

# Animals Used in Research & Teaching

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# FACT: Pets vs. Animals Used in Research

Pet ownership is very different than using animals for research. The privilege of using animals for research comes with great responsibilities and regulatory requirements.

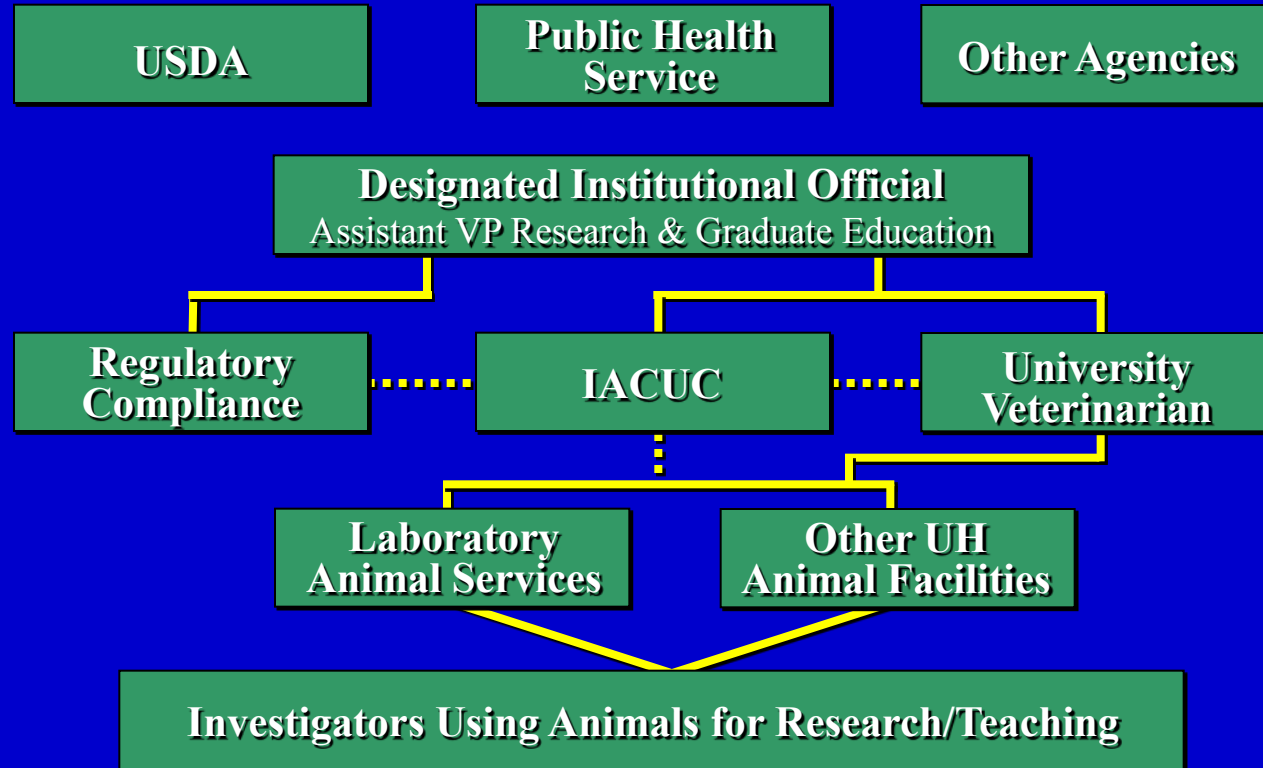


# **Animals used in Research or Teaching**

## **Lines of Authority**

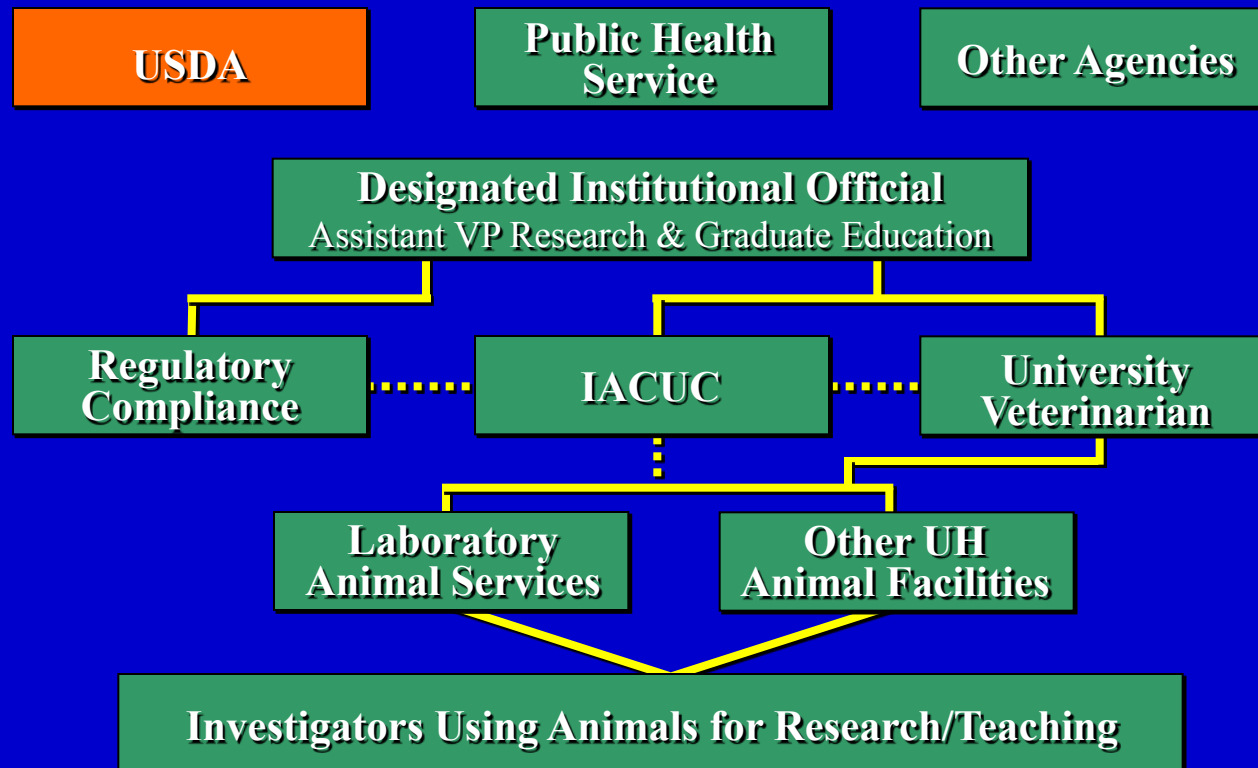
- Use of vertebrate animals for research, teaching, and other activities at an institution such as the **University of Hawaii**, requires that there is a line of authority for administering the program and ensuring compliance with animal care policies.

# Lines of Authority for the use of vertebrate animals at the UH

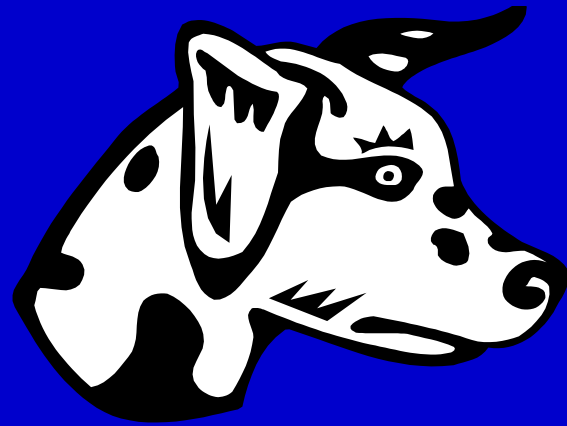


# United States Department of Agriculture

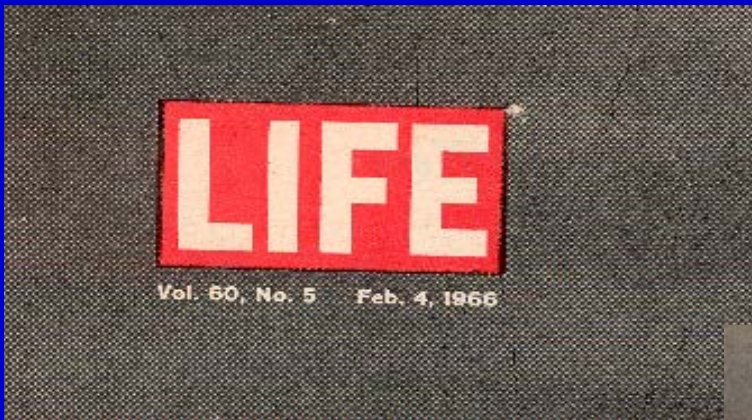
The USDA administers the Animal Welfare Regulations



# 1965 Disappearance of “Pepper”



■ 1966 *Life* article “Concentration Camp for Dogs”



Pets for sale cheap—no questions asked

**CONCENTRATION  
CAMPS FOR DOGS**

# ■ Animal Welfare Act Amendments

❖ Laboratory Animal Welfare Act of August 24, 1966

❖ 1970

❖ 1976

❖ 1985

❖ 1990

❖ 2002



President Johnson after signing the Laboratory Animal Welfare Act, 1966  
Senator Magnuson, Representative Poage, Representative Horton, Senator Clark



# Animal Welfare Act (AWA)

## SUBCHAPTER A—ANIMAL WELFARE

### PART 1—DEFINITION OF TERMS

AUTHORITY: 7 U.S.C. 2131-2156; 7 CFR 2.22, 2.80, and 371.2(g).

#### §1.1 Definitions.

For the purposes of this subchapter, unless the context otherwise requires, the following terms shall have the meanings assigned to them in this section. The singular form shall also signify the plural and the masculine form shall also signify the feminine. Words undefined in the following paragraphs shall have the meaning attributed to them in general usage as reflected by definitions in a standard dictionary.

*Act* means the Act of August 24, 1956 (Pub. L. 89-544), (commonly known as the Laboratory Animal Welfare Act), as amended by the Act of December 24, 1970 (Pub. L. 91-579), (the Animal Welfare Act of 1970), the Act of April 22, 1976 (Pub. L. 94-279), (the Animal Welfare Act of 1976), and the Act of December 23, 1985 (Pub. L. 99-198), (the Food Security Act of 1985), and as it may be subsequently amended.

*Activity* means, for purposes of part 2, subpart C of this subchapter, those elements of research, testing, or teaching procedures that involve the care and use of animals.

*Administrative unit* means the organizational or management unit at the departmental level of a research facility.

*Administrator* means the Administrator of the Animal and Plant Health Inspection Service, U.S. Department of Agriculture, or any other official of the Animal and Plant Health Inspection Service to whom authority has been delegated to act in his stead.

*Ambient temperature* means the air temperature surrounding the animal.

*Animal* means any live or dead dog, cat, nonhuman primate, guinea pig, hamster, rabbit, or any other warm-blooded animal, which is being used, or is intended for use for research, teaching, testing, experimentation, or exhibition purposes, or as a pet. This term excludes: Birds, rats of the genus *Rattus* and mice of the genus *Mus* bred for use in research, and horses not used

for research purposes and other farm animals, such as, but not limited to livestock or poultry, used or intended for use as food or fiber, or livestock or poultry used or intended for use for improving animal nutrition, breeding, management, or production efficiency, or for improving the quality of food or fiber. With respect to a dog, the term means all dogs, including those used for hunting, security, or breeding purposes.

*Animal act* means any performance of animals where such animals are trained to perform some behavior or action or are part of a show, performance, or exhibition.

*APHIS* means the Animal and Plant Health Inspection Service, United States Department of Agriculture.

*APHIS official* means any person employed by the Department who is authorized to perform a function under the Act and the regulations in 9 CFR parts 1, 2, and 3.

*APHIS, REAC Sector Supervisor* means a veterinarian or his designee, employed by APHIS, who is assigned by the Administrator to supervise and perform the official work of APHIS in a given State or States. As used in part 2 of this subchapter, the APHIS, REAC Sector Supervisor shall be deemed to be the person in charge of the official work of APHIS in the State in which the dealer, exhibitor, research facility, intermediate handler, carrier, or operator of an auction sale has his principal place of business.

*Attending veterinarian* means a person who has graduated from a veterinary school accredited by the American Veterinary Medical Association's Council on Education, or has a certificate issued by the American Veterinary Medical Association's Education Commission for Foreign Veterinary Graduates, or has received equivalent formal education as determined by the Administrator; has received training and/or experience in the care and management of the species being attended; and who has direct or delegated authority for activities involving animals at a facility subject to the jurisdiction of the Secretary.

The AWA was amended in the Food Security Act of 1985. Its main trust was to minimize pain and distress suffered by animals used for experiments and tests. The Animal Welfare Regulations sets forth these standards.

# Animal Welfare Act (AWA)

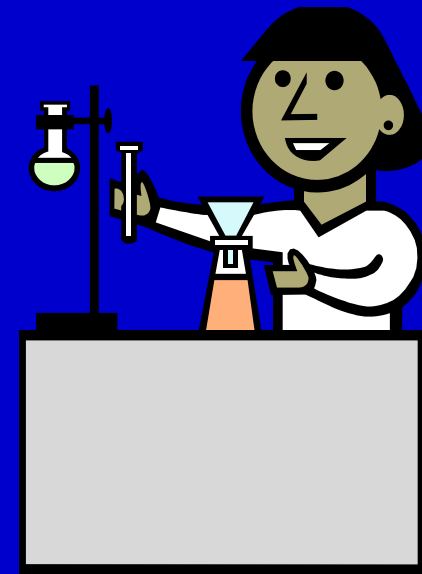
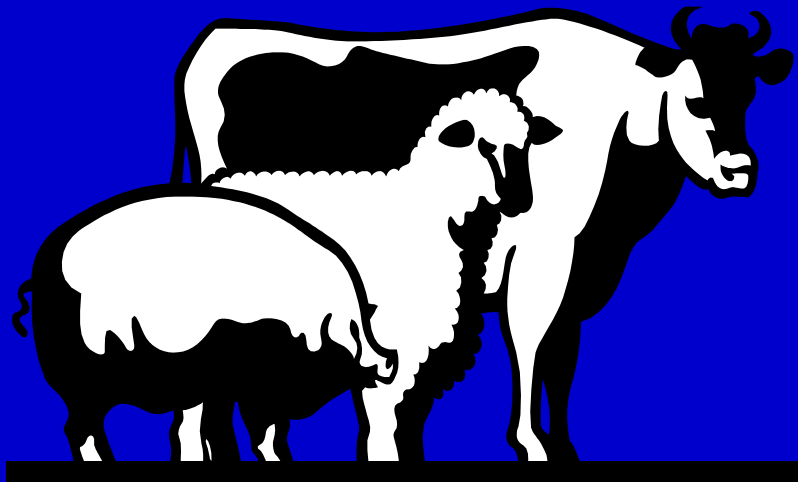
- The AWA regulates the use of dogs, cats, primates, guinea pigs, hamsters, rabbits, and marine mammals used in research, teaching and testing.





# Animal Welfare Act (AWA)

- The AWA regulates the use of agricultural animals used in biomedical research and teaching.



# Animal Welfare Act (AWA)

- The AWA requires animals to be provided with adequate husbandry, physical environment and veterinary care.

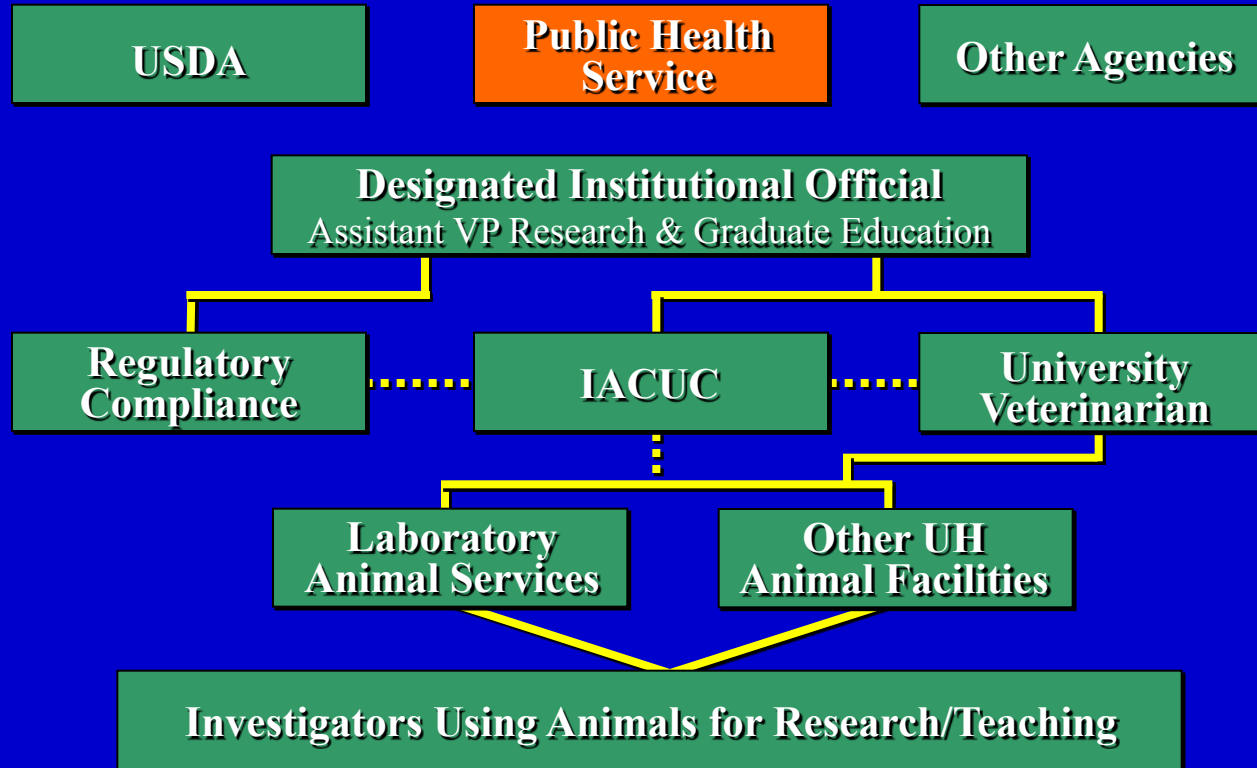


# Animal Welfare Act (AWA)

- Amendments to the AWA require psychological enrichment for primates and dogs.



# Public Health Service



# Public Health Service

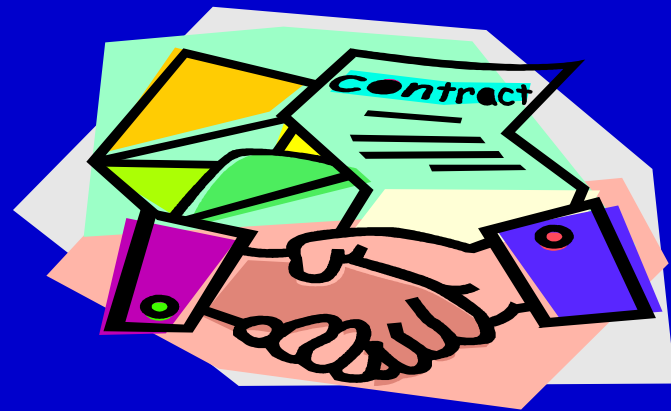
- The 1985 Health Research Extension Act requires all medical research funded through the National Institutes of Health (NIH) to conform with the Public Health Service Policy on Humane Care and Use of Laboratory Animals.





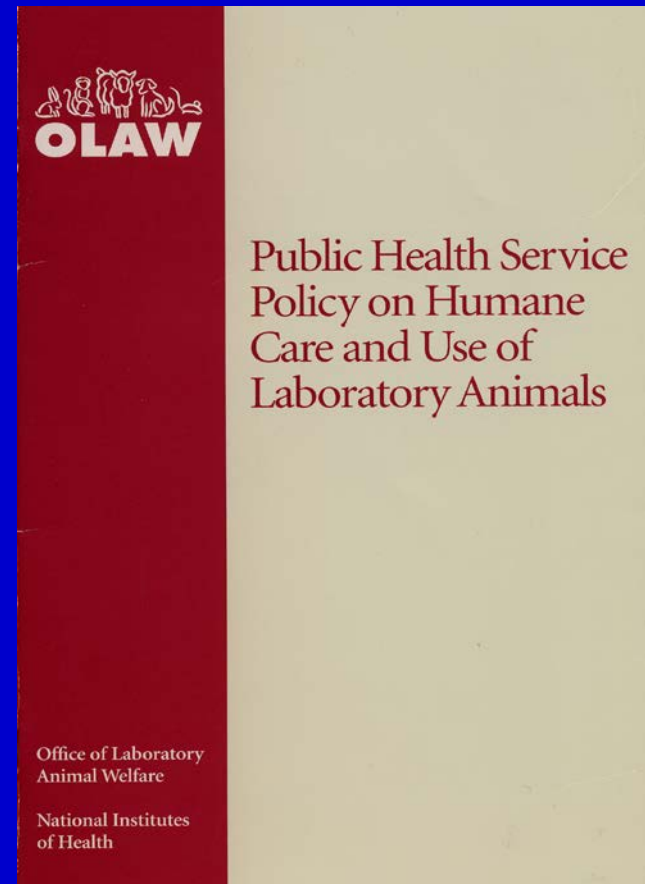
# Public Health Service

- In order for the University of Hawaii to be eligible to receive Federal contracts and grants involving vertebrate animals, the UH must have a contract called the *Animal Welfare Assurance* on file and approved by the Public Health Service.

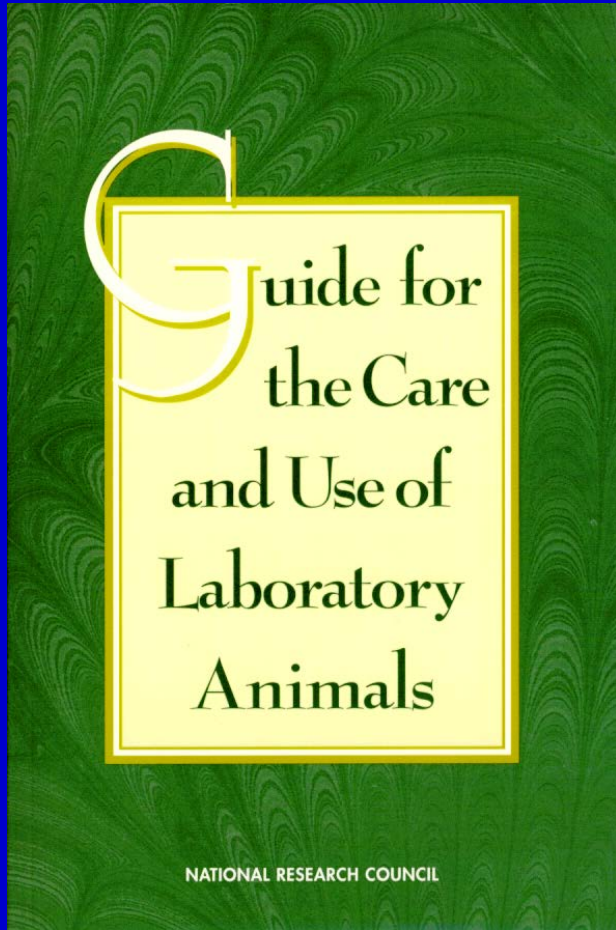


# Public Health Service

- Public Health Service  
Policy on Humane Care  
and Use of Laboratory  
Animals



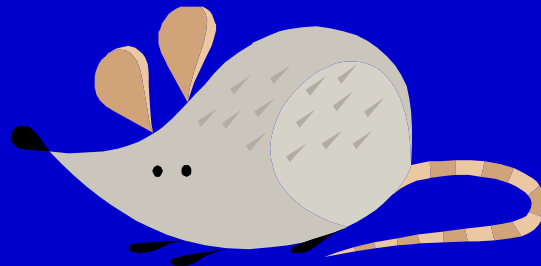
# Public Health Service



The National Institutes of Health and most other federal agencies requires scientists to use *The Guide for Care and Use of Laboratory Animals* to determine the appropriate standards for animal care and use.

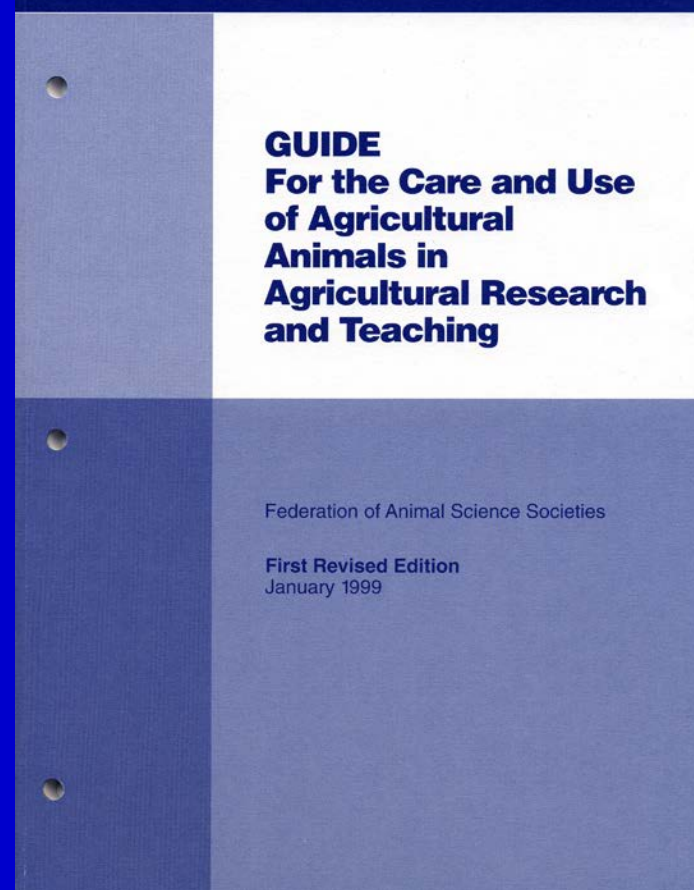
# Public Health Service

- The *Guide* offers expert advice and latest scientific research on how to care for various conventional species of animals to meet scientific, technical and humane standards.



# Public Health Service – Agricultural Animals

- *The Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*

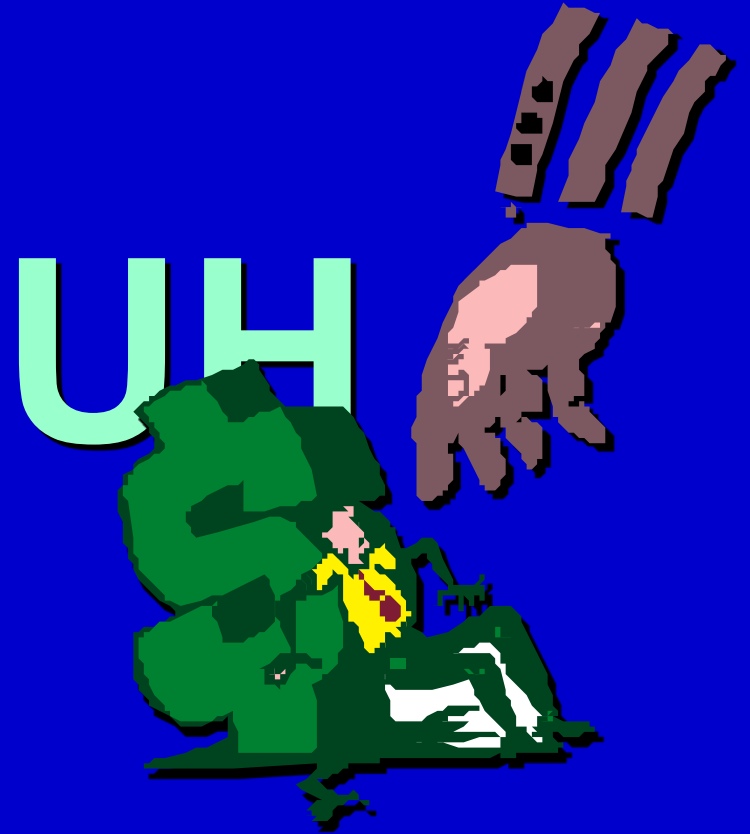


# Public Health Service – Field Studies

- The Following documents provide guidance on animals used in field studies:
  - ❖ Acceptable Field Methods in Mammalogy (*Journal of Mammalogy*)
  - ❖ American Ornithologists' Union, Report of Committee on Use of Wild Birds in Research
  - ❖ Guidelines for Use of Live Amphibians and Reptiles in Field Research (*Journal of Herpetology*)
  - ❖ Guidelines for Use of Fishes in Field Research

# Public Health Service

- Requires that significant problems with animal care must be reported to PHS. Failure to correct violations can result in all federal funding for animal research and teaching at the institution be revoked or suspended.



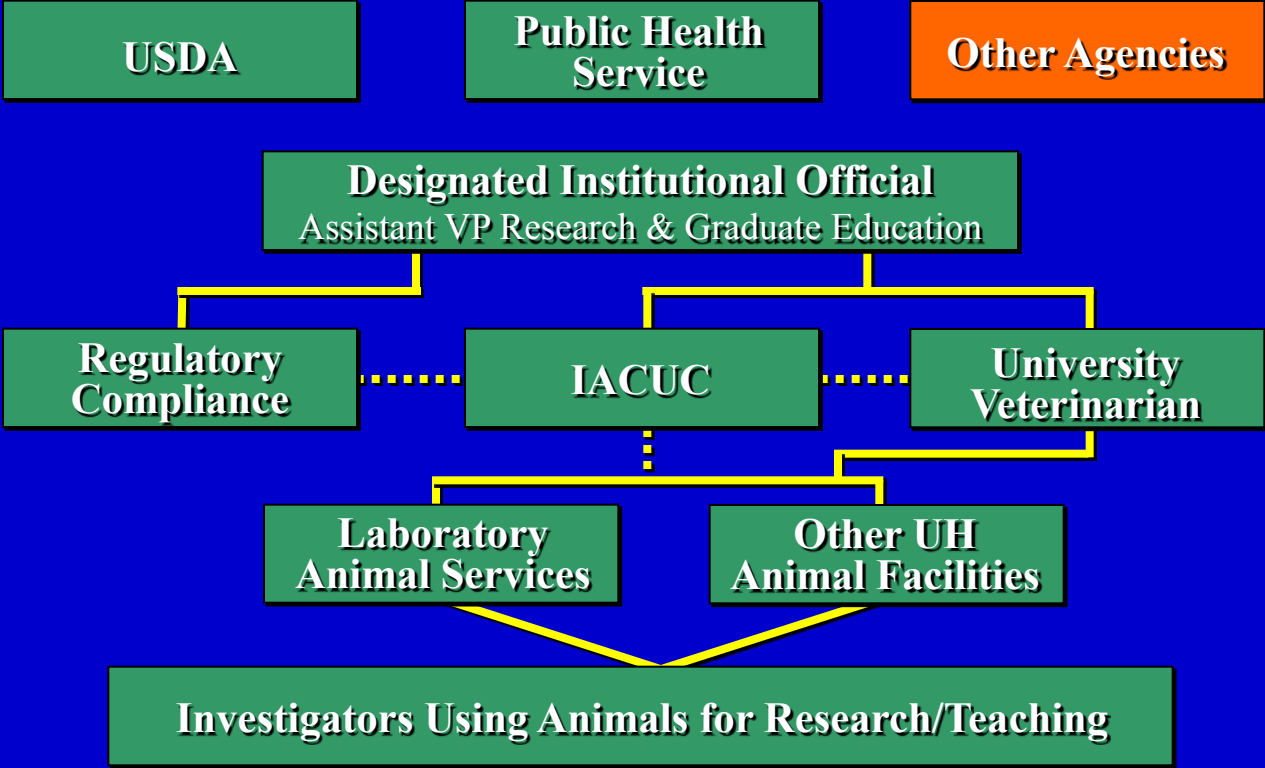
# Public Health Service/USDA Methods for Reporting Deficiencies

- Known as the **whistle blower policy**. No University employee, committee member or personnel shall be discriminated against or be subject to reprisal for reporting deficiencies in animal care and treatment.





# Other Agencies

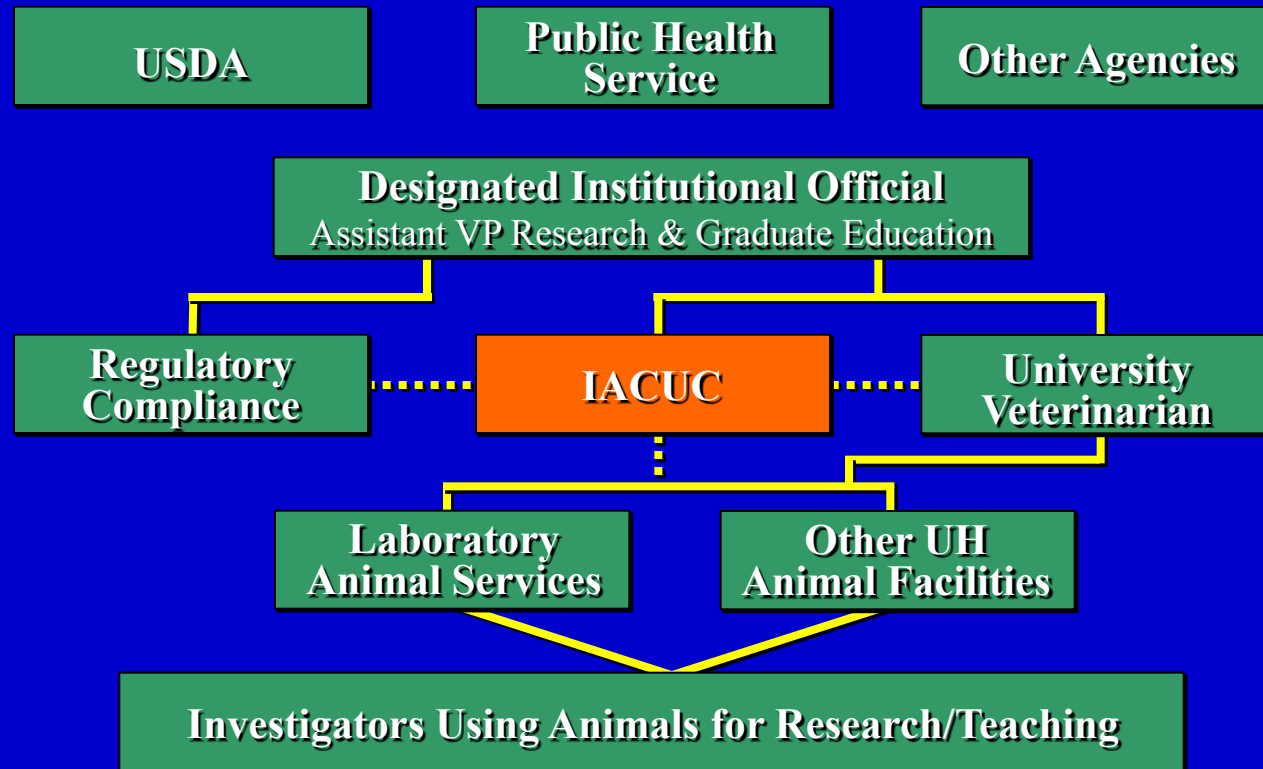


# Examples of Other Agencies

- Department of Interior Fish and Wildlife Service is involved when endangered species are used.
- National Oceanographic Atmospheric Administration oversees the Marine Mammal Protection Act.



# Institutional Animal Care and Use Committee (IACUC)



# Institutional Animal Care and Use Committee (IACUC)

- It is mandated by the AWA and the PHS policy that each institution appoint an Institutional Animal Care and Use Committee (IACUC) to oversee and evaluate the institution's animal programs, procedures, and facilities.



# Institutional Animal Care and Use Committee (IACUC)

- The IACUC's main charge is to review animal use protocols and any revisions to currently approved animal activities at the UH on a monthly basis.



# Institutional Animal Care and Use Committee (IACUC)

- Conducts semi-annual inspections of research facilities and evaluates the institution's program of humane animal care and use.



# Institutional Animal Care and Use Committee (IACUC)

- Reviews and investigates concerns involving the care and use of animals at the institution. They are authorized to suspend an ongoing activities involving animals.



# IACUC

## 3 R's - *Replacement*

- The IACUC will deliberate whether all alternatives to using live animals have been considered. There needs to be a good justification for using animals and proof that these activities are not unnecessarily duplicated.



# IACUC

## *Animal Pain or Distress Categories*

- **USDA B Category:** Animals born but not used in experiments and not genotyped.
- **USDA Category C:**  
Minimal, transient, or no pain or distress
- **USDA Category D:**  
Pain or distress relieved by appropriate measures such as anesthetics, analgesics, and/or tranquilizers
- **USDA Category E:**  
Unrelieved pain or distress

# IACUC

## *3 R's Refinement*

- Assure that discomfort and injury to animals will be limited to that which is unavoidable in the conduct of scientifically valuable research.
- Assure that analgesics, anesthetics and tranquilizers will be used where indicated and appropriate to minimize discomfort and pain to animals.

# IACUC

## *3 R's - Refinement*

- Assure timely intervention, removal of animals from a study, or euthanasia if painful or stressful outcomes are anticipated.
  - ❖ M.D. Anderson Cancer Center IACUC Guidelines on Euthanasia as an Alternate to Death as an Endpoint in Rodents
  - ❖ Defining an Acceptable Endpoint in Invasive Experiments (*AWIC Newsletter*, Spring 1995, Vol.6, No.1)

# IACUC

## *3 R's - Refinement*

### ■ Animal Surgery

- ❖ Practice aseptic surgical methods and procedures.
- ❖ Provide adequate surgical and post surgical monitoring.
- ❖ Major procedures on non-rodents will be conducted in dedicated surgical facilities
- ❖ Discourage multiple major survival surgeries on the same animal.

# IACUC

## *3 R's - Refinement*

- Appropriate methods of humane euthanasia are used as described in the:

**2007 Report of the AVMA  
Panel on Euthanasia**

# IACUC

## *3 R's - Reduction*

- Minimizing the number of animals used for research
  - ❖ Rational selection of group size
  - ❖ Careful experimental design
  - ❖ Maximizing use of animals
  - ❖ Correct choice of model
  - ❖ Minimizing loss of animals
  - ❖ Statistical analysis

# IACUC

## Personnel Training Requirements

- It is the responsibility of the institution to ensure that all scientists, research technicians, animal technicians and other personnel involved in animal care, treatment and other activities are qualified to perform their duties.



# IACUC

## Occupational Health and Safety Training

- Identifying and providing training and protection from potential hazards related to animal activity. For example:
  - ❖ Biological Commodities
  - ❖ Zoonotic Diseases: diseases that can be transmitted between animals and man. Sometimes from man to animal.
  - ❖ Bite/Scratch Injuries
  - ❖ Physical methods of euthanasia such as gunshot
  - ❖ Chemical exposure



# IACUC

## *Veterinary Care*

- Ensures **daily observation** of all animals to assess their health and well-being. That daily observation may be accomplished by someone other than the veterinarian. Provided that a mechanism of direct and frequent communication is established so that timely and accurate information on problems or animal health, behavior and well-being is conveyed to the veterinarian.

# IACUC

## *Veterinary Care*

- Each room has a set of records in blue three ring binders to document animal health and care.



# IACUC *Veterinary Care*

DAILY OBSERVATION RECORD

SPECIES: \_\_\_\_\_ P.I. \_\_\_\_\_ MONTH \_\_\_\_\_  
BLDG/RM: \_\_\_\_\_ YEAR \_\_\_\_\_

DATE	INITIALS HSB/VET	ANIMAL #	HEALTH
1	/		
2	/		
3	/		
4	/		
5	/		
6	/		
7	/		
8	/		
9	/		
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30	/		
31	/		

*Daily Observation Record*



# IACUC

## *Veterinary Care*

TREATMENT INSTRUCTION AND OBSERVATION SHEET  
(Form 5, WP 5.2,b:\treat, SK)

date	init	app	act	fece	urin	treatment

LAS Accession No.  
Animal I.D. No.  
Investigator  
Protocol No.  
Species  
Bldg/Rm No.

*Treatment Instruction and  
Observation Sheet*

# IACUC

## *Emergency, Weekend, Holiday Care*

- There should be a means for rapid communication in case of an emergency. A procedure should be established for providing emergency veterinary care after work hours, on weekends, and on holidays.
- Security and fire personnel should be able to contact staff members responsible for care of animals. Names and telephone numbers should be posted prominently in the animal facility.

### Monk Seal Emergency Procedures

In case of abnormal appearance or behavior of the Hawaiian monk seals:

1. Contact LE Supervisor of the Day.

2. Supervisor will notify:

Kimberly Krusell [REDACTED] home  
Dr. Cindy Hunter [REDACTED] home  
[REDACTED] pager

3. If necessary, Kimberly and Cindy will contact:

On-call Vets--

Dr. Brad LeaMaster 956-8283 UH  
[REDACTED] home  
[REDACTED] pager

Dr. Sylvia Kondo 956-4444 UH  
[REDACTED] home  
[REDACTED] pager

Dr. Shannon Atkinson 956-8625 UH  
[REDACTED] HIMB  
[REDACTED] home

Dr. Bruce Carlson [REDACTED] home  
[REDACTED] cell

In case of other inquiries--

For monk seal strandings/sightings, call: 983-5715

For turtle strandings, call: 983-5730

For whale or dolphin strandings, call: 973-2987

# IACUC

## *Example of Emergency Phone Tree*

*Monk Seal Emergency  
Procedures*

# Thank you for your attention



Visit our website at:

[www.hawaii.edu/LAS](http://www.hawaii.edu/LAS)

- 1) Standard Operating Procedures
- 2) References
- 3) Minutes of Meetings
- 4) IACUC Policies