



Director _____ Yury Pautov

Silver Taiga Foundation Progress report for 2015

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Primary activity

1. Contribution to establishment of Protected Areas on the basis of pristine forests (Yu. Pautov)

Objective for 2014-2016:

To search and strength compromise solutions on conservation and sustainable use of pristine forests in priority regions of the Komi Republic and to spread positive experience in Arkhangelsk region.

Planned activity for 2015:

1.1. Koygorodok district

Preparation of the demonstration route infrastructure (arrangement of the field camp, selection and description of the demonstration points with key biotopes and habitats of the species listed in the Red Book, laying and marking of a route path) in the northern part of the designed Koygorodsky National Park for the forestry specialist, students, and teachers of the forestry universities.

1.2. Udora district

- Organization of the expeditions to the central part of the Verkhne-Vashka massif of pristine forests in the Udora district, aimed at the clarification of its conservation value as HCVF of the interregional and international (European) level (June 2015).
- Development of an ecological justification for organization of the complex reserve in the Core of the Verkhne-Vashka Intact Forest Landscape -IFL (within the boundaries of the Komi Republic), based on the available scientific, reported, and forest management data, ERS (Earth Remote Sensing) data, as well as the materials of the earlier researches, conducted by the Silver Taiga Foundation, WWF branch in Arkhangelsk, and Arkhangelsk environmental initiative. A submission of the developed justification to the Center of Protected Areas of the Komi Republic, Ministry of Natural Resources and Environmental Protection of the Komi Republic, and Forest Committee of the Komi Republic (December 2015).
- Development of an ecological justification for organization of the complex reserve in the Core of the Karpogory IFL (within the boundaries of the Komi Republic), based on the available scientific, reported, and forest management data, ERS (Earth Remote Sensing) data, as well as the materials of the earlier researches, conducted by the Silver Taiga Foundation, WWF branch in Arkhangelsk, and Arkhangelsk environmental initiative. The submission of the developed justification to the Center of Protected Areas of the Komi Republic, Ministry of Natural Resources and Environmental Protection of the Komi Republic, and Forest Committee of the Komi Republic (December 2015).

1.3. Other districts

- Monitoring of lend-lease and development of pristine forest massives and fragments, based on the ERS data, for the Knyzhpogost, Ust-Vym, Ukhta, Sosnogorsk, Vuktyl, and Troitsko-Pechorsk districts within the framework of the preparation and conducting of the voluntary forest certification of the Komi Republic enterprises (*during the year*).
- Organization of the training course on the regularities of the pristine forests landscape-ecological dynamics on the demonstration routes in the Pechoro-Ilych reserve for the Silver Taiga Foundation employees and active foundation volunteers (*June 2015*).
- Participation in the work of the Committee on the priority investment projects at the Ministry of Industrial Development and Transport of the Komi Republic (*during the year*).
- Participation in the Session of the Working group on the development of the Strategy for conservation of the intact forest landscapes in the Barents Euro-Arctic Region – Sweden – March 2015

- 1.4. Publishing of an information booklet “Forest treasure of the Komi Republic” about the conservation of the pristine forest massifs in the region (November 2015).

Main achievements in 2015 include:

1. Participation in the development of the Strategy for Protection of Intact Forests in the Barents Region, presented at the Conference of the Environment Ministers of the Barents Euro-Arctic Region countries in Sortavala on November 25, 2015 (4 versions of the document successively considered throughout 2015 at 3 working meetings in Uppsala, Petrozavodsk, Syktyvkar) – March-November 2015.

2. Dissemination of the Komi Republic experience in conservation of the Large Intact Forest Landscapes (LIFL) and development of the interregional SPNA networks on their basis at the international, national, and regional conferences, forums, seminars, and meetings in Uppsala, Arkhangelsk, Petrozavodsk, Krasnoyarsk, Syktyvkar (in total, 5 presentations, see below) – February-November 2015.
3. Upgrade of the demonstration routes infrastructure and the content of the field course on the landscape-ecological dynamics of the pristine forests in the Pechoro-Ilych biosphere reserve – June 2015.
4. Organization of two field educational courses on the regularities of the landscape-ecological dynamics of the pristine forests in the Pechoro-Ilych biosphere reserve for the Silver Taiga Foundation employees and the leading specialists of the Wood supply department and wood harvesting subdivisions of Mondi Syktyvkar – June-July 2015.

Detailed results:

1.1.Koygorodok district

- A demonstration route infrastructure in the northern part of the planned Koygorodok National Park for the forestry specialists was developed (the route transport logistics was worked out, a contract with the individual entrepreneur Kovach on the forest base lease for accommodation of the participants of the field courses, conducted on the route, was concluded). However, the northern part of the territory of the planned Koygorodok National Park is not easily accessible and quite monotonous in terms of landscape. Therefore, it makes most sense to focus mainly on the scientific tourism for a limited group of specialists – ecologists, instead of educational excursions for a wide circle of participants. A combination of the route in the National Park pristine forests with the earlier laid demonstration route "Landscapes and types of natural dynamics of the lowland south taiga forests in the Komi Republic" (Sedka route) is possible – *June-August 2015*.

1.2.Udora district

- An ecological justification for organization of the complex reserve in the Core of the Verkhne-Vashka intact forest massif (within the boundaries of the Komi Republic), based on the available scientific, reported, and forest management data, ERS (Earth Remote Sensing) data, as well as the materials of the earlier researches, conducted by Silver Taiga Foundation, WWF branch in Arkhangelsk was developed (in the process of technical editing) – *December 2015*.
- An ecological justification for organization of the complex reserve in the Core of the Karpogory intact forest massif (within the boundaries of the Komi Republic), based on the available scientific, reported, and forest management data, ERS data, as well as the materials of the earlier researches, conducted by Silver Taiga Foundation was developed (in the process of technical editing) – *December 2015*.

Note:

An expedition to the central part of the Verkhne-Vashka massif of pristine forests in the Udora district, aimed at the justification of the complex regional reserve establishing, has not been conducted due to objective reasons: at the beginning of June 2015, bridges on the timber transport roads leading to the Komi part of LIFL turned out to be destroyed, and in August 2015, 3 out of 5 invited external specialists got sick. An expedition with participation of Russian and Scandinavian ecologists is scheduled for June 2016.

1.3. Other districts

- Monitoring of the HCVF II "Intact forests", based on the ERS materials (LANDSAT-8 space images), has been carried out in the lease base of the enterprises - FSC certificates holders in the Komi Republic, i.e. Mondi Syktyvkar, Ilim Group - a branch in Koryazhma, OJSC "Karpogoryles", OJSC "Sevlespil", LLC "Luzales", OJSC "Mayskles", including the monitoring on request of the certification bodies NEPKON, Forest certification, as well as NGO "Transparent world", FSC Russia, WWF Russia. No serious violations in terms of observance of the regime for the allocated HCVF by the enumerated certificate holders in the Komi Republic have been detected.
- Participation in 2 meetings of the Committee on the priority investment projects at the Ministry of Industrial Development and Transport of the Komi Republic – *March, August 2015*.
- Update of the materials of the Northern forest management enterprise (Vologda) on the inventories of the Komi Republic pristine forests 2000-2006, based on the LANDSAT space images as of 2008. Transfer of the updated materials to NGO "Transparent world" to assess the change of the HCVF area in the Barents region over the past 15 years.

Note:

Publishing of the information booklet "Forest treasure of the Komi Republic" about the conservation of the pristine forest massifs in the region has been postponed to 2016 due to the non-standard design of the booklet.

1.4. Additionally:

- The presentation "FSC certification impact on the LIFL conservation in the North-West of the BEAR", delivered at the Working group meeting on conservation of the LIFL in the Barents region, Uppsala – *March 2015*.
- The presentation "Development of the regional SPNA networks as an opportunity to preserve valuable forests of the Barents region", delivered at the international conference "Ecological-Economic Cooperation in the Barents Region: from Problems towards Search of Joint Solutions", Arkhangelsk – *March 2015*.
- The presentation "An example of regional practices of the IFL conservation in the European part of Russia: Komi Republic", delivered at WWF roundtable "Development of the national requirements on the intact forest landscapes conservation for the FSC national forest management standard", Arkhangelsk – *March 2015*.
- The presentation "Development of the interregional SPNA networks, based on the last remaining intact forests in the Barents region", delivered at VIII International Habitat Contact Forum, Petrozavodsk – *October 2015*.
- The presentation "Prospects for preservation of LIFL in the Udora district on the boarder of Komi and the Arkhangelsk region", delivered at the meeting of the Working Group on the environmental conservation of the BEAR , Syktyvkar – *November 2015*.

Cooperating organizations (in alphabetic order):

- Administration of Koigorodok region
- Administration of Udora region
- Forestry Office of the Ministry of Natural Resources of the Komi Republic
- FSC Office in Russia
- Greenpeace Russia
- Individual entrepreneur Kovach
- Mayskles company
- Ministry of Industrial Development and Transport of the Komi Republic
- Ministry of Natural Resources and Nature Protection of the Komi Republic
- Mondi Syktyvkar

- Reserve “Nurgush-Tulashor” – Kirov region
- State Forestry Unit in Koigorodok
- State Forestry Unit in Letka
- State Budgetary Institution of the Komi Republic “Republican Center for Specially Protected Natural Areas and Nature Management Support”
- Transparent World NGO (Moscow)
- WWF Russia.

2. Ecosystem and landscape background for forestry and FSC planning (Yu.Pautov, N. Shuktomov)

Objectives for 2014-2016:

- 2.1. Supporting forestry and FSC planning with background GIS layers based on different methods of data collection including field work linked to data bases and recommendations important for planning. To establish first cartographic base for river catchments and first recommendations on catchment's management (watershed, slopes, terraces, wetlands of stream valleys, streams and rivers)
- 2.2. Preparation the draft of "Recommendations on HCVF and key biotopes identification, preservation and monitoring on FSC certified areas" in compliance with criteria 6.2, 6.3, 6.4, 9.2, 9.3, 9.4 of Russian FSC Standard (version 6-1) for various level planners (base, medium, advance)
- 2.3. Developing educational course on landscape-ecological planning of forest management on base of ERS materials in Komi Model Forest area.
- 2.4. Developing the "Recommendations on monitoring of flora and fauna on FSC-certified areas". in compliance with criteria 8.2.7 of Russian FSC Standard (version 6-1) together with FSC Russia and WWF Russia.

Planned activity for 2015:

- 2.1. **Supporting of forestry and FSC planning with background GIS layers based on different methods of data collection including field work linked to data bases and recommendations important for planning. To establish first cartographic base for river catchments and first recommendations on catchment's management (watershed, slopes, terraces, wetlands of stream valleys, streams and rivers).**
 - Selection, description, and arrangement of the new demonstration objects for the field educational courses on the forest use landscape planning in the Komi Model Forest – *May 2015*.
 - Assessment of the conducted and planned logging and forest management of OJSC "Mondi Syktyvkar" on the pilot areas on conformity to the FSC certification requirements (jointly with the Wood supply department of OJSC "Mondi Syktyvkar" and LLC "Tekhkarta").
- 2.2. **Preparation of the draft of "Recommendations on HCVF and key biotopes identification, preservation and monitoring on FSC certified areas" in compliance with criteria 6.2, 6.3, 6.4, 9.2, 9.3, 9.4 of Russian FSC Standard (version 6-1) for various level planners (base, medium, advance).**
 - Preparation of the manuscript "Recommendations on landscape-ecological planning of the forest use with account of the FSC National standard requirements" (in accordance with criteria 6.2, 6.3, 6.4, 9.2, 9.3, 9.4.) for approval by the Technical Council of the Forest Committee of the Komi Republic.
- 2.3. **Developing of educational course on landscape-ecological planning of forest management on base of ERS materials in Komi Model Forest area.**
 - Organization and conducting of 2 educational seminars on use of the GIS methods and ERS materials for long-term and short-term planning of the forest use and forest management with account of the FSC certification requirements for the specialists of OJSC "Mondi Syktyvkar" contractor companies (*February 2015*).
 - Organization and conducting of 4 field courses on the fulfillment of the ecological requirements of the FSC National standard, using GIS methods and ERS materials, for technical managers, forest foremen, industrial engineering department specialists, and forest logging sites "allocators" of the certified companies (*May, June, September, October 2015*).
 - Organization and conducting of a field course on fulfillment of the ecological requirements of the FSC National standard, using GIS methods and ERS materials, for the specialists of the forestry units and Forest Committee of the Komi Republic (*October 2015*).

Main achievements in 2015 include:

1. Preparation of the manuscript "Recommendations on the landscape-ecological planning of the forest use with account of the FSC certification requirements", authors: D. Kutepov, Y. Pautov, N. Shuktomov (in the process of technical editing) – *December 2015*.
2. Training of 14 specialists of Mondi Syktyvkar contractor companies (logging plot allocators) in the use of GIS-methods and ERS materials for strategic and operative planning of the forest use with account of the FSC certification requirements) – *February 2015*.

3. Training of 37 specialists of Mondi Syktyvkar logging subdivisions in fulfillment of the ecological requirements of the FSC National standard, using GIS methods and ERS materials – *May-June 2015*.
4. Organization and conducting of two advanced courses on the ecological aspects of FSC certification for 30 FSC consultants in partnership with WWF Russia and FSC Russia – *September-October 2015*.

Detailed results:

- 2.1. Selection, description, and arrangement of the new demonstration objects for the field educational courses on the forest use landscape planning in the Komi Model Forest:
 - 4 demonstration plots on the felling sites with preserved biodiversity (key biotopes, key forest elements, preserved landscape boundaries) were selected, described and arranged for the educational courses on the forest use landscape planning in the Komi Model Forest – *May-June 2015*.
 - Assessment of the fresh felling on the pilot area "Sedka" in the lease base of Mondi Syktyvkar on conformity to the FSC certification requirements was conducted (jointly with the Wood supply department of Mondi Syktyvkar) – *June-July 2015*.
- 2.2. The manuscript "Recommendations on the landscape-ecological planning of the forest use with account of the FSC certification requirements" was prepared, authors: D. Kutepov, Y. Pautov, N. Shuktomov (in the process of technical editing) – *December 2015*.
- 2.3. Developing of educational course on landscape-ecological planning of forest management in Komi Model Forest area:
 - 2 educational seminars (14 participants - logging plot allocators) on the topic "The fundamentals of the work with geoinformation systems (GIS) and earth remote sensing (ERS) data for fulfillment of the FSC certification requirements during the forest use planning and organization" were organized and conducted – *February 2015*.
 - 3 field courses on the fulfillment of the ecological requirements of the FSC National standard, using GIS methods and ERS materials, for leaders of the logging operations, forest foremen, logging plot allocators (37 participants) were organized and conducted – *May-June 2015*.

Note:

Organization of a field course on the fulfillment of the ecological requirements of the FSC National standard for the specialists of the forestry units and State Forestry Service of the Komi Republic has been postponed due to the State Forestry Service reorganization.

2.2. Additionally:

- A filed scientific excursion on the demonstration objects of the Komi Model Forest was prepared and conducted jointly with the soil science department of the Institute of Biology of the Komi Scientific Center, Ural Branch of the Russian Academy of Sciences for the participants of VI All-Russia Scientific Conference "Fundamental and Applied Issues of Forest Soil Science" – *August-September 2015*.
- A field educational course on the landscape-ecological planning of the forest use with account of the FSC certification requirements was organized and conducted for 8 employees of the logging company "Lun-Vozh" – *June 2015*.
- An updated GIS layer with the information on the demonstration objects located on the Komi Model Forest area has been prepared for posting on the website.

- GIS specialists of the Silver Taiga Foundation N. Shuktomov and A. Borovlyov have taken part in the conference "Environmental GIS Communities of Russia".

Cooperating organizations (in alphabetic order):

- Forestry Office of the Ministry of Natural Resources of the Komi Republic
- FSC Russia
- Greenpeace Russia
- Institute of Biology of RAS in Komi
- Luzales – wood harvesting and processing company
- Ministry of Natural Resources of the Komi Republic
- Mondi Syktyvkar
- Non-profit partnership “Transparent World” in Moscow
- Skanex – cartographic company – Moscow
- State Forestry Unit in Priluzje
- Syktyvkar Forest Institute
- Tefra consulting company – Syktyvkar
- Tekhkarta – cartographic company – Syktyvkar
- Ust-Nem forestry unit
- WWF Russia.

3. Model River Mezen – cooperation with local communities (V. Semyashkina, N.Shilov)

Main objective:

To restore fish resources in Model Rivers and to manage them sustainable way in cooperation with local population and other interested parties.

Objectives for 2014-2016:

- 3.1. Creating public awareness on problems related to fish resources and possible solutions. Ensuring public access to this information.
- 3.2. Promoting development of sustainable resource management methods among local users following local population being aware of current problems and jointly discussing them.
- 3.3. Information, tutorial and administrative support of local entrepreneurs and initiators of tourism development and recreational management of river resources.
- 3.4. Developing cooperation between municipalities along the Mezen river (Udora district of the Komi Republic, Leshukonskoye and Mezen districts of Arkhangelsk region).
- 3.5. Developing public self-government and cooperation among citizens of settlements located along the Mezen river (within districts and between districts).
- 3.6. Supporting environmental, educational and regional study activities among students and youth under the project subject (cooperating with schools and vocational education institutions).
- 3.7. Elaborating proposals for the regional legislation relating to the role of traditional resource management of the river for the sustenance of the local population.
- 3.8. Disseminating information on the project and its results (information support of the project).

Planned activity for 2015:

- 3.1. **Creating public awareness on problems related to fish resources and possible solutions. Ensuring public access to this information.**
 - Meetings with the population with presentation of the program “Let’s preserve salmon!” by the Green troops propaganda team in the rural settlements Tsenogora and Yuroma of the Leshukonsky district of the Arkhangelsk region (jointly with the Udora Central library system). *March 2015.*
 - Development, manufacture, and installation of information boards (banners) on the topic of river resources conservation in the most visited places along the Mezen in the Udora district (10 information boards). *May – June - July 2015.*
 - A roundtable on the population survey results – for the working youth on the basis of the National museum in Koslan. An acquaintance with the exposition “The Mezen: history of the river resources management”, and a discussion. *March 20 – 21, 2015.*
 - A roundtable on the population survey results – for the members of the Non-governmental organization of veterans on the basis of the National museum in Koslan. An acquaintance with the exposition “The Mezen: history of the river resources management”, and a discussion. *May 2015.*
 - 6 editions of the thematic supplement to the Udora district newspaper. *During the year.*
 - Publishing of a wall calendar– 2016 with photos and information from the history of the villages located near the Mezen (an emphasis on the role of the river and fishery, traditions of the former river management). *December 2015.*
 - Publishing of an information brochure booklet “The Mezen basin ichthyofauna and nature use traditions of the local population. The Model River Mezen project initiatives”.
 - Informing of the population through the libraries (work of the summer reading eco-rooms in the villages Bolshaya Pyssa and Chernutyevo; an exhibition of literature on the river and fishing, readers’ conference-discussion on the novel of Fyodor Abramov “Once upon a time there lived a salmon”, etc.). *During the year.*
- 3.2. **Promoting development of sustainable resource management methods among local users following local population being aware of current problems and jointly discussing them.**
 - Coordination of the project Working group activity. Conducting of 2 Working group meetings with the discussion of the river resources management problems (analysis of the fishing grounds activity – for commercial and amateur fishing – and recommendations development; new Fishery regulations – advantages and disadvantages, recommendations; organization of the public control on the river; etc.). *During the year.*
 - A joint meeting of the Tourism Coordination Committee of the Udora municipal district and representatives of the project Working group on the streamlining of the tourist load on the fish resources in the Mezen river basin. *February 12, 2015.*

- Preparation of the proposals on the streamlining of the tourist activity in the Mezen river basin – for the administration of the municipal district, Agency for Tourism, and Ministry of Natural Resources and Environmental Protection of the Komi Republic. *February – April 2015.*
 - Support of the public control organization by the AgroUdora cooperative members on the leased areas (informing on the rights of the public inspectors, public support provision).
 - Organization and holding of a republican conference-dialogue on the river resources management problems – in the Udora district. (Koslan). *November 2015.*
- 3.3. Information, tutorial and administrative support of local entrepreneurs and initiators of tourism development and recreational management of river resources.**
- The seminar “Rural tourism development – rural areas development” (from the experience of the rural districts of the Arkhangelsk region) with the participation of a deputy of the Arkhangelsk regional assembly of deputies. *February 2015.*
 - Supervision of the development and implementation of the local projects, information and methodological support of the rural public initiatives authors participation in the grant competitions (jointly with the Center of the Sustainable Development under the Syktyvkar State University and NGO “Indigenous women of Komi”).
- 3.4. Developing cooperation between municipalities along the Mezen river (Udora district of the Komi Republic, Leshukonskoye and Mezen districts of Arkhangelsk region).**
- Meetings with the local population in the villages of the Mezen district. Discussion of the nature use and fish resources management problems. *February - March 2015.*
 - A roundtable devoted to the information about the survey-2014 results and analysis of the amateur fishing organization practice on the fishing grounds – in the village Leshukonskoye (with participation of the Udora and Mezen districts representatives). *March 2015.*
- 3.5. Developing public self-government and cooperation among citizens of settlements located along the Mezen river (within districts and between districts).**
- A seminar devoted to the rural TPSG (territorial public self-government) work experience exchange (jointly with the Udora representative office of the interregional public movement “Komi voytyr”, activists of the TPSG of the Leshukonsky district, and republican territorial public self-government association (ATOS). *March 2015.*
- 3.6. Supporting environmental, educational and regional study activities among students and youth under the project subject (cooperating with schools and vocational education institutions).**
- A seminar-presentation of the author educational program and methodological handbook on the ichthyofauna of the Mezen basin. The participants – teachers of the Udora district schools and invited representatives of the neighbor districts. *March 2015.*
 - Dissemination of the educational program on the Mezen ichthyofauna in the rural schools of the districts located near the Mezen, its adaptation and implementation. A seminar on the experience exchange. *December 2015.*
 - A district conference of schoolchildren on the basis of the Vazhgort school. A school “River patrol” creation initiative (jointly with the Center of Protected Areas and district education department). *March 2015.*
 - Support of the summer ecological and regional history-exploration expeditions of schoolchildren and river banks cleaning campaigns (jointly with the Children’s art house of Usogorsk and rural schools). *June-August 2015.*
 - Organization of a field educational seminar for the Udora district schoolchildren.
 - Acquaintance with the methods of artificial fertilization and incubation of the valuable commercial fish species (jointly with the specialists of FSBI “Komirybvod”). *May 2015.*
 - Release of the farm-grown young fish to the fishing grounds of the AgroUdora cooperative. *June 2015.*
 - Mastering and practical application of the methods of fish resources monitoring, sustenance of the population of economically valuable types of ichthyocenosis, fish stock restoration activities. *June 2015.*
 - A conference of the seminar participants. Publication of a collection of schoolchildren research studies. *September 2015.*
- 3.7. Elaborating proposals for the regional legislation relating to the role of traditional resource management of the river for the sustenance of the local population.** The activity has not been planned for 2015.

3.8. Disseminating data on the project and its results.

- Publications in the mass media of the Komi Republic and Arkhangelsk region.
- Project information support on the website www.silvertaiga.ru.
- Participation in the republican and interregional conferences on the sustainable development with reports about the river resources management problems and project progress.

Main achievements in 2015 include:

1. Regular informing of the local residents on the river resources management issues and the Mezen fish resources condition has been ensured; operating platforms for public discussion of the problems: a thematic supplement to the district newspaper, meetings in the rural settlements, libraries, and the district center museum, seminars, and a conference have been arranged.
2. A core group, consisting of the local population representatives, primarily, from the Udora district, motivated and ready to implement a number of the project activities on their own (with little information, methodological and financial support from the project) has been formed.
3. Thanks to the regular partner support of the local cooperative "AgroUdora" by the district representative office of the interregional public movement "Komi voytyr", Silver Taiga Foundation, LLC "Udora necklace", Agriculture Directorate of the Ministry of Agriculture and Food of the Komi Republic, organized in the framework of the project, the first positive results over several years of the cooperative operation have been achieved: the quota for 2015 has been covered by almost 100 percent, sales of products have been arranged, the core group of the cooperative has moved from solving immediate problems to conscious planning, discussion of the perspectives of the recourses management on the leased fishing grounds.
4. Schoolchildren from several schools (Vazhgort, Glotovo, Usogorsk, Bolshaya Pyssa) have been involved in the practical participation in the project implementation: a summer field school for children has been held in cooperation with the operating AgroUdora fishery cooperative and two ecological and regional history-exploration expeditions on the Mezen have been conducted jointly with LLC "Udora necklace"; a school "River patrol" has been organized.
5. Strengthening of contacts and development of cooperation between the residents of different administrative districts of the Mezen basin (Komi Republic and Arkhangelsk region) have been continued: a joint seminar on the domestic tourism development and recreational use of river resources with participation of a deputy of the Arkhangelsk regional assembly of deputies has been conducted; a survey of the population of three districts, aimed at assessing the scopes of illegal salmon catching and assessing the fish resources reduction causes by the local population, has been completed; meetings of the project Working group members in the rural settlements of the Mezen district have been held.

Detailed results:

3.1. Creating public awareness on problems related to fish resources and possible solutions. Ensuring public access to this information.

- A roundtable on the results of the population survey, conducted in three Mezen districts, has been conducted at the premises of the National museum in Koslan – *May 2015*.
- 6 editions of the thematic newspaper "Model River Mezen" – supplement to the Udora district newspaper, have been prepared, issued, and distributed (3500 thousand copies of each edition) – *throughout the year*.
- The color flip wall calendar for 2016 "Along the Mezen" with photos and information about the history of the villages located on the Mezen banks, about the role of the river and fishery, traditions of the former river management is published and disseminated.

- Based on the exposition “The Mezen: history of river resources management” in the National museum of the Udora district, regular excursions for schoolchildren and adult visitors are conducted by the museum staff.
- Designs of the information boards (banners) on the topic of river resources conservation, planned to be installed in the most visited places along the Mezen in the Udora district (8 information boards), have been developed. 2 banners have been installed, the rest will be manufactured and installed in 2016.
- Regular informing of the population through the network of libraries has been organized in cooperation with the Udora Central Library System:
 - a summer reading eco-room was working in the village Chernutyevoy in June-August;
 - information boards on the activities conducted within the frameworks of the project have been arranged, reviews of the river and fishing-related literature have been conducted in the rural libraries;
 - three readers' conferences on the novel of Fyodor Abramov “Once upon a time there lived a salmon”, followed by a discussion around the Mezen river resources management problems, including the Mezen salmon conservation problem, have been prepared and held (in the settlements Usogorsk, Blagoevo, and Mezhdurechensk).

Note:

1. Due to objective reasons (early spring and long thaw period), meetings with the population and presentation of the "Let's Preserve Salmon!" program in the rural settlements of the Leshukonsky district of the Arkhangelsk region have not been held and have been postponed to 2016.
2. The materials of the information brochure booklet “The Mezen basin ichthyofauna and nature use traditions of the local population. The Model River Mezen project initiatives”, planned to be published in 2015, will be included in the book "The Mezen. A collection of research articles on the Mezen river ichthyofauna, current state of the fish resources, nature use traditions of the local population, Model River Mezen project initiatives (the publication is being prepared jointly with the Institute of Biology of the Komi Scientific Center, Ural Branch of the Russian Academy of Sciences, an editorial preparation is scheduled for April 2016).

3.2. Promoting development of sustainable resource management methods among local users following local population being aware of current problems and jointly discussing them.

- Two Working group meetings devoted to the discussion of the river resources management issues have been conducted.
 - the major focus for discussion at the meeting in May was the information on the results of the meetings with the local population, representatives of the relevant authorities, and local self-government bodies of the Mezen district of the Arkhangelsk region, as well as the results of the sociological survey, carried out in three Mezen districts upon the decision of the interregional conference held in the village Leshukonskoye in 2014;
 - at the December visiting meeting in Koslan (Udora district), the initiative to establish a Public Fishing Council in the district was discussed. Then the proposal was submitted for discussion at the conference and supported by its participants.
- A dialogue conference on the Mezen river resources management issues has been organized and conducted in the Udora district (Koslan) at the initiative and by efforts of the project Working group. The vital problems, related to the Mezen fish resources management and, primarily, the opportunity for the local residents participation in this management, have been

discussed. A decision to establish a Public Fishing Council in the district, aimed at the development of the public participation in the fish resources management and public control, has been made.

3.3. Information, tutorial and administrative support of local entrepreneurs and initiators of tourism development and recreational management of river resources.

- A two-day seminar on the topic “Rural tourism development – rural areas development” with participation of T. Sedunova, a deputy chairman of the committee of the Arkhangelsk regional assembly of deputies on culture and tourism, has been conducted. The participants have been introduced to the experience of the rural districts of the Arkhangelsk region; practical opportunities for development of the rural tourism and recreational use of river resources have been presented on the basis of the guest house in the village Syolyb of the Udora district.
- A methodological support in the development and implementation of the local projects of the rural enthusiasts has been provided within the framework of the grant competition "Active Generation" of the charity foundation “Kind City of St. Petersburg”: two “Mezen” development projects have been prepared; one of them has received funding in the amount of 100 thousand rubles.

3.4. Developing cooperation between municipalities along the Mezen river (Udora district of the Komi Republic, Leshukonskoye and Mezen districts of Arkhangelsk region).

3.5. Developing public self-government and cooperation among citizens of settlements located along the Mezen river (within districts and between districts).

In March 2015, meetings of the project Working group members with the population in the rural settlements of the most remote Mezen district were carried out. The discussion was focused around the issues of concern to the local population, related to the nature use and fish resources management: deficiencies in the amateur salmon fishing organization on the fishing grounds of the Mezen and Leshukonsky districts, including lack of the necessary control; possibility for organization of the public control, etc. Information and photo material for publications about the rural settlements have been collected.

Note:

Due to objective reasons (early spring and long thaw period), the roundtable in the Leshukonskoye district center scheduled for March 2015 has not been conducted (postponed to 2016).

3.6. Supporting environmental, educational and regional study activities among students and youth under the project subject (cooperating with schools and vocational education institutions).

- A filed educational seminar for the schoolchildren of the Udora district has been organized and conducted on the Irva river (the Mezen tributary) in the village Krivushevo. Jointly with the Center of Protected Areas of the Komi Republic, FSBI "Komirybvod" and the local cooperative "AgroUdora".
- Three summer ecological and regional history-exploration expeditions of schoolchildren and river banks cleaning campaigns have been carried out (jointly with the Children’s art house of Usogorsk and LLC "Udora necklace").
- An interschool conference has been conducted in the village Vazhgort (jointly with the Center of Protected Areas of the Komi Republic, Usogorsk secondary school, and Children’s art house of Usogorsk).

- Creation of the first school "River patrol" on the basis of the Vazhgort school has been initiated.
- A methodological handbook on the ichthyofauna of the Mezen basin (a supplement to the earlier developed author educational program) has been developed and prepared for publishing.

3.7. Elaborating proposals for the regional legislation relating to the role of traditional resource management of the river for the sustenance of the local population. The activity has not been planned for 2015.

3.8. Disseminating data on the project and its results.

- The project implementation progress has been regularly covered on the web-site silvertaiga.ru (about 20 publications).
- Publications about the project in the newspapers "Ecological newsletter of Pripechorye", "Zvezda (Star)", on the website of PINRO <http://www.pinro.ru>; on the official websites of the Udora and Leshukonsky municipal districts <http://www.udora.info>; <http://www.leshukonia.ru>; on the information portals and sites <http://koslan-musej.ucoz.ru>; <http://udora-vt.livejournal.com>, etc.
- A program on the Komi Gor radio devoted to the AgroUdora cooperative problems and support of its activity within the framework of the project (in Komi language).
- The project implementation activity has been presented within the ecological section of the Civil forum in October 2015, at the district conference of the interregional public movement "Komi voytyr" in Koslan (Udora district).

Cooperating organizations (in alphabetic order):

- Administrations of Bolshaya Pyssa, Chernutyeyo, Glotovo, Vozhgora, Koynas and other rural settlements
- Administration of Leshukonskoye district of Arkhangelsk region
- Administration of Mezen district of Arkhangelsk region
- Administration of Udora region
- Cooperative "Agroudora" operating along rivers
- Editorial offices of "Vyl Tuyod", "Zvezda" and "Sever" newspapers
- Education Department of the Administration of Udora region
- National Museum of the Udora District
- Ozherelye Udory, company
- Regional public movement "Native Women of Komi"
- Republican territorial public self-government association (ATOS)
- Secondary schools of Bolshaya Pyssa, Glotovo, Vazhgort, Usogorsk and other settlements
- State Budgetary Institution of the Komi Republic "Republican Center for Specially Protected Natural Areas and Nature Management Support"
- Sustainable Development Center of the Syktyvkar State University
- Udora branch of the Federal State Budgetary Institution "Komi Basin Fishery and Aquatic Biodiversity Preservation Administration (FSBI Komirybvod)
- Udora centralized library system
- Udora region NGO – "Udorachi"
- Udora representative office of the Interregional Public Movement "Komi Voytyr" (NGO)
- Usogorsk Children Activity Center.

4. Model River Mezen – restoration of fish resources (N.Shilov, N. Shuktomov)

Main objective:

To restore fish resources in Model Rivers and to manage them sustainable way in cooperation with local population and other interested parties.

Planned activity for 2015:

4.1. To support development and start of implementation of the target interregional Mezen salmon preservation and restoration program initiated by the project (hereinafter referred to as the Program):

4.1.1. To coordinate the activity of the interregional working group on the Program section development.

- Development of proposals for the specific Program sections. *February 2015.*
- Organization and holding of two meetings of the interregional Working group. *April. November.*
- Analysis of the data of the sociological survey of the population living in the districts near the Mezen (jointly with the Institute of Socio-Economic and Energy Problems of the North of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences. *February.*
- Collection and analysis of the statistical data of the department of state control, supervision and protection of water biological resources of the Komi Republic of the Dvina-Pechora Unit of the Russian Fishery Agency for the last 30 years. (Department of state control, supervision and protection of water biological resources of the Komi Republic). *March.*
- Preparation of a section of the interregional Program “Analysis and estimation of the scale of illegal Atlantic salmon catching on the whole river length, from its source to its mouth”. *November.*

4.1.2. To organize cooperation of partners from Komi and Arkhangelsk region in the Mezen river basin.

- Prolongation of the cooperation agreement with FSBI “Komirybvod” on organization and conducting of the salmon monitoring and protection, organization of the work on the support of the valuable commercial fish species populations.
- Conclusion of a cooperation agreement with the AgroUdora cooperative on the information and consulting support of the sustainable management development on the leased areas; organization of a joint fish resources monitoring on the leased areas; support of the projects on fish populations maintenance and public control organization by the cooperative members.
- Conclusion of a cooperation agreement with the Udorachi indigenous people community on the organization and search of the legitimate forms of traditional use for the local residents needs.
- Conclusion of a cooperation agreement with the SBI (state budgetary institution) of the Komi Republic “Center of Protected Areas” on the organization and search of the legitimate forms of traditional use for the local residents needs, as well as participation in the conducting of an annual monitoring; holding of joint educational activities.

4.1.3. To suggest mechanisms (forms) of public control and to promote establishment of such control.

- Initiating of the public fishing council establishment of the Udora district. *February.*
- Supervision of the public council operation. *During the year.*
- Provision of consultation services. *During the year.*

4.2. To establish monitoring of fishery projects implemented on the Mezen river.

- Conducting of a practical seminar on the monitoring methodology for the AgroUdora cooperative members. *July.*
- Monitoring implementation. *May - September.*
- Informing of the project stakeholders, local population, and society about the monitoring results (publications in mass media). *October.*
- Familiarity with examples of implementation of the fishery projects of the northwest of the European part of Russia. *October.*

4.3. To proceed with the annual monitoring of quality of spawning and salmon spawning grounds.

- Adjustment of the methodology used for the monitoring of the Atlantic salmon population condition in the project framework.

- Exploration of the salmon spawning grounds in the Mezen river basin to prepare their description. (jointly with the Institute of Biology of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences). *July*.
- Creation of a textbook of methods and photomaterial on the redds accounting method (jointly with the Institute of Biology of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences). *October*.
- Organization and holding of a seminar for the users (leaseholders, local population, and other stakeholders), devoted to the training on monitoring methods and identification of the salmon redds (aimed at the preparation of the skilled labour for participation and conducting of the monitoring and other field works in the project framework). *September*.
- Carrying out of the field expeditions, aimed at the monitoring of the salmon population reproductive part. *October*.

4.4. To facilitate implementation of fish protection activities.

- Holding of consultative and advisory meetings with the local population in the settlements along the rivers Vashka and Mezen. *June*.
- Illegal fishing prevention. *June*.
- Development, publishing, and dissemination of the information materials on the duties and rights of the public fish inspectors. *July*.

4.5. To support projects on restoration of resident fish species.

- Support of the valuable commercial fish species populations on the fishing grounds, leased by the AgroUdora cooperative: participation in the fish stocking activities. *June*.
- Justification of the fish stock restoration activities on the fishing grounds of the AgroUdora cooperative in the river Irva (jointly with the Institute of Biology of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences). *August*.

4.6. To support protective actions of Fishery Supervision and FSBI "Komirybvod" and the users' actions on restoration of resident fish species.

Main achievements in 2015 include:

- Development of the cooperation with the AgroUdora cooperative - the Udora district organization engaged in the fresh fish catching and selling:
 - ✓ The scopes of the forthcoming reclamation activities, aimed at maintaining the natural fish capacity of the fishing grounds, have been assessed.
 - ✓ Thanks to the Silver Taiga Foundation consultations, the AgroUdora cooperative for the first time requested the permissible catch volume, which was covered by 100%.
- An analysis of the scale of the Atlantic salmon IUU fishing in the Mezen river basin has been conducted, based on the data of the sociological survey of the Mezen districts population. The obtained data is required for further development and implementation of the program on the restoration of the Atlantic salmon population in the Mezen river.
- The monitoring of the salmon spawning quality and conditions, with preliminary preparation of the monitoring participants has been continued. Currently, the information on the spawning quality and conditions for the last 5 years is accumulated, facts of the legislation violation in the field of aquatic biological resources protection have been detected. The Northern branch of PINRO has been conducting the monitoring of the salmon downstream migrants for the second year.

Detailed results:

4.1. To support development and start of implementation of the target interregional Mezen salmon preservation and restoration program initiated by the project (hereinafter referred to as the Program):

- Meetings and negotiations with the partners on the adjustment of the interregional program items were held – *April, November 2015*.

- A layout of the methodological handbook on the Atlantic salmon redds accounting with regard to the regional peculiarities and the Silver Taiga Foundation experience was developed - in the process of technical editing (Arkhangelsk Scientific Center, Ural Branch of the Russian Academy of Sciences) – *December 2015*.
- The data on the scale of the Atlantic salmon IUU fishing has been analyzed. The work has been disseminated among the stakeholders and posted on the Silver Taiga Foundation website – *October 2015*.
- Cooperation agreements with the AgroUdora cooperative and SBI of the Komi Republic “Center of Protected Areas” were concluded, a cooperation agreement with FSBI "Komirybvod" was extended – *January 2015*.
- Establishing of the Public Fishing Council of the Udora district was initiated. Currently, at the formation stage – *December 2015*.
- At the Silver Taiga Foundation initiative, the Northern branch of PINRO continued the monitoring of the salmon downstream migrants (smolts) – the fish inventories have been checked in the Leshukonsky district of the Arkhangelsk region (after the Vashka falling into the Mezen). The work was performed with the financial support of the Arkhangelsk region government – *throughout the year*.
- Upon the requests of NGOs and residents of the Udora district, the work related to introduction of seasonal restrictions on visiting the spawning and nursery grounds (SNG) of the Atlantic salmon on the Mezen river area during the spawning period was initiated (jointly with the Ministry of Natural Resources of the Komi Republic) – *August 2015*.
- A sub-item of the Program "Analysis of the efficiency of the SPNA functioning in the Mezen river basin in terms of aquatic biological resources protection and proposals for optimizing the SPNA network" was developed. The materials are available on the Silver Taiga Foundation website and will be used in the Program implementation – *April 2015*.
- Proposals on the change of the Fishing rules for the Northern Fishery Basin with account of the opinions of the Udora district population and NGOs were developed and submitted to the Working group of the State Council of the Komi Republic on the Fishing rules amendment, and partially adopted – *May 2015*.

Note:

1. A Working group meeting has not been held during the year due to numerous personal and structural changes in the partner organizations (ministries of the Komi Republic and regional structures of the Russian Fishery Agency).
2. Statistical data of the department of state control, supervision and protection of water biological resources of the Komi Republic of the Dvina-Pechora Unit of the Russian Fishery Agency is available only since 2008 and does not contain any detailed information necessary for the Program implementation.

4.2. To establish monitoring of fishery projects implemented on the Mezen river:

- Theoretical and practical seminars on the monitoring methodology were conducted for the AgroUdora cooperative members. Monitoring logbooks were disseminated. The seminars were attended by 17 to 50 people – *April-June 2015*.
- Reports about the monitoring in the mass media – *July 2015*.
- Proposals to change the permissible catch volume, requested by the AgroUdora cooperative for the fishing grounds, based on the multi-year harvesting dynamics, were made – *January 2015*.

Note:

An acquaintance with the examples of the fishery projects implementation in the North-West of

the European part of Russia has been cancelled due to the publication of a new edition of the Fishing rules for the Northern Fishery Basin.

4.3. To proceed with the annual monitoring of quality of spawning and salmon spawning grounds:

- 4 new participants of the expedition on the salmon spawning grounds monitoring were involved, trained, and consulted – *September 2015*.
- Consultations on the monitoring conducting for the stakeholders (entrepreneurs, local population, representatives of the executive authorities) were carried out in 7 settlements of the Mezen district of the Arkhangelsk region – *March 2015*.
- A field expedition, aimed at the monitoring of the reproductive part of salmon population, was held. 111 "hills" and 13 "pits" were detected – *September-October 2015*.
- New stakeholders, ready to take part in the monitoring, were detected (Upper Mezen district forestry unit, entrepreneurs) – *October-December 2015*.
- FSBI "Komirybvod", Ministry of Natural Resources of the Komi Republic: annual salmon monitoring data was prepared and submitted – *October 2015*.

Note:

Inspection of the salmon spawning grounds in the Mezen river basin, aimed at their description, has been postponed to 2016 due to the lack of free specialists-ichthyologists of the Institute of Biology of the Komi Scientific Center, Ural Branch of the Russian Academy of Sciences.

4.4. To facilitate implementation of fish protection activities:

- Information and consultation meetings with the local population in the settlements along the rivers Vashka and Mezen were held. The new Fishing rules for the Northern Fishery Basin, as well as the role, rights and duties of the public inspectors were explained. A number of the local population problems in the sphere of the aquatic biological resources harvesting and protection was defined – *August 2015*.
- In cooperation with FSBI "Komirybvod" and Department of State control, supervision and protection of water biological resources of the Komi Republic, SBI of the Komi Republic "Center of Protected Areas", the local population conducted the expeditions and monitoring in the upper reaches of the Mezen and on the spawning tributaries Upper and Lowe Puzla, Pyssa, Yolva Mezenskaya. Direct and indirect indicators of poaching on the SNG during the salmon spawning have been detected. A breach of legislation in the field of aquatic biological resources protection was prevented – *September-October 2015*.

4.5. To support projects on restoration of resident fish species:

- Assessment of the scopes of reclamation activities on the AgroUdora cooperative fishing grounds on the Irva river was made – *August 2015*.

Note:

Due to a short melting period and early spawning, the fish reproductive products, prepared for stocking of the AgroUdora cooperative fishing grounds with ide and pike, turned out to be of insufficient quality. This activity was shifted to 2016.

4.6. To support protective actions of Fishery Supervision and FSBI "Komirybvod" and the users' actions on restoration of resident fish species:

- Financial support of the Udora branch of FSBI "Komirybvod" in the organization of the pike artificial reproduction and facilitation of the pike natural reproduction on the

temporary fish breeding station in the upper reaches of the Mezen river was provided – *May 2015*.

- Support of the Udora department of state control, supervision and protection of water biological resources in the organization of the salmon spawning grounds protection in the upper reaches of the Mezen and implementation of the measures, aimed at preventing a breach of legislation in the field of aquatic biological resources protection on the Vashka river, was given – *June 2015*.
- A regular informational, advisory, and organizational support of the local user – AgroUdora cooperative, was provided within the project framework – *throughout the year*.

Cooperating organizations (in alphabetic order):

- Administration of Leshukonskoye district of Arkhangelsk region
- Administration of Mezen district of Arkhangelsk region
- Administration of Udora region
- Agricultural consumer cooperative “AgroUdora”
- Federal State Budgetary Institution “Komi Basin Fishery and Aquatic Biodiversity Preservation Administration (FSBI Komirybvod)
- FSBI Sevrybvod
- Institute of biology of the Komi Scientific Center of Ural Branch, Russian Academy of Science (Syktyvkar)
- Ministry of Agriculture of the Republic of Komi, aquaculture and fishery department
- Ministry of Natural Resources and Environmental Protection of the Republic of Komi
- State Aquatic Bioresources Inspection, Monitoring and Protection Agency of the Republic of Komi
- State Budgetary Institution of the Komi Republic “Republican Center for Specially Protected Natural Areas and Nature Management Support”
- State Inspectorate for Small Vessels in the Ministry of Emergency Situations of Russia in the Komi Republic
- Udora region NGO – “Komi Voytyr”
- Udora region NGO – “Udorachi”.

5. Evaluation of the long-term impact of forestry (logging) on water resources (Yu. Pautov)

Objectives for 2014-2016:

- 5.1. To analyze scientific data (first of all, from international sources) on forestry and logging impact on hydrological regime of rivers and catchment areas.
- 5.2. To evaluate influence of logging regime on state of rivers and streams based on comparisons of rivers covered by monitoring.
- 5.3. To evaluate influence of logging on state of small wetlands along streams and on flooded part of river valley.
- 5.4. To develop recommendations for the logging industry and forestry planners on how to avoid or reduce negative influence of logging on streams and rivers.

Planned activity for 2015:

- 5.1. **To analyze scientific data (first of all, from international sources) on forestry and logging impact on hydrological regime of rivers and catchment areas.**
 - Analysis of the scientific literature. Preparation of the Analytical review on the long-term forestry and logging impact on the rivers and watersheds hydrological regime (*during the year*).
- 5.2. **To evaluate influence of logging regime on state of rivers and streams based on comparisons of rivers covered by monitoring.**
 - A comparative assessment of the long-term logging impact on the intensity, volume, and duration of the spring flood, summer and winter low water, based on the analysis of the hydrological changes on the Upper Mezen (Makarib hydrological station) and Middle Mezen (Bolshaya Pyssa hydrological station) (*March – April 2015*).
 - A comparative assessment of the long-term logging impact on the intensity, volume, and duration of the spring flood, summer and winter low water, based on the analysis of the hydrological changes on the Upper Vycheгда (Puzla hydrological station) and Middle Vycheгда (Storozhevsk hydrological station) (*November 2015*).
 - A comparative assessment of the clear cutting impact on the condition of the small rivers biological resources by a bioindication method on the river Lower Puzla (low impact) and the river Kuzhim (high impact) in the Upper Mezen basin (June – August 2015).
 - Selection, systematization, and analysis of the ERS materials for assessment of the accumulation and redistribution of sand and slit deposits in the Mezen river channel and floodplain for the period from 1975 to 2015. (*February - May 2015*).
- 5.3. **To evaluate influence of logging on state of small wetlands along streams and on flooded part of river valley.**
 - Selection of the small watercourses with a different degree of watersheds disturbance by logging for a comparative assessment of the volume of soil organic and mineral parts export (*April – May 2015*).
 - Organization and carrying out of the expedition works for assessment of the volume of soil organic and mineral parts export and changes in the channel and floodplain processes after logging on the watersheds of the small watercourses (*May-September 2015*).

Main achievements in 2015 include:

1. A statistically valid multi-year negative trend of the Mezen summer low water level for the period from 1970 to the present time has been detected (the data covered the period from 1945 to 2013). This demonstrates a general decline in the groundwater level on the watershed, determined by a mass concentrated "Bulgarian" felling of 1970-90s, conducted in the Mezen river basin. A multi-year negative trend of the Mezen summer low water is particularly important given the rise of the summer and winter low water levels of the rivers in the North-West of the European part of Russia, observed by the Hydrometeorology Center of the Komi Republic since the middle 1980s, and explained by the global change of the regional climate. The detected decline in the groundwater level on the Mezen watershed strongly correlates with the active diffuse and areal drying of the overmature spruce forests on the watersheds of the Mezen, Vashka, and Pinega rivers, observed over the last 30 years.

2. It has been established that the method of bioindication of the water quality in terms of composition and amount of benthos, used in many monitoring studies to assess the industrial pollution of the water resources (including WWF project - Mondi in RSA), does not allow to clearly define the logging impact on the water quality of the assessed watercourses. The logging impact is primarily reflected in the gradual silting up and sanding of the streams and rivers channels and is of a prolonged nature. However, the water quality remains quite high and has a little impact on the benthos composition.
3. Based on the survey, conducted among the Udora district old-timers, a qualitative and quantitative evaluation (at the local level) of the long-term impact of the large-scale concentrated felling of the 2nd half of the 20th century on the condition of the rivers and hydrological regime of the area, has been conducted. A schematic map including the observed violations of the river channel processes and change of the fish resources in the Mezen and its tributaries has been made.

Detailed results:

5.1. To analyze scientific data (first of all, from international sources) on forestry and logging impact on hydrological regime of rivers and catchment areas.

- In 2015, collection and analysis of the scientific works on the subject of logging impact on the water resources was continued. According to the latest published research works, intensive logging results in the watercourses temperature increase by several degrees (Likens, 2015; Jones, 2006).
- The majority of authors, when studying the influence of the economic activity on the watercourses hydrological characteristics, use the watershed forest cover indicator - the ratio of the forested area to the area of the entire watershed (Bonell, 2009; Kuchment, 2007); this indicator is less applicable in the Komi conditions, due to the active natural regeneration on the logging sites.
- Studies also show that a loss of the forest cover on the watersheds leads to the increased opacity of the rivers (Johnson, 2015; Kordyukov, 2013). Recent research has also confirmed noticeable changes in the watercourses hydrological parameters – high spring flood horizons and lower level of low waters (Motovilov, 2015).

5.2. To evaluate influence of logging regime on state of rivers and streams based on comparisons of rivers covered by monitoring.

- A calculation and analysis of the main hydrological parameters, that allow to assess a long-term logging impact on the water resources, have been conducted in partnership with FSBI “Center for Hydrometeorology and Environmental Monitoring of the Komi Republic”. The data sets from 1945 to 2013 on two hydrological stations of the Mezen river: the villages Makaryb and Bolshaya Pyssa have been considered. The following parameters have been selected as the key ones:
 - maximum spring flood levels;
 - spring flood run-off volume;
 - minimum run-off during the free channel period;
 - minimum run-off during the winter period.

Analysis of the hydrological stations data has shown the following:

- after 1970, a statistically valid negative trend of the summer low water level was observed, which is particularly important given the general rise of the summer and winter low water levels of the rivers in the North-West of the European part of Russia since the middle 1980s, explained by the global change of the regional climate;

- during the period from 1970 to 1980, the values of the average highest flood level increased, from 1980 to 1990 - decreased;
- a comparative integral difference analysis of the fluctuations has shown the increase of the run-off volumes over the period from 1970 and 1990.

The obtained materials allow for the conclusion on the reliable change of the Mezen river hydrological parameters, coinciding in time with the extensive clear "Bulgarian" felling on the watershed. The calibration of the obtained series suggests analyzing the correlations of the hydrological and climatic indicators of the hydrological stations with the change of the logging areas in the Mezen river basin.

Note:

A comparative assessment of the long-term logging impact on the intensity, volume, and duration of the spring flood, summer and winter low water, based on the analysis of the hydrological changes on the Upper Vycheгда (Puzla hydrological station) and the Middle Vycheгда (Storozhevsk hydrological station) has been postponed to 2016 due to a heavy workload of the Hydrology department of the Meteorological center of the Komi Republic

- To assess the methods of bioindication of the extensive clear felling impact on the water quality in the streams and rivers, the "pilot" rivers similar in watersheds area, but varying in the watersheds logging degree have been selected, namely:
 - in the Mezen river basin: the Kuzhim river (a felling area – 53% of the watershed) and the Lower Puzla river (a felling area – 10% водосбора);
 - in the Vycheгда river basin: the Lopyu river (a felling area – 41% of the watershed) and the Cher-Vychegodskaya river (a felling area – 15% of the watershed).
- A visual assessment of the "pilot" rivers during the field inspections has shown that in the channels of the rivers where no logging took place, pebble river bottom, favorable for various forms of benthos, dominates. As for the channels of the rivers where massive felling took place, sand sediments with boulders and gravel under them, which is indicative of a prolonged silting up of the watercourses, prevail there.
- Zoobenthos sampling according to the standard verified methodologies have been conducted on three river stations of each "pilot" river. The specialists of the Laboratory of Ichthyology and Hydrobiology, Animals Ecology Department of the Komi Scientific Center, Ural Branch of the Russian Academy of Sciences have carried out distribution and analysis of the hydrobiological samples and calculated various indices, both highly specialized: EPT Index, Trent Biotic Index, Biological Monitoring Working Party, Dip/N, Ch/N; and traditional, used in the national hydrobiological observations - Oligochaete Index of Parele D1. Based upon the obtained results, the following conclusions can be made:
 - the benthos composition of the compared "pilot" rivers is as follows: maggots of amphibiotic insects prevail in number, on the sandy soils they are accompanied by crustaceans, and in the benthic biomass - along with the insects a significant portion of mollusks and worms has been detected;
 - D1 index value on all river stations did not exceed the value of 0,9, which allows to estimate the water as clean. Only in the middle parts of the "pilot" rivers with soils rich in detritus or silt, an insignificant peak of index has been observed. A high water quality is typical for the river stations with the lowest percentage of logging;
 - on the "pilot" river areas with low logging extent, the indices evaluate the water quality uniformly, as for the places with the increased logging area, all the indicators are less stable, although they point to the favorable situation;
 - it should be taken into consideration during the assessment of the bioindication methods that every watercourse is an ecosystem with its own landscape characteristics and

indicators, starting from a small stream and ending with a watershed of a medium river. Therefore, samples taken on the same river but at a distance from each other may vary.

- A survey of the Udora district old-timers (above 100 questionnaires) on a qualitative and quantitative evaluation of the changes in the watercourses, channel processes, hydrological regime of the rivers, and fish resources condition, as a result of a long-term impact of the large-scale concentrated felling of the 2nd half of the 20th century on the rivers condition and hydrological regime of the area at the local level, has been conducted. A schematic map of the observed violations in the watercourses, river channel processes and fish resources changes in the Mezen and its tributaries has been made.

5.3. To evaluate influence of logging on state of small wetlands along streams and on flooded part of river valley.

- In partnership with the soil science department of the Institute of Biology of the Komi Scientific Center, Ural Branch of the Russian Academy of Sciences, an inspection of the fresh felling, aimed to determine the amounts of solid run-off exported from the logging sites to the small watercourses in the Sedka river basin, has been conducted. The inspection has revealed that a significant "source of solid run-off" - suspended soil particles - exported to the watercourses are unpaved haulage roads culverts, as well as bridges across streams and rivers. Erosion processes are widespread on the rugged areas and river and stream hillsides in the roadside right-of-way of the haulage roads. In most cases, they result from the violation of the Construction Norms and Regulations (SNiP) during the roads planning and construction. As a result of such "local sources" of erosion, large amounts of sand and soil regularly penetrate the watercourses and bring in significant additional volumes of solid run-off, which is further redistributed down the stream in the rivers and streams channels during the flood period.
- In partnership with the laboratory of computer systems, technologies and modeling of the Institute of Biology of the Komi Scientific Center, Ural Branch of the Russian Academy of Sciences, methods of detailed logging inspection, using an unmanned aerial vehicle (UAV) in order to get high-resolution orthophotomaps, aimed at the quantitative assessment of the logging technology impact on the soil damage and solid run-off export from logging plots to watercourses, has been tested. The obtained mosaics of large-scale (M 1:100 and above) UAV photographic images, converted to a three-dimensional relief model, allows to detect erosion processes and solid run-off redistribution in dells, temporary watercourses, stream floodplains, and other depressed relief elements. Simultaneously, classification of the vegetation of the after-logging phytocenosis, necessary for assessment of the succession progress on the logging plots, has been made. The research materials are being processed.

Cooperating organizations (in alphabetic order):

- Federal State Budgetary Institution "Komi Basin Fishery and Aquatic Biodiversity Preservation Administration (FSBI Komirybvod)
- Forestry Office of the Ministry of Natural Resources of the Komi Republic
- Institute of Biology of RAS in Komi
- Institute of Economy of RAS in Komi
- Land hydrology department of the Institut for Terrestrial Science in St.Petersburg
- Meteorological center of Komi Republic
- Ministry of Natural Resources of the Komi Republic
- Non-profit partnership "Transparent World" in Moscow
- Swedish University of Agricultural Sciences SLU, Department of Forest Resource Management, NILS program of landscape monitoring, Umea, Sweden
- Syktyvkar State University
- Tekhkarta – cartographic company – Syktyvkar
- University of Eastern Finland

6. Support of the “Boreal Forest Platform” of WWF Russia in the framework of Mondi-Group – WWF International alliance (Yu. Pautov)

Planned activity for 2015:

This section was not the part of the original Working plan for 2015. It was additionally included in the HCVF project working plan upon the approval by WWF Russia (N. Shmatkov) and Mondi-Group (P. Gardiner) in April-May 2015.

Main achievements:

- Organization and conducting of the Forest dialogue "Forestry intensification: prospects and limitations in the Komi Republic" in Syktyvkar, in partnership with Mondi Syktyvkar. The Forest dialog, initiated by the Silver Taiga Foundation in 2008 as a discussion platform for debates on the topical issues, related to the forest management and use, is an efficient form of public participation, exchange of opinions, and joint search for the optimal ways to address the current problems by different stakeholders in the Komi Republic. This Forest dialogue has been attended by 45 representatives of the regional forest business, ministries and agencies, NGO, scientific and educational institutions, municipalities, local population, and mass media (<http://silvertaiga.ru/news/456/>). It has become a kind of regional start of the WWF Boreal Forest Platform project in Russia – *April 2015*.
- Organization and conducting of the Field seminar "Intensive and sustainable forestry", jointly with Mondi Syktyvkar and WWF Russia. This seminar has given a start to the practical work of the Boreal forest platform – an expert platform for transition to the intensive and sustainable forestry, including the development of the required legal background (<http://silvertaiga.ru/news/485/>). It was attended by more than 30 specialists - representatives of the forest business of the North-West of Russia and Finland, project and scientific organizations, and NGO – *October 2015*.

Detailed results:

- Participation in the starting seminar of WWF Russia on launching the Boreal Forest Platform project – *May 2015*.
- Preparation of the demonstration objects in the Komi Model Forest and Koygorodok forestry unit for the Field seminar on the intensive and sustainable forestry – *August-September 2015*.
- A presentation on the prospects and limitations for the intensive sustainable forestry development in Russia for the participants of the Field seminar "Intensive and sustainable forestry" – *October 2015*.

Cooperating organizations (in alphabetic order):

- Forest Alternative company – Leningrad region
- Forestry Office of the Ministry of nature of the Komi Republic
- Mondi Syktyvkar
- State Forestry Unit in Priluzje
- Syktyvkar Forest Institute
- Tekhkarta – cartographic company – Syktyvkar
- WWF Russia.

7. Consultations and educational seminars (Yu. Pautov)

Objectives:

- Forest stakeholders have access to the consultations on certification and sustainable forest management.
- Forest stakeholders are getting new knowledge and experience, based on the organized educational seminars and demonstration routes in the Komi Model Forest.

Planned activity for 2015:

- 7.1. Consultations on FSC certification and other issues related to the sustainable forest management for logging companies, Forest Service, and audit companies (on request).
- 7.2. Organization and holding of introduction courses for the students of the Syktyvkar Forest Institute (SFI) on the topic: “History of the forest use in the Komi Republic. Natural forest dynamics and biodiversity of the taiga forests” in the Komi Model Forest (on SFI request).
- 7.3. Organization and holding of a field seminar on natural forest dynamics and biological diversity of the taiga forests for the sustainable forest management and certification department of OJSC “Mondi Syktyvkar” in the Pechoro-Ilych Reserve (on request).
- 7.4. Organization and holding of a field seminar on forest use landscape planning with account of the FSC certification requirements for the specialists of the Forest Service of the Komi Republic in the Komi Model Forest (on request of the Forest Committee of the Komi Republic).
- 7.5. Other seminars on request.

Main achievements in 2015 include:

- 7.1. Consulting sessions in compliance with the national certification standard in the Komi Republic for NEPCon, Bureau Veritas, and Forest Certification auditors (6 sessions in total) – *throughout the year*.
- 7.2. Elaboration and facilitation of the introductory course “History of Forest Management in Komi. Natural Forest Dynamics and Biodiversity of Taiga” for the Syktyvkar Forest Institute students in the Komi Model Forest – 6 groups of 20-30 people, 240 first-year students in total, (upon the Syktyvkar Forest Institute’s request) – *September 2015*.
- 7.3. Elaboration and facilitation of the field seminar in natural forest dynamics and biodiversity of taiga for the forestry division and managers of harvesting branches of Mondi Syktyvkar in the Pechora Ilych Biosphere Reserve (12 people) – *June 2015*.
- 7.4. Elaboration of the field training course in environmental landscape planning for forest management in compliance with the FSC certification requirements for 8 employees of the Lun-Vozh logging company – *June 2015*.

Note:

The field seminar in landscape planning for forest management in compliance with the FSC certification requirements for the Forestry Service of the Komi Republic in the Komi Model Forest did not take place due to reorganization of the State Forestry Service of the Komi Republic.

Cooperating organizations (in alphabetic order):

- Audit companies
- Forestry Office of the Ministry of nature of the Komi Republic
- Latvia’s State Forests
- Mondi Syktyvkar
- Syktyvkar Forest Institute
- Syktyvkar State University.

Supplementary activity (in case additional financing is involved)

8. Regional program of the Komi Model Forest development in the Komi Republic for 2013 – 2015 (Yu. Pautov)

Objectives:

- 8.1. Economic justification of the forestry intensification.
- 8.2. Advanced professional training of the Komi Republic forestry specialists.
- 8.3. Participation of the local population in the sustainable forest management.

Planned activity for 2015:

- 8.1. Development of proposals on implementation of the economically viable scenarios of intensive forestry in the Komi Republic.
- 8.2. Organization of an educational course on sustainable forest management for the specialists of the Forest Committee and forestry units of the Komi Republic on the demonstration routes in the Komi Model Forest.
- 8.3. Support of the Public Forest Council activity in the Priluzje district.

Main achievements in 2015 include:

1. International Forest School for students from the Syktyvkar Forest Institute and University of Applied Sciences and Arts in Goettingen, Germany (jointly with the Syktyvkar Forest Institute) – 16 people – *September 2015*.
2. Field scientific trip for the participants of the VI All-Russia Science Conference “Fundamental and Applied Issues of Forest Soil Science” organized jointly with the soil science department of the Institute of Biology, Komi Scientific Center of the Russian Academy of Science (16 participants) – *September 2015*.
3. Field trips on demonstration objects of the Komi Model Forest for the participants of the two advanced courses in environmental aspects of FSC certification in partnership with WWF Russia and FSC Russia (30 participants) – *September-October 2015*.

Note:

Due to reorganization of the Forest Committee of the Komi Republic in 2015 the activities planned to be held in the Komi Model Forest were suspended.

Cooperating organizations (in alphabetic order):

- Forest Alternative company
- Forestry Office of the Ministry of Nature of the Komi Republic
- FSC Russia
- Institute of Biology of RAS in Komi
- Luzales company
- Mondi Syktyvkar
- Priluzje forestry unit
- Public Forest Council of the Priluzje district
- Syktyvkar Forest Institute
- WWF Russia

9. Forest communities and natural resource management. Interaction of forest communities with big wood businesses (V. Semyashkina)

Objectives:

- 9.1. Preserving the possibilities of traditional natural resources use by the local population in remote forest villages.
- 9.2. Development of a policy of forest business social responsibility in respect of the forest communities.
- 9.3. Development of Forest Dialogue as a form of democratic debates on natural resources management.

Planned activity for 2015:

- 9.1. Monitoring of social and economic impact of logging companies' activity in rural districts (jointly with public forest councils of Priluz'e, Udora and Kortkeros districts, representative offices of the Interregional Public Movement "Komi Voytyr" in forest districts).
- 9.2. Facilitating awareness of the local population and building up a dialogue (support of publication of the Forest Council newspaper in Priluzye district).
- 9.3. Establishment of a Forest Dialogue on the topic: "Problems in implementing an intensive forestry in the Komi Republic" (jointly with OJSC "Mondi Syktyvkar", WWF Russia, Forest Committee of the Komi Republic, Ministry of Industry of the Komi Republic, and other interested organizations).

Main achievements in 2015 include:

1. Forest Dialogue on the topic "Issues of Intensive Forest Management Introduction in the Komi Republic" (jointly with Mondi Syktyvkar, WWF Russia, State Forestry Service of the Komi Republic, Ministry of Industrial Development and Transport of the Komi Republic, and other stakeholders) – *April 2015*.
2. Sharing experience of the Silver Taiga Foundation related to cooperation with forest communities with the parties interested in forestry relations in other forestry regions – *throughout the year*.
3. Completed development of the Komi regional risk assessment for FSC controlled wood (jointly with FSC Russia) – *January 2015*.

Detailed results:

- Monitoring of the impact logging companies produce on the social and economic situation in rural districts was not conducted *owing to no funding of this focus of activity*. One-time consultations (when needed) were provided for members of the Public Forestry Council in the village of Keros (Korkeros district), representatives of the Komi Voytyr public movement in Koygorodok district, and others.
- In January, development of the Komi regional risk assessment for FSC controlled wood was finalized, reference data on traditional forest use by indigenous people in Komi forestry districts were prepared as part of it.
- Publication of the Lesnoy Sovet (Forestry Council) newspaper in Priluzye district was suspended *due to no funding and reorganization of the State Forestry Service of the Komi Republic*.
- Silver Taiga's experience in promoting awareness among the local population, building a dialogue between local communities and forestry business, monitoring the impact of logging companies on the social and economic environment in rural districts was presented at the international forum "Forest for the Future" devoted to sustainable forest management, preservation and development of traditional multi-purpose forest use. The forum was held in Podporozhye district, Leningrad region (facilitated by the Russian Ecovillage Network; Centre for Independent Social Research, Saint Petersburg; Regional Network of Sustainable Development of the Village, Archangelsk region; Permaculture

Association, Sweden). Forest allocation practices with regard to forests important for the sustenance of the local population implemented in some Komi districts under Silver Taiga projects raised a lot of interest among the forum attendants. Meanwhile, other practices presented at the forum may be used by the Foundation in its further work related to handling conflicts between local communities and forestry companies.

- Forest Dialogue on the topic “Issues of Intensive Forest Management Introduction in the Komi Republic” (jointly with Mondi Syktyvkar) was prepared and facilitated (see Section 6 of the Report).

Cooperating organizations (in alphabetic order):

- Administrations of “forestry” districts and rural settlements of the Komi Republic
- Forest Committee of the Komi Republic
- FSC Russia
- Mondi Syktyvkar
- Regional public movement “Native Women of Komi”
- Representative offices of the Interregional Public Movement “Komi Voytyr” (NGO) in forestry districts of the republic
- WWF Russia.

10. Initiation of volunteer movement (A. Shuktomova)

Objective:

Volunteers' involvement into the Silver Taiga Foundation projects implementation, as well as dissemination of the information on the nature protection and social problems of sustainable development within the frameworks of the Foundation activity.

Planned activity for 2015:

- 9.1. Attraction of the initiative and motivated people for extension of the volunteer movement (up to 10-15 people) - *April*.
- 9.2. Organization of the field seminar on the topic "History of the forest use in the Komi Republic. Natural dynamics and biodiversity of the taiga forest" for the volunteers in the Komi Model Forest - *August*.
- 9.3. Organization of the training course on the regularities of the pristine forests landscape-ecological dynamics on the demonstration routes in the Pechoro-Ilych reserve for the Silver Taiga Foundation employees and active foundation volunteers - *June*.
- 9.4. Support and popularization of the "Silver Taiga Foundation volunteers" group in the social network "Vkontakte" (vk.com/silvertaiga).
- 9.5. Support of the section devoted to the volunteers movement on the Foundation website www.silvertaiga.ru.
- 9.6. Organization of the volunteers for the support in the implementation of the following objectives.

Main achievements in 2015 include:

- Volunteers (3 persons) involved for comparative assessment of clear cutting impact on biological resources of minor rivers by means of the bioindication method (the Nizhnyaya Puzla river with its tributary – the Chernaya, the Kuzhim in the Verkhnyaya Mezen basin), field seminars for volunteers on the topics "History of Forest Management in Udora District, Natural Dynamics and Biodiversity of Taiga", and "Logging Impact on Streamflow" conducted simultaneously with the assessment – *August 2015*.
- Volunteers involved for the expedition with the purpose to evaluate the scope of fish reclamation activities at fishery plots of the Irva river; lecture on sustainable management of fish resources – *August 2015*.
- Volunteers' (schoolchildren) participation in activities on cleaning river banks during summer ecology and regional study trips (jointly with Children Activity Center of the Usogorsk settlement and rural schools) – *June-August 2015*.
- Practical class on satellite image decoding and digitizing for volunteers – *August 2015*.
- Volunteers' participation in the activities of the Green Force propaganda team (preparation of the agenda and trips to rural settlements of Udora district). Jointly with Udora Central Library – *March-April 2015*.
- Volunteer involved for the expedition with the purpose to monitor reproductive part of the Pyssa population – *October 2015*.
- Maintaining and updating the webpage about the Foundation's activities with regard to volunteering (at the Foundation's website www.silvertaiga.ru) and the Silver Taiga Foundation Volunteers' page at the VKontakte social network (vk.com/silvertaiga) – *throughout the year*.

Cooperating organizations (in alphabetic order):

- Pedagogical college
- Syktyvkar Forest Institute
- Syktyvkar State University.

11. Support of FSC certification in Russia (Yu. Pautov)

Objective:

Dissemination of the Silver Taiga Foundation experience in the FSC certification development in the Komi Republic, ensuring the accessibility of this experience for FSC certification support in Russia.

Planned activity for 2015:

- 11.1. Governing of the FSC Russia Coordination Council's activities. (Yu. Pautov) - *throughout a year.*
- 11.2. Organization and holding of a remote General meeting of the FSC Russia members, preparation and presentation of a report on the activities of the FSC Russia Coordination Council for 2014. (Yu. Pautov) – *April 2015.*
- 11.3. Participation in the preparation and holding of the “Round table” on Motion 65 at the International environmental conference “Ecological-Economic Cooperation in the Barents Euro-Arctic Region - From Problems Towards Search of Joint Solutions. (Yu. Pautov) - *March 2015.*

Main achievements in 2015 include:

1. Preparation and facilitation of 3 in-person meetings and 4 teleconferences (via Skype) of the FSC Russia Coordination Council – *throughout the year.*
2. Preparation and facilitation of the online General assembly of FSC Russia members – *April 2015.*
3. Preparation and facilitation of the Round Table “Development of National Requirements on Preservation of Virgin Forest Areas Under Implementation of Motion 65 for the National FSC Forest Management Standard”, jointly with WWF Russia and FSC Russia in Archangelsk – *March 2015.*
4. Preparation and facilitation of the Joint Extended Meeting of the FSC Russia Coordination Council and Technical Committee to discuss the first version of the New National FSC Forest Management Standard – *September 2015.*

Cooperating organizations (in alphabetic order):

- FSC Russia
- Mondi Syktyvkar
- WWF Russia.