



Technical Guideline on Wildlife Handling Management

Environmental sustainability Department

Natural Reserves Section

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1. Introduction

This Technical Guideline series of 2022 requires for the management and conservation which is, but not limited to the, translocation, capture, rescue, release and/or restoration of wildlife, terrestrial and marine, in the Emirate of Dubai that will be reintroduced, displaced, and/or its behavior will be potentially affected by the changes in its habitat – actual or adjacent - by any activities impacted by or from major projects and non-major projects in or adjacent to declared protected and/or classified ecologically sensitive areas.

In line with the provisions of its relevant laws of the United Arab Emirates and its commitments to international agreements and, the Environmental Sustainability Department continuing effort to rationalize and streamline the implementation thereof that is more responsive to the demands and needs of the conservation of the biological diversity in the Emirate of Dubai, particularly, but not limited to, in the declared protected areas and/or classified ecologically sensitive areas. Hence, the Natural Reserves Section (NRS) has prepared and issued this revised Technical Guideline as complementary to the documentation process of the biological diversity in the Emirate of Dubai.

The Convention on Biological Diversity (CBD) articulates that biological diversity is a global asset of tremendous value to present and future generations. The Emirate of Dubai is consciously aware of the value of biological diversity in ecological, genetic, social, economic, scientific, educational, cultural, recreational, and aesthetic aspects and its various components as inherent in its decrees and laws that are in congruence with the laws and in various policies and programs of the land.

1.1 Relevant Legislations:

1. **Local Order No. 61/1991** regarding the environmental protection regulations in the Emirate of Dubai was issued to protect the environment of the Emirate of Dubai and to enforce high environmental standards and safe health practices.
2. **Local Order No. 2 of 1998** for declaring Ras Al Khor Wildlife Sanctuary and Jabal Ali Wildlife Sanctuary. It was issued to protect the habitats and species of these two protected areas.
3. **Federal Law No. 23 of 1999** regarding the exploitation, protection, and development of living aquatic resources which deals with issues as organization of fishing trade, procedures for registering fishermen, licensing of fishing boats, prohibited practices for

protection and development of aquatic resources, and market related issues such as circulation and export/trade procedures.

4. **Federal Law No. (24) Of 1999** regarding the protection and development of the Environment which was issued for the protection and development of the environment of the United Arab Emirates (UAE). The law also aims for the conservation of the quality and natural balance of the environment, the protection of society, the protection of human health and of other living creatures, to control all forms of pollution, and to provide control for an equitable development of the State's natural resources.
5. **Local Law No. 11 of 2003** regarding the protected areas in Dubai which was issued to establish any land area or coastal interior waters in the Emirate of Dubai that are distinguished for their high value cultural, scientific, tourism, or their aesthetic, vegetation, animal, and fisheries wealth, or those with peculiar natural physical characteristics.
6. **Decree No 22 of 2014** to establish six (6) areas in the Emirate of Dubai as Protected Areas pursuant to the directives stipulated in **Local Order No. 11 of 2003**. The areas are: 1) Hatta Mountain Conservation Area, 2) Al Marmoom Desert Conservation Reserve, 3) Al Wohoosh Desert Conservation Reserve, 4) Dubai Desert Conservation Reserve, 5) Ghaf Nazwa Conservation Reserve and 6) Jabal Nazwa Conservation Reserve.
7. **Federal Law No. (22) Of 2016** regarding regulating the possession of dangerous animals.
8. **Decree No 11 of 2018** for the amendments of the size and border of Alarmoom Desert Conservation Reserve.

The legislations also provide that the competent authority shall exercise control and to issue, among others, sets of standards, specifications, limits, and, most importantly, a procedure for a methodical appraisal of any activity or project development that has the potential to impact the environment, particularly in declared protected and/or classified sensitive areas.

Moreover, the ratified international agreements by the UAE will also be adhered to in this technical guideline:

1. Convention of Wetland of International Importance (RAMSAR), (1971)
2. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973

3. Convention on the Conservation of Migratory Species of Wild Animals (CMS), 1979
4. United Nations Framework Convention on Climate Change (UNFCCC), (1992)
5. Convention on Biological Diversity (CBD), (1992)
6. The Memorandum of Understanding on the Conservation of Migratory Sharks.
7. The Memorandum of Understanding on the Conservation and Management of Dugongs.
8. The Memorandum of Understanding on the Conservation and Management of Marine Turtles.
9. The Memorandum of Understanding on the Conservation of Migratory Birds of Prey.

Any breach on the statutes stipulated in the legislations and agreements above shall result in fines and compensation for the damage (s) incurred during the project operation and immediate stoppage of any activity conducted and revocation of its permit.

1.2 Competent Authority

The mandate to regulate, control, evaluate and issue a license/permit for any activities as specified in the above-mentioned laws is assigned to the Environmental Sustainability Department of Dubai Municipality, as the competent authority. Under this Department, the key task of implementing this Technical Guideline is further assigned to the Natural Reserves Section (NRS).

2. Key Guiding Principles

- 2.1** Any activity, environmental conservation in nature or otherwise, must be environmentally sustainable and equitably meet the needs of present and future generations.
- 2.2** Design and implementation of wildlife conservation approaches that includes, but not limited to, the rescue, revitalization, release and reinforcement of species and/or its population and habitat should follow the standard stages of project design and management, including gathering baseline information and analysis of threats, and iterative rounds of monitoring and management adjustment once an approach or measure is underway. This ensures that process and progress are recorded; adaptive management regime can then be justified, and outcomes can be determined objectively.

- 2.3** Reintroduction project is the reestablishment of natural populations of a taxon that became locally or globally extinct in the wild, in order to restore original biodiversity. Additionally, captive-breeding programs for endangered populations should be conducted for the benefit of the species and without commercial transactions.
- 2.4** Implementation of any project, development, activity or any expansion thereof, which has the potential to cause change in the ecological character of any established protected areas and classified ecologically sensitive areas, shall not be started unless an EIA process is undertaken and a license or Environmental Clearance is obtained in advance from the Air Environment Sustainability & Environmental Assessment Section (AESEAS) –Environmental Sustainability Department in close collaboration NRS or a permissive action has been issued by the NRS.
- 2.5** The United Arab Emirates has ratified international environmental agreements (as enumerated in 1.1). Provisions and the guiding principles that such agreements are based upon should be taken into consideration and should be incorporated in the implementation of the project.
- 2.6** The Proponent has the primary duty, and is responsible, for determining and disclosing all relevant information necessary for a substantial Translocation Proposal, Plan and Reports.

3. Definition of Terms

For the purposes of this Guideline, the following terms, phrases, and definitions apply:

- 3.1 Activity** - refers to the individual tasks and actions that are performed in relation to a project.
- 3.2 Animal handling** - an umbrella word that encompasses all activities starting from the capture of an animal to its final disposition.
- 3.3 Biological corridor** - a geographically defined area which provides connectivity between landscapes, ecosystems and habitats, natural or modified, and ensures the maintenance of biodiversity and ecological and evolutionary processes."
- 3.4 Conservation introduction** - the intentional movement and release of an organism outside its indigenous range.

3.4.1 Assisted colonization - the intentional movement and release of an organism outside its indigenous range to avoid extinction of populations of the focal species.

3.4.2 Ecological replacement - the intentional movement and release of an organism outside its indigenous range to perform a specific ecological function.

3.5 Conservation translocation - the intentional movement and release of a living organism where the primary objective is a conservation benefit: this will usually comprise improving the conservation status of the focal species locally or globally, and/or restoring natural ecosystem functions or processes.

3.6 Ecologically/Environmentally Sensitive Area - area which is vulnerable and in need of special protection from natural forces or human actions due to its ecological, scientific, social, economic, or educational importance. Sensitive areas include but are not limited to, national parks, world heritage areas, Ramsar wetlands, nationally important wetlands, and nationally important archaeological and cultural sites.

3.6.1 Ecologically or Biologically Significant Areas (EBSA) - areas which, through scientific criteria, have been identified as important for the healthy functioning of our ecosystems and the services that they provide.

3.6.2 Protected Area - An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means (IUCN).

3.7 Environmental Aspect - an element, component, or resulting product of a project, activity or development which interacts with the environment.

3.8 Environmental Impact Assessment (EIA) – a systematic process that involves the identification of environmental aspects of a proposed project or activity; and in predicting and evaluating the likely impacts on the environment. The process also determines what appropriate mitigation and enhancement measures are needed in order to minimize, if not to eliminate, the adverse impacts, and to identify the best environmentally sound option.

3.9 Environment - the biosphere in which different forms of life are manifested and consist of two elements:

3.9.1 Natural Element which comprises living creatures to include man, animal, plant, and other living creatures, natural resources to include water, soil, organic and inorganic substances, and natural systems.

3.9.2 Unnatural Element which comprises all that man has introduced into the natural environment, to include fixed and movable installations, roads, bridges, airports, means of transportation and innovative industries, inventions, and technologies.

3.10 Environmental Clearance (EC) - a certificate issued by the AESEAS – Environmental Sustainability Department to the Proponent after the EIA report has been approved. The EC specifies the scope and conditions which the Proponent must follow before and during the operation of a project, and in some cases, during the project's abandonment phase to comply with all Dubai Municipality's Local Orders and Administrative Orders regarding environmental protection and safety.

3.11 Establishment - means a commercial or industrial business including any building, factory, equipment, shop or office and any associated areas or land and structures.

3.12 No Objection Certificate, (NOC) - a certificate issued by the NRS certifying that it has no objection for the implementation of the project or activity.

3.13 Population restoration - any conservation translocation within the indigenous range of the species, and comprises two activities:

3.13.1 Reinforcement is the intentional movement and release of an organism into an existing population of conspecifics.

3.13.2 Reintroduction is the intentional movement and release of an organism inside its indigenous range from which it has disappeared.

3.14 Project - any undertaking, regardless of scale or magnitude, whether public or private, which may have significant impact on the environment.

3.14.1 Major Project - project or activity that has high potential for significant adverse environmental impact. This includes project or activity that is located within and/or in areas surrounding environmentally sensitive areas, natural reserves, sanctuaries, and protected areas.

3.14.2 Non-Major Project - project or activity expected to have some adverse environmental impacts, but of lesser degree and significance than those of Major Project.

3.15 Proponent - any natural or juridical person intending to implement a project or activity. The owner of a certain project or business activity.

3.16 Stakeholders - person(s), organization(s) or parties who may be directly and significantly affected by the project or activity.

3.17 Translocation - the human-mediated movement of living organisms from one area, with release in another.

4. Coverage

4.1 This Technical Guideline shall apply within and throughout the Emirate of Dubai and to all persons, property, establishments, projects, developments, or activities located or conducted within the Dubai Municipal boundaries.

4.2 It shall also apply to any proposed or planned expansion or modification of any existing project, development, activity, or establishment.

5. General Requirements

5.1 The entity that shall undertake the endeavor shall have the minimum qualifications:

5.1.1 Duly registered with the economic department, accredited by the Dubai Municipality, and certified under the UAE Laws.

5.1.2 Certified Wildlife Scientist/Technician/ Veterinarian skilled in wildlife management/ Wildlife translocation expert/ Wildlife scout/ Ecologist/ Botanists qualified to Code F and/or Code G.

5.1.3 Having prior experience and successful track record of wildlife translocation.

5.2 The project proponent or its representative shall submit a formal Translocation Proposal/Plan to the NRS which will follow the format annexed (Annex I) in this Technical Guideline. The project proposal/plan should follow international standard protocols or any published

approaches. Moreover, International Union for the Conservation of Nature (IUCN)/Species Survival Commission (SSC)/Conservation Breeding Specialist Group (CBSG) guiding principles should be followed in the operation.

5.3 The project proponent or the entity that shall undertake the endeavor can only proceed with the implementation after the following have been complied:

- Review and approval of proposal/plan and issuance of the NOC from the Environmental Sustainability Department of Dubai Municipality.
- Permits have been obtained from the Agriculture Department for plantation and translocation of plant or species listed in the CITES.
- Permits have been obtained from the CITES authority in the Ministry of Climate Change and Environment.
- In the case of the marine environment where the recipient site would not be in an acknowledged public domain, a written approval from relevant stakeholders has been obtained.

5.4 A comprehensive report should be submitted after the undertaking following the format annexed (Annex II) in this Technical Guideline.

6. Species of Conservation Concern

The species referred below should be prioritized in the translocation. These represent the priority lists:

1. Species listed in IUCN Red List, in the annexes of CITES, CMS Conventions, the Convention on Conservation of Wildlife and its Natural Habitats in the GCC countries and in the list of threatened species prepared by Regional Organization for the Protection of the Marine Environment (ROPME).
2. Species listed in the Appendices of Federal Law 11 of 2003 and Federal Law 24 of 1999.
3. Species listed in the UAE national red list of Mammals: marine and terrestrial (2019) issued by the Ministry of Climate Change and Environment (MoCCaE)

4. Species listed in the UAE national red list of herpetofauna, amphibians, terrestrial reptiles, sea snakes and marine turtles (2019) issued by the Ministry of Climate Change and Environment (MoCCaE)
5. Species listed in the UAE national red list of marine species: reef- building coral, cartilaginous fishes, and selected bony fishes (2021) issued, Technical Report by the Ministry of Climate Change and Environment (MoCCaE)
6. Species listed in the UAE national red list of vascular plants (2021), Technical Report issued by the Ministry of Climate Change and Environment (MoCCaE)
7. Species listed in the UAE national red list of birds (2021), Technical Report issued by the Ministry of Climate Change and Environment (MoCCaE)
8. All the Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species and species of special conservation concern (endemic, sacred and keystone) of wild flora and fauna should be saved through appropriate rescue and release methods before grading/ dredging/ changing land or seascapes operation to a safer place having species similar ecological niche.
9. Invasive species National Strategy and Work Plan (2022-2026).

6.1 Fish

1	Whale Shark	<i>Rhincodon typus</i>
2	Tiger Shark	<i>Galeocerdo cuiver</i>
3	Great Hammerhead	<i>Sphyrna mokarran</i>
4	Leopard Shark	<i>Stegostoma fasciatum</i>
5	Bowmouth Guitarfish	<i>Rhina ancylostoma</i>

6.2 Reptiles

1	Desert Skink Gecko	<i>Teratoscincus scincus</i>
2	Leptin's Spiny-tailed lizard	<i>Uromastix leptieni</i>
3	Egyptian Spiny-tailed Lizard	<i>Uromastix aegyptia microlepis</i>
4	Sinai Agama	<i>Pseudotrapelus sinaitus</i>
5	Spatulate-tailed Rock Gecko	<i>Bunopus tuberculatus</i>

6	Least Semaphore Gecko	<i>Pristurus minimus</i>
7	Fan-footed Gecko	<i>Ptyodactylus hasselquistii</i>
8	East sand Gecko	<i>Stenodactylus leptocosymbotes</i>
9	Snake-eyed Skink	<i>Ablepharus pannonicus</i>
10	Grey Monitor	<i>Varanus griseus</i>
11	Spiny-footed Lizard	<i>Acanthodactylus opheodurus</i>
12	Short-nosed Desert Lizard	<i>Mesalina brevirostris</i>
13	Sand Boa	<i>Eryx jayakari</i>
14	Desert Race-runner	<i>Mesalina adramitana</i>
15	Oman Saw-scaled Viper	<i>Echis omanensis</i>
16	False Horned Viper	<i>Pseudocerastes persicus persicus</i>
17	Green Turtle	<i>Chelonia mydas</i>
18	Hawksbill Turtle	<i>Eretmochelys imbricata</i>
19	Leatherback Turtle	<i>Dermochelys coriacea</i>

6.3 Birds

1	Dalmatian Pelican	<i>Pelecanus crispus</i>
2	Socotra Cormorant	<i>Phalacrocorax nigrogularis</i>
3	Greater Flamingo	<i>Phoenicopterus ruber</i>
4	Black Stork	<i>Ciconia nigra</i>
5	Osprey	<i>Pandion haliaetus</i>
6	Desert Eagle Owl	<i>Bubo bubo</i>
7	Brown-necked Raven	<i>Corvus ruficollis</i>
8	Saker Falcon	<i>Falco cherrug</i>
9	Peregrine Falcon	<i>Falco peregrines</i>
10	Houbara Bustard	<i>Chlamydotis macqueeni</i>
11	Cream coloured Courser	<i>Cursorius cursor</i>
12	Chestnut bellied Sandgrouse	<i>Pterocles exustus</i>

6.4 Mammals

1	Arabian Oryx	<i>Oryx leucoryx</i>
2	Mountain Gazelle	<i>Gazella gazellea cora</i>
3	Sand Gazelle	<i>Gazella marica</i>
4	Arabian Fox	<i>Vulpes vulpes arabica</i>
5	Caracal	<i>Caracal caracal</i>
6	Arabian Tahr	<i>Hemitragus jayakari</i>
7	Arabian Leopard	<i>Panthera pardus nimr</i>
8	Ruppell's Fox	<i>Vulpes rueppellii</i>
9	Ethiopian Hedgehog	<i>Paraechinus ethiopicus</i>
10	Gordon's Wild Cat	<i>Felis silvestris gordonii</i>
11	Cape Hares	<i>Lepus capensis</i>
12	Black Finless Porpoise	<i>Neophocaena phocaenoides</i>
13	Indo-pacific Humpback Dolphin	<i>Sousa chinensis</i>
14	Common Rorqual	<i>Balaenoptera physalus</i>
15	Dugong	<i>Dugong dugon</i>

6.5 Plants

All plants species which are listed as threatened in the red list of IUCN, GCC/ROPME, Federal Laws and UAE National Red Lists. Including all seagrass species.

6.6 Corals

Practically all coral species within the marine environment and boundaries of the Emirate of Dubai should be translocated regardless of conservation status and is not limited in the list below:

1	<i>Acropora clathrata</i>	16	<i>Porites cf. mayeri</i>
2	<i>Acropora downingi</i>	17	<i>Siderastrea savigniana</i>
3	<i>Acropora horrida</i>	18	<i>Pseudosiderastrea tayamai</i>
4	<i>Acropora valenciennesi</i>	19	<i>Coscinarea monile</i>
5	<i>Acropora arabensis</i>	20	<i>Psammocora contigua</i>
6	<i>Acropora florida</i>	21	<i>Favia pallida</i>
7	<i>Acropora valida</i>	22	<i>Favia fava</i>

8	<i>Acropora tenuis</i>
9	<i>Porites lutea</i>
10	<i>Porites solida</i>
11	<i>Porites lobata</i>
12	<i>Porites harrisoni</i>
13	<i>Porites nodifera</i>
14	<i>Cyphastrea serailia</i>
15	<i>Leptastrea transversa</i>

23	<i>Favia rotumana</i>
24	<i>Barabbatoia amicorum</i>
25	<i>Favites pentagona</i>
26	<i>Platygyra daedalea</i>
27	<i>Platygyra lamellina</i>
28	<i>Platygyra crosslandi</i>
29	<i>Plesiastrea versipora</i>
30	<i>Cyphastrea microphthalma</i>

7. Handling Procedures and Considerations

7.1 Research Permits and Collection Licenses

In the conduct of activities related to wildlife, licenses or permits are required when, including but not limited to, their nests and dens, it is being intentionally disturbed, harmed, captured, or killed. Permits/Licensees are issued according to the nature of activity/ies stated in the application:

Research Permit:

- Possession without collection of live animals from the wild, such includes, breeding and rehabilitation programs of any private entities.
- Acoustic or visual surveys – (e.g., call surveys for birds and amphibians) that can be achieved without disturbing wildlife (e.g., point counts, transect surveys, breeding bird surveys), and do NOT include use of playbacks.
- Deployment of passive detection devices such as automated recording units (ARUs) and remote cameras (camera traps) that are deployed without actively disturbing the target species (i.e., not at active nest or modifying behavior through baiting or luring).

Collection Permit:

- Surveying animals where the survey technique does not cause disruption to the animal (e.g., call playback, aerial surveys, flushing birds from nests, unmanned aerial drones/UAVs, use of artificial lights or deterrents, remote cameras disturbing the target species [e.g., erected at an active nest] or that modify behavior through baiting or luring)

- Wildlife possession (live or dead include collection of naturally shed hair/feathers/antlers, pellets, or animal scat).
- Capturing animals for identification.
- Marking animals (e.g., bird banding, telemetry), or collection of tissues (e.g., feathers, blood) from an animal for analysis.
- Lethal collection for research.
- Wildlife Sweeps – search for significant wildlife habitat features.
- Collection of hair from natural rub trees (even if a small amount of wire is added to the rub tree).

7.2 Release Location

The following criteria should be strictly followed in determining the release sites:

- It is envisaged that artificial greeneries will represent tropical evergreen, deciduous and other forms of forest unit in various development projects. All exotic species of plants would be introduced needs to follow the provisions of CITES, CBD (Bio-safety Protocol), regulatory IUCN guidelines for ALIEN/INVASIVE species.
- Translocation or recipient sites must be located on public land or water or on other site which has prior agreement with relevant stakeholders. The selection of translocation sites should be carefully considered. Sites should be located close enough to existing colonies to allow genetic mixing and re-colonization yet far enough to limit risk of exposure to human-wildlife conflict. Presence or availability of a biological corridor could enhance the migration of an introduced or recipient population and avoid genetic isolation.
- Historic areas can also be considered for re-location and re-colonization.
- The recipient site should be within the taxon's historic documented range.
- The vulnerability and regulations of the release site must be known and evaluated. For examples, some release areas are in well-protected national parks, while others are on private land. The release area and the wildlife within should have assured long-term protection.
- Within original occurrence and distribution range.

- Having similar ecological niche or suitable habitat condition.
- Have suitable prey species ratio.
- Review of potential predator species should be comprehensive.
- Assured long term protection and sustainability.

7.3 Veterinary Considerations

- During the planning stages, a comprehensive veterinary risk assessment should be conducted.
- Protective clothing, such as disposable gloves, facemasks, etc. should be worn whenever handling wildlife.
- Invasive veterinary screening should be avoided. During the capture procedure, rapid physical examinations should be conducted on all individuals by experienced handlers who themselves are free from infectious diseases.
- When possible, blood, hair, and fecal samples should be collected for genetic and veterinary analysis.
- Only properly trained individuals proficient in the required techniques should be attempted to take tissue samples from live animals. Collection of tissue samples requires proper animal restraint to avoid traumatic injuries to the animal and to the investigator taking samples. Blood is the most common tissue sampled from live animals. A conservative rule of thumb is that the amount of blood drawn at one time from healthy animal that is to be kept alive should not be no more than 1 percent of its body weight. However, the amount of blood taken should be limited to actual needs, rather than the maximum amount that can be safely taken, to reduce stress from handling.
- Quarantine should be highly considered for newly received animals from those already in a facility or recipient site until the health of the new animals can be reviewed.
- When moving wildlife directly from one area to another, diseases can in turn be transported. Some of these diseases may interfere with the animal's ability to cope with the move, or they may infect other animals living in the release area. Testing for such diseases is important, and it also provides a picture of what infectious agents occur

naturally in a population. However, the additional stress animal often experience due to unnecessary veterinary procedures should be avoided.

7.4 Transport and Release

- All possible quarantines should be followed while capturing and release.
- A thorough transport and release strategy (hard or soft release) and a backup strategy should be developed and understood by all parties involved
- Transport of wildlife should be carried out in a manner that minimizes stress to the animals. If possible, hand carry cages to and from the trap site to the truck and release site. Cages should be kept upright and not swung under any circumstances. If multiple cages must be carried, use of a backpack could be considered.
- Transport of caged wildlife in vehicles should minimize exposure, jostling, close exposure to other caged animals and stress. When transported, traps should be secured to provide separation of cages and avoid jostling. Stacking of cages should be avoided. An open weave netting cover should be placed over the top of all cages to minimize sun exposure and keep the animals as cool as possible. If necessary, the cover should be dampened to further cool the animals.
- Development of transport plans for animals to the site of release should place special emphasis on ways to minimize stress and avoid injury or illness. Animals should be transported in secure containment with clear specifications on caging, number in cages, etc.
- Qualified personnel should accompany the release stock during transport and be prepared to deal with emergencies (veterinary emergencies, escapes, etc.)
- The release strategy should include such details as acclimatization of release stock to the release area, behavioral training required such as foraging, group composition. The strategy should also provide for "site fidelity," such as short-term food provisioning. But such should not be a strategy for the long term.
- The exact release site should not be close to human dwellings, roadways, or similar locales to minimize the chance of animals dispersing to areas where humans are present.

- The release site should be mapped and possibly demarcated. It may be useful to cut trails and mark trees or other key points to facilitate post-release monitoring exercise, such as recording distance of dispersal after release.

7.5 Restraint and Handling

Safety of both wild animals, handlers and scientists who are involved in the operation should be the primary consideration when physical contact between them is judged to be necessary and unavoidable. Wildlife almost without exception will try to elude capture, handling, and restraint. The means by which a particular animal may try to prevent capture will vary with species, sex, physiographic condition, and temperament of the individual. In attempts to elude capture, wild animals are capable of inflicting severe damage to themselves and their potential captors.

7.5.1 Physical Restraint

For many situations physical restraint is the most appropriate method of animal handling, because of risks from chemical immobilization to the animal and humans when potentially toxic drugs are used. When physical restraint is selected, an adequate number of sufficiently trained and equipped personnel must be available to complete the task safely. Location and type of capture, as well as procedures to be performed and time required to accomplish them, will influence the particular type of physical restraint. Gloves, catch poles, ropes, nets, body bags, holding boxes, corrals, squeeze chutes, or more sophisticated mechanical holding devices may be required for specific situations.

7.5.2 Chemical Restraint

If a chemical restraint is selected, it is imperative for all members of the capture team to have a working knowledge of the chemical or drugs being used, even if they are to be handled and delivered by a veterinarian.

Use of chemical or drugs to render a wild and potentially dangerous animal safe to handle has many applications in wildlife research and management. Use of anesthetics, analgesics, sedatives is mandatory for the control of pain and distress before potentially painful procedures.

7.5.3 Marking

Developing means that reliably identify individual animals to achieve field research objectives often is necessary. In addition to requiring individual identification, researchers may need information on non-conspicuous aspects of physiology or movements. Or other aspects of animal ecology that can be determined directly or indirectly through specially designed markers.

7.5.3.1 Consideration for animal marking

Before initiating any animal, marking Wildlife researchers must resolve the following questions to determine whether marking is required and appropriate for the particular situation.

1. Do naturally occurring differences in the morphology of the animals under consideration provide sufficient identification to achieve research objectives?
2. How many animals must be individually identifiable?
3. If animals must be physically marked, can a sufficient number of animals be marked in the time available?
4. Are the risks (to both animal and researchers) associated with capture, handling, and marking, and subsequent well-being, minimal and acceptable in both responsible and scientific contexts?

7.5.3.2 Evaluation criteria for marking techniques.

The following are essential criteria for evaluation of marking techniques:

1. Marks should have minimal effect on the anatomy and physiology of the organism, i.e., no immediate or long-term physical hindrance.
2. Marks should not influence the organism's behavior. i.e., they should not reduce an organism's ability to secure food or inhibit breeding activity.
3. Marks that make an organism more conspicuous must be evaluated carefully to ensure that they neither cause others of the same species to react differently to it than to other conspecifics nor subject it to increased selection by potential predators

4. Marks should be retained for the minimal period required to achieve project goals.
5. Unambiguous marks that are quick and easy to apply should be selected to avoid extensive handling or error potential
6. Marks must comply with Federal, Emirate and other Agency rules and regulations.

7.6 Wildlife Disease Prevention

Protection of free-ranging wildlife from diseases is aided by the following actions:

- Appropriate health certification should be required for all animals being brought to the site of field investigations. Emirates veterinary officials should be contacted to determine what specific testing must be done when animals are moved into their jurisdiction.
- Appropriate disinfection procedures should be used for investigators and their equipment when disease risks are present.
- Prior knowledge of disease activity at the study site should be obtained to guide actions involving the research study.
- Source of any animals being brought to a field investigation site (captive reared and relocated wild stock) should be evaluated of inherent disease problems, and appropriate steps should be taken to avoid disease introductions.
- To the extent possible, animals should be held under surveillance for 15-30 days prior to their release into the wild and only healthy animals should be released. These animals should not be mixed with other species during transportation and should be isolated from other animals during the surveillance period.
- Any animals that die should be examined by a disease diagnostic laboratory having competency for determining cause of death in the species involved; these findings should be used to guide appropriate actions.
- Animals that become clinically ill should be examined by disease specialists, and their counsel should be used to protect the well-being of other animals within the study area.

7.7 Post-Release Monitoring

- Long-term post-release monitoring is one of the most important components of a translocation project. Such monitoring should include behavioral, demographic, and ecological studies and take into account social changes (for example, group stability and inter group interactions), health, reproductive behavior and success, mortality, impact on habitat, vegetation etc.
- Habitat protection should be ongoing, and its effectiveness monitored.
- Post Release Monitoring Data for evaluation

7.8 Other Considerations

Irrespective of the species or circumstances involved wildlife professionals should satisfy the following conditions for all field operations.

- Procedures employed should avoid or minimize distress to animals consistent with sound research design.
- Procedures that may cause more than momentary or slight distress to animals should be performed with appropriate sedation, analgesia, or anesthesia, except when justified for scientific reason in writing by the investigator in advance.
- Animals that otherwise would experience severe or chronic distress that cannot be relieved will be euthanized at the end of the procedure or, if appropriate, during the procedure.
- Living conditions of animals held in captivity at field sites should be appropriate for that species and contribute to their health and well-being. Specific considerations include appropriate standards of hygiene, nutrition, group composition and numbers, provisions for refuge and seclusion, and protection from weather and other form of environmental stress. The housing, feeding, and non-medical care of these animals must be directed by an expert trained and experienced in the proper care, handling, and use of the species being maintained or studied.
- A thorough capture strategy, including detailed capture techniques, must be developed, practiced, and fully understood by all involved parties. The capture of wildlife is very

difficult. Injury or loss of animals must be avoided as much as possible. Trial captures should be considered.

- Groups to be moved should be studied in advance to assist in analysis of their behavior and adaptability in new environment.
- Care should be taken when targeting groups with recently weaned juveniles.
- Kill traps with attendant baits and attractants are acceptable and effective for animal collection when used in a manner that minimizes the potential for collecting non-target species. All traps should be checked regularly, at least daily to prevent specimen loss from scavengers and predators and should be rendered nonfunctional when not in use.
- Live traps for nocturnal species should be set before dusk, checked as soon as possible after dawn, and closed during the day to prevent capture of non-target species. Live traps for diurnal species should be shaded or positioned to avoid full exposure to the sun. Live traps for nonfossorial mammals should enclose a volume of space adequate for movement within the trap; for fossorial mammals, trap diameter should approximate that of the burrow. The live-trap mechanism should not cause serious injury to the animal, trap doors should be effective in preventing the captive animal from becoming stuck or partly held in the door opening.
- Wildlife should be moved quickly to minimize any alteration in their skills, behavior, and knowledge.

Further information is available at

Natural Reserves Section

Phone: 04-6066826 / 6066819

Fax: 04-7033532

Email Address: NRS@dm.gov.ae

Or

Visit the Dubai Municipality Website at: www.dm.gov.ae

8. Annexes

ANNEX-I

Outline Content of Project Proposal

- I. Name and Type of the Project
- II. Project
- V. Target Species Profile
- VI. Brief Description of Donor Site
- VII. Justification of the Recipient Site/s
- VIII. Methodologies and Handling Procedures
- IX. Implementation Timetable

ANNEX - II

Outline Content of Translocation Comprehensive Report

- I. Name and Type of the Project
- II. Project Location and Area Coverage
- III. Goals and Objectives of the Project
- IV. Survey History
- V. Target Species Profile
- VI. Brief Description of Donor Site
- VII. Justification of the Recipient Site/s
- VIII. Methodologies and Handling Procedures
- IX. Results and Discussion
 - Species Identification

- Species Health
- Species Capture Efforts
- Species Release Efforts
- Species Acquisition Receipt
- Species Acquisition Data
- Species Morphometric's
- Species Mortality and Injury Incidences during operation
- Meteorological Conditions
- Physico-Chemico Water Parameters

X. Conclusion and Recommendations

XI. Monitoring Plan (5-year) and Implementing Framework