

Ethical Guidelines for Research at Tennoji Zoo



てんのうじどうぶつえん

Tennoji Zoo

formulated in July 2024

revised in November 2025

■Preamble

Zoos, often perceived as mere leisure facilities, play a crucial societal role as museums showcasing living animals. By educating the public about the state of the natural environment through the exhibition of living animals, it is essential to promote biodiversity awareness and encourage environmentally conscious behavior among individuals. Additionally, the importance of zoos as ex situ conservation facilities for endangered species is growing, necessitating their contribution to nature conservation.

Technological advancements in husbandry and breeding techniques are indispensable for zoos to contribute to conservation. To provide better care, zoos must draw upon knowledge from various academic disciplines, including animal nutrition (nutritional science), animal behavior (ethology and behavioral analysis), and reproductive physiology (veterinary science). Moreover, applying the knowledge gained at zoos to wild animals can contribute to the conservation of the natural environment. Zoos are expected to accumulate knowledge across disciplines, thus assuming the role of research facilities.

In recent years, there has been a growing demand for ethical considerations in research. In zoos, conducting research that contributes to society while ensuring that the welfare of the animals under study does not deteriorate is of paramount importance. The “Ethical Guidelines for Research at Tennoji Zoo” establishes a framework for future research activities and promotes appropriate and effective research at Tennoji Zoo.

Ethical Guidelines for Research at Tennoji Zoo

1. Purpose

These guidelines aim to establish ethically necessary considerations for conducting appropriate and effective research.

2. Responsibilities

All individuals conducting research activities at Tennoji Zoo (including external researchers) have the obligation and responsibility to sincerely adhere to and comply with these guidelines.

3. Scope

These guidelines apply to research conducted at Tennoji Zoo and research in which Tennoji Zoo cooperates (joint research, including sample provision) involving captive animals, wild animals, and humans (visitors, etc.).

4. Establishment of a Research Ethics Committee

To effectively implement these guidelines, a Research Ethics Committee is established. The Research Ethics Committee is composed of three or more members appointed by the Director and reviews research plans to ensure compliance with these guidelines and submit the review results to the Director as the basis for approval or disapproval. It will also monitor research activities.

5. Research Plans

Researchers must submit a research plan to the Research Ethics Committee before conducting research. The research plan must meet the following requirements:

For research involving animals:

- The target animals and their numbers are appropriate for the research purpose.
- The genetic origin (source of animals) of the target animals (excluding wild animals) is clearly stated (If conducting research that does not limit the target animals, carefully consider the genetic origin of the animals that may be the target animals, and clearly state that not limiting the target animals is in line with the research purpose).
- The most invasive category and code number from the attached "Invasiveness Category and Code Number" are clearly stated.
- Relevant laws and regulations are complied with.
- The quality of life (QOL) of the target animals will not be degraded.
- The research content is ethically considered.
- The 3Rs principles (Replacement, Reduction, Refinement) have been

considered (However, this does not apply to research aimed at improving animal welfare).

For research involving humans:

- The target and number of people are appropriate for the research purpose.
- Relevant laws and regulations are complied with.
- The research content is ethically considered.
- The research content and participation in the research can be withdrawn.

Please note that research plans deemed inappropriate by the Research Ethics Committee will be rejected or requested for revision.

6. Research Activities

The Research Ethics Committee will monitor the research progress and, if deemed inappropriate for continuation, will instruct the researcher or request the termination of the research. The following must be observed when conducting research:

- The quality of life (QOL) of the target animals will not be degraded.
- The research does not interfere with the work of general visitors and zoo staff.
- The research does not have an inappropriate educational effect on visitors.
- Research samples are not reused or made available to third parties.
- Environmental considerations are made.

7. Disclosure of Research Results

Research results will be shared with zoo staff and, in principle, will be disclosed to the public. In addition, when presenting research results at academic meetings or research conferences, the consent of Tennoji Zoo must be obtained.

8. Environmental Considerations

During the research period, every effort will be made to minimize the environmental impact.

9. Compliance with Laws and Regulations

The latest information on relevant laws and regulations and guidelines of related organizations, both domestic and international, must be obtained, understood, and complied with.

(Appendix)

Invasiveness Category and Code Number

Category	Procedure	Invasiveness	Code Number
Change in housing environment	Environmental enrichment	B	01-01
	Experimental environmental change	B	01-02
Feeding	Change in food intake	B	02-01
	Change in drinking water intake	B	02-02
	Change in feeding schedule	B	02-03
	Change in drinking water schedule	B	02-04
	Change in feeding content	B	02-05
Restraint	Physical immobilization	D	03-01
	Anesthesia-induced immobilization	C	03-02
Body measurement	Weight and body size measurement	B	04-01
	Body temperature measurement	B	04-02
	Behavioral observation	A	04-03
	Blood sampling	C	04-04
	Excreted urine sampling	A	04-05
	Fecal sampling	A	04-06
	Semen collection	B	04-07
	Artificial insemination	C	04-08
	Collection of fur or feathers	B	04-09
	Provision of samples collected for other purposes (e.g., health monitoring)	A	04-10
Behavioral modification	On-site work (equipment installation, etc.) in the presence of animals	C	05-01
	Training	B	05-02
	Experiment with experimental apparatus	B	05-03
	Affixing equipment/devices to the animal's body	B	05-04
Not applicable to the above		Review/Deliberation by the Review Committee	00-00

- A: Research that is considered to have almost or no invasiveness to animals.
- B: Research that involves mild invasiveness to animals.
- C: Research that involves moderate invasiveness.
- D: Research that involves severe invasiveness.

Research plans for Category D research must consider the 3Rs principles and clearly state why it is not possible to conduct the research using other methods. In some cases, researchers may be asked to describe their consideration of the 3Rs principles for research plans in Categories B and C.