



FEDERAL AGENCY FOR FISHERIES

FEDERAL STATE UNITARY ENTERPRISE

**“RUSSIAN FEDERAL
RESEARCH INSTITUTE
OF FISHERIES AND OCEANOGRAPHY”**

FSUE “VNIRO”

Russian Federal Research Institute of Fisheries and Oceanography

The history of VNIRO directly reflects the entire practical development of fishery researches in Russia. The idea of the establishment of the leading fisheries research institute consisted in multidisciplinary approach based on the complexity and interrelationships of various directions of investigations in fisheries:

from the studies of abiotic and biotic ambient conditions of commercial species to evaluation of biological and fishery productivity of water bodies, to the identification of regularities in the distribution patterns and reproduction of aquatic living resources, forecast of the state of their stocks and estimation of the allowable catch, protection of interests of national fisheries at the international level;

from the development of fishing gear and catching methods, technologies of artificial reproduction of valuable hydrobiont species to create catch processing techniques and technologies aimed at improving the food quality and safety of hydrobionts and ready products.

The Institute performs its activities in a close cooperation with basin and regional research institutions AtlantNIRO, AzNIIRKh, VNIIPRKh, GosNIORKh, Gosrybtsenter, KamchatNIRO, CaspNIRKh, MagadanNIRO, NIIEV, PINRO, SakhNIRO, TINRO-Center, many of which at various stages of fisheries development were affiliated branches of VNIRO. Scientific and educational programs are performed by VNIRO together with branch universities and other state educational institutions, scientific organizations of the Ministry of Natural Resources, Russian Academy of Sciences and Academy of Medical Sciences.

Multidisciplinary studies of VNIRO, the leading role of the Institute, specifically in coordination of scientific activities of branch research institutes, ensure scientific foundations for the development of fishery sector in the Russian Federation.

The Institute actively participates in 15 international organizations and over 30 multilateral and bilateral international agreements to provide quotas for Russian fishermen in the areas outside the EEZ of the Russian Federation and promotion of Russian scientific achievements.

Much consideration is concentrated on the organization of state monitoring of aquatic living resources, development of aquaculture, including artificial reproduction and acclimatization of valuable species of commercial fish and invertebrates, international cooperation in fisheries, including the fixation of Russian fishing quotas in the areas of other states, collection, systematization and analysis of statistical data on fisheries in Russia and abroad, creation of the fishery information base.





Long-term ecological and toxicological studies conducted in fishery water bodies are in great demand, as well as development of standards and measures to protect aquatic living resources, prevent pollution in the areas of oil-and-gas fields on the continental shelf of Russia and other human activities affecting the fishery water bodies. In recent years, regulatory framework for implementing such projects has been renewed.

Much work on scientific support to composite processing of aquatic living resources is traditionally carried out, as well as to the creation of resource-saving technologies. Problems in organization of monitoring of quality and safety of fish raw material and ready food products are being solved.

Other directions of the VNIRO activities involve the improvement of methodological foundations of resource and basic studies in biology, fishery science, theory of ecosystem functioning in fishery ponds, socio-economic and legal foundations for the development of Russian coastal areas.

Methodological framework and coordination of research in the changing structure of industry science financing, the need for drastic reduction of quotas and scientific expedition expenditures are based on new instrumental developments (acoustic instruments, photographic and television remote systems).

For 10 years, VNIRO has been analyzing national and international legislation in the field of fisheries and environment protection, development of proposals for improving the regulatory framework of studies, conservation and rational use of water resources.

Properly accredited and certificated expert divisions of the Institute carry out on the contractual basis quality analyses of samples of fish and fishery production. Genetic examination makes it possible to identify their specific composition. Standardization of vessel instruments for measuring basic parameters of habitats of aquatic living resources (STD probes) is being conducted.

Formation of comprehensive fishery research programs, sector plans for research of commercial fish stocks, valuation of programs of natural resource studies developed by other organizations represent a direct responsibility of VNIRO as a leading Fishery Research Institute.





Department of fishery hydrobiology

Head of the Department – Bizikov Vyacheslav A., Dr. Sc. (biol.)

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Structure of the Department:

- ♦ **Laboratory of Commercial Invertebrates and Algae**
Head: *Alekseyev Dmitriy O.*, Ph.D. (biol.)
- ♦ **Laboratory of Coastal Research**
Head: *Pereladov Mikhail V.*, Ph.D. (biol.)
- ♦ **Laboratory of Marine Mammals**
Head: *Boltnev Alexander I.*, Dr. Sc. (biol.)
- ♦ **Laboratory of Ontogenesis and Methods of Crustacean Stock Restoration**
Head: *Kovacheva Nikolina P.*, Dr.Sc. (biol.)
- ♦ **Laboratory of Commercial Fisheries and Fishing Hydroacoustics**
Head: *Goncharov Sergei M.*, Ph.D. (tech.)

Main directions of activities

Studies of biology of commercial invertebrates, mammals, algae and sea grasses, as well as aquatic food supply for hydrobionts of Russian seas and World Ocean, in order to reveal common and specific regularities defining the current state and prospects of their stock dynamics, present level and possibilities of their extraction. Taking part in the expeditions conducted in the Russian seas, World Ocean and in the studies performed on sea shore, including the use of shore-based facilities.

Qualitative and quantitative assessment of the fishery resource base, analysis of trends in the changes within its structural elements, elaboration of recommendations on the rational use of aquatic living resources.





Development of theoretical and methodological foundations of studies of commercial invertebrates, marine mammals and algae, their habitats, aquatic ecosystems as a whole, providing the present level of research that meets international standards and requirements.

Monitoring of condition of the stocks of commercial invertebrates, mammals, algae and sea grasses, supply base of feeding items, habitats and environmental conditions in fishing areas, complex marine expeditions performed together with basin institutions.

Development and improvement of methods and techniques for studying stocks of commercial invertebrates, mammals, algae and sea grasses. Development of methodical recommendations and guidelines for studying commercial invertebrates, mammals, algae and sea grasses.

Formation of an information database on biology, state of stocks and exploitation of commercial invertebrates, marine mammals, algae and sea grasses, items of food supply for hydrobionts. Establishment of fisheries information systems, including GIS-based technologies.

Preparation of scientific foundations and recommendations for the development of strategic goals and tasks for sustainable management of fisheries and aquatic living resources, conception of fisheries development (in coastal and high seas areas), as well as suggestions on protecting Russian fishermen's interests in international fishery organizations.

Coordination of branch marine fisheries studies, development of joint scientific and methodological approaches to solve the problems of investigation and rational use of commercial invertebrates, mammals, algae and sea grasses, definition of a coordinated position in fisheries science within its relations with other agencies and defending the interests of the industry. Evaluation of scientific activity results of basin research institutions.

Preparation of scientific documents supporting the amounts of total allowable catch (TAC) and possible yield (PY) of commercial invertebrates, mammals, algae and sea grasses on the basis of own data and materials of basin and regional industrial research institutions describing the current and predicted state of stocks.



Formation of fishing conditions forecasts and recommendations on rational use of aquatic living resources within Russian fishing areas. Effective guidance associated with the approved amounts of TAC and PY, recommendations on effective fishery management and proposals on fishing rules.

Scientific support to the studies of TAC of commercial invertebrates, mammals, algae and sea grasses accomplished by expert commissions under state ecological expertise, expert analysis and effective work related to the adjustments of approved TAC amounts.



Development of short-, medium- and long-term prognoses of catches of marine invertebrates, algae and sea grasses and objects of food supply for hydrobionts.

Development of perspective and annual sector plans and programs for natural resource research and state monitoring of commercial invertebrates and marine mammals of the World Ocean based on the own data and proposals of other institutions involved in resource exploration and state monitoring of aquatic living resources.

Scientific support to the development and improvement of legislative and other normative legal acts in the field of fisheries, conservation and utilization of aquatic living resources.

Development and improvement of fishing gear.

Collection and processing of statistical information on the yield of invertebrates, mammals, algae and sea grasses, including representation of these data in international fishery organizations.

Development of hydrobiological section of the annual state report "On the status of natural environment".

Responds to inquiries made by the Federal Agency for Fisheries and other organizations related to the fishery for commercial invertebrates, marine mammals, algae, sea grasses and objects of food supply for hydrobionts.

Technical and scientific cooperation within the framework of international fishery organizations, intergovernment and interdepartment agreements.

Participation in drafting of federal and branch research programs of fundamental and applied fisheries investigations, examination of fishery research programs developed by basin and regional institutes, as well as by other organizations.



Monitoring and estimation of the degree to which the quotas for fishing for aquatic living resources are implemented, as well as of the prognoses of possible yields of aquatic living resources and fishery impact on the state of their stocks.

Preparation and publication of monographs and scientific papers, handbooks, information, methodical, training and other materials.

Preparation and conducting of branch meetings on problems of fishery hydrobiology and studies.

Representation and participation in the department and interdepartment meetings, international symposia and conferences on issues related to the scope of scientific activity of the Department.

Participation in international scientific and management organizations on the subjects of the Department.





Department of fishery biology

Head of the Department – Bulatov Oleg A. Dr.Sc. (fishery biol.)

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Structure of the Department:

♦ **Laboratory of Marine Fishes of the Far East**

Head: *Antonov Nikolai P.*, Ph.D. (biol.)

♦ **Laboratory of Bioresources in Inland Water Bodies**

Head: *Brazhnik Svetlana Yu.*, Ph.D. (biol.)

♦ **Laboratory of Straddling and Highly Migratory Fish Species**

Head: *Leontiev Sergei Yu.*, Ph.D. (biol.)

Main directions of activities

Studies of the state of stocks and preparation of biological substantiation of the total allowable catch (TAC) and possible yield (PY) of marine and freshwater fish, based on joint work with fishery research institutions.

Development of theoretical and methodological grounds for studying marine and freshwater fish.

Drawing up decisions on major issues of fisheries and expansion of resource base for domestic fisheries.

Improving of fishery regulation mechanisms based on fish biological peculiarities.



Scientific support of improving the legislative and other normative legal acts in the field of fisheries, conservation and use of marine and freshwater fish.

Coordination of branch marine fisheries studies.

Development of unified scientific and methodological principles and approaches to the study and management of fish stocks.

Defining the coordinated position of fishery science in its relations with other agencies and promoting the interests of Russian fisheries at the international level.

Scientific support to the review of the TAC data concerning commercial fish species by expert commissions of state ecological expertise.

Qualitative and quantitative assessment of fisheries resource base, trend analysis of its structural elements, development of recommendations on rational use of marine and freshwater fish species.

Development of scientific bases for the rational use of resources and defending the justified amounts of allowable catches in the framework of bilateral international commissions and before the State ecological commission of experts.

Technical and scientific cooperation within the framework of international organizations in the field of fisheries and intergovernmental agreements.

Participation in the drafting of federal and branch research programs, examination of fishery research programs developed by the basin and regional research institutes of the Federal Agency for Fisheries, as well as by other organizations.

Preparation and publication of monographs and scientific papers, handbooks, information, training, methodological literature and other materials.





Department of salmons

**Head of the Department – Makoedov Anatoly N.,
Director, Dr. Sc.(biol.)**

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Structure of the Department:

♦ **Laboratory of Ecology and Fishery of Pacific Salmons**

Head: *Klovach Natalia V.*, Dr.Sc.(biol.)

♦ **Laboratory of Reproduction of Salmons**

Head: *Leman Vsevolod N.*, Ph.D.(biol.)

♦ **Laboratory of Population Biology**

Acting Head: *Mugue Nikolai S.*, Ph.D. (biol.)

Main directions of activities

Studies of the regulation mechanism of Pacific salmon stock population, improvement of methodological approaches to the definition of biological characteristics of Pacific salmons.

Studies of specific population structure of Pacific salmons aimed at improving methods of their extraction and reproductive potential conservation.

Analysis of fishery and anthropogenic impact on Pacific salmon populations.

Studies of reproduction, state of salmon stocks, distribution and population dynamics, nutrition and food relationships, feeding reserve, growth rate and specific population

biology, interspecific and intraspecific competitive relations and environmental conditions.

Elaboration of recommendations on the improvement of evaluation of total allowable catches (TACs) and possible yields (PYs), fishery schemes and conservation measures.

Monitoring of the status of hatchery-reared populations; increasing of artificial salmon breeding efficiency; assessment of contribution of salmon hatcheries to salmon fisheries; conducting of applied ge-



netic research aimed at improving fish disease resistance, productivity and market quality of cultivated salmon breeds; analysis of the state of Russian and international salmon aquaculture.

Assessment of the effect of wild and hatchery-reared salmon populations upon commercial salmon stocks.



Evaluation of anthropogenic impact on the reproduction of salmons: mechanisms of influence, quantitative assessment of actual damages, scientific justification for the amount of damage, environment impact assessment (EIA) of enterprises projects; substantiation of fish cultivation and land-reclamation measures; suggestions on maximum permissible emissions (MPE) of harmful substances; development of regulatory and procedural guidelines.

Monitoring and management surveys of river, lake and estuarine ecosystems in the affected areas by different forms of economic activity (intensive fishery, fish farming, mining enterprises, hydropower and hydraulic engineering, pipelines, etc.).

Coordination and conducting of genetic monitoring of commercial stocks and preparation of scientifically-based recommendations for reasonable extraction of aquatic living resources in order to maintain their natural genetic diversity.

Maintenance and expansion of the Russian National Collection of Standard Genetic Materials (RNCSGM).

Genetic certification of enterprises importing and exporting their production regulated by CITES.

Development of measures of compensation of raw material losses of the Agency for Fisheries resulted from developing mineral resources in the Arctic and Pacific shelves and adjacent coastal areas.

Scientific expertise of aquatic living resources and their products in order to determine their specific composition and origin of the material submitted by customers.

Participation in departmental and interdepartmental meetings, symposia, conferences, international scientific and technical cooperation on common and regional problems.

Rendering methodical guidance and advice, including probation work, to other organizations.

Providing professional promotion of the Department staff and training of post-graduate students.



Department of fisheries management

Head of the Department – Glubokovsky Mikhail K.
First Deputy Director, Dr. Sc. (biol.)

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Structure of the Department:

- ♦ **Laboratory of Combined Forecast**
Head: *Tarasiuk Sergey N.*, Ph.D.(biol.)
- ♦ **Laboratory of Systems Analysis of Fishery Resources**
Head: *Babayan Vladimir K.*, Ph.D. (tech.)
- ♦ **Laboratory of Space Monitoring of Fishing Regions**
Head: *Vanyushin Georgiy P.*, Ph.D.(geogr.)
- ♦ **Laboratory of Rationing**
Head: *Kharenko Elena N.*, Dr.Sc. (tech.)

Main directions of activities

Formation of integrated materials with justification of total allowable catches (TACs) of aquatic living resources for their consideration by the State Ecological Expertise.

Formation of integrated materials with justification of corrections and amendments in total allowable catches (TACs) of aquatic living resources for their consideration by the State Ecological Expertise; preparation of materials on biological justification of the status of Caspian sturgeons stocks and TACs for the State Ecological Expertise; fulfillment of alternative and test assessments of stocks and TACs for the most important commercial species: Alaska pollack, cod, Caspian sturgeons, etc.



Formation of combined materials containing justification of possible (recommended) yield (PY) of aquatic living resources, for which the TAC is not put into practice.

Development of proposals and recommendations for restricting the yields of aquatic biological resources; setting up a fishing ban in certain areas and for certain species of aquatic living resources; establishment of species and number of permitted fishing gear and harvesting methods, implementation of fishing prohibited periods in water bodies and other fisheries restrictions under Article 26 of the “Federal Law on Fisheries and Conservation of Aquatic Biological Resources” № 166-ФЗ of December 20, 2004.

Compilation of information on fishery resource base, formation of annual, medium- and long term forecasts.

Preparation of information and analytical materials on the state of aquatic living resources in the Russian EEZ and the methodology for their assessment in the areas under the international organizations responsibility.

Analysis of biological studies and proposals containing appropriate amendments to the Fishery Rules in Fishing Areas.

Adaptation of current approaches to stock management of marine biological resources (precautionary, ecosystem, multi-species, MSE and MSY) in relation to the peculiarities of domestic fishery and stocks studies.

Improvement of methodical and mathematical foundations for the forecasts of status of fishery resources through more sophisticated quantitative methods, fishery specific workshops, training guidelines and manuals.

Scientific and methodological examination of TAC forecasts submitted by basin institutions, alternative and test stock assessments and TAC for most important commercial species:

Alaska pollack, cod, Caspian sturgeons, etc.

Preparation of scientific proposals of Russian delegations at sessions and working groups, the implementation of multiple assessments and TAC in the areas of international fisheries; development of proposals aimed at improving the efficiency of Russia participation in international organizations on fisheries.





Popularization of achievements of national fishery science in the field of stock assessment and TAC at international fishery organizations and at international scientific meetings.

Development and information support to state fishery register. Information and program support to the net version of the fishery cadastre of commercial fish species and other aquatic animals and plants in Russia.

Development of information standards for the fishery information systems, development and maintenance of databases for storing information necessary for the independent stock assessment of most important objects of national fisheries.

The execution of work on subject processing and analysis of satellite data in the infrared and visible spectrum range with the use of a modern database of computer equipment.

Issue of mapping documents of the high-seas fishing areas, as well as OST (Ocean Surface Temperature) maps of the exclusive fishing areas according to the requirements of fishing companies.

At the request of the Fishery Agency, the operational support with the materials on current temperature conditions and analysis data of temperature situations (different types and terms) in the fishing areas where the national fishing fleet is operating.

Creation of databases and accumulation of long-term information of different OST maps for fishing areas in both digital and analogue modes. Transfer of archival OST maps to the basin institutions for trend analysis and forecasts of oceanic conditions in the fishing areas.

Development, improvement and introduction of new methods for processing and analysis of satellite data aimed at improving the quality of fishing areas monitoring based on comprehensive analysis of satellite and marine surveys information.

Coordination of studies in the field of technological standards of aquatic living resources and their products over all fishing areas, general methodological and practical guidance, accumulation of information, monitoring of technological rationing indices developed by the basin research institutes and fishery enterprises.

Designing, synthesis, analysis of draft standards of the output of products made of aquatic living resources to be inserted in the Fisheries Rules, as well as projects of common and basin expenses rates of raw materials to be submitted to the Federal Fishery Agency.



Introduction of progressive scientifically based standards of production output of aquatic living resources and standards of natural losses in the products while being transported and stored.

Development of unified methodological approaches to determine technological rationing for expenses of

raw materials and production of food, fodder and technical products, as well as the rationing of natural losses.



Department of ecological foundations of hydrosphere bioproductivity studies

Head of the Department: Kumantsov Mikhail I.

Deputy Director, Ph.D.(biol.)

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Structure of the Department:

- ♦ **Laboratory of Climate Bases of Bioproductivity**
Head: *Kotenyov Boris N.*, Ph.D (geogr.)
- ♦ **Laboratory of Marine Ecology**
Head: *Lapina Natalya M.*, Ph.D. (geogr.)
- ♦ **Laboratory of Ecological and Toxicological Studies**
Acting Head: *Medyankina Maria V.*, Ph.D (biol.)
- ♦ **Laboratory of Expeditional and Satellite Monitoring Methods**
Head: *Moiseenko Georgiy S.*, Ph.D. (phys.& math.)

Main directions of activities

Integrated and systematic studies of oceanic bases of biological and fishery productivity formation in aquatic ecosystems under the influence of natural phenomena and anthropogenic pressure.

Development of theoretical and methodological bases of studying the habitat of aquatic living resources and aquatic ecosystems in order to perform these studies at the level of international standards and requirements.





Studies of the influence of natural climatic phenomena on the level of ecosystems fishery productivity and forecasts preparation of its changes within the next years and on.

Development of a systematic approach to the research of ocean natural phenomena, studies of their relation to climatic and geographical factors for the long-term prediction of variability in fish productivity in the high-seas fishing areas.

Preparation of environmental foundations and recommendations for the development of strategic goals and tasks for the sustainable management of fisheries and aquatic living resources.

Coordination of branch studies on marine ecology and environmental monitoring of fishery water bodies.



Preparation of ecological foundations to support the total allowable catch (TAC) and possible yield (PY) of aquatic living resources defining the expected state of stocks.

Monitoring of the current environmental and ecological conditions in the seas of Russia and in various high-seas fishing areas; carrying out complex marine expeditions.

Conducting comprehensive ecological and toxicological studies of marine and freshwater ecosystems and to determine the impact of pollutants on the reproduction of hydrobionts, as well as the definition of damage to aquatic living resources resulted from industrial hazardous substances.



Development of fishery Maximum Allowable Concentration (MAC) norms and the Broadly Allowable Impact Levels (BAIL) regulations of various water pollutants to water bodies of fishery importance; assessment of toxicity: natural water and sewage, bottom sediments, drilling wastes; definition of industrial hazardous waste classes.

Elaboration of proposals in the field of technical fishery regulation.

Technical and scientific cooperation in the framework of international organizations in the field of fisheries, intergovernmental and interdepartmental agreements of co-operation with foreign institutions.

Monitoring of water bodies as a habitat for aquatic living resources to evaluate their status and environmental pollution.



Collection and generalization of the data on the whole range of water characteristics in fishery water bodies derived from the branch research institutes and Department staff sampled during expeditions in the seas of Russia (White, Barents, Kara, Laptev, East Siberian, Chukchi, Bering, Okhotsk, Japan Sea, Caspian, Azov and Black Seas) and the convection areas of the World Ocean (the Arctic, North Atlantic, Eastern part of the Central Atlantic, Antarctic waters and South Pacific).

Improvement and development of new methods and approaches and regulations in the field of marine ecology, toxicology, chemical and analytical control of pollutants.

Development of methodological foundations of expeditionary comprehensive investigations of climatic, hydrological, biohydrological, chemical and toxicological conditions in aquatic ecosystems and aquatic living resources, as well as the maintenance of the collected information database.

Maintenance of databases on climatic, marine and toxicological characteristics and development of software for their use.

Ecosystem monitoring of exploration areas and development of hydrocarbon resources (the Ob and Taz Bays), as well as areas of ecological disasters (the Kerch Strait).





Department of international fisheries cooperation

Head of the Department: Glubokov Alexander I., Dr. Sc. (biol.)

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Structure of the Department:

- ♦ **Laboratory of the Atlantic and Pacific Basin Regions**
Head: *Orlov Alexei M., Dr.Sc. (biol.)*
- ♦ **Laboratory of Arctic and Antarctic**
Acting Head: *Petrov Andrei F., Ph.D. (biol.)*

Main directions of activities

Planning and participation in conducting studies on assessment of transboundary, transzonal, purely high seas stocks, highly migratory species and hydrobiont stocks in the Exclusive Economic Zones (EEZ) of foreign states.

Development and unification of assessment methods of the status of commercially valuable fish stocks in order to optimize fishery in the areas of international regulation and high seas.

Generalization and systematization of the field research data and aspects of biological and international legal foundations to strengthen the fishery scientific validity of Russian position at multilateral and bilateral meetings and negotiations in the sphere of fisheries.





Collection and analysis of fishery statistical data as an indicator of the current status of transboundary, transzonal, purely high seas stocks, as well as the stocks of highly migratory species of hydrobionts and aquatic living resources in the EEZs of foreign states.

Support to the protection of international interests of Russian fishery sector on the basis of scientific data on available aquatic living resources.

Participation in the development of strategies and tactics of Russian fisheries in the convention areas, high seas and EEZs of foreign states based on the estimates of the most productive ecological biocenoses of the World Ocean.



Scientific support to the Russian fleet return to the explored areas of the World Ocean by making recommendations on fishery spatial and seasonal peculiarities, as well as preparation of scientific foundations for the Russian position on its international legal regulation.

Examination of international experience in fisheries, participation in the development of bilateral and multilateral agreements, indicating promising high seas fishing areas for the Russian fishery.

Study of the national legislation of foreign countries on fishery regulation, the problems of international maritime law.



Development of international legal basis to protect Russian fishery interests.

Ecological and genetic studies of population composition and structure of aquatic organisms as existing and potential objects for international fishery regulation.

Biological substantiation of marine boundaries in the disputed areas.

Analysis of historical data showing the degree of Russian participation in the discovery, description and development of resources as objects of international regulation.

Coordination and methodical management studies involving the basin research institutes as related to the international fisheries cooperation, participation in the interagency meetings.

Preparation of effective materials for the Federal Agency for Fisheries of Russia on international maritime law, fisheries of coastal states and availability of aquatic living resources underutilized by commercial fishery.

Preparation of highly qualified scientific staff, pursuance of supervision over the post-graduate students' work.



Department of aquaculture

Head of the Department – Mamontov Yuri P., Dr.Sc. (agr.)

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Structure of the Department:

- ♦ **Laboratory of Normative and Technological Development of Aquaculture**
Head: *Burlachenko Irina V.*, Dr.Sc. (biol.)
- ♦ **Laboratory of Physiology and Diseases of Cultivated Species**
Head: *Pianova Svetlana V.*, Ph.D. (biol.)
- ♦ **Laboratory of Aquaculture Intensive Technologies**
Head: *Zobova Olga N.*, Ph.D. (agr.)

Main directions of activities

Development of theoretical and methodical foundations of investigations in artificial reproduction of aquatic biological resources and aquacultured objects.

Preparation of scientific foundations and recommendations for the development of strategic goals and tasks for sustainable aquaculture development in the Russian Federation.

Scientific provision of the development and improvement of legislative norms and regulations in the field of artificial reproduction and aquaculture.

Coordination and development of common scientific and methodical approaches to the fishery research in the sphere of artificial reproduction and aquaculture.

Monitoring of the status of artificial reproduction and aquaculture in the Russian Federation and other countries.

Development of biological foundations of technologies, biotechnical indices, instructions and handbooks for studying reproduction and cultivation of valuable hydrobionts.



Development of technological aspects of feeding, health, selection of objects for artificial reproduction and aquaculture, as well as technical facilities used for their cultivation.

Development of biological foundations for providing most favorable conditions in the exploitation of fishery water bodies. Evaluation of fishery water body receiving capacities.

Preparation of materials for expert examination and recommendations on the national export quota amounts of sturgeon products, including caviar, in the framework of the CITES Scientific Authority.



Participation in the preparation of materials supporting total allowable catch (TAC) of sturgeons and other hydrobionts.

Preparation of expert conclusions, information, development of fish breeding and biological substantiations and other designing documents in the field of artificial reproduction and aquaculture.

Studies on the development of cultivation technologies of new aquacultured objects, selective and breeding work.

Monitoring of the reproductive system state of valuable cultivated aquatic species. Evaluation of biochemical organism characteristics of hydrobionts.

Control of the morphofunctional state of fish and invertebrates in the wild and in aquaculture. Analysis of the physiological full value of spawners and juveniles of aquaculture objects in conditions of artificial reproduction and cultivation.





Quality and biological safety control of combined feeds and aquacultured production.

Development and testing of new combined feeds, medicinal and prophylactic preparations for aquaculture.

Parasitological and microbiological monitoring of hydrobionts and their habitats, control of epizootic situation at hatcheries and fish farms of aquacultured objects.

Development of methods for diagnostics, prophylaxis and treatment of invasive and infectious diseases of hydrobionts artificially reproduced and cultivated in aquaculture.

Development of standard documentation on diseases prophylaxis of cultured hydrobionts over the Russian Federation territory.

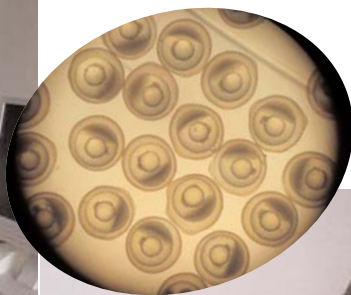
Quality control of raw materials while developing new processing technologies for new kinds of food products from cultivated hydrobionts. Examination of fishery products from cultivated hydrobionts within the certification system.

Evaluation of intensive aquaculture technologies impact upon the state of internal organs and physiology of valuable cultivated species.

Technical and scientific cooperation within international organizations, intergovernmental and interdepartmental agreements.

Publication of scientific papers, analytical materials, monographs, handbooks, information, methodical and other materials on artificial reproduction and aquaculture.

Training of post-graduate students, conducting their practical work, lectures, study tours on the basis of existing experimental complexes aimed at their industrial training, improving professional skill and promoting activities in the field of artificial reproduction and aquaculture.





Department of technical regulation and fishery rationing support

Head of the Department – Abramova Lyubov S.
Deputy Director, Dr.Sc. (tech.)

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Structure of the Department:

- ♦ **Laboratory of Analytical and Rationing Secure of Quality and Safety**
Head: *Vafina Lilia Kh.*, Ph.D. (tech.)
- ♦ **Laboratory of Biologically Active Substances and Feeds**
Head: *Sergienko Evgeny V.*, Ph.D. (tech.)
- ♦ **Laboratory of Scientific and Experimental Technologies**
Head: *Gershunskaya Valeria V.*, Ph.D. (tech.)
- ♦ **Laboratory of Standardization and Metrology**
Acting Head: *Artemov Roman V.*, Ph.D. (tech.)

Main directions of activities

Conducting fundamental and applied research on technical regulation and fishery rationing support.

Development and management of monitoring system on the quality and safety of aquatic living resources in fishing areas, development of methodical documents for its implementation and application of results.

Quality and safety monitoring of aquatic living resources for food safety at common use and consumption.

Scientific substantiation of the systems approach to the management of aquatic resources





quality and safety and the creation of a database on information, analytical, methodical, normative, organizational and technical support to the developed systems.

Development of modern cost-effective technologies of new products from aquatic living resources with desired properties (dietary, prophylactic and therapeutic food, biologically active additives and medicinal preparations) to ensure effective waste-free use of extracted raw materials, involvement in the production of previously underused fishery objects. Conducting and testing of available technologies under production conditions.



Development of waste-free and resource-saving technologies and new generation equipment for production of high quality fishmeal, dried protein concentrates and other technical products.

Development of the regulatory and technical base to ensure the rational use of natural resources in the production, storage and transportation of products from aquatic living resources.

Coordination and methodical research guidance and cooperation with regional research institutes in the field of technical regulation and fishery regulatory support.

Studies and generalization of national and foreign experience in research and production activities in the area of technical regulation and fishery regulatory support, publications of scientific papers and methodological documents, conducting of scientific meetings and conferences, participation in exhibitions, maintenance of international relations, scientific and technical cooperation within the area in question.

Preparation of highly qualified scientific staff, post-graduates and students.





Department of scientific and technical information

Head of the Department: Sytova Marina V.
Scientific Secretary, Ph.D. (tech.)

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Structure of the Department:

- ♦ **Research Management Group**
Head: *Movsesova Natalia V.*
- ♦ **Fishery Statistics Center**
Head: *Yanovskaya Nina V.*
- ♦ **Doctorate, Postgraduate and Professional Skill Upgrading Courses**
Head: *Gromova Varvara A., Dr.Sc. (tech.)*
- ♦ **Group of Information and Exhibitions**
Head: *Mamaeva Tatiana N.*
- ♦ **Publishing House FSUE "VNIRO"**
Head: *Borovik Natalia Eh.*
- ♦ **Group of the Journal "Fisheries Problems"**
Chief: *Tregubova Elena V.*
- ♦ **Russian Centre of ASFA**
Head: *Levashova Sofia S., Ph.D.(biol.)*
- ♦ **Science and Technology Library**
Head: *Krasenkova Irina S.*
- ♦ **Technical Archive**
Head: *Karabanova Tatiana P.*

Main directions of activities

Participation in the development of federal and fishery scientific and technical research programs, preparation of scientific and technical documentation.

Collection and compilation of materials on the realization of research programs of branch institutes.

Conducting of practical arrangements to review the results of scientific activity of fishery research institutes.

Preparation of analytical and scientific information materials.

Collection and analysis of contract documentation for the development of annual thematic plan of research and development studies of the Institute.

Arranging and conducting of meetings, conferences and other events to discuss scientific results and perspectives for studies in particular areas of work assigned to the FSUE "VNIRO".

Participation in the development of normative documents and materials (regulations, recommendations, conclusions, etc.) in planning, arranging and conducting of studies in fisheries.

Participation in the development of statistical methodology, common for international organizations and fishery basin institutions as subcontractors.



Participation in the work of international statistic organizations.

Works on the legal protection of industrial property, copyright and related rights, commercial or professional secrets (know-how), as a result of the FSUE "VNIRO" intellectual activity, provision of the FSUE "VNIRO" structure subdivisions with patent, scientific and technical information.

Edition of the Russian scientific fishery journal "Fisheries Problems" which includes problematic and review articles concerning important matters of national and international fisheries, reviews on books and monographs, information on national and international conferences, symposia and meetings.

Provision of Russian participation in the UN ASFA-FAO international information system on aquatic sciences, as well as an access of Russian specialists to the World Database on Aquatic Sciences and Fisheries (ASFIS-ASFA).

Organization of work on handing out scientific literature and documents requested in the reading-hall of the Institute scientific and technical library based on the inter-library national and international exchange.

Preparation of the Institute expositions to participate in national and international fishery exhibitions, assistance to the Agency for Fisheries in the organization of general fishery expositions.

Rendering methodical assistance to the Institute subdivisions and other fishery organizations in publishing activity.

Execution of operations associated with the selection and delivery of archival documents and inquiries, performance of the value examination of archival documents and notarial witnessing of Institute legal documents.

Organization of museum and exhibition work, storage, preservation and restoration of museum exhibits, preparation of exhibits for expositions.





Krasnodar branch of FSUE “VNIRO”

**Director – Bondarenko Lyudmila G.
Ph.D.(biol.), Honored Fishery Manager
of the Russian Federation**

Tel. (861) 259-28-49, 259-30-42, e-mail: kfvniro@mail.ru

Structure of the Branch:

- ♦ **Laboratory of Reproduction of Sturgeons and Other Aquaculture Objects**
Head: *Bondarenko Lyudmila G.*, Ph.D.(biol.)
- ♦ **Laboratory of Marine Studies and Fishery Forecasts**
Head: *Sklyarov Valentin Ya.*, Dr.Sc.(agr.)
- ♦ **Laboratory of Aquatic Living Resources Studies in Complex-purposed Water Reservoirs**
Head: *Kovalenko Yuriy I.*, Ph.D.(biol.)
- ♦ **Laboratory of Aquatic Living Resources Studies in Fresh Water Reservoirs**
Head: *Asanov Alik Yu.*, Ph.D.(biol.)

Main directions of activities

Complex studies of aquatic living resources; qualitative and quantitative estimate of the source of raw materials; development of recommendations on the rational use of aquatic living resources; monitoring of aquatic living resources state and economic conditions in the Azov-Kuban basin; development of TAC and possible yield of hydrobionts.





Preparation of materials on ecological and fishery expert's opinion of the economic activity projects in the field of fisheries; anthropogenic impact estimation and damage affected to the fishery economy and elaboration of indemnity measures.

Development of measures on further increase in the reproduction efficiency of anadromous and semi-anadromous fish species of the Azov-Kuban basin; development of piscicultural and biological bases on juvenile release into natural reservoirs to increase fish productivity and to improve conditions for natural reproduction of valuable anadromous and semi-anadromous fish species.

Development of biological foundations, methods and technologies of pond, pasturable and industrial aquaculture; development of new kinds of combined feeds for valuable fish species; development of business plans for fish farms.

Development of biotechnologies for mariculture objects growing, methods for their processing and obtaining of food products; development of piscicultural and biological bases and business plans for mariculture farm building.





Patent and license activities of FSUE "VNIRO"

Tel.: 8-(499)-264-99-65, e-mail: patent@vniro.ru

Intellectual property (patents on inventions, utility models, industrial designs, as well as certificates for the computer programs and trademarks) are one of the FSUE "VNIRO" authorized capital components and at the moment their value is equal to 22 million roubles.

The FSUE "VNIRO" stock consists of the following:

- ♦ 224 author's certificates on inventions (1966-1992);
- ♦ 113 patents on inventions;
- ♦ 17 patents on utility models;
- ♦ 11 certificates for the trademark;
- ♦ 29 certificates of state registration of computer programs;
- ♦ 1 certificate for the industrial design.

FSUE "VNIRO" has received legal protection of key and fundamental inventions in the field of extraction and commercial fisheries, aquaculture and reproduction, processing technologies of aquatic living resources.

With the rapid development of engineering and technology more attention is given to the patent information; it is precisely the patent information gives the first signs of innovation, and the right patent strategy is an effective tool for the Institute scientific staff.

Joint work of patent attorneys and lawyers provides a useful guide in transforming ideas into intellectual property objects and ensures their competitiveness and thorough protection.

For the present-day development of economic relations, it is essential to accomplish the exchange of scientific and technical achievements carried out on a commercial basis in the form of license sales.

Patent attorneys of the legal team are ready to conduct negotiations and cooperation with firms (organizations) on the conclusion of license agreements, contracts of alienation (concessions) to the right to use intellectual property objects, the patentee of which is FSUE "VNIRO".





VNIRO has licenses for the following:

♦ to carry out mapping activities, specifically in establishing and maintaining geographic information systems of special purpose and creating thematic charts, plans and atlases of special purpose as graphics, digital and other forms, publication of these charts, plans and atlases (License Nr. MOF 07438Г, dated February 25, 2010);

♦ to carry out geodesic activities, specifically in geodesic, topographic and other special studies when conducting engineering surveys, construction and operation of buildings and other facilities (License Nr. MOF 07437Г, dated February 25, 2010);

♦ to perform space activities, specifically in researches and experiments at space stations (objects) in the World Ocean Remote Sensing (License Nr. 1195K, dated September 28, 2009);

♦ to carry out activities in hydro-meteorology and adjacent fields, including: definition of hydrological and oceanographic environment characteristics; definition of the pollution level of soils and water bodies; training and providing the consumers with analytical and calculated hydrological and oceanographic data and information on the pollution of soils and water bodies; formation and maintenance of databanks in hydrometeorology and related fields (License Nr. P/2007/0159/100 / Л, dated October 19, 2007);

♦ to carry out educational activities according to educational programs specified in Annex(es) for this license, with the observance of fixed therein control norms and limiting number of contingent of students and pupils (License Nr. 1188, dated March 11, 2009, Appendices Nr.1, Nr.3).

♦ to carry out educational activities according to the program of additional profession education (APE) "Russian State management of fishery complex" for state and civil employees (managers and experts in territorial agencies, fisheries departments in regional and territorial administration bodies and representatives of fishery enterprises and organizations of any property form (License Nr.1188, dated March 11, 2009, Appendix Nr.2);

♦ to carry out educational activities according to the program of additional profession education (License Nr.1188, dated March 11, 2009, Appendix Nr.4):

- innovative technologies in fish processing;
- quality control of aquatic raw material;
- creation of food safety management system based on the Russian national standard ГОСТ Р ИСО 22000-2007. HACCAP system introduction practice;
- rules and methods of conducting veterinary expertise;
- fishery products quality and safety problems;
- sensory quality evaluation system of fish and sea food;
- up-to-date methods of water hydrochemical characteristics;
- up-to-date diagnostic methods of parasitic diseases in fishes and bees;
- Theoretical foundations of fish and sea food preservation methods



VNIRO represents the CITES Scientific Authority in the Russian Federation in respect of sturgeons, its activities being controlled by the Convention for International Trade in Endangered Species of Wild Fauna and Flora (CITES), dated March 3, 1973 and the Decree of the Government of the Russian Federation September 26, 2005 Nr. 584 “On measures for realization of obligations of the Russian Federation in compliance with the Convention for International Trade in Endangered Species of Wild Fauna and Flora, CITES, dated March 3, 1973, in respect of sturgeons”. The CITES Scientific Authority in the Russian Federation in respect of sturgeons examines proposals, prepares recommendations and scientific findings on the volume of national export quotas of sturgeon products.

Much attention is given by the Institute to the training of highly skilled scientific personnel including foreign citizens. Over the past years, more than a thousand people graduated from the VNIRO postgraduate and postdoctorate courses, most of which defended their theses for the doctoral and PhD in various specialities.

There are two specialized councils at VNIRO:

- ♦ Dissertation Council D 307.004.01 on defence of theses for the PhD and doctoral degrees on the following specialities: 03.02.06 “Ichthyology”, 02.03.10 “Hydrobiology” and 03.02.14 “Biological resources”;
- ♦ Dissertation Council D 307.004.03 on defence of theses for the Ph.D and doctoral degrees on specialities: 05.18.04 “Technology of meat, dairy and fish products and refrigeration facilities” and 05.18.17 “Industrial fisheries”.

Since 1973, VNIRO has been involved in the publication of the reference journal ASFA (Aquatic Sciences and Fisheries Abstracts) and at present the Institute is a national partner of the system. The Russian system of ASFA includes, in addition to VNIRO (ASFA – center), regional contributing centers of PINRO, TINRO, AzNIIRKh, KamchatGTU, AGTU, GosNIORKh, MagadanNIRO, Dalrybvtyus and Sakhalinrybvod. This work greatly enhances effective familiarization of Russian specialists with the latest achievements of world science and technology in the field of fisheries and aquatic sciences, facilitates a broad popularization of achievements of both Soviet and Russian science abroad, as well as development of international cooperation.

Much publishing work is in progress at VNIRO. Fundamental monographs and proceedings of the Institute are annually published. The books published by the VNIRO Publishing House won respect of authors and customers, among which are scientists, university professors, authors of popular science literature. Books and other printed matter are of high editing quality, design and polygraphic performance.





Scientific and technical library of the Institute is the biggest in fishery branch of Russia. It contains about 285 thousand printed units and maintains a regular book exchange with 14 institutions in Russia and 17 organizations in 10 countries of the world. The library possesses a fund of rare books which are unique in Russian marine biology sphere. These highly valuable national and foreign publications were issued throughout the period from 1694 to 1917.



The library is a member of international associations of libraries and information centers in the field of aquatic sciences EURASLIC / IAMSLIC and takes an active part in international projects under the aegis of UNESCO and Intergovernmental Oceanographic Commission. The library is a Russian

coordination centre of two International projects in the sphere of marine environment information management: UNION LIST and ODINECET.

Since 2001, an electronic catalogue of the library fund has been carried out facilitating the search of necessary publications to readers and scientists. Since 2008, an electronic library has been formed creating full-text publications in the field of fisheries. More than 2700 books, articles, reference books, journals, papers of conferences and synopses of theses have been digitized.



In 1983, Marine Museum was opened at VNIRO. The Institute is planning to reorganize and expand the museum and exposition with the aim to present its scientific activities, to establish a business and information sphere for fishery experts, to create interests towards the scientific profession among students and pupils and to promote the work in fisheries.



CONTENTS

Russian Federal Research Institute of Fisheries and Oceanography	1
Department of fishery hydrobiology	3
Department of fishery biology	6
Department of salmons	8
Department of fisheries management	10
Department of ecological foundations of hydrosphere bioproductivity studies	13
Department of international fisheries cooperation	16
Department of aquaculture	18
Department of technical regulation and fishry rationing support	21
Department of scientific and technical information	23
Krasnodar branch of FSUE "VNIRO"	25
Patent and license activities of FSUE "VNIRO"	27



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