as appropriate.

- ii) Field data collection in "potential" pristine forests

The office data does not however permit the identification of older influences before records began. The data was therefore further corrected in discussion with local foresters and older people from local villages close to the forest.

Guidance was then developed for field based checking of the status of the potential pristine forests. These are grouped into:

- a) signs of human influence: evidence of harvesting (e.g. old stumps, borders) and other signs (e.g. permanent paths, hunting traces, abandoned fields, traces of resin tapping)
- b) pristine forest structures and processes: presence of very old trees, fallen deadwood, dead standing trees, and other signs (e.g. cavities, broken snags, coverage of the lichen *Lobaria pulmonaria*)
- c) regular forest inventory characteristics (e.g. species, productivity class, age class and strata)

The characteristics were prepared based on analysis of remote forest areas in Komi including the Pechoro-Ilychskiy Reserve.

Using this guidance, field survey is carried out in all the potential pristine forest stands. The methodology was subsequently added to the forest inventory data sheets for future data collection to be incorporated at the time of the standard forest inventory.

iii) Data analysis

Each factor is assigned a score according to a defined scale. This allows the "stand value" to be calculated from the sum of the scores. The presence of harvesting excludes the stand from the category of pristine forest, though other signs of human influence (e.g. permanent hunters paths) does not, as this kind of influence in Komi does not usually bring any damage to the forest ecosystem. However such stands are allocated a lower score.

Note that such a system can also be used to evaluate managed forests to assess their biodiversity values. In this way a system for landscape level conservation planning can be prepared.

iv) Grouping of stands by value class

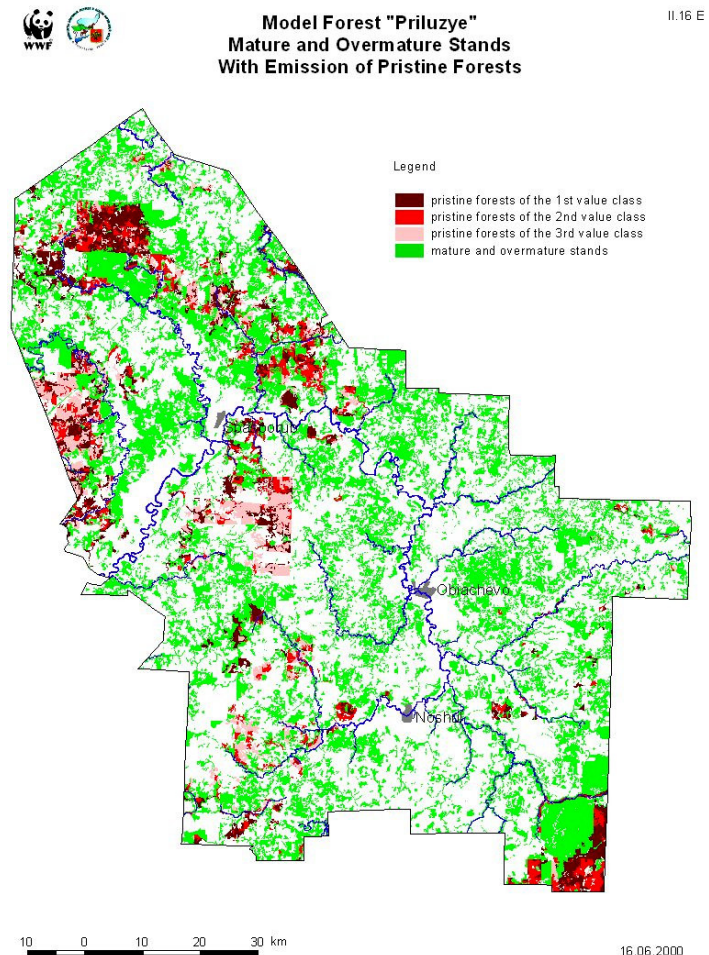
Stands with similar stand values are finally grouped together into "value classes". The value classes are amended to favour especially valuable or unique forests. This exercise allows for a landscape level approach based on regional priorities. For example in some forest units pure deciduous species may be especially favoured due to (e.g.) their scarcity at the landscape level, and are therefore given a higher value class.

v) Definition of actual pristine (high conservation value) forest areas

The results of the exercise are mapped (Map 5) and form the basis for the development of harvesting planning and management regimes.

Map 5: Mature, Over-mature and Pristine Forests in the 800,000ha of the Priluzye Model Forest area. Green shading indicates mature and over-mature forests. The different shades of red indicate the 3 value classes. The unshaded areas are young and middle aged forests and areas of agriculture.

There is a good correlation with the maps of old-growth forests derived from satellite data. The small area of pristine forest in the far south-east corner of Map 5 is a part of the old growth forest



area (greater than 50,000ha) marked in the south west part of the Komi Republic on Map 2. However note that none of the other pristine forests in Map 5 appear on Map 2.

The results of the exercise show clearly how it is possible to develop a rational basis for identification of high conservation value forests and categorise the old and over-mature stands to identify those areas where conservation should be prioritised. After a stakeholder driven, scientific process and based on field work, important new pristine areas have been identified.

Over 80% of the mature and over-mature forests in this part of Komi are not classified as "pristine". However these results should not be anticipated as typical. This part of Komi has a long history of harvesting and forest use. In some other parts of the Komi Republic where this type of inventory has been used, much higher proportions of pristine forests have been identified. Nevertheless the information received is an important step in providing guidance to the Government agencies, companies and financiers on the development of the resource. The use of the information is described in the next section.

6. Management of HCVF

A central point about HCVF (and why it is a breakthrough) is that once the value has been identified, the management prescription is to manage the forest to "maintain or enhance" the value. A clear description of how the described management regime achieves this is needed.

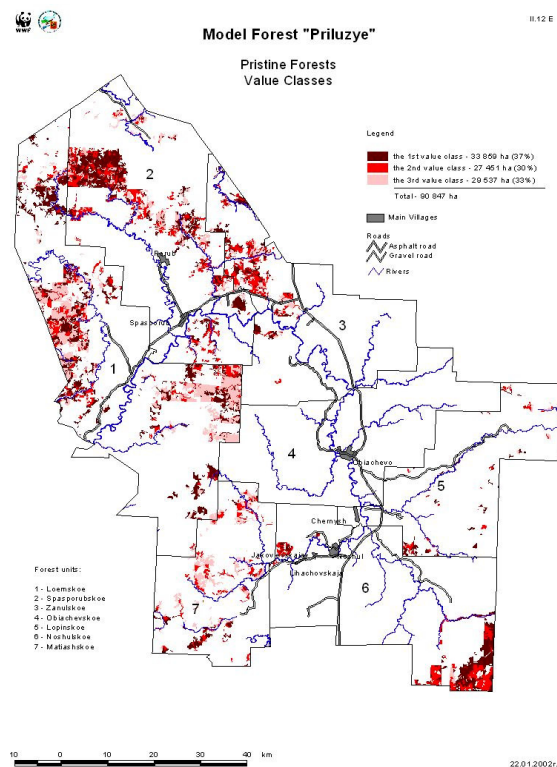
In parallel to the definition and identification of the pristine forests it was necessary therefore to identify how to deal with them once identified. The Model Forest project has so far worked on the implications for the management of forests for wood production. Some further development would be required for the mining industry.

From the map of pristine forests and their value classes (Map 6) special attention is given to pristine forest "massifs". The definition of a "massif" depends on the total area of pristine forest in the Forest Service District, but the area must always be more than 800 ha. See annex for further details.

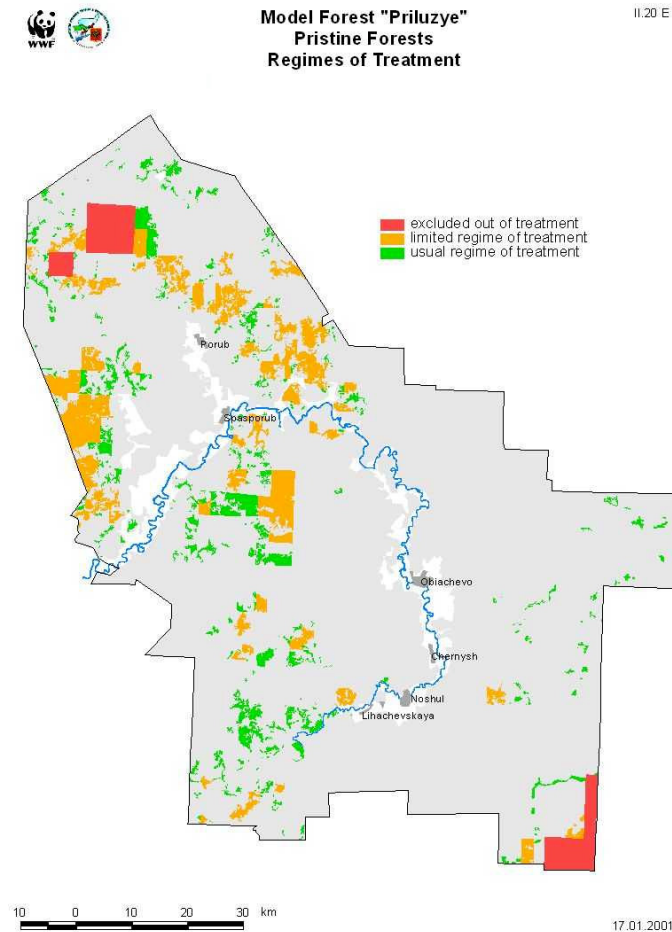
The management recommendations are that the pristine forest "massifs" with high value classes be excluded from annual allowable cut calculations, and form new protected areas. One such massif is situated in the north of the area.

The remaining pristine forest areas vary in size and value classes. However the minimum area of pristine forest for specific management must be more than 50 ha.

Map 6 (right) Pristine Forest Value Classes.
The significant massifs are in the north west, and south east.



Traditional forest management in the Komi Republic is based on the clear-felling system. The Model Forest project developed a series of demonstration plots of different lower impact logging systems involving thinning, selective logging and semi-continuous canopy cover. These alternative systems result in less disruption to the ecology of the forest and site, permitting the retention over time of the high conservation values.



The actual harvesting regime to be employed (Map 7) depends on the total area and distribution of the pristine forest in the forest district, and the value classes. The selective harvesting regimes are employed in the larger higher value class areas. In the case of smaller fragmented pristine areas, as well as those with a concentration of low value classes the traditional clear-felling regime is allowed.

This approach (clear-felling some pristine forests) is a reflection of the large areas of HCVF in Komi. In different circumstances a strategy to restore HCVF's may be more appropriate. This could be done through the connection and protection of small fragmented HCVF areas.

Map 7 (left) Management Regimes for the pristine forest areas. Red areas are "massifs" to be excluded from commercial activity and to be protected. Orange areas have low impact selective harvesting systems. Green areas are low value classes where traditional clear-felling is allowed.

7. Management Planning, Forest Certification and HCVF

Identification and management of pristine forest areas in Komi is only one part the approach to sustainable forest management. FSC forest certification is another. The HCVF concept is part of the FSC certification process. Led by the Model Forest, the Forest Service and the logging companies holding concessions in the area are pursuing FSC.

The HCVF process described above has been a critical step in the process, in that it led to a new basis for harvesting planning. It has led to a recalculation of the annual allowable cut based on adequate and appropriate protection and management of the pristine forests in the region.

The HCVF process has also led to a reallocation of the concession areas. The massif which is in the north of the area was part of the concession of the Luzeles company. On identification of the massif, the company showed real leadership in leaving the concession (despite having already invested in road access) and moving to a new concession area in the south.

The treatment regimes for the different pristine forest areas provide a framework for introducing new low impact logging techniques and thereby improving the sustainability of the forest operations.

All these provide a strong foundation for FSC certification which should be achieved in 2003.

8. Some Final Thoughts

The results of the exercise show clearly how by moving away from simplistic approaches such as stand age (old-growth) as a definition of importance, to one based on values, with the characteristics identified through a stakeholder process, it is possible to provide a provide a rational basis for the use and protection of forests of high conservation value.

However, the process has taken the Komi Republic further. Starting with a problem, (which is not unique), it has moved through a participatory approach to provide a solution which is a positive and functioning example of High Conservation Value Forest management that has social, economic and environmental acceptance. The Republic has a new forest policy which uniquely provides better safeguards both for the environment and for companies who use it. It not only has new protected areas, but a system of biodiversity conservation. The Komi Republic is a focal point for new potential investors in the forest sector, as well as existing international players who own companies there. For them the new policy and legislation provides important safeguards and a series of guidelines for ensuring that their operations do not provide risks both to their reputation or their bottom line.

For other countries, companies and financial institutions there are other important lessons. The concept of HCVF and the sustainable management of HCVF attracts attention and action, but the market alone (through certification) will not always be the driver. And nor should it be - the application goes wider, and deeper. Making HCVF work does however need time and assistance. Capacity is currently a limiting factor. In early 2003 the development by ProForest of a global toolkit funded by the WWF/IKEA partnership should facilitate other countries to develop the HCVF approach. However, the scale of the task should not be underestimated. Progress on the ground needs a dedicated team approach.

Sources:

WWF Komi Model Forest Project, now the Silver Taiga Foundation.
Various documents and translation from the Komi Republic legislation.
ProForest: HCVF Toolkit

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