



On approval of the Rules for developing an environmental sensitivity map and making a decision to determine the sensitivity index for oil spill response at sea, inland waters and in the protective zone of the Republic of Kazakhstan

Unofficial translation

Order of the Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan dated June 24, 2021 No. 210. Registered in the Ministry of Justice of the Republic of Kazakhstan on July 1, 2021 No. 23246

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In accordance with subparagraph 1) of paragraph 12 of Article 398 of the Environmental Code of the Republic of Kazakhstan, **I HEREBY ORDER:**

1. To approve the attached Rules for developing an environmental sensitivity map and making a decision to determine the sensitivity index for oil spill response at sea, inland waters and in the protection zone of the Republic of Kazakhstan.

2. The Committee for Environmental Regulation and Control of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan in the manner prescribed by law to ensure:

1) state registration of this order in the Ministry of Justice of the Republic of Kazakhstan;

2) placement of this order on the Internet resource of the Ministry of Ecology, Geology and Natural Resources of the Republic;

3) within ten working days after the state registration of this order in the Ministry of Justice of the Republic of Kazakhstan, submission of information to the Legal Service Department of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan on the execution of the measures provided for in subparagraphs 1) and 2) of this paragraph.

3. Control over the execution of this order is assigned to the supervising vice minister of ecology, geology and natural resources of the Republic of Kazakhstan.

4. This order comes into force on July 1, 2021 and is subject to official publication.

*Vice-minister of ecology,
geology and natural resources of the
Republic of Kazakhstan*

S. Brekeshev

"AGREED"

Ministry of industry and infrastructure development of the
Republic of Kazakhstan

"AGREED"

Ministry of energy of the
Republic of Kazakhstan

"AGREED"

Ministry of emergency situations of the
Republic of Kazakhstan

Approved
by the order of the Vice-Minister
of ecology, geology and natural resources
of the Republic of Kazakhstan
dated June 24, 2021 № 210

Rules

for developing an environmental sensitivity map and making a decision to determine the sensitivity index for oil spill response at sea, inland waters and in the protective zone of the Republic of Kazakhstan

Chapter 1. General provisions

1. These Rules for developing an environmental sensitivity map and making a decision to determine the sensitivity index for oil spill response at sea, inland waters and in the protective zone of the Republic of Kazakhstan (hereinafter referred to as the Rules) are developed in accordance with paragraph 12 of Article 398 of the Environmental Code of the Republic of Kazakhstan (hereinafter referred to as the Code) and regulate the procedure for developing an environmental sensitivity map, making a decision on identifying objects and resources that require protection with determining the priority of protection (assigning a sensitivity index) at sea, inland waters and the protective zone of the Republic of Kazakhstan.

2. These Rules apply to facilities that bear the risk of oil spills, as well as organizations that have resources for oil spill response, authorized bodies and local executive bodies involved in oil spill response at sea, inland waters and the protective zone of the Republic of Kazakhstan.

3. Sensitivity maps assist in the development of a response strategy when developing oil spill response plans, identify the most sensitive sites or resources, assist in prioritizing protection and clean-up.

4. These maps are used for oil spill preparedness and during response operations.

5. The following terms and definitions are used in these Rules:

1) an environmental sensitivity map for oil spill response at sea, inland waters and in the protective zone of the Republic of Kazakhstan is a tool that allows you to quickly make strategic decisions, identify areas and resources, priority protection, assess the possible consequences of a spill, and also determine possible oil spill response methods.

2) Strategy map - a type of sensitive map that defines the overall strategy and priorities, contains strategic information.

3) Tactical map - a type of sensitive map that defines incident management tactics and contains detailed information indicating sensitive, operational and logistical resources.

4) Operational map - a type of sensitive map containing information related to a particular area, as well as operational and logistical resources of the area and oil spill response measures in the area.

5) Sensitivity index is the definition and ranking of the sensitivity of different types of coast (as well as riverine or lake ecosystems) in the range from 1 (low sensitivity) to 10 (very high sensitivity), characterizing:

type of coastline (grain size, slope), which determines the ability of oil to penetrate the coast and / or deepen into the soil on the coast, as well as its movement;

protection from the effects of waves (and tidal energy), which determines the time of natural settling of oil on the coastline;

overall biological productivity and sensitivity.

6) Selection of priority areas for protection - determination and ranking of the sensitivity of ecosystems, habitats, biological species and key natural resources, as well as socio-economic objects.

7) Bathymetry - the study of the relief of the underwater part of water basins.

Chapter 2. Procedure for developing an environmental sensitivity map and making a decision to determine

the sensitivity index for oil spill response at sea, inland waters and in the protective zone of the Republic of Kazakhstan

6. Formation and development of the map, as well as indexation of sensitive areas to oil spills will be carried out after the approval of these Rules.

7. The tactical and strategic map is approved by the authorized body in the field of environmental protection in agreement with the authorized bodies in the field of protection, reproduction and use of the animal world, the use and protection of the water fund, water supply, sanitation, in the field of sanitary and epidemiological welfare of the population.

8. The authorized body in the field of environmental protection determines the organization for the creation of a sensitivity map.

9. Maintaining and updating the sensitivity map is carried out by the Republican State Enterprise on the basis of the right of economic management "Information and Analytical Center for Environmental Protection" (hereinafter referred to as the Information and Analytical Center).

10. To develop and generate a map, the authorized body in the field of environmental protection requests from oil companies (objects that carry the risk of an oil spill) available data on resources, weather conditions, support programs with resource maps, information on the following state cadastres: specially protected natural areas from the authorized state body in the field of specially protected natural areas, animal world - the authorized state body in the

field of protection, reproduction and use of the animal world, water cadastre - the use and protection of the water fund, for the study of subsoil. The information required for the development of the map is specified in Appendix 1 to these Rules.

11. All information is collected in the Information and Analytical Center.

12. The authorized state body in the field of environmental protection creates an expert group consisting of interested authorized state bodies in the field of environmental protection, wildlife, forest fund, water, Kazhydromet, in the field of civil protection, local executive bodies, oil companies, research institutes and independent consultants.

The expert group has the following powers:

- 1) assessment of available information on resources, objects and coast;
- 2) determines the zones or areas of the coast and resources that need to be studied and additional collection of information;
- 3) defines geographic boundaries: border with the Russian Federation - Tupkaragan Bay, coastline + 5 kilometers by land + 5 kilometers by sea + areas at risk of flooding, abandoned wells, shallow water and offshore area (minimal information);
- 4) determines the procedure for carrying out field work and mapping work, personnel and resources (together with oil companies, if their contract area falls within the territory of field work);
- 5) determines the type of map for development and formation;
- 6) financing is carried out as a joint project with oil companies that have a contract area falling within the resource study and mapping zone;
- 7) selection of priority areas for protection, as well as assignment of a coastal sensitivity index for drawing on a strategic map.

13. Types of maps differ by the scale of the spill and depending on the user: operational, tactical and strategic. The information that is displayed in the sections for the required type of maps is specified in Appendix 2 to these Rules.

14. The process of developing maps consists of several stages:

- 1) collection of initial data in accordance with the annex to these rules;
- 2) preparation of tactical maps;
- 3) selection of priority defense areas from those indicated in tactical maps, as well as assignment of a coastal sensitivity index;
- 4) preparation of strategic maps indicating priority areas for protection and coastal sensitivity index;
- 5) development of facility plans to ensure preparedness and actions to eliminate oil spills at sea, inland waters and in the protective zone, developed by the owners of facilities that bear the risk of an oil spill, taking into account specific sensitive environmental and socio-economic objects;
- 6) preparation of operational maps.

15. The authorized body in the field of environmental protection, together with the objects bearing the risk of oil spills, except for ships, work together to develop tactical maps.

1) facilities that carry the risk of an oil spill at sea, the contract area or structures of which are located in the Kazakhstani part of the Caspian Sea or in the coastal zone of the Caspian Sea, provide the available information and data that are necessary for the formation of a tactical map to the authorized body. If the expert commission, based on the received and available data, considers that it is necessary to collect new or update old ones, then such objects carry out field work to collect new or update old data and information with the participation of the authorized body and other organizations, which will be determined by the expert group;

2) in the Kazakhstani part of the Caspian Sea, where there is no allocation of contract areas, field work to collect new or update old data and information is carried out by the authorized body with the participation of interested authorized bodies and organizations, which will be determined by the expert group. The need for field work is determined by the expert commission after studying the available data.

16. After developing a tactical map and identifying the most sensitive environmental and socio-economic objects and coastal types, the identified areas are prioritized and a coastal sensitivity index is assigned. This information is plotted on a strategic map and will represent a realistic oil spill response strategy.

The selection of priority areas for protection and the assignment of a coastal sensitivity index is carried out by an expert group. Once the strategy map has been approved, it can be used as a basis for operational planning and decision support in the environmental net benefit analysis.

Operational plans are developed by facilities that bear the risk of oil spills, with the exception of ships, and specialized organizations for oil spill response.

17. Tactical maps are updated every 5 years. Oil companies provide data on material and technical and operational resources within their contract territory to update the tactical map in the Information and Analytical Center.

18. Update of strategic maps is carried out with a frequency of 5 years.

19. The environmental sensitivity map is updated by the Information and Analytical Center based on information received from oil companies.

Appendix 1
to the Rules for developing an
environmental
sensitivity map and making a decision to
determine
the sensitivity index for oil spill response
at sea,
inland waters and in the protective zone
of the Republic of Kazakhstan

Information required for map development

1. General information

- 1) Coast: the nature of the coast;
 - 2) Topography (from the coast to 30 kilometers by land);
 - 3) Bathymetry (of the entire area under consideration);
 - 4) Rivers, delta system and streams;
 - 5) Basic information about the zoning of the coastal territory and land:
 - vegetation, land, anthropogenic use;
 - from the coast >30 kilometers by land;
 - 6) Main benthic communities, flora and fauna of the study area (simplified information);
 - 7) Susceptibility of the coastal area and land to flooding (under the influence of surge phenomena);
 - 8) Settlements: borders and population density (from the coast to 30 kilometers inland);
 - 9) The main settlements located on the coast;
 - 10) A network of roads and routes for off-road vehicles or quad bikes, road structures;
 - 11) Railway network and stations;
 - 12) Airports, runways, helipads and landings;
 - 13) Hospitals, clinics and medical centers;
 - 14) Administrative-territorial boundaries:
 - state border (by land and by sea);
 - administrative-territorial boundaries: region, city, district, village;
 - 15) Meteo-oceanographic seasonal conditions (winter-spring-summer-autumn):
 - average wind data;
 - average salinity data;
 - average data on sea currents;
 - ice cover and extent (average, minimum and maximum values).
- ## 2. Geomorphological features and sensitive objects of the coast
- 16) Coast:
 - type of coast and shoreline (cliffs, rocky shores, beaches, sandbars or bars, mud flats, marshes, artificial: jetty, riprap, and so on);
 - the width of the coastline;
 - sedimentary rocks and granulometry;
 - exposure to waves (open, semi-open, sheltered);
 - impact of surge phenomena;
 - segmentation of the coast according to geomorphological/ecological characteristics and administrative-territorial boundaries;
 - 17) Characteristics of river banks, river deltas and land:
 - bank of a river delta that is prone to oil spill (5-10 km inland): type of soil and sediments, vegetation (if any);

- bank of rivers prone to oil spill (5-10 km inland): bank and sediment morphology and vegetation (if any);
- dry land along pipelines, as well as presence near rivers and/or wetlands;
- segmentation of river banks and river deltas according to geomorphological/ecological characteristics and administrative-territorial boundaries.

3. Valuable ecological systems and objects, sensitive biological/environmental resources

18) Fish:

- spawning grounds for the main species, including commercial ones (sea, river, deltas...)
- ;
- areas of concentration of nurseries / fry / juveniles of the main species, areas valuable for feeding of the main species of fish, including commercial ones;
- areas of concentration of the main fish species, including commercial ones (for example, sturgeon, sprat, and so on);
- areas valuable for the concentration of food organisms of fish (phytoplankton, zooplankton, zoobenthos and others);
- information on the life history of the main fish species (if available);

19) Birds at risk of pollution, sea birds, coastal birds, wading birds, migratory species, etc.

- ;
- areas with very high concentrations of birds (e.g. during migration);
- areas of concentration / nesting / breeding / molting of rare / endangered / protected species (pelicans, flamingos, ibiscus, herons, etc.);
- formation on the life history of the main bird species (if available);

20) Marine mammals: Caspian seal:

- places of high concentration (coast, sandy coast, islands, etc.);
- breeding grounds, rookeries;
- information on the life history of seals (if available);

21) Invertebrates:

- commercial species of molluscs and crustaceans;
- endangered species;
- food organisms of fish (phytoplankton, zooplankton, zoobenthos);

22) High value endemic/rare/protected, endangered fauna and flora:

- red list of the International Union for Conservation of Nature (IUCN);
- species included in the Red Book of Kazakhstan;

23) Borders of specially protected territories and zones;

24) Protected areas:

a) National parks and reserves:

- "Ak-Zhaiyk" state natural reserve in the delta of the Ural River and the adjacent coast of the Caspian Sea;

b) Other protected/closed areas (IUCN categories I-V):

- Strictly protected territories (categories I-II, 1672 thousand hectares);
- others (categories III-V, 6070 thousand hectares);
- c) Important Bird Areas (IBA);
- 25) Seasonal changes (spring, summer, autumn, winter):
 - a) Bird migration:
 - Siberian-Black Sea-Mediterranean migratory route;
 - migration stop zones: the Ural River, the Volga River, others;
 - b) Migration routes of the Caspian seals;
 - c) Fish spawning during the breeding season.
- 4. Sensitive socio-economic resources:
 - 26) Fishing grounds:
 - traditional/artisanal fishing;
 - commercial/industrial fishing;
 - information on key fishing periods and catch/tonnage/ employment/income (if any);
 - 27) Ripening and harvesting coastal/marine products (if applicable);
 - 28) Aquaculture (if applicable);
 - 29) Agricultural land near the coast and on land at risk of flooding;
 - 30) Ports:
 - commercial;
 - fishing;
 - industrial/oil terminals;
 - moorings and pleasure boats;
 - information about the maritime traffic of vessels;
 - 31) Installations / activities related to the use of sea water:
 - desalination plants;
 - production of salt by evaporation;
 - industrial water intake installations;
 - information on production volumes and activities (if available);
 - 32) Industry located near the coast:
 - the type of activity associated with maritime transport or is at risk of an oil spill;
 - waste storage sites located near the shore (oil and other pollutants);
 - wastewater evaporation ponds and filtration fields located near the Caspian Sea (at risk of flooding and/or may be used for storage of general/oily waste);
 - 33) Tourism and recreation (if and when applicable):
 - resort areas with hotels and restaurants;
 - recreational beaches;
 - recreational fishing;
 - information on volumes, incomes of activities (if any);
 - 34) Infrastructure of the oil and gas industry: exploration, production and transportation:

- oil fields (coastal and offshore);
- offshore production facilities;
- onshore / onshore production / auxiliary facilities;
- pipelines;
- abandoned / flooded oil wells;
- natural seepage of oil (if applicable);
- 35) Electricity facilities (if applicable):
- atom stations;
- hydro, tidal power plants;
- 36) Objects of cultural and historical heritage (if applicable).
- 5. Logistics and operational resources
- 37) Existing and possible locations of command posts (at sea, at the facility and on shore);
- 38) Existing storage facilities for oil spill response equipment (offshore, on site and onshore);
- 39) Possible location of equipment deployment sites;
- 40) Access to the coast and the sea (roads, tracks, footpaths, hovercraft and so on);
- 41) (pre-approved) areas possible for the use of dispersants and their geographical boundaries;
- 42) Areas with specific environmental recommendations for clean-up operations (especially important for particularly sensitive areas);
- 43) Places and centers for the rehabilitation of injured animals;
- 44) Sites for intermediate storage of general and oil waste.

Appendix 2
to the Rules for developing an
environmental
sensitivity map and making a decision to
determine
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at sea,
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Information that is displayed in the sections for the required map type

Required map type	Strategic maps	Tactical maps	Operational maps (local for particularly sensitive areas)
Content	Defines the overall strategy and priorities. Contains strategic information.	Incident management tactics are determined. Contains detailed information indicating sensitive, operational and logistical resources.	Measures to eliminate the oil spill on the ground. Contains information related to a particular area, as well as operational and logistical resources of the area

Shore type and general sensitivity	Simplified	YES	YES
Sensitive bioresources	Simplified	YES	Depending on the area
Sensitive activities and resources	Simplified	YES	Depending on the area
Logistics and operational information	Basic characteristics and simplified	YES	YES in details
Other	Localization of especially sensitive areas	Risk Information	Detailed information on site operations (anchoring, booms...)
Scale	Small (country, region) 1:1000000 to 1:200000	Medium (region, city) 1:100000 to 1:50000	Large (only for particularly sensitive areas) 1:25000 to 1:10000
Format for operational work	Large format for discussions	In folder (A2, A3, A4)	A4 – laminated maps
User	Strategic decision makers representing authorized state bodies	Objects bearing the risk of an oil spill, specialized oil spill response organizations	Objects bearing the risk of oil spills, specialized organizations for oil spill response