

## II. THE ROLE OF THE CASPIAN SEA REGION FOR SUSTAINABLE DEVELOPMENT

### 2.1 SERVICE FOR NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION OF ASTRAKHAN REGION <sup>\*</sup>

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The Astrakhan region has a high natural resources, labor, investment, infrastructure and economic potential, which determines its development prospects.

In recent years, the growth rate of most economy sectors lead to an increase of anthropogenic impact on the environment.

In this regard, the national policy in the sphere of ecology and natural resources is aimed at creating conditions to ensure the constitutional rights of citizens to a favorable environment through the improvement of the environment status and sustainable use of natural resources.

Nowadays, the Government of the Astrakhan region has adopted and is implementing the Government Program "The Environment Protection in the Astrakhan Region" for the period 2015-2025 to ensure the human life safety, the sustainable use and protection of natural resources.

Under the above-mentioned Program there is a subprogram "Elimination of Environmental Damage Accumulated on the Territory of the Astrakhan Region", which envisages the integrated approach towards solution of the following tasks: rehabilitation of objects subjected to environmental damage from the economic activity; prevention of further

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<sup>\*</sup> Presentation at the opening of the event dedicated to the Caspian Sea Day celebration - "Tehran Convention and the Interaction of Stakeholders in Addressing Environmental Problems of the Caspian Sea", Astrakhan, 2015

accumulation of waste products, this also includes measures and mechanisms that will contribute to the improvement of microclimate of the territories subject to the negative impact of wastes, and prevention of the negative impact of undertaken economic activity.

In the context of the above sub-program two sites are a serious threat to the Northern Caspian sea biodiversity conservation in case of emergency. These are: an open oil slime pits in the water protection zone of the river Volga near the settlement of Ilyinka and Sokolovski pits on the Kizan river bank.

In the framework of activities on liquidation of oil slime pits near the settlement of Ilyinka the specialized enterprise CJSC "OCTOPUS" conducted test approbation of oil-contaminated soils neutralization technology under the agreement with the owner of the object.

The results showed a positive effect: after treatment of oil-contaminated soil with reagents the hazard class decreased from 2-3 (highly hazardous - moderately hazardous) to 5 (practically not dangerous). Protection measures were undertaken on that territory, activities to maintain the status of water protection barrier around the oil pits adjacent to the shoreline of the Volga river and partial withdrawal of material from the oil pits were carried out.

Under the activities on liquidation of Sokolovsky oil pits, the Astrakhan State University carried out research on "Assessment of Technologies for Oil Wastes Utilization to Conserve the North Caspian Sea Biodiversity in the Framework of Measures to Reduce Accumulated Environmental Damage in the Astrakhan Region". The research was carried out in 2014 with the financial support of UNDP/GEF and direct involvement of scientists and experts of CJSC "OCTOPUS", LLC "INZHGEALYANS", FSE "SevCasptechmordirectsiya", and FSBE "GTSAS "Astrakhan".

As a result of the conducted research, the actual oil pits status was examined, a degree of pollution impact on the environmental components was determined, the oil pits pollution impact on biodiversity (by the example of the benthos and the water, ground vegetation) was evaluated.

Elimination of the source of negative influence on aquatic and riparian biological resources will be conducted under the State program "The Environment Protection in the Astrakhan Region". The activities is to be co-funded from the Federal budget at the expense of the State

program of the Russian Federation "The Environment Protection in 2012-2020".

In the near future it is planned to construct a protective structure to prevent the oil pits negative impact on the water body during floods completely. We do hope that this site of accumulated environmental damage will be liquidated within 3 years with the support of Minprirody of Russia.

In the context of the global impact of human activities on the environment the conservation of the unique biological diversity plays an important role.

The creation of the natural park "Volga-Akhtuba Interfluvium" with an area of 195 thousand hectares was a significant achievement in this field. The natural park was established in 2013 with the support of the UNDP/GEF project "Conservation of Biodiversity of Wetlands in the Lower Volga Area", and its purpose was to conserve and restore natural systems and their components, as well as to maintain the ecological balance in the floodplain of the Volga river.

Since the creation of this natural park a lot of work has been carried out:

- the Park inspectors staff was formed;
- vehicles and boats with outboard motors were purchased to protect and patrol the territory;
- informational warning signs were made and installed;
- formalities, required for registration of the corresponding data in the state cadastre of real estate of zones with special management conditions in a nature park, are under completion;
- 53 sites have been defined for campings and are now being legalized in accordance with the current legislation;
- the equipment for garbage removal (excavator, trailer and press for garbage) was purchased with the aim to conserve the natural complexes taking into account recreation purposes;
- regular inspection trips take place to reveal violations in the Park (for reference: in the 1st half of 2015 more than 350 inspection trips were carried out, about 400 offences were revealed, including 62 with signs of a criminal offense).

According to the Park inspectors such activity has shown positive results: the number of individual tourists has decreased in 3 times.

A significant factor of the ecological balance of the Volga river delta is the purity of the river water. The quality status analysis showed that 90% of pollution in the area comes with the transit flow. Being aware of the responsibility for our share of pollution, we seek to minimize the population negative impact on water, soil, and atmosphere in the Astrakhan region. In this regard, an important condition for maintaining the ecological balance in the delta area is the ecological culture promotion.

In order to develop the system of ecological education and to form ecological culture in the Astrakhan region the following activity was carried out:

1. Organization of practical training for students from corresponding universities (profile universities).

2. Organization of regular discussions of ecologists with pupils and students of educational institutions, informative and educational trips on specially protected natural territories of the regional significance and on the territory of the state pilot hunting area "Astrakhan".

3. In order to elaborate concerted recommendations for optimal decision-making in the field of environment protection, the public ecological Council under the regional Service of Nature Management has been functioning since October 2009, and since June 2012 - the Council of young scientists and experts.

4. The State Report on the Environmental Status in the Astrakhan region is prepared and published annually to ensure information access to the environment status, as well as environmental awareness is raised through mass media on a regular basis.

5. The younger generation in the nature conservation activities is also on the agenda in the Astrakhan region.

For example, every year the region hosts a number of environmental and nature protection events aimed at improving ecological situation in the region and at attracting the attention of the region's residents, particularly children and young people, to the environmental problems.

The concept of the regional year-round ecological initiative "Clean Banks – Clean Rivers – Clean Sea" is aimed at protecting water resources and at forming careful attitude towards the nature. But the major bank clearing activity is carried out prior to flood. So, in this year spring the number of participants of this initiative exceeded 15 thousand people, about 800 hectares of the banks and floodplains were cleared, about 3 thousand cubic meters of debris was collected and transported to landfills.

After the spring flood, the banks cleaning was resumed under the nationwide campaign "Clean Sides of Our Rivers and Lakes" to clean small river-banks and water bodies. About 12 thousand participants of all-Russian event cleaned up over 450 hectares of water protection zones. About 1.5 thousand cubic meters of debris, most of which was of plastic origin was collected and transported to the authorized landfills of solid domestic waste.

Also, the Astrakhan population actively support other nationwide initiatives, such as the "Green Spring", "Blogger is Against Garbage", all-Russian ecological subbotnik (the voluntary activity on cleaning territories) "Green Russia", environmental festivals and competitions.

For example, in the framework of preparation for the celebration of the 70th anniversary of the Great Victory, the Astrakhan region joined the all-Russian project "Forest of the Victory". This year spring, the reforestation and afforestation activity resulted in planting forests on an area of over 63 hectares, of which 33 hectares were plantations in honor of the Victory anniversary. Additionally, about 80 thousand of willow trees were planted in the Volga river Delta.

Besides, on the eve of Children's Day and World Environment Day, the Astrakhan region hosted the First all-Russian Ecological Children Festival. Over 700 children and their parents attended the Festival regional events.

The Ecological Festival was preceded by other environmental educational events. For example, in early June, about 400 children together with the Governor of the Astrakhan region Mr. Alexander Zhilkin released more than 400 fish of rare sturgeon species, bred by the Astrakhan fish-breeding company, into the Volga river.

For seven years already, from July to October, the traditional environmental initiative "Baskunchak - the Lake of Clean Water" is carried out. Year by year the number of participants has been increasing,

and this time it has involved about 20 ecological groups from the Astrakhan region and other entities.

Thus, the set of the environmental events, which are held in the Astrakhan region, makes the real basis for conservation of the natural balance of the region unique ecological systems, and, as a consequence, the protection of the marine environment of the Caspian sea, conservation, restoration, sustainable and wise management of its biological resources.

## 2.2 PARTICIPATION OF THE REPUBLIC OF KALMYKIA IN ADDRESSING THE ENVIRONMENTAL PROBLEMS OF THE CASPIAN SEA<sup>†</sup>

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The Republic of Kalmykia together with the Republic of Daghestan and the Astrakhan region of the Russian Federation forms the Caspian region.

Environmental problems of the Republic of Kalmykia and other regions of the Russian Federation, connected with the Caspian Sea, have emerged in the process of complex development of the Sea and its resources. Today, the situation on the Caspian Sea coast within the territory of the Republic of Kalmykia is not much different from that which is observed in the Republic of Dagestan and the Astrakhan region.

The Republic is characterized by high environmental risks in terms of the Caspian Sea level fluctuations, and the long-term prognosis of these fluctuations is related to one of the priority directions of the international cooperation of the Russian Federation. The coastal area is facing land degradation processes, including anthropogenic desertification with 70%

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<sup>†</sup> Based on the presentation at the “Caspian Sea Day” celebration, Astrakhan, 2015

of the processes concentrating within the Republic of Kalmykia. The region susceptibility to desertification is due to the geological history of the territory formation.

Also, the following environmental problems are typical for Kalmykia: the reduction of the landscape and biological diversity, inadequate supply of the local population with drinking water, oil pollution due to the expansion of exploration and development of liquid hydrocarbons deposits in the Caspian region, the lack of up-to-date base for recycling, decontamination and disposal of production and consumption waste, the lack of adequate monitoring service for the Caspian sea Kalmykia coast.

The coast line of the Caspian Sea within the territory of the Republic of Kalmykia is located inside one administrative unit - the Lagan area. The length of the Sea coast, adjacent to the area, is 130 km. The area is most important for the economic development of the Republic of Kalmykia as a whole, ensuring its geopolitical interests in the Caspian Sea region. Therefore, the whole Republic is interested in the rational use of the Caspian Sea natural resources.

In order to solve its environmental problems Kalmykia has been for several years involved in the preparation of a wide variety of documents which are effective mechanisms of the Caspian Environment Program (CEP) and the Tehran Convention.

The initial phase of the CEP (1998-2003) was associated with the creation of the necessary mechanisms of cooperation, as well as with the performance of Transboundary Diagnostic Analysis (TDA), the development of the Regional Strategic Action Plan (SAP) and National Caspian Action Plans (NCAP), the identification of possible investment projects and the preparation of a number of pilot projects. The activity of the CEP national experts was carried out through the Caspian regional thematic centers established in each of the Caspian littoral countries.

Since 1998, the Republic of Kalmykia has actively cooperated with the Caspian Regional Thematic Center (CRTC) in the framework of the Caspian Environment Program (CEP). Together with the CRTC for legal/regulatory and economic mechanisms (CRTC PREM) the Republic has elaborated the following proposals, related to approaches and experience of cooperation with UNEP and other international organizations in addressing the problems of the Caspian Sea aquatic

ecosystem management, on the current system and the Caspian Sea management problems in the Republic.

In cooperation with the CRTC for combating desertification, a research project to assess the socio-economic consequences of desertification for the Russian coast of the Caspian Sea was conducted. Within the framework of cooperation with the CRTC for biodiversity there were identified risk factors that impact the biological and landscape diversity on the territory of Kalmykia, including the coast of the Caspian Sea.

The problems of the Kalmykia area of the Caspian Sea were included into the National Caspian Action Plan of the Russian Federation (RF NCAP, 2003) within the framework of the CEP. In 2004 the implementation of the next CEP phase was launched. It envisaged the support for implementation of the SAP/NCAP CEP and of the provisions of the Tehran Convention. Kalmykia took part in that activity.

The Republic of Kalmykia participated in the development of the “Strategy for Civil Society Engagement in the Caspian Sea Marine Environment or Public Participation Strategy (PPS)” in the framework of the CEP and the Interim Secretariat of the Tehran Convention for the Protection of the Marine Environment of the Caspian Sea.

In 2004-2006 the Republic of Kalmykia was actively involved in the Small Grants Program of project “Sustainable Development of the Caspian Communities”, within the CEP. The Program was implemented in four Caspian countries: Azerbaijan, Kazakhstan, Turkmenistan and Russia.

The Small Grants Program was realized in the Lagan area - the only one in Kalmykia, which is directly connected with the Caspian Sea. The Small Grants Program supported 8 projects, of which 5 are aimed at creating jobs in the field of grazing, plant growing and production of construction materials; 2 projects - to improve the environmental situation in the Lagan sea channel, and 1 – to educate the local population in the field of ecology.

On a permanent basis the Republic of Kalmykia is constantly involved in negotiations on the Caspian Sea issues at all levels: local, national and regional. All three levels representation was necessary to reach the final goal: concentration of efforts of the government agencies,



the private sector and the public to address the major environmental problems in the region.

The Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention), which entered into force in August 2006, is an international legal basis for the regional cooperation in the Caspian Sea. The effectiveness of the Tehran convention is largely dependent on an integrated approach involving all stakeholders, and not only in respect of the Caspian Sea, but also in relation to the entire territory of the Caspian region. The Caspian Sea common environmental problems require the cooperation of the Republic of Kalmykia for their solution not only with the constituent entities of the Russian Federation, but also with the states of the Caspian Sea region.

A special attention in the international activities of the Republic is paid to the long-term cooperation of the Kalmykia State University (KalmSU) with various universities on problems of the Caspian region complex research. The Kalmyk State University together with the Astrakhan State Technical University, the Dagestan State University, the Azerbaijan State Technical University, the Gorgan University of Agricultural Sciences and Natural Resources, the Gilan and the Mazandaran Universities of the Islamic Republic of Iran, the Turkmen State University, the Aktau State University and the Atyrau Institute of Oil and Gas of the Republic of Kazakhstan was a founder of the Association as an open non-governmental non-political public association of universities and research organizations of the Caspian Sea basin states.

The main directions in the Association activities, created in 1996, are: the study of the Caspian Sea ecology in the context of the natural and anthropogenic impact factors, the improvement of the technology of artificial reproduction of the Caspian Sea sturgeons, the development of methods for reclamation of aquatoria and areas contaminated by oil products, the legal aspects of the environment protection in the Caspian states, and the study of the history of the Caspian region peoples.

Currently, Kalmykia State University is an active member of the International Association of State Universities of the Caspian countries, which unites more than 50 universities and research institutes from Russia (Kalmykia, the Astrakhan region, Dagestan), Kazakhstan, Turkmenistan, Azerbaijan and Iran (Gilan, Gorgan, Mazandaran provinces).

For the Association it is particularly important to involve young people and students into the solution of the Caspian Sea problems, their unification on the basis of the objectives and humane principles set forth by the Association. In this connection, it was decided to carry out the Caspian International Student University Games and International festivals of national arts every two years in the framework of the Association.

It is well-known, that one of the most effective mechanisms to involve local population in the Caspian Sea environment protection is the annual holding the “Caspian Sea Day”, aimed to mark the entry the Tehran Convention into force on August 12, 2006. The Republic conducts a variety of events, dedicated to the Caspian Sea and the coastal areas. However, assistance and support of the executive authorities of the Republic of Kalmykia at conducting such events are needed. And the Caspian public forum requires support on a regular basis.

Nowadays, in the Republic the common interest of the local population and various departments/organizations in the conservation of the Caspian Sea ecosystem and restoration of its degraded elements is obvious: it appeals for the effective Caspian Sea environment management. Kalmykia is interested in improving the mechanism for achieving environmental goals, as it is associated with great economic and social value of the Caspian Sea natural environment status.

## 2.3 ON MEASURES UNDERTAKEN IN KAZAKHSTAN FOR PROTECTION OF THE CASPIAN SEA MARINE ENVIRONMENT<sup>‡</sup>

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The Caspian Sea part of Kazakhstan includes the Atyrau and Mangistau regions. This area is of great significance for the country, as the main hydrocarbons reserves are concentrated on its territory, and here is the only sea port of Kazakhstan. The national large-scale development plans depend greatly upon the economic potential of this very area.

In the last few decades the Caspian region of Kazakhstan, and also the Caspian Sea in general, have been influenced by the serious anthropogenic impact, resulted in the marine environment pollution and significant reduction of the Sea biological resources.

The Government of Kazakhstan pays much attention to the Caspian Sea marine environment protection and the rational use of its natural resources. Measures for the Caspian Sea environment protection have been included into several policy documents of the Government, namely: the Strategic Development Plan of Kazakhstan up to 2020, approved by the President of Kazakhstan in his Decree of February 1, 2010, N 922; the Concept on Transition of the Republic of Kazakhstan to “Green Economy”, approved by the Decree of the President of Kazakhstan dated May 30, 2013, N 577, etc.

Significant efforts to protect the marine environment of the Caspian Sea are also undertaken at the legislative level. For example, the Ecological Code of the Republic of Kazakhstan contains a special chapter (articles 256-269), which is entirely devoted to the environmental requirements at implementing economic and other activities within the state protected area in the northern part of the Caspian Sea.

Taking into account the extensive exploration of hydrocarbon resources of the Caspian Sea, special attention is given to the elaboration of measures to enhance preparedness and timely response to oil spills in the Sea at performing the environment protection activities.

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<sup>‡</sup> Based on the presentation at the “Caspian Sea Day” celebration, Astrakhan, 2015

To this end, Kazakhstan has created the National System for Prevention and Response to Accidental Oil Spills, which includes the National Plan for the Prevention of Oil Spills and Response at the Sea and Inland Waters of the Republic of Kazakhstan. The new edition of this National Plan was approved by the Order of the Minister of Energy of the Republic of Kazakhstan dated February 23, 2015, N 134 and registered in the Ministry of Justice of the Republic of Kazakhstan on April 30, 2015, N 10908. The Plan envisages also the development of the regional (at the level of areas) plans on prevention and liquidation of oil spills.

In compliance with the National Plan, subsoil users are obliged to develop enterprise plans for the prevention and liquidation of oil spills at the Sea with inclusion of a number of relevant activities into such plans. For example, in order to improve preparedness for oil spills at the Sea, NCOC (North Caspian Operating Company) has created the North-Caspian ecological base of response to oil spills (oil spills response base), located 3.6 km to the South of the Dam village in the river Ural Delta.

The main function of the Oil spill response base is emergency response to oil spills at commercial developing and exploitation of the Kashagan field and other oil and gas deposits in the northern part of the Kazakhstan sector of the Caspian Sea.

From this Oil spill response base, vessels and barges which are equipped with special technical means for directing, localizing and collecting oil spills from the surface of the water are to be dispatched. The equipment includes oil booms, devices for collection of oil (skimmers), power blocks, pumps and other equipment for localization, collection, dispersal and utilization of spills.

In the field of the oil spills preparedness, the corresponding training is also conducted. For example, in 2013 in the Atyrau region, the desk-top training “Kashagan-2013” was held on the basis of the NCOC Company; therewith the international organization Oil Spill Response Limited, which specializes in the liquidation of oil spills of the third level, was involved in the event.

During that training the participants perfected interaction between the governmental authorities and NCOC in compliance with the National plan on Prevention of Oil Spills and Response at the Sea and Inland Waters of the Republic of Kazakhstan, associated with a simplified procedure of visa processing for foreign experts and of the customs

formalities for equipment, which had arrived from Southampton on board the Antonov-12 aircraft without the payment of duties and taxes and without applying the non-tariff regulation measures. That practical training of the participants showed a sufficient level of training and also the knowledge of the provisions of the National plan, regional (interregional) plans and plans of organizations for oil spill response.

Much attention of the ship owners is also paid to the improvement of preparedness to oil spills at the Sea. They, in accordance with the existing regulations, ensure the availability of a ship's emergency plan for combating oil pollution on board of every oil tanker of 150 gross tons or more, and every vessel, which is not an oil tanker with 400 gross tons or more.

Besides, in the framework of the implementation of the Law “On the State Control and Supervision in the Republic of Kazakhstan” dated August 5, 2009, as well as other legal acts, which establish requirements in the field of industrial safety, the monitoring activity on the industrial safety at conducting oil operations in the Kazakhstan sector of the Caspian sea is carried out. Following the provisions of the Republic of Kazakhstan laws “About Civil Protection” and “On the Subsoil and the Subsoil Management”, the following measures are undertaken: the control over regular training in liquidation of emergency oil spills, the monitoring of implementation by subsoil users of the legislation requirements in terms of the availability at an offshore facility or within thirty-minute distance from the corresponding equipment/materials/substances sufficient for carrying out the works on cleaning the Sea, as well as the control over availability of the approved plans for prevention and liquidation of oil spills at the Sea.

As the landscape of the Kazakhstan coastal zone of the Caspian Sea is mostly shallow, large areas of the coast are flooded by the Sea water when the winds, blowing from the Sea, are strong and prolonged. To shield the population and the Sea coastal zone, many areas of the coastal zone are protected by kilometers of dams. This is especially true for Atyrau region and the northern part of Mangistau region.

Oil companies carefully monitor the dams' condition in order to prevent the ingress of oil into the waters of the Sea from the coastal territory.

For example, JSC “Embamunaigas”, the oil fields of which are located on the coast of the Caspian Sea, strengthens its dams by multistage

metal structures with a special filler material to prevent the ingress of oil into the Sea. These structures protect coastline from landslides, creating the so-called “Reno matrix”. Thus, the dam has been reinforced by the “Reno matrices” to a length of 5.4 km in the area of the Teren-Uzek and Zapadnaya Prorva deposits of the “Zhylyoimunaigas” oil-and-gas production department in the Atyrau region.

Also, the Company systematically monitors the status of the protective dam with a periodicity of twice a year, and, at detecting defects, undertakes timely measures on their elimination.

The dams serve not only as protective structures, but, as a rule, highways are paved on their crests.

Kazakhstan pays much attention to the conservation of biological diversity of the Caspian Sea. To this end, “Comprehensive Marine Researches to Assess the Status of the Biological Resources of the Kazakhstan Part of the Caspian Sea” are conducted annually at the expense of the budget. Based on the results of the researches, the status of the Sea biological resources is assessed and, depending on their status, the following recommendations are made on: allowable volume of the resources taking out, measures aimed at the biological resources conservation (fishing duration, area and means), or limitation of the use of the resources and creation of favorable conditions for their restoration.

In 2015, the Ministry of Agriculture of the Republic of Kazakhstan allocated funding also for the study of the number dynamics and integrated assessment of threats to populations of the Caspian seal in the framework of the budget program “Applied Researches in the Field of Fisheries to Conserve Biodiversity and to Restore Fishery Resources and Other Aquatic Organisms in Water Bodies of International and Republican Importance in the Republic of Kazakhstan”.

Under the State contract, the activities of the Atyrau and Ural-Atyrau sturgeon hatcheries that breed and release 7 million juvenile sturgeons into the natural habitat, is supported. In pursuance of the instruction of the President of Kazakhstan N. A. Nazarbayev, the activity on the reconstruction of these hatcheries is carried out in order to increase their capacity up to 12 million juvenile fishes per year.

On the permanent basis, the activity on prevention, detection and suppression of illegal fishing is conducted. Special attention is paid to the protection of the sturgeon species in the Ural-Caspian basin. The regional

fisheries inspectorates conduct fish protection daily raids, organize joint posts, and reveal violations of the environment protection legislation in cooperation with the law enforcement and environmental agencies.

In order to combat poaching, a large-scale fish protection action “Bekire-2015” was conducted during the spawning period of the sturgeons and other fish species from April 1 to May 31, 2015, in the water objects of the Ural-Caspian basin. in conjunction with the law enforcement and environmental agencies.

It is important to note that the Republic of Kazakhstan has not undertaken commercial fishing of the sturgeon species since 2010. Therewith, a ban was introduced at the legislative level in 2012.

In order to maintain favorable conditions for the fish passage to the natural spawning places, Kazakhstan has carried out the dredging of the fish pass canals in the Ural and Kigach rivers at the expense of the budget funds.

Besides, in 2015, researches on the conservation of natural spawning grounds of the sturgeon species, funded from the national budget, were launched. Under these researches, in 2015-2017, a comprehensive survey of the spawning grounds of the sturgeon of the Ural River and the development of a new Atlas of the spawning grounds of the sturgeon with the use of GIS technology are to be carried out.

Taking into account the unique biological diversity of the region, and in compliance with the resolution of the Government of the Republic of Kazakhstan of February 6, 2009, N 119, the State nature reserve “Akzhaiyk” was created in the Delta of the Ural River. The total area of the reserve is 111 500 hectares, including a “reserved regime zone” (the core area), which reaches 36 077 hectares, and the buffer zone with 75 423 hectares. Given the fact that the decree of Akim of the Atyrau region dated April 8, 2011, N 108, the “protected zone” of 29 346 hectares was established, thus the total area of the reserve is 140 800 hectares. In 2009 the nature reserve “Akzhaiyk” was put on the Ramsar List under the international Ramsar Convention (The Convention on Wetlands of International Importance, especially as Waterfowl Habitat).

There are other protected areas of the national importance within the territory of the Atyrau region, in addition to the reserve “Akzhaiyk”. They are: the state reserve zone in the northern part of the Caspian Sea with an area of 700 000 hectares and Novinsky state nature (zoological)

reserve with an area of 45 000 hectares, located in the coastal zone of the Caspian Sea on the territory of the Kurmangazy district.

In the Kazakhstan part of the Caspian Sea and its coastal zone, protected areas are created both at the Republican and at the regional level.

For example, at the expense of the regional budget there was elaborated “The Scheme of Location and Development of Specially Protected Natural Territories of the Atyrau Region”. In accordance with the Scheme, the natural-scientific substantiations for the creation of “Balbulaksky” and “Tcshagylsky” state complex-natural protected areas of the local importance were prepared. According to the same Scheme, “Indersky Nature Park” is to be created on the territory of the Indersky district of the Atyrau region. This will allow expanding the area of the protected territories of the region up to 10%.

In the Mangistau region there are also several specially protected natural territories. For example, the State natural reserve of the local importance “Adamtas”, which was created by the Resolution of Akimat (the regional executive authority) of Mangistau region dated December 24, 2013, N 359. The width of the Reserve water strip is 100 m, and the length of the coastline along the Caspian Sea is 154.6 km, the water surface area of the protected territory is 1546 hectares. Thus, the area of the State nature reserve of the local importance is to be 68 374.3 hectares.

The State complex natural reserve of the local importance “Manashi” was created by the Resolution of Akimat of the Mangistau region dated February 27, 2015, N53. The territory of the reserve “Manashi” is administratively located in the Beineu and Mangistau districts of the Mangistau region 30 km southwest of the settlement of Beyneu and 4 km north-west of the Sai-Utes settlement. The project area includes the northern part of the western cliff of the Ustyurt plateau, stretching along the western and south-western coast of the Olikoltyk and Kaidak saline basins in the Komsomolets Gulf of the Caspian Sea. The area of the reserve “Manashi” is 228 028.2 hectares.

Intensification of desertification processes is a serious problem in the Kazakhstan sector of the Caspian Sea. This problem is typical for both Atyrau and Mangistau regions.

A project on the study of the dust drifts processes in settlements, including the development of a comprehensive scheme to reduce the



negative impact on them, has been elaborated and concerted in order to solve the above-mentioned problem in the Atyrau region at the expense of the region budget. Based on the above scheme, since 2012 and later, since 2014, the sand protective activity has been carried out in the settlement of Zineden and in the settlement of Isatai (Isatai district) correspondingly. Such activity is being conducted now as well. This year, similar work has been launched in the village of Managen (Zhylyuoi district).

Measures to combat the drift sands are undertaken in the Mangystau region at the expense of the regional budget. This problem is especially pressing for the Senecs, Ushtagan and Tushykudyk settlements.

The activity on the vegetation cover restoration in degraded sandy territories near these settlements has been conducted annually on an area of over 200 hectares since 2004. To combat drift sands in the region there have been created a specialized enterprise “Asylum” in compliance with the decision of the Akimat of the Mangystau region dated July 9, 2008, N513.

The private sector is also involved in the activity on combating desertification. For example, in 2014 the joint venture “Tengizchevroil” (TCO) successfully continued its activity on landscaping of the Zhylyuoi district (Atyrau region): two parks in Kulsary town were created, and also more than 2 thousand seedlings in the villages of Zhana Karaton and Koschagyl were planted.

In the Caspian regions of Kazakhstan, water protection zones along the coast of the Caspian Sea were established in accordance with the corresponding resolutions of the regional maslihats (local representative bodies).

In Kazakhstan, much attention is paid to the issues of public participation in solving the existing environmental problems. In the Republic there are 14 Aarhus centers. In the Caspian region of Kazakhstan the Zhayik-Caspian Aarhus center was established in Atyrau city on September 21, 2009. The Center was created on the basis of the Memorandum signed by the Ministry of the Environment Protection of Kazakhstan, Akimat of the Atyrau region, the OSCE Centre in Astana and EcoForum of NGOs of Kazakhstan. The purpose of the Center is to facilitate addressing the environmental issues in the Ural-Caspian basin.

However, despite the fact that Kazakhstan undertakes a set of measures for the protection of the marine environment of the Caspian Sea,

there is still much to be done in order to significantly improve its ecological status, to restore the diversity and the number of the biological resources, especially the sturgeon species. In particular, the following measures are to be undertaken:

- To determine the ecological capacity of the Caspian Sea;
- To set the maximum allowable load on the marine biological resources with account of the navigation intensity;
- To organize a safety system for the oil tankers traffic;
- To prohibit burning of fluids in flares, including at oil wells testing;
- To establish the Public Council for the protection and sustainable development of the Caspian Sea, bringing together the government, business and civil society to strengthen the public control over oil operations at the Sea;
- To elaborate the legislation on a mechanism of insurance and compensation to the population and the environment in case of emergency accidents, caused by the activities of companies engaged in oil operations at the Sea;
- To develop a method for calculating the pollutants dispersion in the atmosphere for the emission sources at the Sea;
- To create a maritime emergency rescue team to conduct rescue operations at the Sea and oil spills response;
- To create an integrated centre for assessment and forecast of the Caspian Sea marine environment status.

## 2.4 "KASPEKOKONTROL" - ACTIVITIES OF THE SERVICE IN THE PRESERVATION OF THE ENVIRONMENTALLY CLEAN CASPIAN SEA<sup>§</sup>

***Batyr Amanov.***

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Would like to say a few words about activities under the “Caspecocontrol” Service which I represent.

In compliance with the Constitution of Turkmenistan a harmonious system of environmental legislation has been created to maintain ecological safety of the country. The system’s main objective is to ensure the legal support for the environmental policy of President of Turkmenistan Gurbanguly Berdymuhamedov, which is aimed at the environment protection, natural resources rational management and improvement of the ecological situation.

It should be noted the increased attention of our government aimed at protecting the coastal zone of the Caspian Sea and related environmental legislation. Turkmenistan, one of the first among the Caspian states, to ratify the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention), thereby expressed its commitment to addressing environmental issues related to biodiversity conservation, preventing the sea from oil spills and controlling land-based sources of pollution having signed and ratified to date three relevant protocols to the Tehran Convention.

The Caspian Environmental Service “Caspecocontrol” is a separate Department of the State Committee of Turkmenistan on environment protection and land resources, which performs the state control over the protection and rational use of water and land resources, atmospheric air protection by all enterprises and organizations, located in the two-kilometer coastal zone measured from the Caspian Sea water line. Also, the mentioned Service carries out control over sea vessels, entering the territorial waters and ports of Turkmenistan and other vessels engaged in the development and production of hydrocarbons in the Turkmen sector of the Caspian Sea.

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<sup>§</sup> Based on the presentation at the “Caspian Sea Day” celebration, Astrakhan, 2015

At present, under the conditions of the large-scale extraction of the Caspian Sea hydrocarbon resources, it is extremely important to ensure the environmental safety of the Turkmen sector of the Caspian Sea and adjacent coastal areas. In this regard, our Service activity is focused on the control of observance of the water resources protection regulations by enterprises and organizations, based on the requirements of the environmental legislation, the Water Code of Turkmenistan and other interstate legal acts.

One of the major functions of the Service “Caspecocontrol” is to perform the state environmental monitoring. In order to carry out monitoring observations the Service has a specialized “Laboratory for the environmental monitoring” (the atmospheric air analysis), and “Hydrobiochemical laboratory for water and bottom sediments studying”.

Still one of our important tasks is to create an environmentally conscious society. To this end, our colleagues hold meetings with participation of representatives of companies and organizations involved in any activity in the sea and coastal areas, as well as conduct workshops at educational institutions to discuss issues related to the marine environment protection. And it certainly has given significant results at maintaining the Caspian Sea status as ecologically clean object.

## 2.5 THE TEHRAN CONVENTION AND MECHANISMS OF INTERACTION OF THE PUBLIC AND OTHER STAKEHOLDERS IN ADDRESSING ENVIRONMENTAL PROBLEMS OF THE CASPIAN SEA IN THE REPUBLIC OF DAGESTAN\*\*

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Despite the economic difficulties and conflicting priorities, which administrations of the federal and regional levels are facing now, local scientific researchers and active non-governmental organizations (NGOs) have demonstrated their ongoing support to the solution of the Caspian Sea and coastal ecosystems problems.

First of all, such active interaction at dealing with the biodiversity conservation issues in the region is demonstrated by the public and non-governmental educational and research institutions, namely: the State Institute of Applied Ecology of the Republic of Dagestan, Dagestan Scientific Centre for the Caspian Sea Research under the Dagestan State University, Caspian Institute of Biological Resources of the Dagestan Scientific Center under the Russian Academy of Sciences, Mountain Botanical Garden of the Dagestan Scientific Center under the Russian Academy of Sciences, the Republican Ecological and Biological Centre for Pupils, the Dagestan State Pedagogical University, the State Nature Reserve "Dagestansky".

As a result of such collaboration the international and regional scientific and practical conferences, round tables and school workshops are organized and carried out in the Republic.

An example of the most successful cooperation of the management authorities and scientific institutions is the preparation and publication of articles for the Red Data Book of the Republic of Dagestan, supervised by the Ministry of Ecology and Natural Resources of the Republic of Dagestan.

The analysis of threats and reasons that hinder sustainable conservation of biodiversity has revealed the following problems:

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\*\* Based on the presentation at the "Caspian Sea Day" celebration, Astrakhan, 2015

- Illegal destruction of wildlife;
- The use of natural resources and survey activity in the adjacent watersheds area;
- The uncontrolled access to protected areas, causing, as a result, adverse impacts (destruction of vegetation cover, trampling, erosion, fire hazard, etc.);
- The pollution of water and land both by local residents and visitors;
- The general degradation and disturbance of wildlife populations.

These threatening factors are caused by the following main reasons:

- The legislation deficiencies;
- Deficiencies in the management of protected areas;
- Inadequate understanding of the value and importance of biodiversity;
- The lack of necessary data to establish norms and means of the use of natural resources that would serve as a basis for decision making at planning and developing regulations;
- The lack of monitoring of activities and changes taking place in biological communities/ecosystems;
- The lack of management plans for the use and methods of the natural resources extraction;
- The lack of support for protected areas by local population.

Special measures are needed to involve the community into the process of the protected areas management, even if, at first, it could be just participation in solving common problems such as the protected areas development and maintenance or control of tourist activities. Moreover, it is necessary to establish the relationship between the improvement of living standards and the protection of biodiversity through the use of more focused and measurable set of indicators in comparison with these existing at present.

## 2.6 ACTIVITY OF “SABZKARAN” IN THE FIELD OF ECOLOGICAL EDUCATION

**Mirzaei Helaleh Nateghe**  
*Sabzkaran Balaln Institute*  
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Most of the Guilan NGOs activities are focused on education, cleaning the beaches, holding the educational and awareness increasing workshops, implementing the Cooperative institutions and empowering the women.

Sabzkaran is as one of the pioneer NGOs in education area using the facilitators, which during the years became skillful in design and construct of the giant educational assistant tools for children and adults. Within all these 10 years, we put the center of our attention on education and promotion along with increasing the overall awareness. We are willing to get an opportunity to share our experience with other active NGOs.

Sabzkaran has launched its work in 2000. Since 2005, we planned and systemized our projects based on fundamental role of education. Within last 10 years, all the programs defined for the “Caspian Sea Day” had the rout in education and increasing the awareness. However, we are only one of the dozen of the NGOs who has a hope that the virtual network finally come to exist and all the programs designed for the “Caspian Sea Day” become coherent. But, until now, such a network never formed.

Within all the years, we have always tried to emphasize on the effect of the nearby ecosystems on the Caspian Sea and this was the main reason we have chosen wetland, jungle and waste as 3 main area of our work.

This year, Sabzkaran, tried to show the effect of urban and rural life on the ecosystem of the Sea. In this project, people will recognize the

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<sup>††</sup> Based on the presentation at the “Caspian Sea Day” celebration, Astrakhan, 2015

interaction between people, sea, wetland, city and village in the path they are walking with the facilitator.

The main aim of this project is increasing the awareness of people about their important effect on the Caspian Sea and recognizing their important role in decreasing the environmental pollution of the Caspian Sea.

The Association of Anzali Development Advocates uses all chances for making aware, informing and instructing the matter. During the last year, the Association of Anzali Development Advocates has tried to support the capacities of Caspian Sea and magnify its significant by the following efforts:

- The instruction of children and adolescents
- Holding the special festival of “Caspian Sea Day” and other environmental festivals
- Continuous participation in the cleaning project of Green-Road – Clean-Shore
- Making some artists accompany with holding the festival of Story-Writing about Caspian Sea
- Making notes and interviewing about the importance of this sea and the protection of its resources
- To assist all of those who prevent the destructive projects throughout this area, such as damming, that indirectly destroys the ecosystem of Caspian Sea

Distribution of cloth-bags in the religious ceremony of 'Ashura

About 7 million people live in southern border of Caspian Sea. If everybody takes a very small action worth of only one hour a week, at the end of each month 28 million hours of work will be done on Caspian Sea which will definitely result in decreasing the pollution. So, the role of education and increasing the awareness in local people is not ignorable.

Guilan hopes that, the next year, all the NGOs of Caspian borders, in collaboration with each other, in a consistent action, perform an educational- informative plan.