On approval of the Rules for ornithological support of flights of state aviation of the Republic of Kazakhstan

Unofficial translation

Order № 268 of the Minister of Defense of the Republic of Kazakhstan dated April 23, 2019. Registered in the Ministry of Justice of the Republic of Kazakhstan on April 24, 2019 № 18580.

Unofficial translation

In accordance with subparagraph 27) of Article 15 of the Law of the Republic of Kazakhstan "On the use of airspace of the Republic of Kazakhstan and aviation activities" **I hereby ORDER**:

Footnote. Preamble - in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

1. To approve the attached Rules for ornithological support of flights of state aviation of the Republic of Kazakhstan.

2. The office of the Commander-in-Chief of the air defense Forces of the Armed Forces of the Republic of Kazakhstan in the manner established by the legislation of the Republic of Kazakhstan shall ensure:

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

2) sending a copy of this order to the Republican state enterprise on the right of economic management "Institute of legislation and legal information of the Republic of Kazakhstan" of the Ministry of Justice of the Republic of Kazakhstan for official publication and inclusion to the Standard control bank of regulatory legal acts of the Republic of Kazakhstan in the Kazakh and Russian languages within ten calendar days from the date of state registration;

3) placement of this order on the Internet resource of the Ministry of Defense of the Republic of Kazakhstan after its first official publication;

4) sending information to the Legal department of the Ministry of Defense of the Republic of Kazakhstan on implementation of measures provided for in subparagraphs 1), 2) and 3) of this paragraph within ten calendar days from the date of state registration.

3. Control over execution of this order shall be assigned to the heads of state aviation management bodies of the Republic of Kazakhstan.

4. This order should be brought to the officials in the part concerning them.

5. This order shall be enforced upon expiry of ten calendar days after its first official publication.

Minister of Defense
of the Republic of Kazakhstan Major-General *N. Yermekbayev*

"AGREED"
Ministry of Internal Affairs
of the Republic of Kazakhstan
"____" _____2019
"AGREED"
Committee for National Security
of the Republic of Kazakhstan
"____" _____2019

Approved
by the order of the
Minister of Defense
of the Republic of Kazakhstan
dated April 23, 2019 № 268

Rules for ornithological support of flights of state aviation of the Republic of Kazakhstan

Chapter 1. General provisions

1. The Rules for ornithological support of flights of state aviation of the Republic of Kazakhstan (hereinafter referred to as the Rules) have been developed in accordance with subparagraph 27) of Article 15 of the Law of the Republic of Kazakhstan "On the use of airspace of the Republic of Kazakhstan and aviation activities."

Footnote. Paragraph 1 - in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 ((shall enter into force upon expiry of ten calendar days after the day of its first official publication).

2. Basic terms and definitions shall be used in these Rules:

1) aviation unit (military unit, structural subdivision) - republican state institution that shall carry out aircraft flights (hereinafter referred to as the aircraft) fighter, bomber, assault, transport, army and training state aviation of the Republic of Kazakhstan, their operation, repair and storage, aviation departments, aviation commandant's offices, aviation property warehouses, structural subdivision of the Ministry of Defense of the Republic of Kazakhstan (hereinafter referred to as the Ministry of Defense of the Republic of Kazakhstan), internal affairs bodies of the Republic of Kazakhstan and the Aviation Service of the National Security Committee of the Republic of Kazakhstan (hereinafter referred to as NSC RK), which shall include subdivisions operating unmanned aircraft (hereinafter referred to as the OUA), as well as training centers for the training of aviation personnel, training centers for combat training and combat use of the OUA;

2) aviation ornithology - an applied discipline of general ornithology that studies the fauna, ecology, behavior and migration of birds in terms of flight safety, as well as the development and implementation of measures to prevent collisions between aircraft and birds;

3) difficult ornithological situation - finding or appearance of birds on the path of the aircraft (on the runway during take-off run and mileage or flight path), which can lead to a collision with it;

4) migratory birds - which fly away for the winter from a given area to another and return only in the spring for laying eggs and breeding;

5) birds - one of the most common classes of vertebrates, the vast majority of which have the ability to fly. According to modern estimates, the number of bird species shall not exceed 8600.

The number, wide distribution, their flights (migrations) cause a significant danger to the Air Force;

6) flock of birds - a set of individuals that have a common living space for a long period of time;

7) wintering birds - arriving in this area for the winter, and fly away in the spring;

8) ornithology - a branch of vertebrate zoology that studies birds, their embryology, morphology, ecology, systematics and geographical distribution;

9) avifauna - a set of birds inhabiting a certain territory or found on it in any period of the year;

10) ornithological situation - the actual distribution, quantitative and species composition, the nature of the habitat and behavior of birds in the air and on the ground, in place and time;

11) sedentary birds - living in this area all year round. Very close to sedentary nomadic birds. They also live in a certain area, but from the second half of summer until the next spring, they move in search of food;

12) ornithological support of flights - a set of measures aimed at preventing collisions of aircraft with birds.

Footnote. Paragraph 2 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

3. The plan of measures for ornithological support of flights shall be developed by meteorological division of the military unit (hereinafter- meteorological division).

4. The action plan shall include the identification and elimination of conditions conducive to the concentration of birds at the airfield (heliport) and the adjacent territory, conducting classes with specialists of the meteorological unit (hereinafter referred to as meteorological specialists) on aviation ornithological topics and other specifics of flight support.

Footnote. Paragraph 4 - in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 ((shall enter into force upon expiry of ten calendar days after the day of its first official publication).

5. Meteorological specialists at airfields and persons in charge of ornithological support shall undergo training courses (trainings)at least once every 2 years in accordance with the

combat training course (special training program) and at least once every 5 years upgrade their qualification in specialized courses.

Footnote. Paragraph 5 as amended by the order of the Minister of Defense of the Republic of Kazakhstan dated 05.10.2020 № 505 (effective ten calendar days after the date of its first official publication).

5-1. At joint airfields, in agreement with the airport management, meteorological specialists and individuals responsible for ornithological support in the spring and autumn periods shall undergo practical internships to exchange experience, to organize direct interaction with the airport's regular aviation ornithologist and measures to identify and eliminate conditions conducive to bird concentration.

Footnote. The Rules have been supplemented with Paragraph 5-1 pursuant to the order of the Minister of Defense of the Republic of Kazakhstan dated 05.10.2020 № 505 (effective ten calendar days after the date of its first official publication); in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

6. Meteorological specialists, duty synoptic engineer, when providing flights at the airfield (heliport) based, shall carry out:

1) ensuring flights for flight safety in ornithological terms in accordance with these Rules;

2) analysis and forecast of the ornithological situation;

3) presentation of information to the commander (senior flight shift) and flight personnel about the ornithological situation at the airfield (heliport);

4) consulting and conducting classes with flight personnel, leadership group, combat control officers (hereinafter referred to as the CCO) and with personnel of the meteorological service (subdivision), near-drive radio marker point, far-drive radio marker point;

5) control of correctness and timeliness of measures to prevent collisions of aircraft with birds.

Footnote. Paragraph 6 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 ((shall enter into force upon expiry of ten calendar days after the day of its first official publication).

7. Classes in aviation ornithology shall be held before the spring and autumn periods of the year. In aviation ornithology classes, the following shall be studied:

1) features of the ornithological situation in different seasons of the year in the area of the airfield and heliport (species composition, places of accumulation and the main flight routes of birds that pose a danger to aircraft flights);

2) distribution of cases of collisions of aircraft with birds at a given airfield (heliport) by seasons of the year, periods of day, heights;

3) organization of ornithological flight support at the airfield (heliport);

4) visual and radar observations of the ornithological situation in the area of the airfield (heliport);

5) elimination of conditions conducive to the concentration of birds in the area of the airfield (heliport);

6) actions of crews in flight to reduce the probability and danger of collisions between aircraft and birds;

7) consequences of the AF collisions with birds (material damage, dangerous situations in flight).

The chairman of the freelance ornithological commission is responsible for organizing and conducting classes on ornithological safety of flights at the airfield (heliport).

Footnote. Paragraph 7 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 ((shall enter into force upon expiry of ten calendar days after the day of its first official publication).

Chapter 2. Procedure for ornithological support of flights of state aviation of the Republic of Kazakhstan

8. The procedure for ornithological support of flights includes:

1) organization of ornithological support of state aviation flights;

2) identification and elimination of conditions, contributing to concentration of birds;

3) birds watching;

4) conducting an ornithological survey of the aerodrome area;

5) frightening away birds from airfields;

6) actions of the crews during flights in complicated ornithological conditions.

Paragraph 1. Organization of ornithological support of flights of state aviation

9. Ornithological support of flights shall be organized by the senior aviation chief of the airfield (heliport) and shall be carried out by the personnel of the duty crews of the meteorological unit, command post, communications and radio support subdivision, engineering and aerodrome (aerodrome-operational) logistics subdivision, individuals of the launch squad and crews performing flights.

Footnote. Paragraph 9 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 ((shall enter into force upon expiry of ten calendar days after the day of its first official publication).

10. To develop measures to prevent collisions of AF with birds at the airfield (heliport), a freelance ornithological commission shall be created under the chairmanship of the deputy commander of the aviation unit (deputy head of the aviation department, department of the NSC of the Republic of Kazakhstan), and an action plan for ornithological support of flights is approved 2 times a year. If several aviation units (departments, departments of the NSC RK AF) shall be based at the airfield, a single commission is created under the chairmanship of the deputy commander of the unit (deputy head of the aviation department, department of the

NSC RK AF), the commander (head of the aviation department, department of the NSC RK AF) of which shall be the senior aviation chief at this airfield.

Footnote. Paragraph 10 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

11. In the organization and implementation of activities on ornithological flight support shall involve:

1) officials of the military unit (aviation department, of the NSC of the RK AF):

deputy commander of a military unit (for combat training) - head of the combat and physical training department (deputy head of the aviation department, department of the NSC of the RK AF);

deputy commander of a military unit (for material and technical support) - head of the material and technical support department (hereinafter referred to as TSD) (deputy head of the aviation department, AS department of the of the NSC of the RK AF);

head of the engineering and airfield service of the logistics department (head of the department, consultant, senior officer, officer of the logistics department of the aviation department, department of the of the NSC of the RK AF);

Head of communication and radio engineering support center (hereinafter referred to as the CRES) (consultant, senior officer, officer of CRES subdivision of aviation administration, department of the NSC of the RK AF);

head of the meteorological service of the headquarters (senior officer, officer of the meteorological support group of the aviation administration, department of the NSC of the RK AF);

2) individuals of flight management group:

flight director (hereinafter referred to as the flight director);

assistant flight director;

near zone manager

landing zone manager;

head of the far zone;

combat control officer;

aircraft reception and release duty officer;

3) flight support group:

duty forecaster engineer;

duty meteorological observer;

observer of aircraft coming in for landing;

observation posts at communication center facilities command and control center (hereinafter referred to as the FCC), starting command center (hereinafter referred to as the

SCC), radio landing system, short-range radio navigation system, long-range radio marker station (hereinafter referred to as the LRMS), short-range radio marker station (hereinafter referred to as the SRMS);

4) cordon team and ornithological posts;

5) aerodrome maintenance subdivision of the military unit.

Footnote. Paragraph 11 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

12. Meteorological specialists of the military unit during flights at the airfield (heliport) base shall carry out:

1) visual, aero-visual ornithological observations, collection of data on flights and flights of birds coming from the calculations of the FCC, SCC, radar landing system, calculations of the LRMS and SRMS, cordon commands, other meteorological subdivision, weather scouts and aircrews performing flights. Visual observations of the ornithological situation shall be transmitted by the ornithological situation data transmission code (hereinafter referred to as OSDTC) code scheme according to Annex 1 to the Rules;

2) bringing data to the command, calculations of command posts, flight personnel about the actual and expected ornithological situation in the area of base and flights, and during seasonal migrations, recommendations and proposals for limiting or stopping flights by altitude, routes and time of day;

3) transfer of data of ornithological observations to the meteorological service of the command post of the Air Force (hereinafter referred to as the meteorological service of the AF), to the aviation control body of the NSC RK AF and other meteorological units upon request;

4) development of proposals for aerial and radar reconnaissance of the ornithological situation;

5) participation in the organization and conduct of ornithological surveys of airfields, preparation and generalization of reference data on the characteristic features of the ornithological situation in the basing area and flights in different seasons of the year;

6) drawing up maps of the ornithological situation of the basing area and flights;

7) participation in the investigation of accidents and incidents related to collisions of aircraft with birds;

8) participation in the development of proposals for the elimination of factors that attract birds to airfields (heliports) and for the use of bird repellents;

9) finding and introducing into practice new effective methods of assessing and predicting the ornithological situation, forms of its visual display and bringing it to the management and flight personnel.

Footnote. Paragraph 12 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

13. CP meteorological service shall perform the following activities:

1) organize the collection of data on the ornithological situation in the areas of deployment of aviation units, including from organizations dealing with ornithology (hunting farms, reserves, reserves) and carry out their centralized communication to the meteorological subdivision of the units;

2) exercise control over the conduct of ornithological support of flights in units and provide them with the necessary assistance;

3) advise and issue recommendations to meteorological subdivisions when making a forecast of the expected ornithological situation in the flight area and flight routes;

4) study the dependence of bird migration parameters (heights, timing, flight intensity, etc .) on changes in meteorological conditions in different seasons of the year, participate in scientific research on aviation ornithology;

5) develop methodological documentation to ensure flight safety in ornithological terms.

Footnote. Paragraph 13 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

14. The locations of bird repellents at the airfield (heliport) shall be determined by the senior aviation chief of the airfield (heliport).

Footnote. Paragraph 14 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

15. Division of communication and radio support of flights of the aviation unit at the airfield (heliport) shall carry out:

1) carrying out radar and visual observations of birds at the LRMS and SRMS and reporting the results to the persons of the flight management group and to the meteorological unit;

2) providing ornithological posts (operational groups) with communication means for transmitting information about bird flights;

3) recording flights of flocks of birds on tablets (tracing paper) and photographing all-round visibility indicators with marks from them during flights;

4) practical exercises with calculations of command posts, a radar landing system, operators of radar systems and meteorological specialists on the recognition and detection of birds on radar indicators.

Footnote. Paragraph 15 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

16. To prevent collisions of aircraft with birds during flights, 2 times a year, an analysis of ornithological flight support is carried out, which includes:

1) clarification based on the results of ornithological examination of visual and radar observations and ornithological examination of the timing, places of clusters and flights of birds at the airfield (heliport) and the adjacent territory;

2) clarification of the reasons for the concentration and mass flights of birds in the area of the airfield (heliport);

3) identification of the most frequent circumstances of collisions between the AF and birds (type of the AF, altitude and speed of flight, place of collision, type of birds, time of day and year);

4) determination of the consequences of collisions (number and nature of aircraft damage, material damage due to repair, downtime, stopped take-offs and forced landings of the AF);

5) analysis of the activities of units to ensure measures to protect aircraft from collisions with birds;

6) organization and implementation of visual, aerial, ornithological observations;

7) collection, generalization and analysis of data on flights and flights of birds in the area of the airfield (heliport), training grounds and flight routes;

8) organization and conduct of radar observations of the ornithological situation in the area of the airfield (heliport);

9) informing the command, air traffic control centers and flight personnel about the actual and expected ornithological situation in the area of base and flights, timely warning of its complication;

10) taking measures to eliminate factors that attract birds to airfields (heliports);

11) the use of acoustic, bioacoustics, pneumatic, mechanical, and pyrotechnic means in order to scare away birds from airfields (heliports);

12) analysis of cases of collision of aircraft with birds, search and implementation of new effective means of scaring birds into the practice of ornithological safety.

Footnote. Paragraph 16 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

17. Data on collisions of aircraft with birds shall be recorded by the meteorological specialist on duty within 1 hour after the end of flights (flights) in the log of data on collisions of aircraft with birds at the airfield (heliport) in accordance with Annex 2 to these Rules, with an immediate oral report to the meteorological service of the CP and to the aviation control body of the NSC of the RK AF.

Footnote. Paragraph 17 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

18. To develop measures to prevent collisions between the AF and birds in the aviation unit, a freelance ornithological commission chaired by the deputy commander of the military unit (deputy head of the aviation department, department of the NSC of the RK AF) shall conduct an ornithological survey of the airfield area (heliport) 2 times a year in the spring (March-May) and autumn (September-November) periods.

Footnote. Paragraph 18 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

19. Ornithological examination shall also be carried out in cases of:

1) increase in the number and activity of birds according to visual, aerial and radar observations;

2) changes in conditions in the area of the airfield (heliport) associated with human life (development of agricultural land, intensive construction of residential buildings and gardening cooperatives).

Footnote. Paragraph 19 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

20. The freelance ornithological commission shall study the peculiarities of the ornithological situation of the airfield area (heliport) and shall determine the degree of its danger, and also shall take the necessary preventive measures aimed at preventing collisions of the aircraft with birds.

Based on the results of the ornithological survey of the airfield area (heliport), an act shall be drawn up, which indicates the time of the survey, routes, composition of the group, the results of the surveys, and also evaluates:

1) the condition of passive technical means of scaring birds (mechanical and non-mechanical stuffed animals, scarecrows with mirror elements and rotating parts, models of birds of prey);

2) availability and serviceability of available standard (service) acoustic bird repellents (translators of recordings of bird cries, siren sounds in stationary and mobile versions);

3) availability and serviceability of acoustic units for scaring birds, rocket launchers and hunting rifles;

4) availability of observation post calculations by observation means.

Footnote. Paragraph 20 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

21. At least 2 times a year, the freelance ornithological commission of the aerodrome (heliport) shall develop an ornithological safety plan to prevent collisions of aircraft with birds at the aerodrome (heliport) in accordance with Annex 2-1 to these Rules. The Plan shall reflect the deadlines for the implementation of measures.

Footnote. Paragraph 21 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

22. After the expiration of the deadlines for the implementation of the plan of preventive measures, the freelance ornithological commission of the airfield (heliport) assesses the quality and completeness of the measures taken, the tendency to change the ornithological situation in the area of the airfield (heliport), and a decision shall be made to take additional preventive measures and methods of scaring birds.

At the end of each training period, the effectiveness of measures to prevent collisions of aircraft with birds is considered at a meeting of the methodological council of aviation units with the preparation of a protocol.

Footnote. Paragraph 22 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

23. In order to quickly obtain ornithological information, bird surveillance shall be organized at airfields (heliports). According to habitats, birds are conditionally divided into several large groups:

1) waterfowl - whose lifestyle is associated with rivers, lakes and other reservoirs (ducks, geese, gulls);

2) near-water - whose life is associated with humid territories (waders, herons, shepherdesses);

3) steppe and desert - living in territories with dry open spaces (bustards, strepets, grouse);

4) forest or dentrophilic - whose vital activity is associated with woody vegetation (capercaillie, black grouse, magpies);

5) birds of the cultural landscape living on agricultural land (crows, rooks, sparrows).

Footnote. Paragraph 23 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

24. According to the nature of their stay in a certain region (area), birds are divided into settled, migratory and wintering.

Paragraph 2. Identification and elimination of conditions, contributing to birds concentration

25. Measures to change the ecological and ornithological situation in the vicinity of the airfield (heliport) in an unfavorable respect for birds shall be carried out only if they allow to eliminate the actual reasons for the concentration of birds at a given airfield (heliport) or the regular mass flight of birds through its territory (otherwise the number of birds at the airfield (heliport) will increase).

A change in the environmental situation that shall be, the conditions for the habitat of birds, shall give the most effective results in regulating their numbers at the airfield (heliport).

Repelling birds with bioacoustics, acoustic, mock-up, pneumatic, mechanical and pyrotechnic means, as well as shooting, causes a temporary effect and does not replace measures to eliminate the main factors that attract birds.

When planning and carrying out such measures to eliminate birds, it is necessary to take into account that biologically illiterate actions can cause undesirable and even opposite consequences, since instead of some birds at the airfield (heliport) more dangerous species of birds may appear.

The elimination and maintenance of a small number of birds at the airfield (heliport) is possible only with a systematic, targeted change in environmental conditions.

Footnote. Paragraph 25 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

26. Officials of the engineering and aerodrome (aerodrome and operational) logistics subdivision shall eliminate the conditions conducive to the concentration of birds on the runway (hereinafter referred to as the runway), shall collect and determine the remains of birds shot down by the aircraft found on and near the runway.

Footnote. Paragraph 26 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

27. During flights, the cordon team (ornithological posts), having received an instruction from the RP, immediately leaves for the territory of the airfield (heliport), where birds that pose a potential threat to the aircraft shall be found.

Using a smooth-bore (hunting) rifle, pyrotechnic means, a light-signaling rocket launcher, the cordon team performs actions to scare away birds from the airfield (heliport) until the birds do not threaten flights and aircraft movement.

Footnote. Paragraph 27 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

28. In cases of mass accumulation of birds in the spring-summer autumn-winter periods, during flights, in the area of airfields (heliports), shooters shall be deployed in the following places:

1) landing point, aircraft take-off point (outside the flight lane);

2) in places of taxiways adjoining to the runway prior to "deceleration" command.

Footnote. Paragraph 28 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

29. All measures to eliminate conditions that contribute to the concentration of birds are divided into groups:

1) conducted at airfields and heliports;

2) conducted on the aerodrome territory.

Footnote. Paragraph 29 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

30. The reasons for the concentration of birds at airfields (heliports) are eliminated by officials of the engineering-aerodrome (aerodrome-operational) unit of the military unit.

Footnote. Paragraph 30 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

31. The main events held at airfields and heliports include:

1) cutting down bushes within the flight field;

2) mowing of the grass cover on the airfield;

3) cutting down trees and bushes near the territory of the airfield (heliport), attracting birds for nesting, resting and spending the night;

4) mowing the grass cover at the airfield to an optimal height, taking into account the analysis of long-term observations and recommendations of the freelance ornithological commission;

5) reducing the possibility of nesting birds at airfield facilities;

6) land reclamation work on swampy (humid) areas of the airfield (heliport), their drainage and backfilling;

7) elimination of access to food waste in kitchens, canteens by storing food waste in closed containers, complete disposal of waste in rooms closed from birds;

8) installation of traps for catching birds;

9) installation of dead carcasses and stuffed birds in places where birds are concentrated;

10) preventing the use of the territory of the airfield (heliport) for crops that attract birds;

11) chemical treatment on the territory of the airfield (heliport) against insects that attract birds;

12) cutting down at the very beginning of nesting of birds of the upper branches of trees on which nesting colonies of birds are located or knocking down nests with the help of water cannons;

13) elimination or prevention of the creation of food waste within a radius of 15 kilometers (hereinafter referred to as km) from the airfield (heliport) or their transfer to the side in such a way that birds flying to landfills from places of accumulation do not cross the runway and approaches to it;

14) plowing and plowing of agricultural fields with crops surrounding the airfield (heliport) should be carried out only at night;

15) it shall not be allowed at a distance closer than 15 km. from the control point of the airfield (heliport) for the construction of fur farms, slaughterhouses and other facilities that contribute to the mass accumulation of birds dangerous for aircraft flights, as well as

subsidiary farms (pigsties, cowsheds, poultry farms, fur farms, fish ponds) that contribute to the mass accumulation of birds;

16) drainage of small reservoirs near the airfield (heliport), which are a place of accumulation of birds flying through the near-aerodrome (heliport) territory;

17) mowing of high coastal vegetation located near the airfield (heliport), which is a place of mass nesting, recreation and roosting of birds;

18) manufacture and repair of bird repellents (turntables, stuffed animals, scarecrow);

19) installation and placement of active bird deterrent at the airfield (heliport) according to the layout of active bird deterrent at the airfield (heliport), Annex 3 to these Rules;

20) allocation of posts for the period of flights (from the cordon team) and providing them with means to scare away birds.

Footnote. Paragraph 31 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

32. Bird deterrence from airfields (heliports) shall be carried out by the engineering and aerodrome (aerodrome-operational) subdivision of the military unit, using various means (bioacoustics installations, guns, rocket launchers, pyrotechnics, pneumatic pistols, mechanical repellers, mirror balls, laser installations, carcasses of dead birds, rattles, gas guns, models of birds of prey, fire engines, flags and other means) in compliance with fire safety measures and strict observance of safety requirements when using weapons.

Footnote. Paragraph 32 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

33. Various types of herbs and their seeds also attract birds. Therefore it is necessary to study the actual composition of the grass cover and determine its attractiveness for birds and specify in the act of ornithological commission of the unit.

If there are herbs, attracting birds, it is advisable to provide for their gradual replacement. The composition of the grass mixture for each aerodrome should be selected taking into account climatic characteristics and species composition of birds in this area (for example, flowering clover attracts insects and, consequently, insectivorous birds, seeds serve as food for pigeons, partridges, and leaves for waterfowl).

Footnote. Paragraph 33 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

34. Measures to eliminate at airfields (heliports) and near-aerodrome (heliport) territories that contribute to the accumulation of birds are carried out only in agreement with local executive bodies.

Footnote. Paragraph 34 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

35. Birds shall be caught at airfields and heliports by traps, nets, cobwebs, traps, sleeping pills and other means.

Footnote. Paragraph 35 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

Paragraph 3. Birds watching

36. At the airfield and heliport, aerial, visual and radar (if any) bird observations shall be carried out.

Visual observations shall be the main way to collect information on the abundance, behavior and species composition of birds. They shall involve the personnel of the meteorological subdivision, the LRMS and SRMS, logistics and RTO units.

Visual observations are made from observation posts located at the KDP, command post, RMS, meteorological site, the LRMS and SRMS for 2 hours in the morning and evening and 1 hour at noon. Also, for these purposes, special posts are set up on the days of flight operations.

Footnote. Paragraph 36 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

37. In visual observations, the observer accurately shall determine the species composition and quantitative ratio of local and migratory birds (in case of cloudy weather and daytime, visual observations at the airfield and heliport shall be divided into two species:

1) hourly observations shall be carried out in the daytime hourly (5-10 minutes at the beginning of each hour);

2) operational observations during aviation flights.

Visual observations shall be carried out simultaneously with meteorological observations, and at the LRMS and SRMS as directed by the command of the Republic of Poland.

Footnote. Paragraph 37 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

38. During visual observations, the visible part of the sky and the surrounding area shall be examined, with the greatest attention paid to the territory adjacent to the runway at the take-off and landing course. The area of responsibility of the duty observer at the meteorological site shall have a radius of 1.5 km, and at the KDP, SKP, near drive radio beacon, far drive radio beacon - 1 km. The size of the areas of responsibility for visual observations at airfields (heliports) should be set taking into account that an observer without

binoculars can detect single birds of medium size and small flocks of small birds specified in the layout of areas of responsibility for bird observations in accordance with Annex 4 to these Rules.

Footnote. Paragraph 38 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

39. In a large flock, the number of birds shall be determined by their number in one part, followed by recalculation for the entire flock. At the same time, the number of birds, depending on the size of the flock, is rounded: small, medium and large flocks (5-20, 20-50, 50-100 birds) - up to ten; large flocks (more than 100 birds) - up to hundreds, and flocks of more than 1000 birds - up to thousands.

The observer shall study the main species of native (sedentary) and migratory birds at his airfield (heliport). When identifying unfamiliar birds of flight, the observer must indicate the approximate dimensions: small - from a sparrow, medium - from a pigeon, large - from a goose, according to the silhouettes of birds on the ground in accordance with Annex 5 to these Rules, in flight and on the water in accordance with Annex 6 to these Rules. Observation results shall be recorded in a special ornithological observation log in the form AV-20 in accordance with Annex 7 to the Rules.

Footnote. Paragraph 39 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

40. Operational ornithological observations shall be carried out only during flights. The procedure and time of their conduct shall be established by the RP for each flight shift. In addition to observations at the meteorological site, the LRMS and SRMS, operational observations of birds are carried out by the RP assistant, the KDP forecaster on duty, the observer of the aircraft approaching, specially set up posts, as well as the starting outfit and the cordon.

Footnote. Paragraph 40 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

41. The main task of observers is to continuously monitor the actual ornithological situation and timely reports on it to the RP. At the same time, timely detection of complications of the ornithological situation that threaten flight safety is of particular importance.

Footnote. Paragraph 41 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

42. Radar observations of birds shall be carried out by duty calculations in the presence of standard radar means, by recognizing flashes from flocks of birds on the screens of indicators

of radar stations (hereinafter referred to as radars) provided for in the features of identifying flashes from birds on radar screens in accordance with Annex 8 to these Rules.

Footnote. Paragraph 42 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

43. Ornithological observations shall be carried out in the presence of meteorological conditions favorable for bird flights, when the duration of precipitation does not exceed 1/6 of the day, and the average surface wind speed is not more than 8 meters per second, by landing, control and surveillance radars in the areas of responsibility established for their calculations 15-20 minutes every 3 hours on flight days. Marks from flocks of birds on radar indicators shall be photographed, their heights and directions of movement shall be determined.

Footnote. Paragraph 43 as amended by the order of the Minister of Defense of the Republic of Kazakhstan dated 05.10.2020 № 505 (effective ten calendar days after the date of its first official publication).

44. In order to ensure flight safety in ornithological terms, regular radars at airfields and heliports are the main technical means for conducting bird watching. These shall include:

1) radar detection and guidance, zone of confident detection from 25-30 to 60-70 km., Depending on flight altitude;

2) control radars, a zone of confident detection of flying birds at an altitude of 500 meters (hereinafter referred to as m.), shall be within 15-20 km;

3) landing systems, bird detection zone at a distance of 1 to 15 km. at an altitude of up to 2000 m.

Heading and landing locator shall provide the possibility of simultaneous determination of the position of birds and aircraft approaching for landing. This shall allow the head of the landing zone on the radar system to warn the launch vehicle, and, if necessary, the pilot about a dangerous approach to birds and timely give him commands about changing course and altitude or leaving for the second round.

Footnote. Paragraph 44 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

45. The time of observations and data transmission from radar systems is specified by the MF for each flight shift, depending on the complexity of ornithological situation.

Radar reconnaissance of ornithological situation is conducted:

1) 1 hour and 20-25 minutes before the departure of the weather scout, as well as 30 minutes before the start of flights;

2) during flights as directed by the MF.

46. The results of observations are reported by the operators on duty of radar systems and the head of the landing zone to the MF, reported to the meteorological division or to the duty forecaster at the CDP and recorded in a special journal in the form AB-18. The duty

forecaster records the results of radar ornithological observations in the starting journal, puts them in a special journal, on a special tablet, analyzes them and, together with other information about birds, reports the general ornithological situation to the MF.

Radar observations should be carried out with special care during seasonal bird migrations by the on-duty calculations. If necessary, during these periods, observations are organized on the night preceding the planned flights for the next night, which allows to determine in advance possible ornithological conditions for flights and their changes.

Identification of echoes from birds on the radar indicator is made taking into account their distinctive features of echoes from birds according to Appendix 9 to these Rules.

47. The aerial method of observing birds and assessing the situation shall allow you to visually observe birds, determine their species composition, number, concentration features and nature of flights, keeping young animals in flocks and other important characteristics. Bird observations and assessment of the ornithological situation using helicopters or transport aircraft shall be carried out on a large territory in a relatively short time and the results obtained can be quickly used to ensure flight safety. Observations shall be made not only for flying birds, but also for those sitting on trees, land or water.

Footnote. Paragraph 47 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

48. It shall be recommended to perform aerial surveys of the territory of airfields (heliports) and areas of flights by helicopter (aircraft) in transitional seasons of the year and in case of complication of ornithological conditions during the flight organization period, in order to determine or clarify the ornithological situation.

The presence on board the helicopter (transport aircraft) of an observer or ornithologist who conducts qualification observations allows you to obtain complete and high-quality ornithological data.

Footnote. Paragraph 48 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

49. When organizing aerovisual observations, to provide for the stages of work:

1) organization of the flight;

2) direct maintenance of aerovisual observations for the survey of necessary areas or territories;

3) processing and analysis of observation results obtained during the flight;

4) data report to the command, RP, to the meteorological service of the CP and the aviation authority of the NSC of the Republic of Kazakhstan.

The result of aerovisual observations is preparation of a special map-scheme.

Footnote. Paragraph 49 as amended by the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

50. In areas where crowds of birds, soaring predators, storks or pelicans dangerous for aviation are detected, it is planned to leave the observer on land transport in order to examine them more detailed simultaneously from the air and the ground.

51. It is best to record the results of observations on video and photography, as well as recording in a specially prepared journal.

During the processing of the material received as a result of departure or flight, the following operations are performed:

1) video and photo processing, entries in journal;

2) counts of birds in the crowds, detected during the flight;

3) comparison and averaging of data recorded by several observers;

4) linking places of crowds and flying flocks detected during the flight to a geographical location on the working map-scheme;

5) detailed display of all received information on the main map-scheme.

The results of processing and analysis of the flight data shall be reported to the command and to the meteorological division, an ornithological summary shall be compiled, which is sent to the specified addresses by telegram.

Paragraph 4. Conducting an ornithological survey of the aerodrome area

52. An ornithological survey of the airfield (heliport) shall be carried out in order to determine the nature of the ornithological situation, routes and altitudes of birds' flights, their daily activity and the nature of seasonal migration, the number and species composition of accumulating birds, the characteristics of their behavior (nesting, feeding, rest), as well as to identify conditions that contribute to the concentration of birds in the area of the airfield and heliport.

Footnote. Paragraph 52 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

53. At the stage of planning activities, the ornithological commission of the airfield shall conduct a preliminary assessment of the ornithological situation, shall establish the upcoming scope of work to eliminate the factors attracting birds to the area of the airfield (heliport).

During the preliminary assessment of the ornithological situation, the statistics of collisions of aircraft with birds in the area of the airfield (heliport) over the past 5-7 years shall be analyzed, data from previous ecological and ornithological surveys of the area of the airfield (heliport) are studied, the results of visual, air and radar observations of the ornithological situation for the last month are summarized.

Footnote. Paragraph 53 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

54. Based on the results of a preliminary assessment of the ornithological situation, a Plan for an ornithological survey of the airfield area (heliport) shall be drawn up, which is approved by the senior aviation chief of the airfield (heliport).

The Plan of ornithological survey of the aerodrome area (heliport) shall specify:

1) routes of ground ornithological survey;

2) areas (sectors) of responsibility of visual and radar observations of birds;

3) type of land and water transport used in the process of ornithological examination;

4) attracted radar bird surveillance equipment;

5) the time of detection of daily migrations of birds (morning, near-dead and evening hours);

6) terms of examination and responsible persons.

Footnote. Paragraph 54 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

55. An ornithological survey of the airfield (heliport) area shall be carried out by ground and aerial study of the ornithological situation by a group of specialists consisting of up to 3-5 people for 1-2 days using cars, boats and other vehicles.

Footnote. Paragraph 55 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

56. During the ornithological survey of the airfield (heliport), a ground survey of the airfield shall be carried out, as well as a survey of the terrain and airspace within a radius of 4 -6 km. from airfield control point (heliport), at that:

1) the number and species composition of constantly living at the airfield (heliport), periodically arriving in search of food and convenient places for rest, flying in transit or accidentally flying birds to the area of the airfield and heliport;

2) the nesting areas of rooks, jackdaws, crows, sparrows, pigeons and a number of other birds near the airfield and heliport shall be determined;

3) factors shall be identified that attract birds to the airfield (heliport), which shall include: food waste dumps, high grass cover in the runway area, being near the airfield of elevators, summer cottages, agricultural fields, orchards, vineyards, the accumulation of a large number of earthworms in rainy weather on concrete taxiways and runways, the presence of a concentration of small insects over wetlands in the morning, evening and on stormy days;

4) the daily activity of bird flights shall be specified, their nesting sites, roosts, days and clusters are established;

5) the routes of bird feed flights shall be determined.

Footnote. Paragraph 56 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

57. At the end of the ornithological survey of the area near the runway, a survey of more remote areas of the area in the area of the airfield (heliport) shall be carried out (take-off and landing courses, training grounds, low-altitude routes). At this stage, the survey shall be carried out mainly by radar and ground methods.

Footnote. Paragraph 57 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

58. During the ornithological examination, in cases of detection of nesting colonies of birds in the area of the airfield (heliport), the following information shall be recorded:

1) location of nests (on the ground, in grass, in warehouses, trees, in reeds);

2) bird feeding places (near a reservoir, on a fur farm, garbage dump, agricultural land);

3) colony age;

4) annual dynamics of bird numbers (increases, decreases, fluctuates, does not change);

5) protection status of the location of the colony (reserve, reserve, sanitary zone);

6) type of human activity in the vicinity of the colony (berry picking, hunting, grazing, agricultural work);

7) the degree of anxiety on the part of a person (strong, weak, absent);

8) the number of birds in the colony shall be calculated by the following methods:

piece recalculation of all nests in the case of small colonies;

recalculation of all nests at any site in other cases with subsequent extrapolation of the obtained information to the entire colony area. In this case, the number of nests per 1 square meter (hereinafter referred to as sq. m. in the center and on the periphery of the colony in places with different nesting densities of birds is taken into account, and then the average density per 1 sq. m. which shall be extrapolated to the entire colony area, shall be displayed.

When water bodies are located within a radius of 5-20 km. from the control point of the airfield (heliport) they are examined from a boat or using binoculars from trees growing on the shore of a reservoir, or other elevated place.

When examining water bodies, the following shall be determined:

water body area;

type of banks (reflections, steep, steep, rugged, sandy, silty, clay, gravel, rocky);

composition of the predominant terrestrial and aquatic vegetation;

the presence of thickets of cattail, reeds and reeds;

the openness of the reservoir (the presence of woody and shrubby vegetation on the banks).

The average dates of the formation and destruction of the ice cover are being specified.

Footnote. Paragraph 58 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

59. A partial view of the species composition of birds, living on the reservoir must be obtained by collecting and further identifying of feathers that are washed ashore by the wind, as well as by the traces of birds left in the tidal band.

60. The results of the survey and observations of birds are compared and supplemented (if possible) with information from the nearest hunting grounds (reserves), as well as from other sources, and are plotted on the map of ornithological situation, which is placed in the class of preflight instructions.

61. The methodology of ornithological survey of the aerodrome area (heliport) in different periods of annual bird activity has certain features that must be taken into account when planning and conducting these activities.

Footnote. Paragraph 61 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

62. In particular, in the spring period, in addition to taking into account local birds, routes, paths, altitudes and flights terms of migrating birds, places of their rest and feeding shall be determined. This survey is carried out by radar and aerovisual methods, and ground survey is carried out only near the runway, NDRP and DDRP.

63. In the late summer period in the process of ornithological surveys all ways of birds watching are used, while the terms of formation of young birds on the wing, routes, and altitude of its flights after breeding dispersal, ways and altitude of flight (arrival) of heat-loving migrants from the North, direction and altitude of movements of waterfowl and near water birds are determined.

64. After completion of activities on ornithological survey of the aerodrome (heliport) area, an aerodrome (heliport) survey report shall be drawn up and a set of measures is developed to prevent collisions between aircraft and birds.

Footnote. Paragraph 64 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

Paragraph 5. Frightening birds away from aerodromes

65. To scare away birds at the airport, individuals from the cordon team, personnel of communications and radio support are involved using a large number of various means: bioacoustics installations, guns, rocket launchers, gas guns, rattles, mirror balls, nets.

The selection and use of the most appropriate means of scaring birds shall be carried out at each airfield (heliport), based on the local features of the ornithological situation. This shall take into account the following:

1) with the continuous or too frequent use of any repellent, its effectiveness decreases over time due to the addiction of birds to it;

2) when several methods of deterrence are used simultaneously (for example, playing distress cries and shooting from rocket launchers and guns, installing deterrent objects and shooting from rocket launchers) or alternating them, the effectiveness of deterrence increases;

3) birds shall be most easily scared off during migration (in spring and autumn), during these periods many birds have a weak attachment to the territory;

4) local birds (especially in the summer) shall be less susceptible to the effects of deterrents, but in spring and autumn they need to be scared away from the airfield (heliport), since they are often the cause of the accumulation of migrating birds;

5) shooting from rocket launchers and bioacoustics scaring sometimes shall lead to the fact that the birds rise into the air and, before flying away, circle for some time (1-2 minutes) over the scaring site, creating an even greater danger to aircraft flights. In this regard, these methods of repelling should be used 5-10 minutes before takeoff (landing) of the aircraft, or temporarily do not repel flocks of birds located further 150 m from the runway.

Footnote. Paragraph 65 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

66. Bioacoustics repulsion (playback of bird alarm calls through loudspeakers) shall be carried out by communication and radio support personnel. At the same time, this unit ensures the safety and correct operation of the bioacoustics installation, conducting routine maintenance on them in a timely manner.

Footnote. Paragraph 66 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

67. Four types of bioacoustics installations shall, be used at airfields and heliports: stationary (loudspeakers are installed on the airfield or on the LRMS), mobile (all equipment is installed on a passenger car), semi-mobile (equipment is installed on a special trolley, the equipment is turned on and off by radio) and portable.

Footnote. Paragraph 67 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

68. High efficiency of bioacoustic frightening birds away is achieved when the following basic conditions are met:

1) recording of a bird's cry on a magnetic tape is made qualitatively (in stationary conditions, with the help of special equipment);

2) the bioacoustic installation can reproduce recorded birds calls without distortion;

3) recording of the cry of exactly the type of birds that are scared away is broadcasted;

4) duration and frequency of the broadcast of the cry correspond to the norms for this type of birds and ornithological situation.

69. For frightening away feeding and resting birds, the broadcast of frightening signals should be performed 2-3 times in a row.

70. Very often, birds form mixed flocks of different species. In this case, it is recommended to use alarm signals of this type of birds, which is larger in size and more numerous in the flock.

71. Weather conditions must be taken into account when using bioacoustic means of frightening. For example, strong headwind and crosswind and rain significantly reduce the range of the signal.

72. In the event of a decrease in the effectiveness of bioacoustics repulsion, replace the signals with a demonstration of real danger (that is, shots from rocket launchers, hunting rifles) in compliance with fire safety measures and strict compliance with safety requirements when using weapons.

Footnote. Paragraph 72 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

73. Birds of certain species (for example, pigeons) do not actually emit alarm calls and therefore bioacoustic frightening them is associated with certain difficulties.

74. Frightening birds away from the aerodrome with shots from rocket launchers is carried out by the personnel of the cordon team as directed by the FM. Frightening is performed by firing shots in the direction of birds so that the rocket flies close to them. In the summer, this method is used if there is no danger of burning dry grass.

75. Frightening birds with special scarecrows, in which the gas automatically explodes with a strong sound, is performed in rare cases due to low efficiency of this method. This method of frightening is used primarily for those birds that are hunted (ducks, geese, sandpipers, and others), while scarecrows are installed near permanent places of accumulation of birds. For more operative use, it is recommended to install the guns in a trailer truck. In operation of gas guns it is required to comply with fire safety measures.

76. Scaring birds from the airfield (heliport) using various objects (cracks, flags, carcasses of dead birds, etc.) is carried out in places of constant accumulation of birds (in cases where the cause of the accumulation of birds cannot be eliminated). The installation of these items shall be carried out by officials (military personnel, civilian personnel) of the airfield unit of the military unit, while they shall be guided by the recommendations of ornithologists from local biological institutions.

Footnote. Paragraph 76 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

Paragraph 6. Actions of crews during flights in difficult ornithological situation

77. When preparing for a flight, the commander of the aircraft takes into account information about ornithological situation.

Takeoff and landing, in difficult ornithological situation, must be performed with the lights on in the landing position.

78. When flying along the route, if crowds of birds are detected, the crew takes measures on prevention a collision with them by bypassing them on the left, right or above them. If it is impossible to bypass the zone with a difficult ornithological situation, the commander of the aircraft reports this to the MF (flight control body), at his command to stop the task and acts according to his instructions.

79. When the aircraft is on the landing heading, after receiving information about the difficult ornithological situation from the flight control group, at the airfield (heliport) or at visual detection of birds, the crew:

1) strengthens prudence;

2) include landing lights, if they have not been switched on before;

3) if necessary, follow the second round with a report of the Republic of Poland.

Footnote. Paragraph 79 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

80. Before making a decision on take-off, the aircraft commander take into account the ornithological situation in the area of the airfield (heliport) and along the flight route.

At the executive start, after receiving information from the flight management group about the complication of the ornithological situation, the aircraft commander evaluates the possibility of taking off. Take-off under these conditions shall be performed with actuated lights.

Footnote. Paragraph 80 – in the wording of the order of the Minister of Defense of the Republic of Kazakhstan dated 03.06.2024 № 575 (shall enter into force upon expiry of ten calendar days after the day of its first official publication).

81. When flying along the route, if crowds of birds are detected, the crew bypasses or flies over them. It is recommended to be especially careful when meeting with large birds of prey in the air that may be aggressive towards the aircraft. In this case, it is necessary to take actions to prevent approach with them.

82. If it is impossible to bypass the zone of difficult ornithological situation, the commander is recommended to return the aircraft to the point of departure or to land at the nearest alternate aerodrome.

83. When flying at low altitudes, it is recommended to fly over bird markets and places of possible accumulation of birds on the ground and water at a safe aititude, which guarantees

against collisions with birds. Aircraft crews who notice crowds of birds, posing danger for flights during the flight, immediately transmit information about them to the MF.

Appendix 1
to the Rules for ornithological
support of flights of state aviation
of the Republic of Kazakhstan

Code for transmitting data about ornithological situation (KMI-OS) Code scheme

99990 YYGGnIIiii P1A1 Z1B1B1 1K1R1d1d1 22h1h1h1 33H1H1H1
55555 P1A1 Z1B1B1 1K1R1d1d1 22h1h1h1 33H1H1H1
Meanings of alphabetical and digital symbols in the code scheme
Group 99990:
9999-distinctive code digits;
0-distinctive digits indicating that data on ornithological situation is transmitted in subsequent groups.
Group YYGGn:
YY — number of the month when the observation ends;
GG — time in hours of the observation end;
n — observation period, expressed as the number of days for which data on ornithological situation is transmitted.
Group IIiii:
IIiii-index of the point, on which the data on ornithological situation is reported.
Group P1A1 Z1B1B1:
P1 — the nature of birds flights. Encoded according to Table 1;
Table 1

Code digit	The nature of the birds flights (P1)	Code digit	The nature of the birds flights (P1)
0	Not determined	5	Flights of local birds and soarers
1	Flights of local birds	6	Migration, flights of local birds and soarers
2	Migration	7	Flights of young birds
3	Soar flights	8	Migration outbreak (1-4 days)
4	Flights of local birds and migration	9	Flights of birds are not detected

A1 — daily activity of birds flights. Encoded according to Table 2;
Table 2

Code digit	Daily activity of birds (A1)	Code digit	Daily activity of birds (A1)
0	Not determined	5	At night
1	In the morning	6	During daylight hours
2	In the evening	7	In the dark

3 4	In the morning and in the evening In the daytime	8 9	Around the clock Flights of birds are not detected

Z1 - a way of watching birds. Encoded according to Table 3;

Table 3

Code digit	Birds watching way (Z1)	Code digit	Birds watching way (Z1)
0	No observations were made	5	Visual and radar
1	Visual	6	Radar and aerovisual
2	Radar	7	Visual and aerovisual
3	Aerovisual (reconnaissance)	8	Special flyover
4	Message of ornithologists	9	All types of observations

B1 B1 — size and species of birds. Encoded according to Table 4;

Table 4

Code digit	Size and species of birds (B1B1)	Code digit	Size and species of birds (B1B1)
00	Type not determined	10	Medium-sized birds of prey (buzzards, harriers, hawks)
01	Small sparrows	11	Large birds
02	Swallows, swifts	12	Ducks (mallards, grey, pintails, teals)
03	Starlings	13	Herons
04	Small birds of prey (kestrels, red-footed falcon)	14	Geese
05	Medium-sized birds	15	Large birds of prey (eagles, vultures)
06	Pigeons	16	Very large birds
07	Corvids	17	Storks
08	Sandpipers (lapwings)	18	Cranes
09	Gulls	19	Swans

Group lK1R1d1d1:

1-distinctive digit;

K1 — number of flocks; Encoded according to Table 5; Table 5

Code digit	Number of flocks (K1)	Code digit	Number of flocks (K1)
0 1 2	Not determined 1-5 flocks 6-10 flocks	3 4 5	11 — 15 flocks 16 — 25 flocks More than 25 flocks

R1— size of the summed flock. Encoded according to Table 6;

d1 d1 — direction of movement of flocks (birds) in tens of degrees.

Group 22 h1h1h1:

22 — distinctive digits;

h1 h1 h1 — altitude of the lower border of the flight of birds in tens of meters

Group 33 H1H1H1:

33 — distinctive digits;

H1 H1 H1 — altitude of the upper border of the flight of birds in tens of meters.

Group 55555:

55555-distinctive digits indicating that information about other birds species follows.

Table 6

Code digit	Size of the summed flock (R1)	Code digit	Size of the summed flock (R1)
0 1 2 3 4	Individual birds (up to four) Small flock (5-20) Average pack (21-100) Large flock (101— 1000). Very large flock (> 1000)	5 6 7 8	Small and medium flocks Medium and large flocks Flocks of all sizes Flock size is not determined

Note:

1. In case when the observation belongs to a certain period (GG), the digit 0 is put in place of h. If the observation period is 9 days or more, 2 time groups are used for encoding (the number and time of the beginning and end of observations), and the digit 9 is put in place of h in both groups.

2. When encoding different birds species, the group 55555 is placed before the characteristics of the second and subsequent species (P1A1 Z1B1B1). If all birds species have the same characteristics, encoded in groups with distinctive digits 1, 22, 33, these groups are used only once after listing the birds species.

3. The size of the summed flock (R1) is determined by multiplying the number of flocks by the number of birds in them during the observation period.

4. If the direction of flight of birds (flocks) is not set, 00 is placed in place of d1d1, and 99 is set for flights of birds in different directions.

5. If the flight of birds is observed not in the layer, but at a certain altitude, the same altitude is indicated in the groups 22h1h1h1 and ZZH1H1H1.

Examples:

1) in the area of point 31417 in the period from 8 o'clock on the 19^{th} to 8 o'clock on the 20^{th}, there was a round-the-clock migration of ducks, geese and cranes. During the day, up to 5 flocks of 50-100 birds flew at altitudes from 2000 to 3000 m to the North-West. In the daytime, there were disordered flights of local corvids up to four flocks of 15 — 20 birds at altitudes up to 300 m.

The encoded message will look like this:

99990 20081 31417 28512 55555 28514 55555 28518 11333 22200 33300 55555 16507 11299 22000 33030;

2) in the area of point 35700 between 8 o'clock on the 15th to 8 o'clock on the 16th visually and during aerial reconnaissance of weather flying of sandpipers, geese, swans were observed in the morning and evening at the altitude of 500-800 m to the North.

During the observation period, six flocks of 20-50 birds per flock flew by. During daylight hours, soaring of two flocks of storks by 10-15 birds were observed at altitudes of up to 2500 m.

The encoded message will look like this:

99990 16081 35700 23708 55555 23714 55555 23719 1233622050 33080 5555536717 11299 2200033250;

3) in the area of point 35700 in the period from 8 o'clock on the 15th to 8 o'clock on the 16th, the number of birds was not detected.

The encoded message will look like this:

99990 16081 35700 99900.

Appendix 2
to the Rules for ornithological
support of flights of state aviation
of the Republic of Kazakhstan

Form

Log of aircraft collisions with birds at the airfield (Sample)

Footnote. Appendix 2 as amended by the order of the Minister of Defense of the Republic of Kazakhstan dated 05.10.2020 № 505 (effective ten calendar days after the date of its first official publication).

Date _____ Time of the event _____

Aircraft type_____

Aircraft № _____

Person who reported the incident: _____

Bird remains found on the runway:_____

Location of detection (to the runway axis): _____

Flight phase (altitude, speed, take-off and landing): _____

Species and number of birds: _____

Place where the bird hit the aircraft: _____

Damages: _____

Crew data: _____

Runway course: _____

____

Time of the last runway survey: _____

Ornithological situation at the time of the event: _____

Meteorological conditions: _____

_____

Reported to (time of report) _____

Duty officer _____

___

(military rank, signature, surname, name, patronymic (if any)

"___" _____ 20___. Signature _____

Appendix 2-1
to the Rules for ornithological
support of flights of state aviation
of the Republic of Kazakhstan

Form

Approved
by Commander of military unit 000000
(head of the aviation
directorate, AS NSC RK department)

_____
(military rank, signature, surname,
name, patronymic (if any)
"__" _____ 20 __ .

Action plan of ornithological support of flights safety to prevent aircraft collision with birds

Footnote. The Rules have been supplemented with Appendix 2-1 pursuant to the order of the Minister of Defense of the Republic of Kazakhstan dated 05.10.2020 № 505 (effective ten calendar days after the date of its first official publication).

№	Actions	Time of execution	Responsible person	Date, note of execution
1.				
2.				
3.				

Head of non-staff ornithological commission of military unit 000000
(directorate, AS NSC RK department)

_____
(military rank, signature, surname, name, patronymic (if any)

Appendix 3
to the Rules of ornithological

support of flights
of state aviation
of the Republic of Kazakhstan

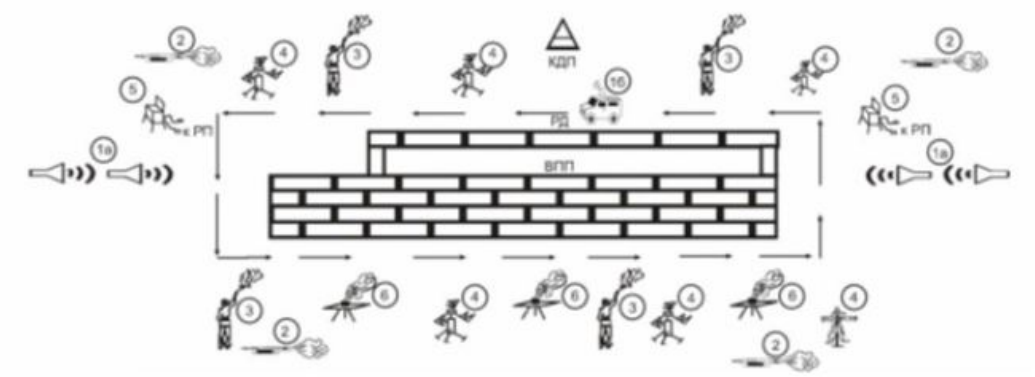
Утверждаю
Командир войсковой части

_____

(воинское звание, подпись, фамилия, имя, отчество. (при его наличии)

« » _____ 20__года

Схема размещения средств активного отпугивания птиц на аэродроме



Цыфровое обозначения:
1а - стационарная акустическая установка;
1б – подвижная акустическая установка;
2 - карбитные и газовые пушки;
3 - сигнальная ракета;
4 - отпугивающие предметы (флажки, чучела, установка, трещеток);
5 - АУОП (автоматическая установка отпугивания птиц);
6 – дымовые шашки.

Начальник метеорологической службы (группы)

_____

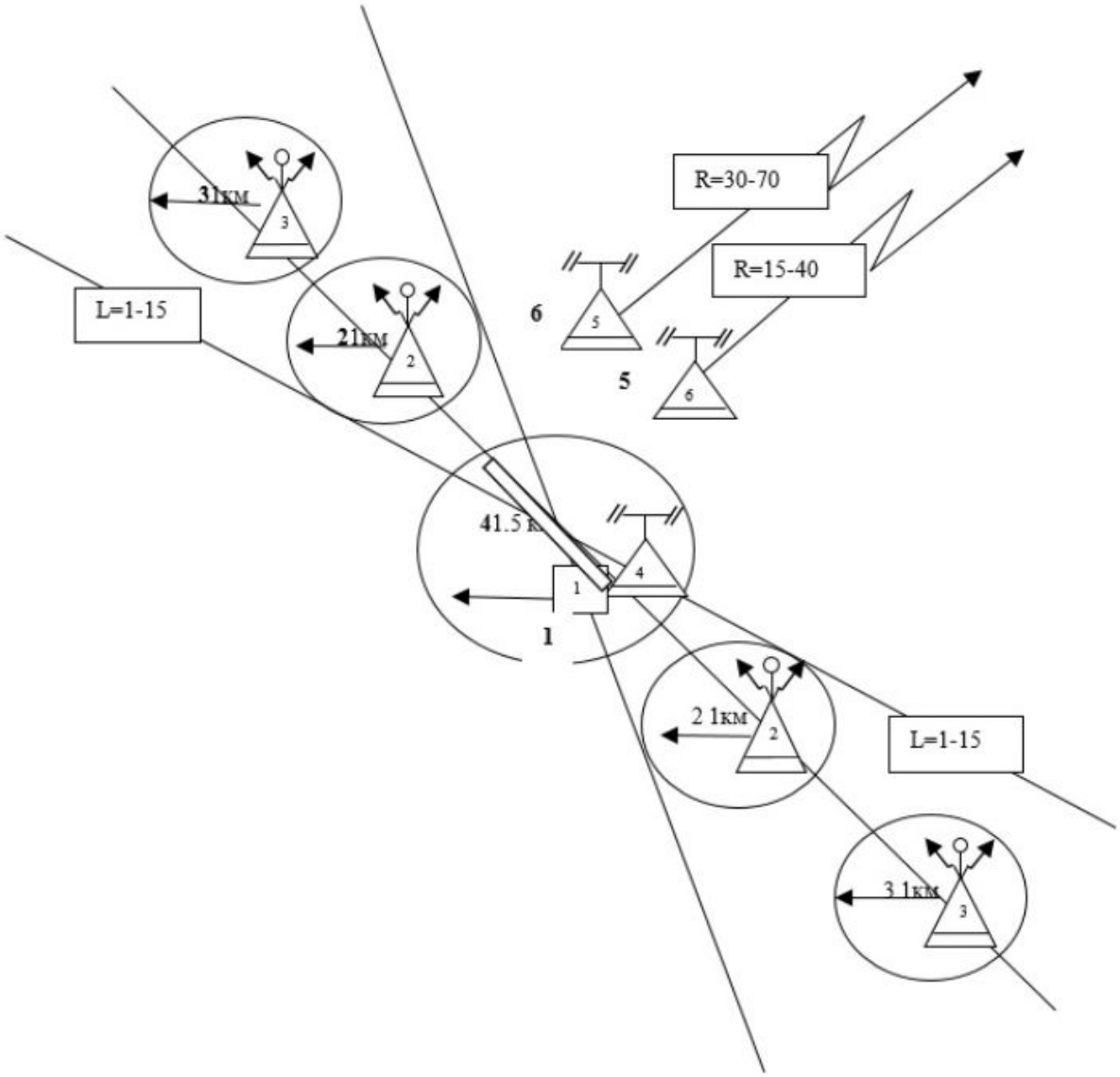
(воинское звание, подпись, фамилия, имя, отчество(при его наличии)

Appendix 4
to the Rules of ornithological
support of flights
of state aviation
of the Republic of Kazakhstan

Approve
Chief of the military unit staff

_____
(military rank, signature, surname,
name, patronymic (if any)
“ ” _____ 20 year

Scheme of zones of responsibility for the birds watching at the aerodrome



Note:

1) meteo site; 2) NDRP; 3) DDRP; 4) landing locator; 5) dispatcher locator; 6) detection and guidance locator: R –radius of responsibility zones; L - range of detection of birds by the landing locator.

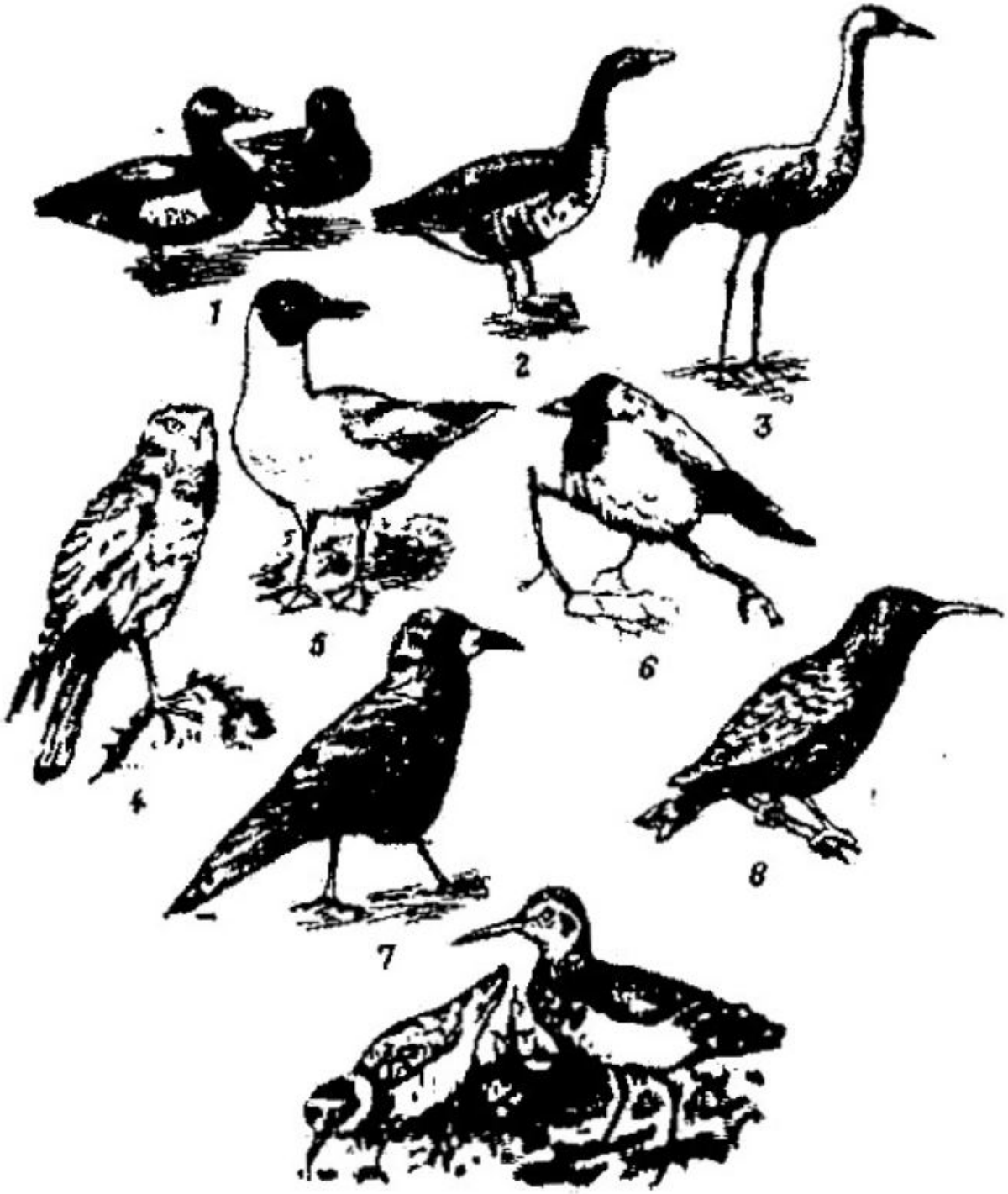
Chief of the meteorological service (group) of the military unit

_____

(military rank, signature, surname, name, patronymic (if any)

"___" _____ 20 ___year

Appendix 5
to the Rules of ornithological
support of flights of state aviation
of the Republic of Kazakhstan
Silhouettes of birds on the ground

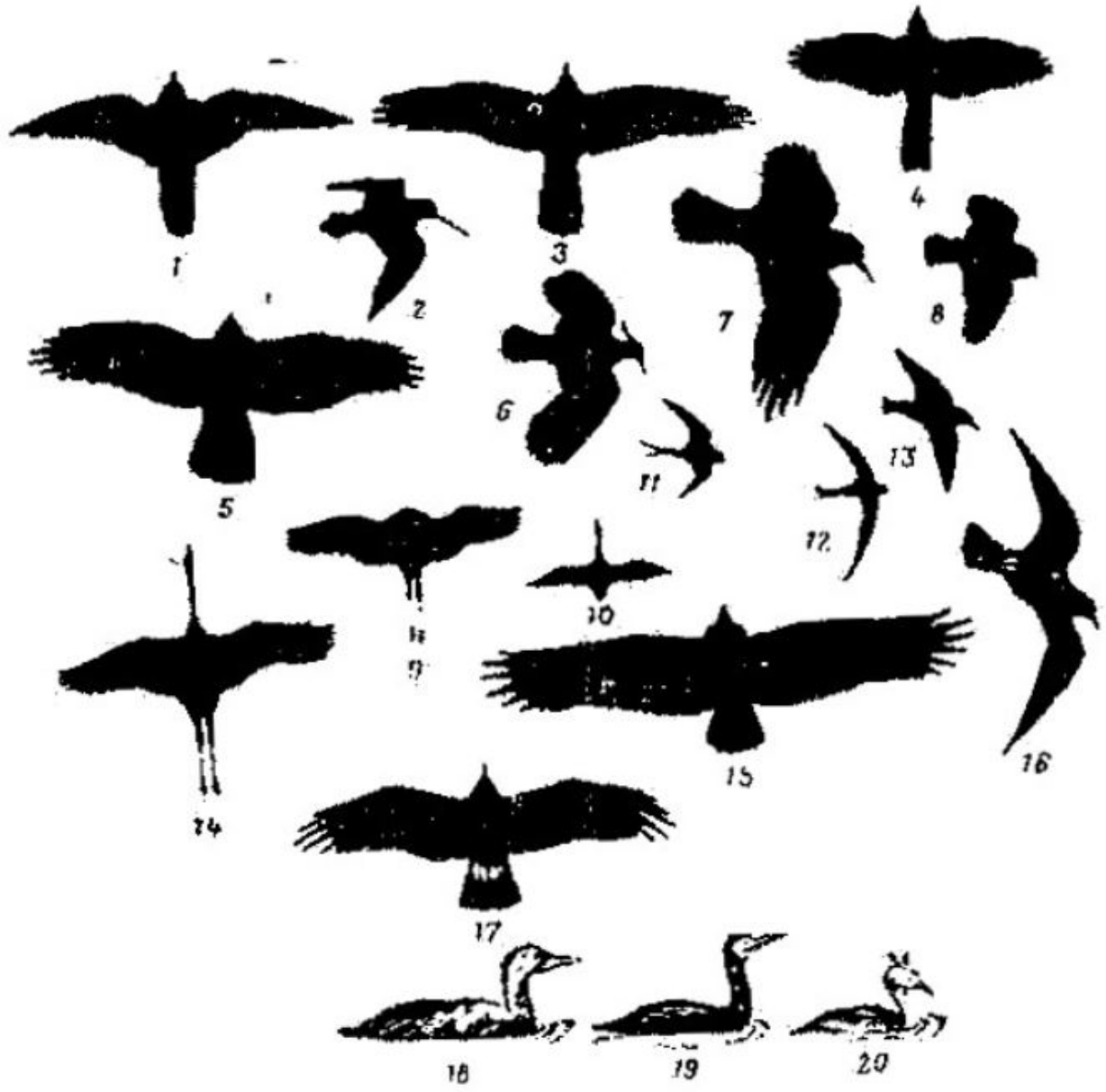


Application:

1-duck; 2-goose; 3-crane; 4-harrier; 5-gull; 6-crow; 7-rook; 8- starling; 9-sandpipers.

Appendix 6
to the Rules of ornithological
support of flights
of state aviation
of the Republic of Kazakhstan

Silhouettes of birds in flight and on the water



Application:

1-falcon; 2-sandpiper; 3-harrier; 4-hawk; 5-buzzard; 6-lapwing; 7-rook; 8-owl; 9-heron; 10-duck; 11-swallow; 12-swift; 13-starling; 14-crane, stork; 15-vulture; 16-gull; 17-eagle; 18-loon; 19-boklan; 20-grebe.

Appendix 7
to the Rules of ornithological
support of flights
of state aviation
of the Republic of Kazakhstan
Form (AB-20)

Journal of ornithological observations

Observation time	Species and size of birds	Number of birds, flocks	Size of the flocks	Altitude of the flight	Direction of the flight	Nature of the flight
09:00						
10:00						
11:00						
12:00						
13:00						
14:00						
15:00						
16:00						
17:00						
18:00						
19:00						
20:00						
21:00						
22:00						
23:00						
00:00						
01:00						
02:00						
03:00						
04:00						
05:00						
06:00						
07:00						
08:00						

_____

_____

_____

_____

_____

_____

On duty _____

(military rank, signature, surname, name, patronymic (if any)

Appendix 8
to the Rules of ornithological
support of flights
of state aviation
of the Republic of Kazakhstan

Features of identification of flashes from birds on radar screens

The task of recognizing flashes from flocks of birds on radar indicator screens is quite complicated one and requires certain skills. The main difficulty lies in the fact that the flashes from birds are hardly noticeable and extremely diverse in their appearance, which makes it difficult to develop a single method of recognizing them, as well as specify any feature, allowing to distinguish them from other flashes with complete confidence.

At the same time, there are a number of features inherent in flashes from birds, by totality of which it can be quite reliably to identify them.

These include the size, brightness, shape, severity of borders, speed and direction of movement, image constancy, location on the radar screen.

Flashes from birds may differ slightly in size and brightness, since these signs depend on the number and size of birds, their distance from the radar, relative placement of birds in the flock, position of the bird's body relative to the radar antenna, and other factors.

The size of flashes from dense flocks of birds on the landing radar screen in most cases corresponds to the size of flashes from small aircrafts, and from single birds it often has the size of a dot.

Brightness of flashes from birds on radar screens is significantly less than the brightness of the echo-signals from the aircraft and is constantly changing, and sometimes these flashes resemble interference.

The shape of the echo-signal from birds most often appears on screens as a rounded spot or dot. In cases when the detected large flock of birds (thousands of individuals) is widely stretched along the front, the flash from it can be a line or an arc.

The borders of flashes from birds do not have such sharp outlines as the marks from the aircraft and ground objects, and at the same time are not as blurred as the marks from clouds.

The speed of movement of flashes from birds is relatively small about 20-50 km / h, so it is quite difficult to visually notice the shift of flashes from birds on the screen.

During the flight in direction of the wind at high altitudes, the flight speed of birds can reach 120-150 km/h, while it is relatively easy to notice the shift of flashes, which only allows to distinguish them from the stationary echo signals formed by ground objects.

At the same time, when identifying flashes only by the speed of their movement, it is necessary to take into account the speed and direction of the wind at different altitudes, which is difficult to implement in operational work. The difference in speed makes it easy to distinguish flashes from birds from marks from the aircraft, which move much faster on the radar screen.

Direction of movement of flashes allows to distinguish the birds flashes from the echo-signals generated by balloons, pilot balloons, radiosonds, clouds that move only with the flow. Thus, a low-speed target that moves at an angle to the wind direction is almost always a flock of birds.

Unlike other targets, echo-signals of flashes from birds can dramatically change their brightness, size, shape, and direction of shift, and sometimes disappear. This is due to the fact that birds often change the speed, altitude, direction of flight and adjust in the air.

Flashes from birds are often located on the radar indicator screen in groups, sometimes consisting, especially in the spring and autumn, of dozens or even hundreds of individual marks.

The frequency and time of appearing of flashes from birds on the radar screen largely due to seasonal peculiarities of birds migration, as a result of which in the summer and winter periods flashes from birds are mostly found in the daytime (very often in the winter in the dark twilight), but in the spring and autumn around the clock and at night they are sometimes even more often than during the day.

Single flashes are observed on the radar indicator screen in the summer and winter, and in the spring and autumn there are multiple flashes from birds, which is associated with seasonal migrations. Knowing the seasonal characteristics of bird migrations in this area greatly facilitates to identification flashes from them.

Appendix 9
to the Rules of ornithological
support of flights
of state aviation
of the Republic of Kazakhstan

Distinctive features of echo-signals from birds

Identification of flashes from birds on radar indicator screens is relatively difficult and requires a certain skill from the duty calculations of all regular aerodrome radar facilities. The main difficulty is that these flashes are relatively inconspicuous and extremely diverse in appearance. In this regard, it is difficult to give a single and accurate description of flashes from birds, as well as to specify any of their characteristics, allowing to distinguish them with complete confidence from other flashes.

However, all flashes from birds are characterized by a number of features, by the totality of which it can be quite reliably to identify these flashes.

The main distinguishing features of flashes from birds include:

size;

brightness;

shape;

severity of the borders;

travel speed;

direction of travel;

constancy of the image;

location on the radar indicator screen.

Size of flashes.

Flashes from dense flocks of birds on the screen of the landing radar indicator in most cases correspond in size to flashes from small aircraft, and from single birds often have the size of a dot.

Brightness of flashes.

the brightness of flashes from birds is significantly less than the brightness of echo-signals from the aircraft on the screens of landing radars.

Flashes from birds may differ slightly in size and brightness, since these signs depend on the number and size of birds, their distance from the radar, relative placement of birds in the flock, position of the bird's body relative to the radar antenna, and other factors.

Form of flashes.

Echo- signals from birds most often appear on the screens in the form of circular spot or dot.

In rare cases, when a large flock of birds (thousands of individuals) is found widely stretched along the front, the flash from it can be a line or an arc.

Intensity of flashes borders.

Flashes from birds do not have such sharp outlines as marks from the aircraft and ground objects, and at the same time are not as blurred as marks from clouds.

Speed of movement of flashes.

Most birds fly at a speed of about 20-50 km/h, so it is quite difficult to visually notice the offset of flashes from birds on the screen. During the flight in the wind at high altitudes, the flight speed of birds reaches 120 km/h and even 150 km/h. In this case, it is relatively easy to notice the shift of the flashes from birds, which allows to distinguish them from stationary echo-signals formed by ground objects, as well as balloons, pilot balloons, radiosondes, clouds and other air formations moving at wind speed.

However, when identifying flashes only by the speed of their movement, it is necessary to take into account the speed and direction of the wind at different altitudes, which is difficult to implement in operational work. The difference in speed makes it easy to distinguish flashes from birds only from aircraft and helicopter markings moving much faster on the radar screen .

Direction of movement of the flashes.

Birds fly in all possible directions, which makes it possible to distinguish the birds flashes from echo-signals of balloons, pilot balloons, radiosondes, clouds moving only in the wind. A low-speed target that goes at an angle to the wind direction is almost always birds.

Constancy of the image flashes.

Unlike other markers, birds echo-signals can dramatically change their brightness, size, shape, direction of shift, and sometimes disappear. This is due to the fact that birds often change the speed, altitude and direction of flight, rearrange themselves in the air, and fly in more or less dense groups.

Location of flashes.

Birds echo-signals are often located on the radar indicator screen in groups, sometimes consisting (especially in the spring and autumn) of dozens or even hundreds of individual markers.

Frequency and time of appearance of birds flashes on the radar indicator screen is largely due to the seasonal characteristics of birds migrations. Therefore, in the summer and winter, birds flashes are mainly found in the daytime (in the winter, very often in the dark twilight), and in the spring and autumn around the clock, and at night they are sometimes observed more often than during the day. In the summer and winter, the radar indicator screen usually shows single flashes from birds, and in the spring and autumn, often dozens of flashes. Knowledge of seasonal characteristics of birds flights in this area makes it much easier to identify flashes from birds.