Aquaculture in Far East region, Russia
Market scan
2018

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Aquaculture water resources in use and available

> 3,600 fish farming sites are in use

Water resources used for aquaculture, 1,000 ha

- In use: 2,289.9
- Not in use but available: 579.8

- Siberia: 76.0%
- North-West region: 42.1%
- Far East: 229.2
- Volga region: 124.6
- Central region: 8.5
- Northern region: 22.4
- Southern region: 17.2
- North Caucasus: 91.6
- Urals region: 27.2
- Siberia: 31.5
- Far East: 76.0

Aquaculture water resources in use and available
Aquaculture production: by regions

- Siberia: 6,600 t
- Urals: 10,000 t
- Siberia: 6,600 t
- Volga: 14,100 t
- North-Caucasus, 18,900 t
- Central: 34,500 t
- North-West, 59,500 t
- South: 78,600 t
- Far East: 13,000 t

Growth rates:
- +15.5%
- +21%
- +21%
- +34%
Far East Federal District (FEFD) includes 11 regions: Kamchatka, Primorsky Krai, Khabarovsk and Amur regions, Jewish Autonomous Region, Magadan, Sakhalin, Yakutia, Chukotka, Transbaikal region, Buryat region.

- It’s the biggest Federal District of Russia occupying 40% of all territory of RF and having access to the sea. The administrative center is Vladivostok which is the second large city after Khabarovsk.

- FEFD has unique conditions for the development of mariculture of seafood.
- Coast line water areas:
  - Sakhalin: 1.4 million hectare; Primorsky Krai: 376.5 thousand hectare, and Khabarovsk Region: 420 thousand hectare.

- 82% of all sea bioresources are concentrated in the Far East. 60% of all Russian fish catch is in FEFD.

- 1300 water sites (90 hectar) are in a plan of allocation for aquaculture purposes.
- There are about 70 mariculture enterprises so far registered in the Far East, which are occupying 76 hectar of water area. 60 hectar are located in Promorsky Krai. 80 more hectar are available in FEFD.

- Traditional aquaculture seafood species: sea cucumber, mussels, oysters, scallops, sea urchin, kelp. Southern part of FEFD is the best area for shellfish aquaculture. The East part is the best for kelp farming. Sakhalin and Kuril Islands suits for salmonids farming.

- Number of fish and seafood farming enterprises:
  - Primorsky Krai – 15 (shellfish, sea cucumber and kelp, fish hatcheries),
  - Khabarovsk Krai – 1 (industrial farm for sturgeon),
  - Buriat Republic - 2 (carp and peled), Amursky region- 1 (industrial fish),
  - Sakhalin and Kuril Islands- 51 salmon hatcheries producing 1 bln fish fry for reproduction of wild salmon resources (total all-Russia hatched volumes of salmonids fry is recently 9 bln pieces).
  - 51 salmon hatcheries include: 40 private salmon hatcheries produce nearly 70% of all salmon smolt to compensate the catching volumes. The rest 30% of hatched volumes is produced by 11 State owned hatcheries.

- Recent fish & seafood farming volume is 13,200 tons/annum (+38% from 2017). The plan is to increase production up to 17,400 tons until 2020.

- 1,2 bln USD are to be invested in mariculture projects within coming 5 years. The State Far East Fund together with banks, insurance companies are preparing a special financial offer for market players.
Far East Federal District

- The annual catching volumes of wild salmonids in this region: 250-300 thousand tons annually. The catching season is August-September. Only 40 thousand tons of that catch approach the local market. The majority volumes of wild salmon are the subject of export to Asia. Sustainable salmon fishing and salmon smolt farming for reproduction purposes is the responsibility of the Russian government.

- In spite of the compensational measures by private and public farms, the disbalance between catching volumes and reproduction is still 74% for Pink salmon (Gorbusha), and 25% for some important salmonids like Chum/Dog salmon (Keta).

- Russian state has a goal by year 2030 to increase production of salmon smolt up to 12 bln pieces/annum by only state hatcheries. Plus volumes of private hatcheries.

**Sakhalin and Kuril Islands**

- In terms of salmonids reproduction plans, Russian officials considered Sakhalin and Kuril Islands as few most crucial regions in Russia for cooperation with foreign technology suppliers and investors.

- This region is specialized on hatching activities and shows the biggest farmed volumes in comparison with other Far East regions.

- 58% of all state investments into fish reproduction projects and the majority of private investors into fish farming are concentrated in Sakhalin region.

- South of Sakhalin is suitable for aquaculture of commercial salmon. Water sites for Pacific salmon farming will be offered to investors soon. However, most of territories in Sakhalin are traditionally wild fish catching areas.

- Conflict of interests between catching companies and aquaculture investors is in place.

- 51 salmon hatcheries are producing 1 bln fish fry of Pacific salmon:
  - 40 private salmon hatcheries produce nearly 70% of all salmon smolt to compensate the catching volumes. The rest 30% of hatched volumes are produced by 11 State owned hatcheries.
Far East Federal District

- Primorsky Krai has a great future for mariculture as well as in the ocean farming. It needs relevant technology, equipment and fleet available to realize such a great aquaculture potential. 80 000 hectares of water area in Primorsky Krai will be allocated for «sea gardens» which are farming invertebrates and kelp. The Peter the Great Bay is chosen as the most suitable for mariculture activities (see the map).

  - Production volume 2018 – 9,6 thousand tons (+40%) : scallops, sea-cucumber, kelp
  - 75 water sites (12,8 thousand hectar) are offered by local authorities. 60 of them are in use.
  - Large Russian companies and banks along with foreign investors from neighboring countries, primarily from China, Japan and South Korea, believe in the Far East potential. Chinese corporation ChinaOverseasDevelopmentAssociation (CODA) confirmed to invest $200 mln in mariculture in Primorsky Krai. Large seafood farm, processing and storage facilities are to be built.

- Water sites for fish farming are allocated to investors through the electronic auction system arranged by the Fund of Development of Far East and Baikal region.

  - The investor can choose available water site selection through a specialized website www.aquavostok.ru, containing a map of the marine area, which is free from restrictions. The investor applies the electronic auction online.

  - The first auction held in July 2018 and showed high demand of investors for water sites available. Water site auction lots were sold for the price 22 times higher than the starting auction price.

  - There is a certain conflict of interests between salmon catching companies and fish farmers in the area of Peter the Great Bay. According to the legislation, fish catch is forbidden in the place of aquaculture objects. Several water sites which are provided for aquaculture purposes were traditionally salmon catching areas with catching quotas allocated earlier. Some new aquaculture areas are located even in protected environmental zones and not allowed to be used both for catch and aquaculture.

  - Russian Ministry of Natural Resources commented that aquaculture in protected environment zones is possible if the following strict conditions are met: new aquaculture technologies have to be in place, aquaculture activities have to be supported by science, no chemicals, no fertilizers, no pharma in use.

  - Norwegian scientists could be for help in case of environmental monitoring as well as there is an opportunity for Norwegian companies to transfer technology and supply equipment.
Far East Federal District

FAR EAST AQUATIC ZONES FOR MARICULTURE

The map shows territories suitable for aquaculture in the Russian Far East within a 12 mile zone.

Growth period for different kinds of hydrobionts in the Far East is 3-6 years depending on technology and farm site location.*

1. Oyster
2. Mussel
3. Scallop
4. Trepang
5. Sea urchin
6. Kelp

*based on the data from the Federal Fishery Agency and TINRO-Center.
Far East Federal District

Summary

- The potential for growth in the mariculture in FEFD is good. The Russian Far East has numerous sectors to work on: both live seafood (shells/crustaceans, etc) and the seaweed of all kinds.

- Primorsky Krai is the leading in mariculture of seafood and seaweed. Sakhalin and Kuril Islands have also a very big potential for farming salmon smolt and commercial fish. Norwegian suppliers of equipment and technology in this sector can have a potentially big market here. Strong competition from China, Korea, and Japan is also expected.

- Kamchatka traditionally is a fish and crab catching zone. Due to severe climate conditions this region doesn’t match much for cage aquaculture. However, the local government has plans to establish 30 private fish farming projects in the region with investment of 3,9 bln rubles:
  - First aquaculture farm in Kamchatka "Avacha-Tral" LLC with investment of 1 bln Rubles will be launched next year. Water site area: 20 km2. Farmed species: kep, sea urchin, mussels, crab juveniles, far est salmon smolt. Processing facilities construction is a part of the project.
  - There are rumours in the sector that large Russian market player thinks to build trout farm in one of the natural lakes in Kamchatka and to receive for this project 2,8 bln Rubles of state support.

- Most of mariculture farms are located in the southern part of Primorsky Krai on a shallow waters. Russian scientists advise to use open sea waters for mariculture, which will need modern technology, equipment and the fleet as well as scientific support, where Norwegian companies can also take part.

- Winter conditions are challenging in Primorsky Krai and Sakhalin region, which can be challenging for sea cage farming development. However, there are ice-free water sites available in the region where sea cage farming has a potential. This question needs more precise discussion of scientists and sector specialists.

- Submersible fish cages can be the solution or fish farming based on the rather short ice period. As of today, there are no examples of using this kind of technology in Russia. There are possible locations in the Far East which are to be considered as highly relevant for offshore farming such as: 2-8 NM West of Sakhalin and the Peter the Great Bay (Vladivostok-Nakhodka)

- Kuril Islands could be of interest for marine cage farming, as islands are situated very close to the best paying seafood markets in the world and it’s the most ice free region.

- Russian scientists from TINRO (Pacific Research Institute of Fisheries and Oceanography) www.tinro-center.ru and Far East Association “Aquaculture” are very interested in finding a platform for cooperation with Norway in all aspects of aquaculture.
State Regulation of aquaculture

- Russia is making efforts in developing regulatory norms for the aquaculture industry.

Currently the development of the Russian aquaculture industry is regulated by the following basic documents:

1. Concept of Development of the Fisheries Industry in the Russian Federation through 2020 (approved by Government resolution # 1265-p dated September 2, 2003);
3. State Program “Development of Fisheries Sector”; 
4. FEDERAL LAW OF THE RUSSIAN FEDERATION No. 148-FZ “About aquaculture (fish breeding) and about modification of separate legal acts of the Russian Federation” (The latest edition from 06-02-2019) is active since 2 July 2013;

- The greatest achievement in aquaculture regulation is the state approval which permits to fish farming enterprises to extend lease contracts for fish-breeding sites without auction. Federal Fishery Agency believes this measure will stimulate long-term planning and attract more investments into the sector.

- Latest amendments provide to Private farming/hatching enterprises (for salmonids particular) the access to water sites without auction.

- Harmonization of Aquaculture Law with other legislation.

- Some Federal Laws contradict each other which is a challenge to fish farmers. Example: While the Ministry of Agriculture put standards for minimum fish harvest volumes per water site, another Ministry of Natural Resources put an own limitation to harvesting volumes per water site, as the increase of harvest may lead to environmental impact.

- There are ongoing discussions about the rules which protect the forestry area around water sites, where fish farming activities and processing factorises are planned. There is still no resolution permitting to build on-shore infrastructure around water sites.

- The Ministry of Agriculture and the Ministry of Natural Resources are currently developing a regulation which will allow to use water basins located in forest areas as well as the land nearby water area for RAS aquaculture activities.

- In addition, the Federal Veterinary and Phytosanitary Service is developing requirements for aquaculture products and plans to get the approval from the Government in the near future.
News in State Regulations

Aquaculture insurance

- Since 1st January 2019, Commercial aquaculture is the subject of State support of agricultural insurance.
  - The relevant law was signed last year by the President Putin and later adopted by the State Parliament.
  - Amendments to the Federal Law “on State Support of Agricultural Insurance” as well as in the Federal Law “On the development of Agriculture” were made accordingly.
  - Earlier commercial aquaculture were not the subject of Agricultural insurance with the State support, however, fish farming is initially the type of activities related to agriculture.
  - State support will be provided to regional budgets in the form of Federal budget subsidies for reimbursement of insurance premium.

- In year 2019 this legislation will concern only aquaculture objects related to farming salmonids, which are located in Republic of Karelia and Murmansk region only!
  - Risks to be insured: loss harvest of fish and invertebrates due to contagious diseases, fire, storm, hurricane, flood, typhoons, tsunamis, ice flow\ice damage, abnormal decrease of water level, sudden changes of water temperature, disturbance of electricity, heat, natural disasters.
  - Period of insurance: ≥ 1 year

*By Mr. Sergey Rybakov, Insurance broker OOO “Rifams”
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Most projects are strongly supported by local authorities as aquaculture is the best tool to get relatively cheap fish for regions located far from coastlines and to create more jobs. Some regions in Russia are even forcing the development of the sector, making it one of the top priorities.

Top-5 Russian regions received the biggest financing for period 2017-2020

- **Murmansk:** 717 mln Rub
- **Moscow region:** 380 mln Rub
- **Leningrad region:** 197 mln Rub
- **Karelia:** 186 mln Rub
- **Rostov region:** 127 mln Rub
- **Primorsky Krai:** 82 mln Rub

- Total amount of aquaculture subsides provided by Russian State in 2018: 782,7 mln Rub

(it was 546,5 mln Rub in 2017)
Russian projects of Norwegian companies

- **Akva Group**
  - Akva group has worked strategically with Russia for years.
  - Key turn projects in Murmansk, Karelia, Sochi in regards of cage and land based farming (salmon, trout)
  - Land based farming key turn projects in Moscow and Kaliningrad (salmon, trout)
  - 6 complete turn key cage farms are supplied to Murmansk region. And ready to supply the 7th one.
  - Feed barges 650 t of feed
  - JSC “Russian Aquaculture” and “Russian Salmon” are the main large customers.
  - Negotiations with St. Petersburg regarding construction of a large RAS salmon/trout farm

- **Akvaplan Niva**
  - Akvaplan Niva has been working in Russia for 30 years
  - More than 400 joint reports and 150 papers in international scientific journals
  - Strategic cooperation agreements with Russian academic and departmental research institutes, universities, associations
  - 20+ aquaculture projects in Russia in the territory from Murmansk to Sochi, from St. Petersburg to Vladivostok
  - Projects are financed by national and international programs, research funds, industry
    - 1994: Masterplan for aquaculture in the Northwest Russia
    - 1997: Joint Russian-Norwegian pilot fish farm in the White Sea
    - 2003: Upgrade of Kedrozero hatchery in Karelia
    - 2005: Limited environmental Due Dilligence for Kivach
    - 2007: Nelma as a potential species for aquaculture
    - 2010: Suitability evaluation for aquaculture development in the Arkhangelsk region
    - 2012: Whitefish hatchery in the Kola Peninsula: concept design
  - Akvaplan-niva Barents – a daughter company of Akvaplan-niva established in Russia in 2006
Russian projects of Norwegian companies

- **Skretting**
  - Skretting AS has sales and its own subsidiary in Moscow, Russia
  - Ivan Zagorsky, Head of Russian office, ivan.zagorsky@skretting.com

- **Aqua Contractor International AS**
  - 10 years Russia and the Baltic countries with projects in land-based fish farming, training and development of fish feed.
  - Most projects have been done in close collaboration with universities and students from several universities and companies, but primarily NMBU in Norway and Kaliningrad State Technical University.
  - Focus on smaller RAS plants and Aquaponic systems, production of a high quality fish feed for Salmon, Trout and Char, primarily based on land-based fish farming.
  - Jonny Bunæs, CEO, jonny@agronet.eu

- **Northern Productions AS**
  - The company through its own subsidiary Lafor LLC in Russia is launching fish farm “Ladoga Forell” in Ladoga Lake in the North-West of Russia
  - Capacity 3000 t of salmonids. Plan 2019 – 1000
  - Water site 44 hectare
  - Lars Sundquist

- **Noras Watertech AS**
  - RAS salmon/trout farm in Tatarstan
  - Capacity – 3 000 t
  - Project with Norwegian investments

- **Aqua Optima AS**
  - “Sobsky fish Farm” (Harp, Russia)
    - first Arctic large RAS hatchery for peled (Coregonus peled), muksun (Coregonus muksun), broad whitefish (Coregonus nasus), sturgeon in Yamalo-Nenets Federal District
    - Private-Public financing.
    - Capacity: 32 mln juveniles.
    - Second large fish farm/hatchery of the same kind and size will be launched in the same Federal District in couple of years.
  - Danil Eltekov, CEO, danil@eltekov.ru