DEVELOPMENT OF AQUACULTURE AT THE RUSSIAN FAR EAST
# TERMS AND DEFINITIONS

<table>
<thead>
<tr>
<th><strong>APAC</strong></th>
<th>Asia-Pacific Region</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABR</strong></td>
<td>Aquatic biological resources</td>
</tr>
<tr>
<td><strong>GDP</strong></td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td><strong>GRP</strong></td>
<td>Gross Regional Product</td>
</tr>
<tr>
<td><strong>Far East</strong></td>
<td>Far Eastern Federal District of Russia</td>
</tr>
<tr>
<td><strong>Farm site</strong></td>
<td>Aquatorium available for aquaculture farming</td>
</tr>
<tr>
<td><strong>JR</strong></td>
<td>Jewish Autonomous Region of Russia</td>
</tr>
<tr>
<td><strong>Ministry of Finance</strong></td>
<td>Ministry of Finance of the Russian Federation</td>
</tr>
<tr>
<td><strong>PPP</strong></td>
<td>Purchasing Power Parity</td>
</tr>
<tr>
<td><strong>Russia</strong></td>
<td>Russian Federation</td>
</tr>
<tr>
<td><strong>DTA</strong></td>
<td>Avoidance of Double Taxation Agreement</td>
</tr>
<tr>
<td><strong>Free Port</strong></td>
<td>Free Port of Vladivostok</td>
</tr>
<tr>
<td><strong>TAD</strong></td>
<td>Territory of advanced socio-economic development</td>
</tr>
<tr>
<td><strong>Fund</strong></td>
<td>JSC «Far East and Baikal Region Development Fund»</td>
</tr>
<tr>
<td><strong>Central Bank</strong></td>
<td>Central Bank of the Russian Federation</td>
</tr>
<tr>
<td><strong>EDS</strong></td>
<td>Electronic digital signature</td>
</tr>
<tr>
<td><strong>US$</strong></td>
<td>US dollar</td>
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</tbody>
</table>
RUSSIA
MACROECONOMIC SITUATION

Recent trends in the Russian economy

- Russia is the 6th largest economy by GDP
- Russia has one of the lowest government debt-to-GDP ratio (17.7%) and is ranked 6th by FX reserves (US$ 378 bln)
- According to recent forecasts, GDP is expected to reach US$ 5.9 tln in 15 years (3.4% cumulative annual growth rate)
- Implementation of the floating exchange rate regime in November 2014 allowed Russia to bring ruble in line with the equilibrium market rate
- FX risk premium of investments in Russia in Asian currencies (Chinese yuan, Japanese yen, Korean won and Hong Kong dollar) for 2016-2030 at 1% - 2.3% per year (based on Economist Intelligence Unit forecasts)
- Russia offers a favorable opportunity for long term investments in the country taking into account current sovereign credit ratings and growth potential of macroeconomic indicators

Source: World Bank, Economist Intelligence Unit (February 2017)

Russian economy compared to other countries

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP, US$ bln (PPP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>19.8</td>
</tr>
<tr>
<td>USA</td>
<td>17.9</td>
</tr>
<tr>
<td>India</td>
<td>8.0</td>
</tr>
<tr>
<td>Japan</td>
<td>4.7</td>
</tr>
<tr>
<td>Germany</td>
<td>3.8</td>
</tr>
<tr>
<td>Russia</td>
<td>3.6</td>
</tr>
<tr>
<td>Brazil</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Source: IMF, Economist Intelligence Unit (March 2016)

Sovereign credit rating of Russia

<table>
<thead>
<tr>
<th>Agency</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard &amp; Poor's</td>
<td>BB+ (positive)</td>
</tr>
<tr>
<td>Fitch Ratings</td>
<td>BBB- (stable)</td>
</tr>
<tr>
<td>Moody's</td>
<td>Ba1 (stable)</td>
</tr>
</tbody>
</table>

Source: Standard & Poor's, Fitch Ratings, Moody's (March 2017)

Big Mac index: Russian ruble is significantly undervalued

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>-58%</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>-51%</td>
</tr>
<tr>
<td>Turkey</td>
<td>-46%</td>
</tr>
<tr>
<td>Hungary</td>
<td>-40%</td>
</tr>
<tr>
<td>South Korea</td>
<td>-27%</td>
</tr>
<tr>
<td>Singapore</td>
<td>-23%</td>
</tr>
<tr>
<td>Denmark</td>
<td>-17%</td>
</tr>
<tr>
<td>USA</td>
<td>0%</td>
</tr>
<tr>
<td>Norway</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: The Economist (January 2017)
RUSSIAN FAR EAST
ECONOMIC GEOGRAPHY OF THE REGION

Sakha (Yakutia) Republic
- Regional center: Yakutsk
- GRP: 660 bln rubles
- Population: 957 ths people
- Trade volume: 188 bln rubles

Khabarovsk Krai
- Regional center: Khabarovsk
- GRP: 549 bln rubles
- Population: 1 336 ths people
- Trade volume: 272 bln rubles

Amur Oblast
- Regional center: Blagoveshchensk
- GRP: 235 bln rubles
- Population: 810 ths people
- Trade volume: 147 bln rubles

Jewish Autonomous Region
- Regional center: Birobidzhan
- GRP: 42 bln rubles
- Population: 168 ths people
- Trade volume: 22 bln rubles

Primorsky Krai
- Regional center: Vladivostok
- GRP: 644 bln rubles
- Population: 1 933 ths people
- Trade volume: 342 bln rubles

Chukotka Autonomous Region
- Regional center: Anadyr
- GRP: 57 bln rubles
- Population: 51 ths people
- Trade volume: 6 bln rubles

Kamchatka Krai
- Regional center: Petropavlovsk-Kamchatsky
- GRP: 145 bln rubles
- Population: 317 ths people
- Trade volume: 50 bln rubles

Magadan Oblast
- Regional center: Magadan
- GRP: 97 bln rubles
- Population: 143 ths people
- Trade volume: 28 bln rubles

Sakhalin Oblast
- Regional center: Yuzhno-Sakhalinsk
- GRP: 794 bln rubles
- Population: 438 ths people
- Trade volume: 133 bln rubles

Source: Federal Service of State Statistics, Far East Investment and Export Agency

4.0% Far East GRP growth

2.2 bln rubles 3.3 bln rubles

2005 2015
**The rise of the Far East is our national priority for the XXI century**

Vladimir V. Putin, President of the Russian Federation

- Russian Government supports projects in the Far East: tax benefits, establishment of TADs, soft-term financing
- There are 13 TADs in the Far East, the Free Port regime covers Primorsky Krai, Khabarovsk Krai, Chukotka Autonomous Region, Sakhalin Oblast, Kamchatka Krai

<table>
<thead>
<tr>
<th>FOR NON-RESIDENTS OF TADS AND FREE PORT</th>
<th>FOR TADS AND FREE PORT RESIDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>30%</td>
<td>social insurance payments</td>
</tr>
<tr>
<td>20%</td>
<td>income tax</td>
</tr>
<tr>
<td>2,2%</td>
<td>property tax</td>
</tr>
<tr>
<td>90 дней</td>
<td>VAT refund time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Migration regime</th>
<th>Quotas for foreign labour hiring, visa regime</th>
<th>Migration regime</th>
<th>No quotas for hiring foreign workers, simplified visa regime, «one-window» regime for Free Port residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>227 дней</td>
<td>Obtaining of capital construction permits and approvals</td>
<td>&lt;40 дней</td>
<td>Obtaining of capital construction permits and approvals</td>
</tr>
</tbody>
</table>

* For the first 5 years (0-5% for TAD and 0% for Free Port), consequent 5 years - 12%, afterwards - 20%
** For the first 5 years since registration in the Free Port, consequent 5 years - 0.5%, afterwards - 2.2%
Russia is one of the TOP10 largest fish and other ABR producing countries. However, Russia falls behind the major APAC producers in terms of volume and aquaculture share in the overall production.

- Far East is the largest region in Russia in terms of fish and other ABR capture with 70% share in the total catching volume of Russia.
- Nonetheless, at the moment only 1% of the aquatic area suitable for aquaculture is used.

**ABR capture and aquaculture production, ths tons, 2015**

- World: 93,632 tons (44%)
- China: 73,589 tons (44%)
- Vietnam*: 3,055 tons (53%)
- Japan: 3,713 tons (21%)
- Russia: 4,275 tons (5%)
- Republic of Korea*: 2,025 tons (5%)

**ABR capture and aquaculture production in the Far East, ths tons, 2015**

- Russian Far East: 3,100 tons (6)
- Kamchatka Krai: 1,000 tons (0.2%)
- Primorsky Krai: 800 tons (0.7%)
- Sakhalin Oblast: 700 tons
- Khabarovsk Krai: 300 tons
- Sakha (Yakutia) Republic: 100 tons
- Magadan Oblast: 100 tons
- Chukotka Autonomous Region: 100 tons

The Russian Far East is the birthplace of aquaculture development thanks to its favorable location close to the main fish products’ consumers (APAC countries), strong government support, unique natural and climate conditions and ecology (pristine aquarium, eco-products).

* Based on the data obtained from Food and Agricultural Organization (2014 and 2015).
GLOBAL DEMAND FOR AQUACULTURE PRODUCTS

- According to the UN, the world population is likely to grow by 1.4-3.5 bln people by 2050. APAC countries are considered to be the main contributors.
- Moreover, fast urbanization and improvement of well-being in the developing economies lead to a rise in consumption of protein products such as fish and seafood. World consumption of fish and seafood per capita increased by circa 40% and, according to analysts, will continue its growth.
- The volume of fish and seafood harvesting in the world ocean reached its peak of 90 million tons in late 80s.
- Demand for aquaculture products is expected to double by 2050.

Forecast of aquaculture market growth (mln tons)

The global aquaculture market volume will increase by 66 mln tons by 2050.

Fish capture reached its peak in the late 20th century.

Source: UN, FAO

JSC Far East and Baikal region Development Fund | +7 (495) 540-47-37
KEY PLAYERS ON THE AQUACULTURE MARKET AT THE RUSSIAN FAR EAST

- 52 companies
- 5 firms produce 90% of aquaculture
  - Biobank
  - Biont-K
  - Zarubinskaya Base of Fleet
  - NPKA Nereida
  - Preobrazhenskaya Base of Trawling Fleet
- 20,000 Ha
  Total area allocated for aquaculture in the Russian Far East
- 65% of aquaculture products – trepang and scallop
  Main fish and aquaculture products in the Russian Far East
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.
**CASE STUDY**
**TREPANG**

**WHY INVEST IN RUSSIAN TREPANG?**

- Eco-product
- Rich nutrient profile
- Full-fledge government support
- Lucrative IRR

- According to Russian legislation, investors in aquaculture can be subject both to ordinary tax rules and Single Agricultural Tax depending on the nature of business they conduct.
- Despite this fact, preliminary analysis shows that natural characteristics of Russian trepang and existing government support provide strong foothold for investments to yield superior returns.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Ordinary Taxation</th>
<th>TAD or Free Port</th>
<th>Single Agricultural Tax</th>
<th>Single Agricultural Tax (TAD or Free Port)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRR ($US), %</td>
<td>17%</td>
<td>+4%</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>+1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22%</td>
</tr>
<tr>
<td>Average Operating Costs, $US'000/ton</td>
<td>18</td>
<td>-3</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-1</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>EBITDA margin, %</td>
<td>72%</td>
<td>+5%</td>
<td>77%</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+3%</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>77%</td>
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</tbody>
</table>
FUND'S ROLE IN THE DEVELOPMENT OF INTERNET-SERVICE

Fund in brief
The Far East and Baikal Region Development Fund was established by the decree of the President and Prime Minister of the Russian Federation

GOALS AND OBJECTIVES
- One of the Fund's objectives is to attract both Russian and international partners with sufficient expertise to accelerate economic and social development of the Far East
- Fund is a driver of investment process providing equity and debt financing to private companies – "locomotives" of investment projects

PRIORITIES
- Search for private companies – "locomotives" of investment projects both in Russia and abroad
- Active partnership with the leading companies and financial organizations from APAC countries

DEVELOPMENT OF ONLINE-SERVICE INFRASTRUCTURE
- Assisting government authorities in drafting amendments and modifications to law acts and government resolutions
- Aquatorium gridding and selection of available Farm sites
- Creation of e-service for Farm sites’ allocation
- Marketing of e-platform among Russian and international investors

FINANCIAL INSTRUMENTS
- Short-term financing for participation in auction against guarantees by major foreign and Russian banks and corporations with world-known reputation
- Co-financing of aquaculture projects
FARM SITES ALLOCATION – SIMPLE PROCESS

ESTABLISHMENT OF LEGAL ENTITY IN RUSSIA AND RECEIPT OF EDS
- Auction participant is to be registered in Russia
- Foreign or Russian investor can engage consultants if necessary

FARM SITE SELECTION, APPLICATION AND AUCTION
- Investor performs due diligence if necessary
- Farm site due diligence can be undertaken by investors themselves or external consultants

SIGNING A CONTRACT FOR FARM SITE USE
CONTACTS

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