CARL T.C. GUTIERREZ
GOVERNOR OF GUAM

JUN 04 1998

Refer to
Legislative Secretary

The Honorable Antonio R. Unpingco
Speaker
Mina'Bente Kuåttro na Liheslaturan Guåhan
Twenty-Fourth Guam Legislature
Guam Legislature Temporary Building
155 Hesler Street
Hagåtña, Guam 96910

OFFICE OF THE LEGISLATIVE SECRETARY
ACKNOWLEDGMENT RECEIPT
Received by:
Time: 4:55pm
Date: 6·5·98

Dear Speaker Unpingco:

Enclosed please find Substitute Bill No. 478 (COR), "AN ACT TO AMEND §34302(b) AND TO ADD §34307 TO ARTICLE 3, CHAPTER 34, PART 1, DIVISION 2 OF TITLE 10 OF THE GUAM CODE ANNOTATED, RELATIVE TO RABIES PREVENTION AND QUARANTINE OF DOGS AND CATS; TO APPROPRIATE MONIES AND TO ESTABLISH OTHER REQUIREMENTS FOR THE IMPLEMENTATION OF THIS ACT", which I have **signed** into law as **Public Law No. 24-216.**

This legislation expresses the intention of modifying the quarantine procedures for dogs and cats coming into Guam. The legislation **will not** go into effect until rules and regulations are implemented. Before that takes place, I am requesting I Liheslaturan to redraft this legislation to enable what appears to be the intent of the legislation to be put into practice.

I believe that the intent of this legislation is to adopt a program that is similar to the State of Hawaii. Hawaii requires animals to undergo a 30 day in-facility quarantine period, followed by a 90 day at-home program. It is a total of 120 days that the animals are required to be segregated from the animal population at large in the state. The at-home program requires blood testing of the animal, and an implanting of a chip in the animal to monitor the at-home program.

00856

Office of the Speaker
ANTONIO R. UNPINGCO
Date: 6·5·98
Time: 3:00pm
Rec'd by:
Print Name: P. Roberto

In order to put this type of program into effect, the following language will need to be changed:

1. Page 2, line 21. The quarantine period is stated to be a maximum of 120 days. This does not make sense in the case where an animal is found to have rabies or other disease towards the end of the quarantine period. This language seems to mean that a diseased animal would have to be turned loose into the general population if the quarantine period can only be a **maximum** of 120 days.

2. Page 3, line 1. The legislation requires rules and regulations to be put into effect within a period of 90 days from the enactment of the legislation. This is not possible. According to the Administrative Adjudication law, already completed rules and regulations, after public hearing, must wait 90 days at I Liheslaturan Guåhan before they can be put into effect. Ninety days is too short.

3. Page 3, lines 4-5. The legislation calls for a 90 day home quarantine period **within** a 30 day quarantine alternate program. This is logically inconsistent. 90 days cannot be **within** a 30 day period. If I Liheslaturan Guåhan is attempting to copy Hawaii's program, what the language should say is that the quarantine period is for a total of 120 days, but for those animals that qualify -- by having records of their shots, blood tests, and implanting of a microchip for monitoring -- a 30 day in-facility quarantine period may be followed by a monitored 90 day at home period. Unfortunately, the language of this legislation implies that there are 2 different programs: a 30 day program instead of quarantine (an "alternate" program), and a 90 day at home program. This would not fulfill the World Health Organization's recommendation of a 120 day separation period to ensure that an animal will not develop the fatal disease, rabies.

4. Page 4, lines 9-11. This section only appropriates $10,000 for the implementation of the intended program. Due to the shortage of personnel at the Department of Public Health and Social Services in the Animal Control section, an additional $10,000 won't even hire one person to assist in this labor intensive new program. This money is totally in adequate. To provide a proper program, a veterinarian will need to be hired, as well as other personnel to put the monitored at-home program in place.

By separate cover, the Department of Public Health and Social Services is transmitting a comprehensive set of rules and regulations, prepared as a result of public hearings held by the Department with input from Guam Animals in Need and other members of the public. These rules and regulations provide detailed procedures for controlling and licensing of pets, permits for animal facilities and human animal care, and provide for a program of quarantine under Public Law No. 22-13. Many of our current concerns on the handling of animals are contained in these rules and regulations. Since the legislation contained in Substitute Bill No. 478 needs revision and will not go into effect until new rules and regulations are drafted and implemented, the attached rules and regulations under Public Law No. 22-13 will serve as an interim improvement to the current system now being implemented under Public Law No. 15-96.

In order to adequately address animal control management on Guam, a comprehensive program, **including funding for veterinarians and monitoring personnel,** needs to be provided. As long as there are substantial numbers of uncontrolled animals on our island, even 1 case of rabies, which can quickly spread to these animals, will pose a serious health hazard for our people, especially our children.

Very truly yours,

Carl T. C. Gutierrez
I Maga'lahen Guåhan
Governor of Guam 0:356

Attachment: copy attached for signed bill
original attached for vetoed bill

cc: The Honorable Joanne M. S. Brown
Legislative Secretary

MINA'BENTE KUATTRO NA LIHESLATURAN GUAHAN
1998 (SECOND) Regular Session

CERTIFICATION OF PASSAGE OF AN ACT TO *I MAGA'LAHEN GUAHAN*

This is to certify that Substitute Bill No. 478 (COR), "AN ACT TO AMEND §34302(b) AND TO ADD §34307 TO ARTICLE 3, CHAPTER 34, PART 1, DIVISION 2 OF TITLE 10 OF THE GUAM CODE ANNOTATED, RELATIVE TO RABIES PREVENTION AND QUARANTINE OF DOGS AND CATS; TO APPROPRIATE MONIES AND TO ESTABLISH OTHER REQUIREMENTS FOR THE IMPLEMENTATION OF THIS ACT," was on the 22nd day of May, 1998, duly and regularly passed.

ANTONIO R. UNPINGCO
Speaker

Attested:

JOANNE M.S. BROWN
Senator and Legislative Secretary

This Act was received by *I Maga'lahen Guahan* this 27th day of May, 1998, at 4:55 o'clock P.M.

Assistant Staff Officer
Maga'lahi's Office

APPROVED:

CARL T. C. GUTIERREZ
I Maga'lahen Guahan

Date: 6-4-98

Public Law No. 24-216

MINA'BENTE KUATTRO NA LIHESLATURAN GUAHAN
1998 (SECOND) Regular Session

Bill No. 478 (COR)
As substituted by the Committee on Finance and Taxation and as further substituted and amended on the Floor.

Introduced by:

A. C. Blaz
L. A. Leon Guerrero
Mark Forbes
T. C. Ada
F. B. Aguon, Jr.
J. M.S. Brown
Felix P. Camacho
Francisco P. Camacho
M. C. Charfauros
E. J. Cruz
W. B.S.M. Flores
L. F. Kasperbauer
A. C. Lamorena, V
C. A. Leon Guerrero
V. C. Pangelinan
J. C. Salas
A. L.G. Santos
F. E. Santos
A. R. Unpingco
J. Won Pat-Borja

AN ACT TO AMEND §34302(b) AND TO ADD §34307 TO ARTICLE 3, CHAPTER 34, PART 1, DIVISION 2 OF TITLE 10 OF THE GUAM CODE ANNOTATED, RELATIVE TO RABIES PREVENTION AND QUARANTINE OF DOGS AND CATS; TO APPROPRIATE MONIES AND TO ESTABLISH OTHER REQUIREMENTS FOR THE IMPLEMENTATION OF THIS ACT.

BE IT ENACTED BY THE PEOPLE OF GUAM:

Section 1. Legislative Findings. *I Liheslaturan Guahan* finds that Guam has for several years been a "Rabies Free" Island. Guam's quarantine law is designed to protect residents and pets from potentially serious health problems associated with the presence and spread of rabies. Success of the quarantine program is dependent on maintaining isolation of pets from other animals for the required quarantine period. The quarantining of dogs and cats for a minimum of one hundred twenty (120) days is unreasonable.

I Liheslaturan Guahan further finds that the unreasonable extended length of time these animals are quarantined poses extreme hardship and additional cost to pet owners who have to endure the expense and separation from their beloved pets.

It is the intent of *I Liheslaturan Guahan* to amend the length of time dogs and cats are quarantined.

Section 2. Section 34302(b) of Article 3, Chapter 34, Part 1, Division 2 of Title 10 of the Guam Code Annotated is hereby *amended* to read as follows:

> **"Section 34302(b). Quarantine of Dogs and Cats.** All dogs and cats brought into Guam shall be subject to quarantine for a period of time approved by the Director pursuant to this Section. Requirements for the entry to and release from quarantine of dogs and cats brought into Guam shall be a maximum of one hundred twenty (120) days. Any and all costs, including care and keep, shall be borne by the dog or cat owner.

Within ninety (90) days from the enactment of this Act, the Department of Public Health and Social Services shall develop rules and regulations pursuant to the Administrative Adjudication Law for a Thirty (30) Day Quarantine Alternate Program, including a Ninety (90) Day Home Quarantine for Guam, so that in order for pets to qualify, a pet cat or dog must meet certain requirements, including proper vaccinations with an approved inactivated rabies vaccine, two (2) rabies blood tests (one (1) conducted prior to arrival, and the second conducted upon arrival in Guam), and the implantation of a microchip obtained from the Department." The rules and regulations promulgated pursuant to this Section shall set forth the quarantine procedures for those pets that fail to remain qualified during the Quarantine Alternate Program period, and penalties for pet owners who are in violation of the Ninety (90) Day Home Quarantine program rules and regulations.

Section 3. Section 34307 is hereby *added* to Article 3, Chapter 34, Part 1, Division 2 of Title 10 of the Guam Code Annotated to read as follows:

"Section 34307. Creation of Rabies Prevention Fund. There is created a special fund called the *'Rabies Prevention Fund,'* which shall be exclusively used to support the implementation of this Act and to maintain, enhance and secure the prevention of rabies on Guam. All money collected under the provisions of this Chapter shall be deposited in the Rabies Prevention Fund. The Department of Administration shall be responsible of maintaining the accounting and administration of this fund. Annually, but not later than December 31 of each year, the

Directors of the Departments of Administration and Public Health and Social Services shall report to *I Maga'lahen Guahan* and *I Liheslaturan Guahan* the results of operations of this fund, including the total monies collected and deposited in this fund and the total expended."

Section 4. Amendment of Rules and Regulations. The Department of Public Health and Social Services shall amend its current rules and regulations governing Animal Quarantine to assess Sixty Dollars ($60.00) for each issuance of an entry permit for any dog or cat imported into Guam.

Section 5. Appropriation. There is appropriated to the Department of Public Health and Social Services the amount of Ten Thousand Dollars ($10,000.00) from the General Fund to implement the intent of this Act.

PL24-216

TWENTY-FOURTH GUAM LEGISLATURE

Office of the Vice-Speaker

ANTHONY C. BLAZ

January 21, 1998

LEGISLATIVE COMMITTEE MEMBERSHIP

Chairman
Finance & Taxation

Vice-Chairman
Rules, Government Reform & Federal Affairs

Education

Natural Resources

Health & Human Services

Tourism, Economic Development & Cultural Affairs

Judiciary, Public Safety & Consumer Protection

Transportation, Telecommunications, & Micronesian Affairs

MEMBERSHIP

Guam Finance Commission

Commission on Self Determination

The Honorable Antonio R. Unpingco
Speaker, 24th Guam Legislature
Agana, Guam

Via: Committee on Rules

Dear Mr. Speaker:

The Committee on Finance & Taxation, to which was referred **Bill No. 478: "AN ACT TO AMEND SECTION 34302(b), ARTICLE 3, CHAPTER 34, DIVISION 2 OF TITLE 10 GUAM CODE ANNOTATED (GCA) RELATIVE TO RABIES PREVENTION AND QUARANTINE OF DOGS AND CATS AND TO APPROPRIATE $10,000 FOR THE IMPLEMENTATION TO SUCH AMENDMENT,"** herein reports back with the recommendation **TO DO PASS Bill No. 478 as substituted by the committee.**

Votes of the committee members are as follows:

10 To Pass

_____ Not to Pass

_____ To the Inactive File

_____ Abstained

Sincerely,

ANTHONY C. BLAZ

Attachments

155 Hesler St. Agana, Guam 96910 Tel: 472-3557/58/60 Fax: 472-3562 EMail: tonyblaz@kuentos.guam.net

Committee on Finance & Taxation
Vice Speaker Anthony C. Blaz, Chairman

Committee Report on Bill No. 478

"AN ACT TO AMEND SECTION 34302(b), ARTICLE 3, CHAPTER 34, DIVISION 2 OF TITLE 10 GUAM CODE ANNOTATED (GCA) RELATIVE TO RABIES PREVENTION AND QUARANTINE OF DOGS AND CATS AND TO APPROPRIATE $10,000 FOR THE IMPLEMENTATION TO SUCH AMENDMENT."

TESTIMONIES FOR BILL NO. 478 AND SUBSTITUTE BILL 478

Subject: bill #478 (COR)
Date: Tue, 20 Jan 1998 12:01:46 +0000
From: "Donna Rodriguez" <donnaro@[168.123.150.50]>
To: tonyblaz@kuentos.guam.net

Dear Vice Speaker

Thank you so much for providing me a copy of the above bill. I wanted to give you my comments to it.

I want to begin by congratulating you on your effort. I applaud your work and wish that we would have known about this bill so the Ad Hoc committee could have been there in person to show our support.

I am in support of this bill and in no way want to see it tabled. I do, however, have one concern. The language on Page two lines 4 & 5 gives the discretion to the director of public health to select the length of quarantine. The bill only establishes minimum time of 60 days. However the way the bill is drafted....the director could still invoke a 120 day quarantine.

The director has already gone on the record opposing this bill. Therefore, if the wording remains the same, the director will be able to still require the 120 day quarantine without violating the law.

I propose that we instead give the director discretion to deny entry of certain pets (such as those coming from high risk areas), but make the 60 a maximum.

please feel free to contact me should you have any questions. Additionally, I would like to help in any way necessary. I want to see this bill passed so let me know if you need help.

Thank you,

Donna Rodriguez
member of ad hoc committee for quarantine modification

GOVERNMENT OF GUAM

DEPARTMENT OF PUBLIC HEALTH & SOCIAL SERVICES
(DIPATTAMENTON SALUT PUPBLEKO YAN SETBISION SUSIAT)
Post Office Box 2816 Agana, Guam 96932
123 Chalan Kareta, Route 10
Mangilao, Guam 96923

Carl T.C. Gutierrez
GOVERNOR

Madeleine Z. Bordallo
LIEUTENANT GOVERNOR

Dennis G. Rodriguez
DIRECTOR

Marilyn D.A. Manibusan
DEPUTY DIRECTOR

JAN 13 1998

TESTIMONY ON BILL NO. 478

Good afternoon Mr. Chairman and the members of the Committee. I am Dennis G. Rodriguez, Director of the Department of Public Health and Social Services. Thank you for affording me the opportunity to provide testimony on Bill No. 478, a bill to amend §34302(b), Article 3, Chapter 34, Division 2 of Title 10 Guam Code Annotated relative to rabies prevention and quarantine of dogs and cats and to appropriate $10,000 for the implementation to such amendment.

In 1991, a similar proposal within Bill 224 was introduced into the 21st Legislature. Bill 224 proposed to reduce the required 120 days quarantine of dogs and cats arriving from rabies endemic areas to 30 days without any additional requirements. Although the bill was well intended, if it had passed the people of Guam would have been placed in great jeopardy from the potential introduction of rabies into the island. The Department vigorously opposed the bill, and fortunately for the people of Guam the bill never become law. For the same reasons we gave in 1991, we must once again strongly oppose a portion of Bill No. 478.

A long term study covering a period of 47 years was done in Great Britain on the effect of the length of quarantine period, and its probability of rabies introduction, in a given area (copy attached). Data used in the calculations were from information supplied by the Animal Health Division, Ministry of Agriculture, Great Britain from their records that covered 96,102 quarantined animals, and from personal communications with Great Britain and Hawaii quarantine officials. In brief, it showed that an increase in the length of the quarantine period resulted in increasing assurance that the disease will not be introduced in a given area. Data further showed that there was a high probability, estimated to be 0.89, that our 120-day quarantine would permit the detection of rabies if it is present in an imported animal. In simple terms, it meant that out of 100 dogs with rabies when quarantined for 120 days, rabies will not be detected in eleven dogs. On the other hand, a sixty (60) day quarantine will not detect the presence of rabies in 30 dogs.

We believe the reduction of the 120-days quarantine of dogs and cats from rabies endemic areas to sixty days (60) is wrong and dangerous. An animal infected with rabies will generally show symptoms of the disease after two weeks. However there have been cases where symptoms of rabies in an animal did not appear until a

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year or two after the exposure. We have even heard of an account from a military veterinarian where a dog he was treating had twice failed to be immunized with the rabies vaccine which he personally administered. While we acknowledge such events to be rare, we still have to accept the fact that the potential for the unexpected will always be present. A legislative change for quarantine should be to increase the protection for its people, not reducing it. It would be an injustice to place the people of Guam in jeopardy by passing Bill No. 478 in its existing form when only limited numbers of people would benefit from the legislation.

That is why we must continue to require, and enforce, the 120-days quarantine. The 120 days of quarantine will permit us sufficient length of time to observe the animal for possible rabies infection since most animals show signs of the disease within the first hundred days. In the publication we have from the World Health Organization's (WHO) Expert Committee on Rabies, they recommend that countries free of rabies either totally prohibit the importation of dogs and cats or subject the animals to four (4) to six (6) months of quarantine. If four months quarantine is instituted, WHO further recommends that additional two-month lease and surveillance be required.

No one wants to see another rabies epidemic similar to the one that occurred on Guam in the late 1960s where fourteen (14) rabies cases were confirmed by the U.S. Center for Disease Control Laboratory. During that epidemic, hundreds of animals were collected and exterminated. The extensive, and expensive, operation resulted in the suffering of hundreds of individuals who underwent painful post-exposure vaccination. Guam was very fortunate, no human lives were lost, and rabies was completely eradicated. It was specifically for that reason that one Senator (we believe it was Sen. Joe San Agustin) demanded that P.L. 22-13, now codified as Chapter 34, 10 GCA, explicitly state that the requirements for quarantine be for 120-days. He clearly remembered the wide-spread panic and suffering the epidemic created.

However, this is not to say that we are unwillingly to accept any other alternatives. It has always been the stance of this Department that we will support any proposal of quarantine reduction, provided that the public health is not in anyway jeopardized from the possible introduction of rabies into Guam and the change, if any, has scientific corroboration.

Bill No. 478 also proposes to permit the implementation of the so called "30-Day Quarantine". We assume the proposal is based on the program that the state of Hawaii has instituted just recently. We have studied Hawaii's quarantine and learned that the animal is still required to be quarantined for 120-days. However, if the pet qualifies, the animal may complete the last 90 days of quarantine at the residence of the owner. In addition, such pet must undergo blood serum testing before and after arriving to Hawaii, and be implanted with a micro-chip for proper identification.

When Hawaii passed legislation in creating the new program, we knew a similar legislation would eventually be introduced here in Guam. However, we were hoping that at least a year or two would be available to us to observe their program before initiating any changes to our existing requirement. Hawaii's new program is still less than a year old, and we do not wish to revamp an already effective system of 120 days unless we were absolutely certain that its implementation would not threaten the health of the people.

For your information, a risk assessment (copy attached) was conducted in Hawaii on their 30 day quarantine program. The study indicated that if a rabies outbreak was to occur under the two different programs, the cost to the state of Hawaii would be four times greater for the 30-day quarantine than the 120-day quarantine. Therefore, one must also consider the economic consequences of the alternative.

In addition, the study also concluded that for a rabies prevention program to be effective, it must be enforceable without extreme administrative difficulties and be easily communicated. The program should not be so complex that it would be difficult to communicate. A program that involves multiple steps, such as the proposed 30-day quarantine, may be too complex to communicate effectively.

The faculties of the University of Hawaii's School of Medicine and School of Public Health, the Hawaii Medical Association, and internationally recognized U.S. experts on rabies Dr. George Beran and Dr. Leon Russell believe the risk for rabies in Hawaii could increase with reduction in quarantine time.

Dr. Russell stated, "Hawaii's original quarantine policy was sound because it was successful in keeping Hawaii a rabies-free state. The state's decision to change the policy without fully considering its scientific merits or the concerns of many in Hawaii's scientific community is a mistake." Dr. Beran, professor at Iowa State University, is an expert on rabies in the tropics, and a consultant to the World Health Organization. He believes there is inadequate scientific basis for reducing Hawaii's four-month quarantine. According to Dr. Beran, the serology test cannot be used to determine whether antibodies that are detected are the result of vaccination or incubation of rabies. (Although there have been claims that the problem has now been resolved, we have yet to receive any confirmation.) Dr. Beran further stated that the test does not detect infections caused by rabies strains associated with long incubation periods, and no special considerations are made for juvenile animals where the incubation periods may vary from very short to very long.

If the "30-Day Quarantine" is to be adopted, we recommend that Bill 478 be revised to reflect the following:

1. Upon completion of thirty-day quarantine, an additional ninety-day inhouse quarantine be required, and if the animal does not qualify for the "30-Day Quarantine", it must then undergo 120-day quarantine.

   If Guam intends to follow Hawaii's program, we should require the additional 90 day home quarantine, and have it stated explicitly in the statute to make certain that the system does not deviate from its intended purpose.

2. Mandate and budget for the existence of at least three full-time (classified) employees to oversee the program.

   In order for the proposal to work, to be effective, we must ensure that the program is monitored constantly. Presently, the Animal Quarantine Program is operated by two individuals within the Division of Environmental Health. In addition to the quarantine program, they have other responsibilities and duties. It's difficult to conduct routine inspection of the two existing commercial quarantine facilities as it is now with their work load, but to place additional duties in monitoring all home quarantined animals, and the veterinarians who are inspecting these animals, will be nearly impossible.

3. All funds and penalties collected under the quarantine program be returned to the Department of Public Health and Social Services' Animal Quarantine Program.

   While the appropriation of $10,000 will greatly assist the Department, it will only act as "seed" money to start-up the program in acquiring equipment and information. Additional money will be necessary to run and maintain the program. The Department should be able to collect and keep all expenses incurred to operate the system, in addition to the all monetary penalties assessed to violators.

   It would be useless, and irresponsible, to install a monitoring program if this Department is not granted the resources to do so.

4. Stiffer penalties be imposed for those who violate the quarantine requirements.

   If we are to reduce the quarantine period, we should increase the penalty significantly to deter any violators, and send a message to the public and rest of the world that Guam takes its quarantine very seriously.

   You'll be amazed at the risk some pet owners will take to keep their animals out of quarantine.

As we previously mentioned, the Department of Public Health and Social Services is willing to support reduction in quarantine such as the one implemented in Hawaii. However, we still have strong reservation in putting faith in a program which is less than a year old. We believe that it may be best to wait at least another year to observe their program before committing taxpayers time, money, and health into the procedure.

If this Committee, and rest of the 24th Legislature, still insists on implementing the quarantine reduction right now, we hope our recommendations will be seriously considered and adopted. However, we cannot support the reduction of 120-days to 60-days for those animals who do not qualify for the "30-Day Quarantine".

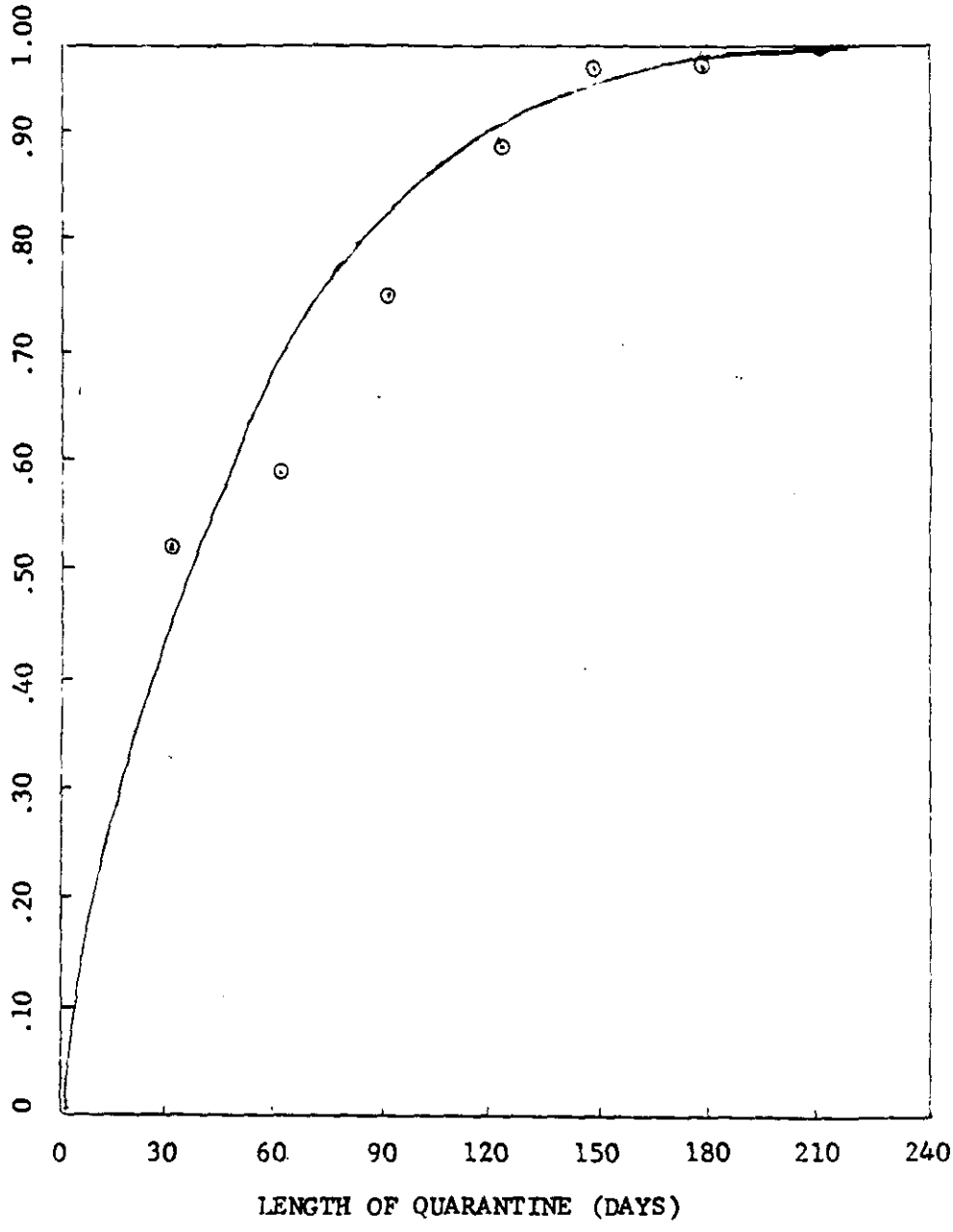
Because our relative geographic isolation and tough quarantine law, Guam has been rabies-free for over twenty years. But a single rabies case in our island, where stray dogs are numerous, can be disastrous to the health of our people and the economy. Affliction from rabies almost always result in death. We hope you will carefully, and objectively, review the benefits and possible harm the passage of this bill will bring to the people of Guam. The success of the quarantine reduction will benefit some people, but its failure will affect all the people.

Thank you.

DENNIS G. RODRIGUEZ

FIGURE 1

PROBABILITY OF DETECTING RABIES IN CARNIVORES
QUARANTINED FOR VARYING PERIODS OF TIME



NOTES: Actual calculated probability for each quarantine length.

30 days - .52	120 days - .89
60 days - .59	150 days - .96
90 days - .74	210 days - 1.00

Data used in these calculations are from information supplied by the Animal Health Division, Ministry of Agriculture, Great Britain from their records for the years 1922-1969 covering their experience with 96,102 quarantined animals and from personal communications with Great Britain and Hawaii quarantine officials.

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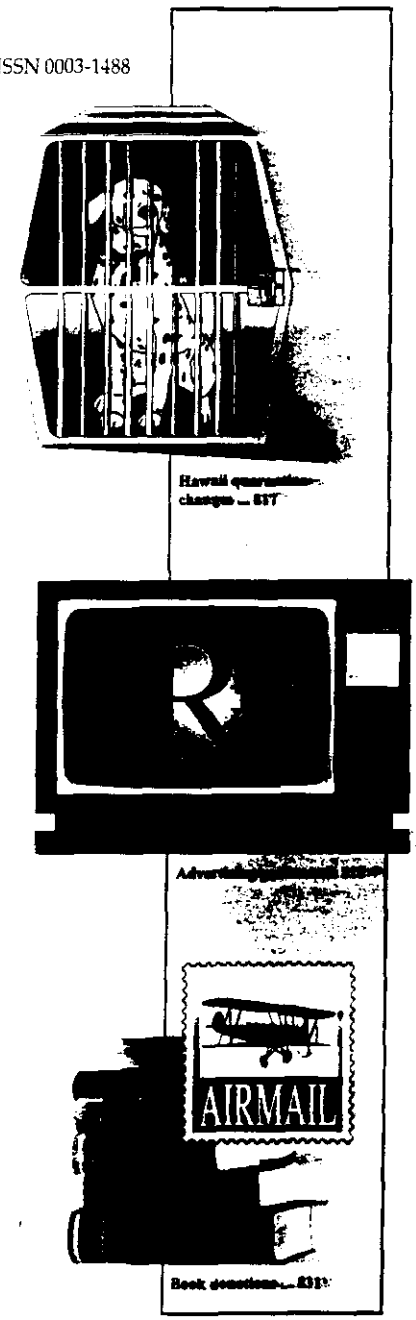
NEWS



About the Cover

"Bull and Sheep in Landscape" is a 39- by 51-inch oil-on-canvas painting. The painting is attributed to a member of the mid-19th century Dutch school of art. Permission to reproduce the painting was granted by the owners, Drs. Clarke Atkins and Sarah Young Gardner.

Correction: The name of the artist given for the painting on the cover of the Aug 1, 1997 issue was incorrect. Charles Philogene Tschaggeny (Belgian, 1815-1894) painted "Grey in a Stable" in 1844. The *JAVMA* regrets the error.

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ADDRESS CHANGE: Send new address (and moving date) 45 days ahead. Include old address as it appeared on previous issues (if possible send label).

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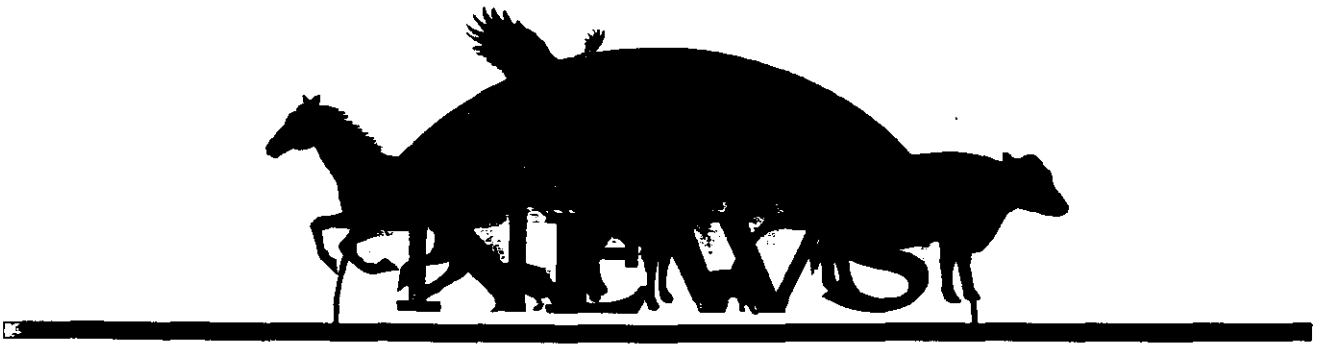


Quarantine changes take effect in Hawaii

Following a long campaign for change by the US Army, Hawaii Governor Benjamin Cayetano recently approved a plan to reduce quarantine time for dogs and cats entering Hawaii, a rabies-free state, from four months to 30 days, if certain conditions are met. The decision was made several months after the plan was accepted by the Hawaii Board of Agriculture.

Under the new rules which took effect earlier this year, dogs and cats entering Hawaii must have the following:

- ❑ Two rabies vaccinations given at least six months apart, with the most recent vaccination given no less than three months and no more than 12 months prior to entry or reentry into the state.
- ❑ A serologic antibody test no less than three months and no more than 12 months prior to arrival in the state and a repeat test after arrival. Test results must be no less than 0.5 IU. The antibody test is known as the OIE fluorescent antibody virus neutralization (FAVN) test and is available at Kansas State University and (for military personnel only) at the Department of Defense Veterinary Laboratory at Fort Sam Houston, Tex.
- ❑ A microchip identification issued by the state. FAVN test results must be identified by this microchip number for results to be considered valid.
- ❑ A health certificate written in English.

Soon after the quarantine change was proposed, the Hawaii VMA polled its members on the issue and decided that, instead of the HVMA itself commenting, individual members should express their personal opinions on the rule that was being proposed.

Veterinarians with an interest in this issue are expressing mixed feelings over Hawaii's new regulations.

The faculties of the University of Hawaii's School of Medicine and School of Public Health, the Hawaii Medical Association, and internationally recognized US experts on rabies Dr. George Beran and Dr. Leon Russell believe the risk for rabies in Hawaii could increase with the quarantine time change.

Dr. Russell, a professor of veterinary medicine at the Texas A&M University College of Veterinary Medicine and a past president of the AVMA, said certain politicians from the state of Hawaii ignored the history and scientific merits of the original, four-month quarantine policy and overlooked the state's potentially large reservoir population of rabies when it developed new regulations.

"Hawaii's original quarantine policy was sound because it was successful in keeping Hawaii a rabies-free state. The state's decision to change the policy without fully considering its scientific merits or the concerns of many in Hawaii's scientific community is a mistake," Dr. Russell said.

Another concern for Dr. Russell relates to Hawaii's use of the FAVN test. He said the test has not undergone intense peer evaluation and has not been proven to be better than the rabies fluorescent focus inhibition test (RFFIT), which has been in use for a longer period.

"But the FAVN test was immediately set on the firing front in Hawaii," he said. "The state is looking for a magic bullet in the war against rabies."

Dr. Beran is a professor at Iowa State University, an expert on rabies in the tropics, and rabies consultant to the World Health Organization. He finds Hawaii's decision to reduce its four-month quarantine to have an inadequate scientific basis. According to Dr. Beran, neither the RFFIT nor the FAVN test can be used to determine whether antibodies that are detected are the result of vaccination or incubation of rabies. Additionally, neither test detects infections caused by rabies virus strains associated with long incubation periods, and test results may not be positive for animals incubating such infections when they are transshipped from other countries through the mainland United States to Hawaii. Dr. Beran also said no special considerations are made for juvenile animals, in which incubation periods may vary from very short to very long.

"The new program inadequately considers the epidemiology of rabies in the tropics, should the disease enter the state. The rate of transmission in the population of susceptible dogs would be very rapid, and the mongoose population would provide a reservoir population of great danger," Dr. Beran said.

Dr. Allen Miyahara, immediate past vice president of the AVMA and a Hawaii resident, said Hawaii rushed into a decision that needed more investigation.

"The state of Hawaii's claim that the FAVN test is more accurate than the RFFIT has yet to be established," he said.

(Continued on 819)

supports the 1200 veterinarians in the field, which enables proper disposition of questionable cases. In addition, we support the National Correlation Unit [July 1, 1996 *JAVMA*, page 23] by sending a pathologist to each of their meetings. We also assist as a continuing education resource," Dr. Patrick McCaskey, director of the Eastern Laboratory, said.

The Emergency Response Division leads and coordinates FSIS investigations and traceback activities associated with outbreaks of foodborne illness and recall activities associated with contaminated meat, poultry, or egg products in the United States. It serves as the FSIS liaison with the Centers for Disease Control and Prevention, FDA, and state and local health officials identifying and controlling foodborne illness. Twenty-one US field epidemiology officers (currently all veterinarians) provide on-site assistance to state and local public health officials in the investigation of foodborne illness outbreaks and recall of products contaminated with hazardous substances. These include adulterants such as *Escherichia coli* 0157:H7 or other identified pathogens; chemicals such as pesticides or antibiotic residues; and physical risks such as metal, plastic, glass, or bone. These field epidemiology officers work in a collateral capacity on an emergency basis. They work primarily as circuit supervisors, inspectors-in-charge, and supervisory veterinary medical officers for field operations.

Recalls of potentially or actually contaminated, adulterated, or hazardous meat, poultry, or egg products are a substantial US public health consumer protection. For example, the CDC estimated that the recall after the tragic 1993 Western states outbreak of *E coli* 0157:H7 resulted in preventing approximately 800 more illnesses. Unfortunately, 700 cases and 4 deaths already had been reported. Risk communications via public press releases prevent many such unnecessary disease exposures.

The Epidemiology and Risk Assessment Division contributes to the assessment of the extent and nature of foodborne illness risks. They evaluate factors that may influence events and develop mathematical models to quantify potential risks. These analyses support regulatory-decision making by management and help with the development of alternative strategies to reduce risks. Risk managers also must weigh other factors such as cost-to-benefit and political, economic, and social considerations for overall development of policy. Subsequently, risk-communication concepts are conveyed to agency officials and public affairs specialists for explanation to news media outlets and the public.

Veterinarians in the Emerging Pathogens and Zoonotic Diseases Division use epidemiologic principles to monitor and study emerging human pathogens associated with food animals and the nation's food supply. Strategies for preventing or controlling zoonotic diseases in food-producing animals are developed. ✾

Prepared by Drs. Jill Hollingsworth, USDA-FSIS assistant deputy administrator, and Bruce Kaplan, USDA-FSIS veterinary medical staff officer, Washington, DC.

Vesicular stomatitis continues striking

Vesicular stomatitis has been diagnosed in 89 horses as of Aug 22, 1997. The USDA-APHIS Veterinary Services Emergency Programs Staff has reported one case in Arizona, 37 in Colorado, and 51 in New Mexico. Consult the Sept 1, 1997 *JAVMA* for information on the current outbreak of VS.

Practitioners involved with suspicious/tentative clinical cases of VS should contact their state and federal authorities. For more information, contact Dr. Timothy Cordes, USDA-APHIS, 4700 River Rd, Unit 43, Riverdale, MD 20737-1231; *phone*, (301) 734-3279; *fax*, (301) 734-7964; *e-mail*, *tcordes@aphis.usda.gov*.

Quarantine ... *from 817*

Dr. Miyahara cited a paper authored by Drs. Charles Ruprecht of the CDC and Deborah Briggs of Kansas State University that stated "there were no clear advantages to either the RFFIT or FAVN tests" and that "the FAVN test is slightly more susceptible to serum cytotoxicity than the RFFIT."

Those who support Hawaii's new rule believe that bringing an animal into the state will now be less of a hassle, without sacrificing safety on the island.

Col Joanne Brown, a veterinarian and director of the US Department of Defense Veterinary Laboratory, said animals must have their serum examined, using the FAVN test for rabies titers, 90 days before they are permitted to enter Hawaii.

Lt Col John Morrill, chief of the US Department of Defense Veterinary Laboratory Diagnostic Section, concurred. He said although the FAVN test is newer than the RFFIT, the test outcomes are similar, if not identical. But Dr. Morrill, a veterinarian, concedes that the RFFIT is easier for laboratory personnel to read and less labor intensive than the FAVN test.

Col Lynn Anderson, a veterinarian and director of the US Army's Animal Medicine Directorate, focused on the benefits Hawaii's new rule offers to pet owners and military service dogs. He said a 30-day animal quarantine is less expensive for animal owners and a positive move for the human-animal bond.

"Owners will spend less time separated from their animals, and this will reduce hardships for both parties involved," he said.

According to Hawaii's new regulations, after 30 days, animals are released from quarantine if they do not show signs of rabies. Animals that do not meet Hawaii's new standards will still be required to spend 120 days in quarantine on the island of Oahu. ✾

Tarsis Lopez

Correction

The correct title for Dr. Janver Krehbiel, who was pictured in an Aug 15, 1997 *JAVMA* news story (p 401), is chairman of the AVMA Committee on Veterinary Medical Informatics.

II

RISK ASSESSMENT STUDY
ON A PROPOSED CHANGE TO THE
HAWAI'I RABIES QUARANTINE POLICY

PREFACE

With the advent of a "global society" through such innovations as GATT, NAFTA, EFTA, and REGIONALIZATION and in light of a shrinking world because of the ease and efficiency of air travel, rabies quarantine in rabies-free countries is now regarded as an impediment to trade and tourism by a growing number of groups and individuals. The "global individual" who wishes to travel without restrictions also regards rabies quarantine as an infringement upon individual rights.

Certain countries which have never had rabies, such as Australia and New Zealand have recently amended their rabies quarantine regulations. Blocks of countries such as the twenty-two member countries of the European Union/European Free Trade Association are in various stages of regulatory changes. The ultimate goal of the European Free Trade Association is to have one standard rabies importation regulation for all of its member countries. Whatever the driving forces are for this movement away from quarantine, the message is clear that change is imminent.

The difficulties encountered in this evolving process for reform are in fact derived from the political, economic, and social forces demanding change. Rabies is a medical and veterinary issue with major political and international overtones which can only be tackled through a clear understanding of the science. (The Rt. Hon. William Waldegrave, Minister of Agriculture, United Kingdom, 1995). The movement away from quarantine has been debated at all levels, from its effect upon international trade to the rights of disabled persons. Where changes have occurred or are being contemplated, it is still science that tries to lead the change. However, the difficulty scientists face is reflected in the question, "does science influence politics, or does politics influence science?"

For the purpose of this risk assessment study, we will not dwell on the philosophical issues of quarantine, nor will we dwell on the basic science of rabies, both of which can be found in numerous texts. It is not because these are not important issues, but because in the end, the decision for change is not the responsibility of the scientists or the regulators conducting this study; the decision for change is the responsibility of the people of Hawai'i. It is therefore our goal that this study consider certain scientific facts and regulatory concerns which will specifically guide the decision makers. The risk assessment study will not make the decision for them.

INTRODUCTION

History of the Hawai'i Quarantine Program

The rabies quarantine system was originally recommended for Hawai'i in 1905. It was the year that the Division of Animal Industry was created in the Territorial Board of Agriculture and Forestry. The Board appointed Dr. Victor A. Norgaard, a former pathologist with the Federal Bureau of Animal Industry as the first Territorial Veterinarian and Director of the Division. Dr. Norgaard's first assignment was to survey the animal health problems in the islands and to make recommendations for action programs. In reporting the results of his survey to the Board, Dr. Norgaard called attention to the fact that rabies had not yet been introduced into Hawai'i and recommended that this fortunate circumstance be protected by establishing a quarantine on imported dogs and cats. The Board failed to take action at that time because the board members did not recognize rabies as a major health problem, having had no experience with the disease.

It was in late 1911 when the need for a rabies quarantine was finally recognized. Dr. Norgaard had been pressing for action since receipt of the Bureau of Animal Industry report for 1909 which contained an article of the nature, cause and prevalence of rabies by Dr. John R. Mohler. Dr. Mohler pointed out that up to 1889, rabies was rare in the United States except in Pennsylvania and Massachusetts, and that it was unknown west of the Rockies.

In 1900, rabies made its first appearance in Montana, Wyoming and Colorado; by 1909 it had been diagnosed in all s except Idaho, Utah, Nevada, and Oregon, according to Mohler. When Norgaard reported that the State Veterinarian of California had declared rabies to be enzootic in southern California after a series of outbreaks in

Pasadena and Los Angeles, the Board finally took action. Hawai'i's rabies quarantine law became effective on March 1, 1912.

To illustrate the unpopularity of Hawai'i's quarantine law, in Dr. Norgaard's report to the Board of Agriculture and Forestry in 1912, after nine months experience with the then new quarantine regulation, he stated, "the stringent regulation requiring the absolute segregation in quarantine of all dogs and cats for 120 days before admission to the territory, has proved the most annoying problem the division has had to deal with so far,..." (Willers). His statement 84 years ago is still accurate today.

Hawai'i's Rabies Quarantine Program

The authority to impose quarantine is provided in the Hawai'i Revised Statutes, and further defined by Administrative Rules of the Department of Agriculture. Because quarantine is regarded by some as out-dated, and too extreme, the quarantine policy has been challenged and under some form of attack since its inception. The opposition to quarantine has taken many forms, such as scientific debates, legislative investigations and political pressures. In the past few years, it has been challenged numerous times by civil suits in both state and federal courts. The most recent challenge is a class action suit, Crowder vs. Kitagawa and supported by the United States Department of Justice, which believes that the quarantine of guide dogs violates the rights of the blind and visually disabled under the Americans with Disabilities Act.

A long standing policy of the State of Hawai'i is that it is receptive to reforms of the rabies quarantine regulation, if the alternative program can meet the following criteria:

1. Offer no less assurance in protecting Hawai'i's residents from rabies than quarantine.
2. Incur no additional cost to the residents of Hawai'i.
3. Have scientific corroboration.

The decision to change must include objective scrutiny of scientific data as well as attention to regulatory concerns. Recent advances in technology have given us encouragement in that an alternative program to quarantine may now be possible.

Epidemiological Surveillance of Rabies

A study was completed in 1992 in which the Hawai'i Departments of Agriculture and Health, the Research Corporation of the University of Hawai'i, and the Rabies Laboratory at CDC cooperated. This study was commissioned by the Hawai'i State Legislature to determine whether or not rabies existed in the State.

In this study, 714 mongoose sera were tested from the islands of O'ahu, Hawai'i and Maui. These islands were selected because of the location of major ports of entry on these islands. Of the seven major islands, Kaua'i and Lana'i have no mongoose. All sera were negative for rabies antibodies except for four specimens. The four with suspect titers were extensively investigated with the conclusion that these results were due to identification errors and cross-contamination. No evidence for the occurrence of rabies in Hawai'i was found.

A Regulatory Perspective of Quarantine and the Future of Rabies Prevention in Hawai'i

In order to accomplish its mission to keep rabies from entering the State, it is vital that Hawai'i maintains a rabies prevention program which is effective, manageable, and enforceable. Any change to the existing quarantine program should be guided as follows:

A new rabies prevention program must...

* undergo scientific review
* address the economic impact upon the citizens
* address the social impact upon the community
* meet all legal and constitutional provisions
* assure that all regulatory provisions are enforceable
* be easily communicated

Scientific Evaluation: It is imperative that a quarantine program or any other preventive program such as a combination of serological testing and vaccination be thoroughly reviewed and assessed by qualified rabies experts. Scientific corroboration may not only be a legal requirement, but it is essential if the program is to gain public support and instill public confidence.

Economic Impact: A rabies prevention program must consider the economic impact upon the community it proposes to protect. A study conducted by the Hawai'i Department of Health in 1983 compared the expenses incurred in the event of a rabies outbreak in Hawai'i under two scenarios, 1) under the present 120 day quarantine and 2) under a 30 day quarantine program with requirements for vaccination and testing. The study estimated a total cost of $1.3 million under the 120 day scenario and $6 million under the 30 day scenario. Although the figures may have changed, the point merely illustrates the importance of considering the economic consequences related to various programs.

Legal and Constitutional Provisions: All U.S. regulatory programs whether or not they are of national or state origin, must be able to withstand stringent legal and constitutional scrutiny. In the case of an unpopular and restrictive program such as rabies quarantine, it must be able to withstand the challenges of a litigious society. The guidelines which must be followed are that the regulations must be reasonable and no harsher than what is required to accomplish its mission, and such regulations must be applied to all concerned fairly and equally.

Regulatory Enforceability/Effective Communications: A rabies prevention program must be enforceable without extreme administrative difficulties and it must be easily communicated. A prevention program should not be so complex that it would be difficult to communicate. A program that involves multiple steps and a series of pre-embarkation and post-importation requirements may be too complex to communicate effectively.

How Effective Is The Existing Quarantine Program?

For Hawai'i's rabies quarantine program, a commonly asked question is how do we prevent the surreptitious entry of rabies-infected animals. As an island state with no contiguous land borders, Hawai'i is fortunate that entry into the is restricted to either air or sea transportation. In addition to animal quarantine and livestock inspectors at our ports of entry, there is also a network of law enforcement agencies which cooperate in the detection of illegal entries of animals into the . These agencies include plant quarantine inspectors, the USDA Port Veterinarian, the U.S. Public Health Services, U.S. Customs inspectors, DEA personnel, military personnel, police, the U.S. Immigration Service, State Harbors and Marine patrols, and the U.S. Coast Guard.

All aircraft and sea vessels entering Hawai'i are subject to inspection. To illustrate the degree of scrutiny, even plants and animals entering Hawai'i through the U.S. Postal Service and private mail and parcel carriers are subject to inspection, as are cargo and shipping containers. Chapter 142, Hawai'i Revised Statutes, and Chapter 4-29, Hawai'i Administrative Rules, outline the specific importation and reporting requirements for carriers of carnivores being brought into the State. Chapter 150 A, Hawai'i Revised Statutes, the Hawai'i Plant Quarantine law, set conditions for the importation of plants and non-domestic animals into the . Chapter 150 A HRS also requires a reporting form of all incoming passengers, officers, and crew members, covering domestic animals as well as non-domestic animals and plants.

Failure by the transportation company to distribute or collect these declaration forms, or to turn them over to the Department of Agriculture immediately on arrival, is a misdemeanor which carries a fine of up to $10,000 for the first offense, or up to $25,000 for a subsequent offense committed within five years of a prior violation.

Passengers who fail to declare animals they are bringing into Hawai'i aboard a vessel are subject to the same penalties. Violation of any of the provisions of the chapters dealing with this matter is either a misdemeanor or a felony, depending on the provisions violated. Violations may also incur seizure of the animal as well as prison terms and significant fines. As mentioned earlier, carriers are responsible for reporting all animals on board incoming flights. They must also deliver the animals to Department of Agriculture inspectors. Inspection and enforcement agents maintain an around-the-clock presence at the Honolulu International Airport, the only airport at which animals from outside the State are permitted to land.

The Department of Agriculture employs trained beagles to detect the presence of smuggled animals and plant materials at the domestic baggage carrousels, to perform specific inspections on board aircraft that have landed,

and to maintain surveillance of incoming UPS cargo. The United States Department of Agriculture also uses trained detection dogs for the same purpose with U.S. mail shipments. All animals coming from foreign destinations are first the responsibility of USDA agents.

Although we have no extensive data on smuggling, the diligence of all agencies involved in detecting accidental or surreptitious entry of animals is the reason our border protection system is effective and thorough. Along with the combined efforts of these agencies, we also have the cooperation of Hawai'i's citizens. Their vigilance and their desire to keep Hawai'i rabies-free is vital to the success of the present program.

RABIES

The rabies virus belongs to the family Rhabdoviridae and the genus Lyssavirus. The classification of rabies and rabies-related Lyssaviruses into serotypes has been possible because of advances in monoclonal antibody techniques and in nucleotide sequencing. Rabies and the rabies-related Lyssaviruses including the European Bat Lyssaviruses (EBL) are:

VIRUS	TYPE	ANIMALS AFFECTED
Rabies	Serotype/genotype 1	dog, cat, bat, human, wild carnivores
Lagos Bat	Serotype/genotype 2	Frugivorous bat, cat, dog
Mokola	Serotype/genotype 3	shrew, cat, dog, rodent, human
Duvenhage	Serotype/genotype 4	insectivorous bat, human
EBL 1	Genotype 5	insectivorous bat (chiefly serotines), human
EBL 2	Genotype 6	insectivorous bat (Myotis spp.), human

All rabies-related viruses except Lagos Bat virus have been known to cause death in humans. Rabies-related virus infections are very rarely identified. For the purpose of this study, it is important to know that there are different strains of the Rabies Serotype 1 virus. This is important when attempts are made to assess the prevalence of rabies on a global scale. A significant example is the fox-adapted rabies strain prevalent in Western Europe. There is a claim that this strain is poorly transmissible within other species and it has never been documented that dogs or cats have spread fox-adapted rabies virus into new, previously rabies-free areas. If this claim is true, it would have a significant impact on Britain's rabies policies. However, its impact on Hawai'i would be less significant or of no significance.

The pathogenesis of rabies is unusual in that during the early stages of infection the virus is secreted within the nervous system and is therefore inaccessible to immunizing mechanisms. Although a large number of mammal species are susceptible to rabies, only species of the Orders Carnivora and Chiroptera are recognized as principal hosts of the disease. In both animals and humans, rabies is almost invariably fatal. There are two important aspects of the epidemiology of rabies that are of special interest in rabies-free areas. The first is to prevent its entry because of the potential establishment of the disease in resident animal populations. The second is to prevent the one animal incubating the disease from entering the rabies-free area and infecting a human being.

THE THREAT OF RABIES

Rabies is an international problem. There are three categories of rabies areas in the world: countries which are free of rabies, countries where the disease is established in wildlife but occurs only incidentally in dogs and cats, and countries where the disease is well established in domestic animals. The spread of rabies between countries can be classified into two general types: direct extension or sporadic introduction. Spread by direct extension occurs when one animal infects its neighbor and the movement of the outbreak is predictable with the disease continuing to expand. Sporadic spread is due to modern man-made transportation wherein an animal may move rapidly over long distances via human transport to start a new focus of infection. This type of spread is not easily

followed and is often not predictable. (Baer, 1991). It is the sporadic spread of rabies that Hawai'i must guard against.

It is estimated that since quarantine was established in Hawai'i in 1912, no more than 150,000 dogs and cats have been imported into the islands. For those who insist on comparing statistics and argue against quarantine by citing the ineffectiveness of quarantine because rabies escaped the British quarantine, they need to know that Britain has imported over 1.4 million dogs and cats during the history of its quarantine, almost 10 times the number of animals entering Hawai'i. Dogs and cats entering Hawai'i originate from many countries, with approximately 82% of the animals originating from the continental United States. See table 1.

The origin of animals, for the purposes of this assessment, has been considered in a different perspective. By depending solely upon statistics of rabies incidence in different countries, we did not want to be misled into believing that every country's border controls against rabies is uniform and equally effective. A significant concern for Hawai'i is the inadequate regulations governing the importation of dogs and cats into the continental United States from foreign countries. This problem is identified in the 1995 report of National Association of State Public Health Veterinarians, which states that "...present PHS regulations (42 CFR No. 71.51) governing the importation of such animals (dogs and cats) are insufficient to prevent the introduction of rabid animals into the country." For our study, we are not confident that all animals originating from the continental United States, are of U.S. origin.

Rabies is distributed very unevenly throughout the world. Calculating the incidence of rabies in animals is at best difficult and unreliable. Under-reporting of rabies is often the rule rather than the exception. A rabies prevention program can be designed by ranking countries according to the incidence of rabies and developing regulations to fit the different incidence categories. At first glance, this appears fair and logical. However, once we realize that there are inconsistencies and the lack of uniform controls throughout the world when it comes to rabies control, surveillance and reporting, such a policy fails under regulatory scrutiny. A case in point is the ease with which a dog originating from Mexico can enter a U.S. border state and subsequently travel to a rabies-free state, such as Hawai'i, as a dog originating from Arizona or Texas, and not from Mexico. With the same ease, a dog or cat can enter New York from Africa and be trans-shipped to Hawai'i as an animal originating from New York.

THE ART AND SCIENCE OF RABIES RISK ASSESSMENT

No rabies prevention program, whether it be quarantine or a system of vaccination, identification and serological testing is entirely safe and without risk. Although risk assessment is now regarded as a science, we find that with rabies, there is a plethora of factors which the analyst can include or exclude. It is also up to the analyst to assign the weight value to these factors. The results are variable interpretations of the resultant calculations and debate as to the validity of the study. However, it is not only a problem attributed to the scientist or the analyst; a rabies risk assessment for a specific rabies-free country may not be appropriate or pertinent for other rabies-free countries. A rabies risk assessment for the United Kingdom and other member countries of the European Union is not applicable for Hawai'i. A rabies risk assessment for Australia may be applicable for New Zealand, but may not be applicable for the United Kingdom. The reasons for this may simply be the differences in the origins of imports or in the numbers of dogs and cats imported.

There is a statement contained in the New Zealand Analysis of Risk which states that vaccination is now more effective and safer than before and antibody tests are able to measure the level of immunity developed in response to vaccination. However true this statement is, we must still consider the following facts:

1. It is impossible to distinguish antibodies induced by vaccination from antibodies due to rabies infection.

2. Rabies antibodies mean that the animal has either been exposed to a rabid animal, or has been vaccinated, or has been exposed to a rabid animal and subsequently vaccinated, or has been vaccinated and subsequently exposed to a rabid animal.

3. It is impossible to distinguish between antibodies induced by an attenuated, live virus vaccine and antibodies induced by an inactivated, killed virus vaccine.

4. The rationale for rabies serological testing is not to determine if the animal is properly vaccinated, but rather to assess that a properly vaccinated animal has the best chance to be protected against exposure to the rabies virus. (Aubert, 1996).

5. Although inactivated rabies vaccines are considered safe, there are still countries where attenuated vaccines are used. The effectiveness of vaccines depends on whether or not the animal has been properly vaccinated.

There is no right or wrong risk assessment, however we believe that scientists of each rabies-free area must undertake their own risk assessment based upon the unique needs and circumstances of that area. Although there is much emphasis that rabies-free areas are rapidly changing their quarantine regulations for more user-friendly regulations, it must be recognized that no rabies-free country has completely opened it frontiers or completely changed from quarantine to vaccination, identification and serological testing. Rabies-free European Union member countries permit only a very selected group of vaccinated animals from infected EU countries to enter without quarantine. For these countries, the new regulations are very young, and data are being collected and analyzed. (Wandeler, 1996).

For purposes of reference, the most current thoughts about the international control of rabies are contained in the following reports. These publications were used to help guide us in this risk assessment process.

Analysis of the risks of importing rabies into New Zealand through the importation of dogs and cats, Ministry of Agriculture and Fisheries, New Zealand, 1994.

Rabies in a Changing World, Proceedings of a Joint Symposium held at The Royal Society of Medicine London, 3rd May 1995.

The BMA Guide to Rabies, The British Medical Association, 1995.

For many of the same reasons which other rabies-free areas are changing or contemplating changing their quarantine regulations, Hawai'i is undertaking this risk assessment study to compare the risks of introducing rabies into Hawai'i under the present 120 day rabies quarantine program with those under a proposed alternative program. In developing this alternative program, we have made certain assumptions. These are:

1. Pre-embarkation vaccination requirements cannot be controlled by the importing country.
2. Health and vaccination certification cannot be verified without major effort and cost to the importing country.
3. Pre-embarkation serological testing performed outside of the importing country cannot be controlled nor verified by the importing country.

The only aspects of an alternative program which include vaccination, identification and serological testing which can be controlled by the importing country include:

1. Post-entry serological testing conducted by the importing country.
2. Animal identification made upon entry or microchip identification utilizing microchips issued by the importing country.

It is in the area of serological testing and animal identification that we placed the greatest emphasis while designing the alternative program.

Risk Assessment Study

Risk Analysis is a process that includes risk assessment, risk management and risk communication. A Risk Assessment based on science and biology is a process of identifying disease agents as potential hazards and characterizing their risk.

Risk Profile:

A risk assessment was done to compare the risks of importing a rabies infected animal into Hawai'i under two different importation policies:

1. An importation policy that allows the release of an animal after 120 days quarantine (the present policy); and

2. An importation policy that allows the release of an animal after:
    a. Pre-entry rabies vaccination
    b. Pre-entry microchip implantation
    c. Pre-entry serological testing
    d. Microchip identification upon entry
    e. Serological test upon entry
    f. 30 days quarantine (plus 3 monthly post-quarantine inspections at monthly intervals).

Risk Characterization:

The goal of the assessment was to determine the probability of releasing a rabies infected animal into Hawai'i after the quarantine period (120 days in Policy #1 and 30 days in Policy #2).

Probability of Entry:

To determine the probability of rabies entering Hawai'i under these two scenarios, we utilized available evidence concerning the following:

* the expected number of dogs and cats entering Hawai'i,
* incubation period,
* the prevalence of rabies in the countries of origin,
* pre-embarkation requirements, testing, quarantine, and preventive measures,
* quality control of these preventive measures,
* inspection and testing at entry,
* preventive measures at destination.

Quantitative Risk Assessment:

Because there is limited information for rabies-free areas on preventive programs and because the available information requires extrapolation or estimation, a quantitative risk assessment method which is capable of handling various types of data necessary for a systematic evaluation of the potential hazard was used. The method involves the use of *Scenario Trees* to explore all possible pathways by which potential adverse events might occur following the introduction of a rabid animal into Hawai'i.

Scenario Tree Analysis is very similar to event tree analysis. An event tree starts with a particular initiating event and involves a number of functions (events or states of nature) over time and space leading to a set of possible outcomes emanating from this initiating event. Outcomes depend on the success or failure of the various functions (Silva, Samagh, Morley, 1995).

HAWAI'I'S QUARANTINE PRE-ENTRY COMPLIANCE DATA - CY 1995

ENTRY BY COUNTRY		COUNTRY	NO DOCS		NO RC		NO HC		COMPLETE DOCS	
nmbr	%		nmbr	%	nmbr	%	nmbr	%	nmbr	%
511	13.50	Origin not known	153	11.81	217	15.85	6	20.69	135	12.35
1	0.03	Africa		0.00		0		0.00	1	0.09
1	0.03	Belgium		0.00		0		0.00	1	0.09
1	0.03	Brazil	1	0.08		0		0.00		0.00
10	0.26	Canada	2	0.15		0	2	6.90	6	0.55
1	0.03	Chile		0.00		0		0.00	1	0.09
2	0.05	China	1	0.08	1	0.07		0.00		0.00
2	0.05	England	1	0.08		0		0.00	1	0.09
1	0.03	France		0.00	1	0.07		0.00		0.00
7	0.18	Germany	1	0.08	2	0.146		0.00	4	0.37
33	0.87	Guam	11	0.85	5	0.365		0.00	17	1.56
2	0.05	Hong Kong	2	0.15		0		0.00		0.00
2	0.05	India		0.00		0		0.00	2	0.18
76	2.01	Japan	27	2.08	20	1.461	1	3.45	28	2.56
18	0.48	Korea		0.00	4	0.292		0.00	14	1.28
2	0.05	Kwajalein		0.00		0		0.00	2	0.18
1	0.03	Marshall Islands		0.00		0		0.00	1	0.09
1	0.03	Mexico	1	0.08		0		0.00		0.00
1	0.03	Pakistan		0.00		0		0.00	1	0.09
3	0.08	Philippines		0.00	3	0.219		0.00		0.00
3	0.08	Singapore	2	0.15	1	0.07		0.00		0.00
3	0.08	South Africa		0.00	1	0.07		0.00	2	0.18
3	0.08	Tahiti		0.00	2	0.146		0.00	1	0.09
3	0.08	Taipei	3	0.23		0		0.00		0.00
1	0.03	Taiwan		0.00	1	0.07		0.00		0.00
1	0.03	Thailand	1	0.08		0		0.00		0.00
3096	81.78	USA	1089	84.09	1111	81.15	20	68.97	876	80.15
3786		TOTAL	1295	34.21	0.9	0.02	29	0.77	1093	28.87

Table 1

These data represent the status of documentation for dogs and cats upon arrival at the Airport Animal Quarantine Holding Facility (AAQHF). NO DOCS means there was no documentation, i.e. no health certificate or rabies vaccination certificate; NO RC means there was only a health certificate; NO HC means there was only a rabies vaccination certificate; COMPLETE DOCS means there were both a health certificate and a rabies vaccination certificate. No attempt has been made to ascertain how many of the owners of pets with incomplete or absent documentation were able to provide it subsequently. The two columns to the left of the country column represent the numbers and percentages of the countries from which animals arrived during the period.

PROPOSED ALTERNATIVE RABIES PREVENTION PROGRAM

Introduction

In designing the *Proposed Alternative Rabies Prevention Program for Hawai'i*, the goal was to reduce the 120 days of quarantine by putting into place certain pre-entry qualifications which would give us a better level of confidence that the program can keep a dog or cat, incubating rabies, from entering Hawai'i.

The efficacy of vaccination by a monovalent, inactivated rabies vaccine is universally accepted by rabies experts. It is also accepted that plural vaccinations are more effective in protecting the animal than primo vaccination. Inactivated rabies vaccines are regarded safer than live attenuated rabies vaccines, which are still in use in some countries, but prohibited in the United States. In the alternative program, we require the last vaccine to be administered no less than 3 months prior to entry. The significance of the 3 months will be discussed later.

The identification of the animal is necessary to prevent fraudulence in the vaccination requirements and serological testing prior to entry. The advances in microchip technology have made this form of identification applicable for our regulatory purposes. The fact that the microchip will be issued by the State, makes the identification system we are using, even more reliable.

Serological testing prior to entry and again upon entry give us a qualified assurance that the animal has a level of rabies antibodies likely to result in protection within the period of time of the two serological tests (the 1st test at least 3 months prior to entry and the 2nd test upon entry). Assuming that the animal has been properly vaccinated, it would in all probability have been protected against exposure to the rabies virus during this period. Failure to demonstrate a titer of at least 0.5 I.U. on either tests would disqualify the animal from the alternative program and it would have to undergo 120 days of quarantine.

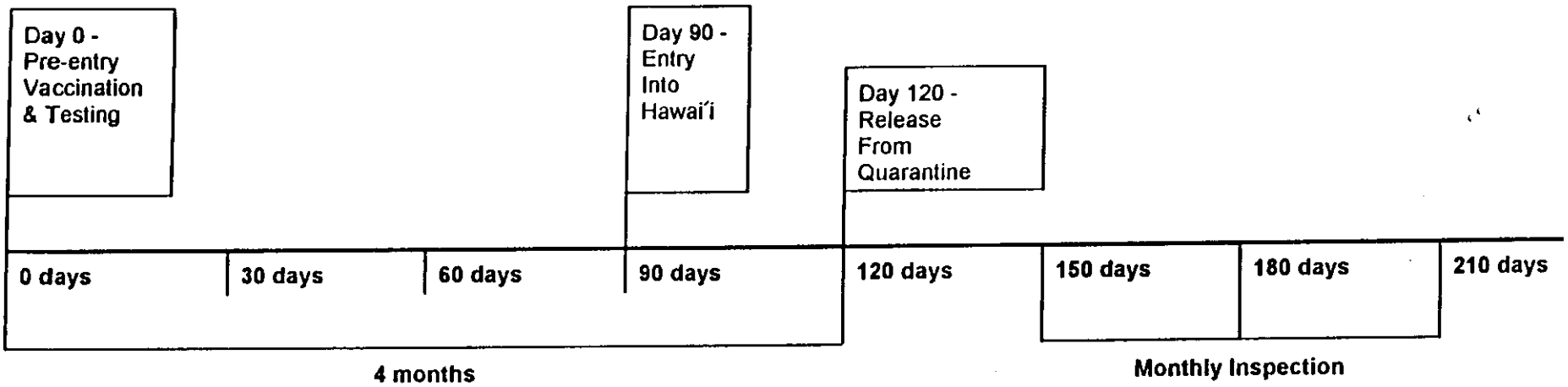
By successfully demonstrating such a titer in both tests, the animal may be released from quarantine after 30 days. The significance of the last vaccination given no less than 3 months prior to entry, and the significance of the serological test to be done not less than 3 months prior to entry is that we have essentially moved 90 days of our present quarantine program to the pre-entry period. Upon completion of the 30 days quarantine in the alternative program, we will have subjected the animal to 30 days of surveillance and have a presumption of protection for the 90 days prior to importation. See figure 1.

It must be noted here, that it was the recent developments in serological testing which gave us a scientific basis to consider an alternative rabies prevention program. The OIE Fluorescent Antibody Virus Neutralisation Test, was recently developed by Drs. Michel Aubert, Florence Cliquet, and Jacques Barrat of the CNEVA Laboratoire d'Etudes sur la Rage et la Pathologie des Animaux Sauvages, Centre Collaborateur de l'OMS pour la lutte contre les zoonoses, Laboratoire de Re'fe'rence de l'OIE pour la rage, in Nancy, France.

It is this serological test that is being standardized for use in the European Union countries. In past years, opponents to rabies quarantine claimed that the Rapid Fluorescent Focus Inhibition Test (RFFIT) was the serological test to be used for regulatory purposes. That claim did not have scientific corroboration. On the other hand, the test developed in Nancy,France does have scientific approval.

RFFIT vs. OIE

Figure 1


Day 0 - Pre-entry Vaccination & Testing
Day 90 - Entry Into Hawai'i
Day 120 - Release From Quarantine
0 days
30 days
60 days
90 days
120 days
150 days
180 days
210 days
4 months
Monthly Inspection

Proposed Program

1. PRE-ENTRY REQUIREMENTS:

1.1. *Vaccination(s) with a monovalent inactivated rabies vaccine.* Two vaccinations shall be required prior to entry. The first vaccination shall not be administered before the animal is 3 months of age. The second vaccination shall not be administered less than 6 months following the first vaccination.

Second vaccination or subsequent vaccination(s) shall not be administered less than 3 months and not more than 12 months prior to entry into Hawai'i.

The name, lot number, expiration date of the vaccine administered, and the route of administration must appear on the health certificate. Health certificates shall be written in English.

1.2. *Identification of animal.* Upon request of the owner for an import permit number, the department will issue an official microchip to be implanted in the animal before arrival in Hawai'i. Pre-payment of the microchip to include shipping and handling must be made by credit card or money order. It will be the owner's responsibility to have the microchip implanted by the veterinarian issuing the health certificate and administering the rabies vaccination. Only Hawai'i issued microchips will be recognized for entry into the State.

1.3. *Pre-entry Antibody Test.* A pre-entry antibody test shall be conducted not less than 3 months and not more than 12 months prior to entry, by a neutralizing antibody titration test (OIE Fluorescent Antibody Virus Neutralisation Test). The serum shall contain at least 0.5 I.U./ml. rabies antibodies. The testing laboratory shall report the results of the test directly to the department. The testing laboratory shall retain the blood and serum sample for genetic testing, for no less than four months after entry of the animal into Hawai'i. Blood and serum samples may be submitted to the Hawai'i laboratory for serological testing.

1.4. Failure to meet all pre-entry requirements shall result in 120 days quarantine of the animal.

2. POST-ENTRY REQUIREMENTS

2.1 After entry, each animal shall be tested for rabies antibodies by the State Laboratory. Animals with an adequate titer will be released from quarantine after 30 days. (ADEQUATE TITER = 0.5 I.U./ml. OR GREATER).

Owners will be required to sign a release form to allow the department to draw blood samples to do the test, and to use sedatives or anesthetics as required. Owners have the options not to allow the department to obtain the blood sample, and must either select a veterinarian registered with the department to obtain the blood sample, or failing to do that, submit their animal(s) to the 120 day quarantine period.

2.2. All animals not showing an adequate titer shall be quarantined for 120 days.

2.3. Only one test shall be conducted upon entry. Results of that test are final.

3. PROVISIONAL QUARANTINE REQUIREMENTS

3.1. Animals released after 30 days quarantine shall remain under provisional quarantine in the owner's custody and must be presented for inspection once a month for the 3 months following release from quarantine. The State Veterinarian shall have the authority to quarantine the animal(s) if upon inspection, signs suggestive of rabies are detected.

3.2. Inspection may be done by an authorized private veterinarian or the animal(s) may be presented to a designated official on dates mutually agreed to by the department and the owner.

3.3. Failure to present the animal for inspection within 7 days of the scheduled date of inspection and failure to notify the department may result in the confiscation of the animal for quarantine for the remaining 120 day period and subject the owner to penalties as provided in section 4.

3.4. It will be the owner's responsibility to notify the department of the death of the animal, and the cause of death, if death occurs within the 3 month period. In addition, the animal must be submitted immediately after death for rabies testing.

3.5. It will be the owner's responsibility to notify the department of a residence change of address, the change of ownership of the animal, the escape of the animal, and the transport of the animal inter-island or out of the State, if such occurs within the 3 month provisional quarantine period. Notification of the Office of the State Veterinarian must be made within 24 hours of any of the above occurrences.

4. PENALTIES: (a) Any person, carrier, or handler violating any provision of these administrative rules shall be subject to penalties provided in HRS 142-12.

(b) In addition to the penalties in subsection (a) or (b), the department of agriculture may impound, seize, confiscate, destroy, quarantine, sell, auction, or dispose of any animal, animal product, container, crate, or any other item under the jurisdiction of these rules in the best interest of the State.

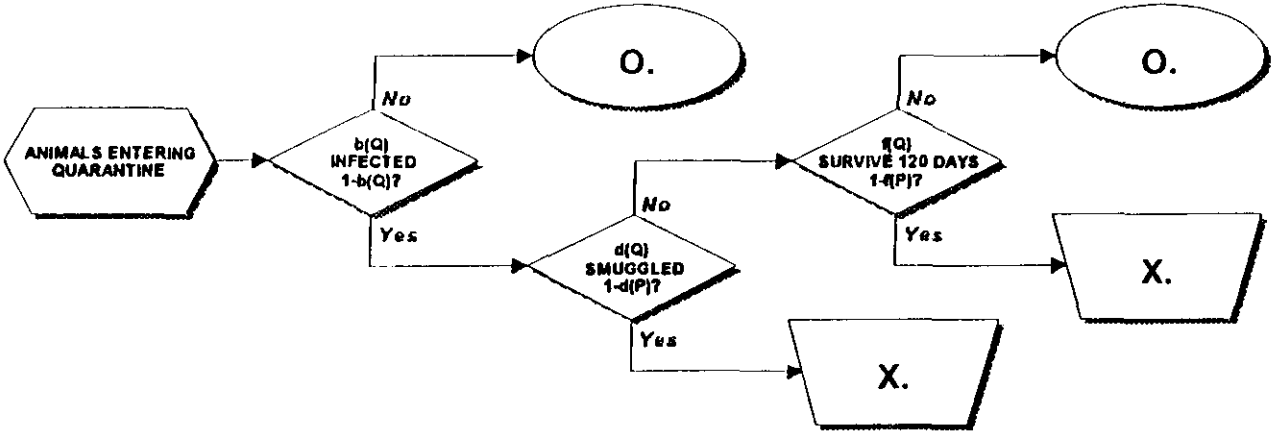
Note: These rules shall be adopted contingent upon amendments to HRS 142-12 to include the following new sub-sections:

1.	142-12(e)(1)	For failure to present an animal for inspection within seven days of the scheduled inspection, during the 90-day post rabies quarantine period, by a fine of not less than $1,000 and not more than $2,500, or by imprisonment of not more than one year, or both.
2.	142-12(e)(2)	For the unauthorized removal of an animal from rabies quarantine or for the smuggling of a dog, cat, or other carnivore into the State, by a fine of not less than $5,000 or by imprisonment of not more than five years, or both.

RABIES RISK ASSESSMENT MODELS AND CALCULATIONS

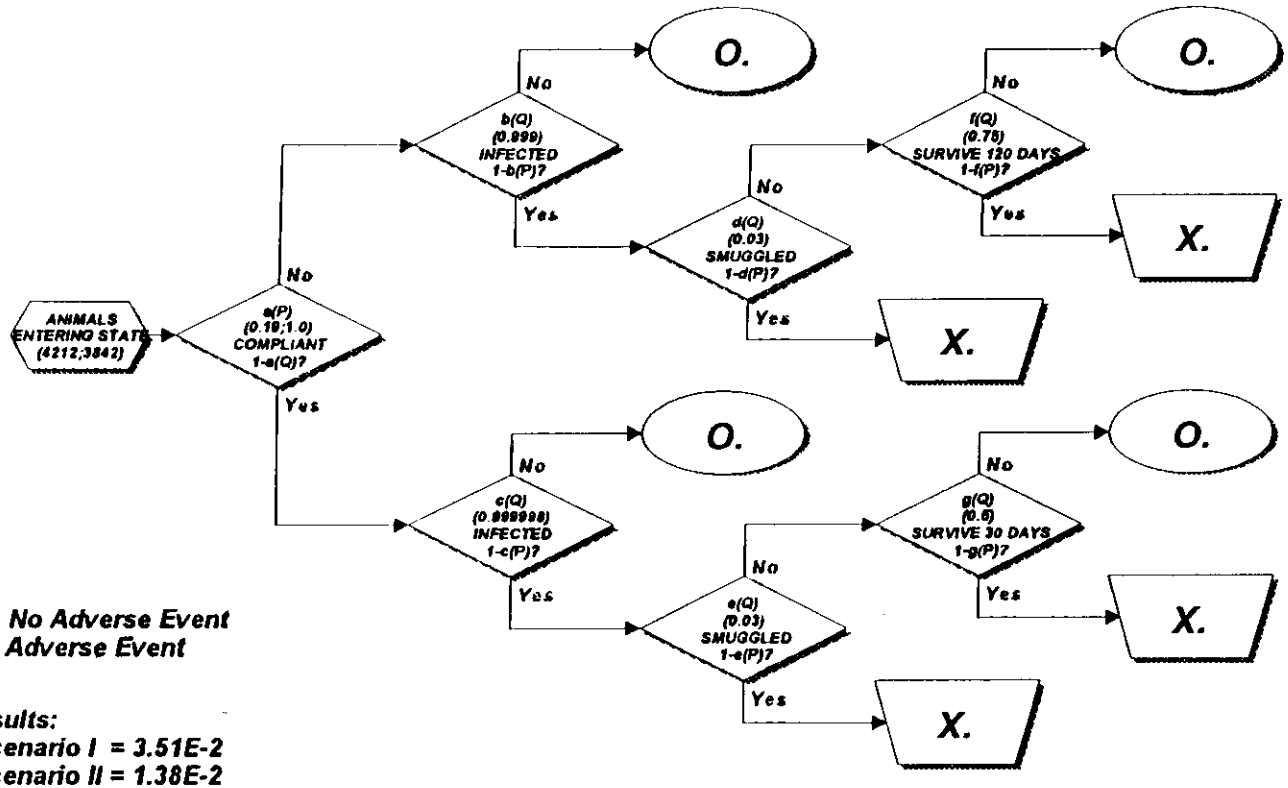
Following are the scenario trees, the evidence table, the spreadsheet model, and representative results from the model run.

SCENARIO TREE I



O = No Adverse Event
X = Adverse Event

SCENARIO TREE II



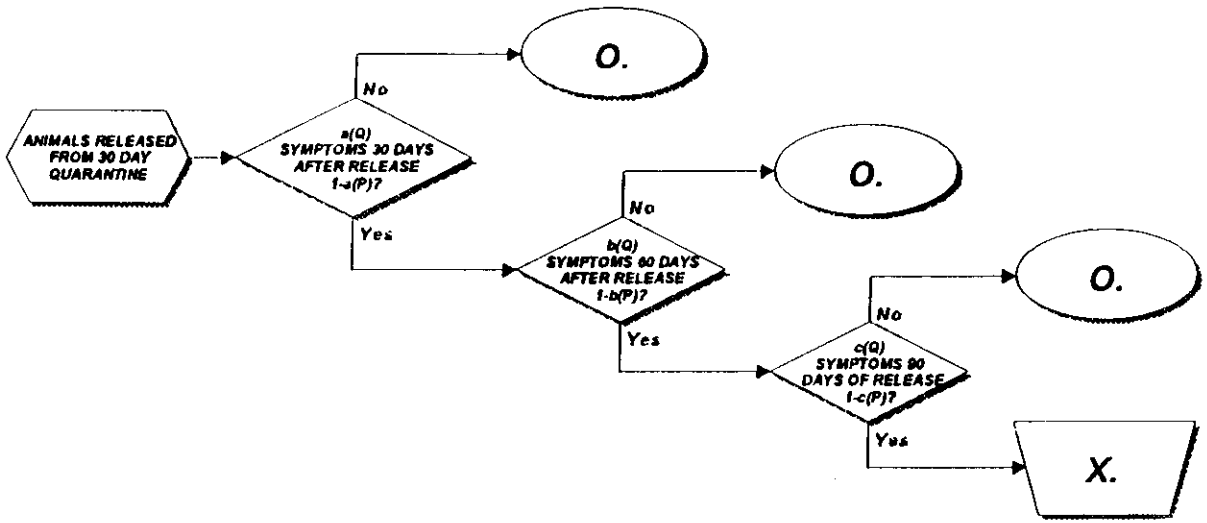
O = No Adverse Event
X = Adverse Event

Results:
Scenario I = 3.51E-2
Scenario II = 1.38E-2

Formula: 1-[(1-a)(c+(1-c)eg)+a(b+(1-b)df)]^N
or: 1-[Q1(Q2+(P2Q3Q4)+P1(Q2+(P2Q3Q4)]^N

1 2 3 4

SCENARIO TREE III (POST 30-DAY QUARANTINE PERIOD)



O = No Adverse Event
X = Adverse Event

EVIDENCE TABLE USED FOR THE HAWAI'I RABIES QUARANTINE RISK ANALYSIS

ITEM	DESCRIPTION	DATA DISTRIBUTIONS	COMMENTS
N	Number of animals entering Hawai'i	U - 3015, 4476 T - 1.0, 1.05, 1.2	These numbers are derived from the most recent 10 years actual population experience at the AQS. For this simulation; assumed an increase in population with the new system by factor of 1.0, 1.05, and 1.2 as shown.
a	Proportion Animals Not Compliant	T - 0.58, 0.90, 0.95	Data were derived from actual AQS 1995 compliance data for health certificate and documentation of rabies vaccination (0.58). With awareness of the new program the rate may go up to 0.95 upper limit and 0.9 most likely.
b	Proportion Animals Not Infected	T - 1-(2.2 E-5),1-(4.4 E-5), 1-(2.2 E-4)	82% of the animals entering AQS in 1995 were from mainland U.S. The data used by Corrin in the New Zealand RA were updated with the most recent (1994) figures for number of rabies cases in the U.S. The dog and cat population figures used were those from the AVMA for 1991 (the most recent available). We used 10 times the reported figure as the maximum and 2 times as the most likely.
c	Proportion Animals Not Infected	T - 1-(2.2 E-5)(x), 1-(4.4 E-5)(x), 1-(2.2 E-4)(x) x = (0.35)(0.13) = 0.0455	For this leg of the risk tree, we multiplied the values for b above by a factor to describe the effect of the vaccination timing and testing scheme in the new system. From the GB data, 35% will survive beyond 90 days and 1-PPV for RFFIT is 0.13.
d	Proportion Animals Entering Quarantine	U - 0.99, 0.96	We felt that the most reasonable approach to take here based on what information we have is to assume no change in smuggling under the two systems so that the computations are: N/(N+24) and N/(N+240) where we estimate that it is likely that 24 animals may be smuggled per year with upper limit 10 times that much.
e	Proportion Animals Entering Quarantine	U - 0.99, 0.96	See comments for d above.
f	Proportion Infected Animals not surviving 120 days quarantine	Point Estimate - 0.75	These are hard data points based on the most recent 61 years of data from Great Britain.
g	Proportion Infected Animals not surviving 120 days quarantine	Point Estimate - 0.5	See comments for f above.

Hawai'i Rabies Risk Analysis Program (including guide dogs)

FOR OLD POLICY

Model Parameters: a = 1; h = 1

a	1.000000	Non Compliant	1.000000
b	0.999990	Non Compliant Non Infection	=RiskTriang(1-0.000022, 1-0.0000044,1-0.0000022)
c	1.000000	Compliant Non Infection	=RiskTriang(1-0.000022*0.05,1-0.0000044*0.05,1-0.0000022*0.05)
d	0.033293	Non Compliant Infected Non Smuggled	=RiskUniform(24/(B14+24),240/(B14+240))
e	0.033293	Compliant Infected Non Smuggled	=RiskUniform(24/(B14+24),240/(B14+240))
f	0.750000	NonCompliant Infected Non Smuggled Non Surviving	0.750000
g	0.500000	Compliant Infected Non Smuggled Non Surviving	0.500000
h	1.000000	Guide Dog	1
	0		
N	3746		=RiskUniform(3015,4476)

Formula= 1-((a(b+(1-b)df)+((1-a)(c+(1-c)ehg))^N

= 1-((B5*(B6+(1-B6)*B8*B10))+((1-B5)*(B7+(1-B7)*B9*B12*B11)))^B14

= 0.03421658

FOR NEW POLICY

Model Parameters: a <> 1; h = 1

a	0.190000	Non Compliant	=RiskTriang(0.05,0.1,0.42)
b	0.999990	Non Compliant Non Infection	=RiskTriang(1-0.000022, 1-0.0000044,1-0.0000022)
c	1.000000	Compliant Non Infection	=RiskTriang(1-0.000022*0.05,1-0.0000044*0.05,1-0.0000022*0.05)
d	0.033293	Non Compliant Infected Non Smuggled	=RiskUniform(24/(B32+24),240/(B32+240))
e	0.033293	Compliant Infected Non Smuggled	=RiskUniform(24/(B32+24),240/(B32+240))
f	0.750000	NonCompliant Infected Non Smuggled Non Surviving	0.750000
g	0.500000	Compliant Infected Non Smuggled Non Surviving	0.500000
h	1.000000	Guide Dog	1
N	3746		=RiskUniform(3015,4476)

Formula= 1-((a(b+(1-b)df)+((1-a)(c+(1-c)ehg))^N

= 1-((B23*(B24+(1-B24)*B26*B28))+((1-B23)*(B25+(1-B25)*B27*B30*B29)))^B32

= 0.00800481

Detail Statistics

Variable Type			
Name	/Formula	/Formula	
Description	Output (Sim #1)	Output (Sim #2)	
Cell	A16	A31	
Minimum =	1.62E-03	7.19E-03	
Maximum =	3.09E-02	8.95E-02	
Mean =	9.09E-03	3.52E-02	
Std Deviation =	5.33E-03	1.68E-02	
Variance =	2.73E-05	2.81E-04	
Skewness =	1.501231	0.64114	
Kurtosis =	5.482023	2.661405	
Errors Calculated	0	0	
Mode =	7.26E-03	1.77E-02	
5% Perc =	3.43E-03	1.35E-02	
10% Perc =	4.03E-03	1.59E-02	**NOTE: THIS IS A SAMPLE OF THE @ RISK PROGRAM PERFORMED AT 10,000 ITERATIONS**
15% Perc =	4.44E-03	1.77E-02	
20% Perc =	5.00E-03	1.92E-02	
25% Perc =	5.38E-03	2.14E-02	
30% Perc =	5.93E-03	2.34E-02	
35% Perc =	6.30E-03	2.55E-02	
40% Perc =	6.71E-03	2.67E-02	
45% Perc =	7.25E-03	2.98E-02	
50% Perc =	7.69E-03	3.20E-02	
55% Perc =	8.19E-03	3.48E-02	
60% Perc =	8.90E-03	3.72E-02	
65% Perc =	9.70E-03	0.0398132	
70% Perc =	1.03E-02	4.6E-02	
75% Perc =	1.12E-02	0.0467055	
80% Perc =	1.24E-02	4.98E-02	
85% Perc =	1.38E-02	5.36E-02	
90% Perc =	1.60E-02	6.06E-02	
95% Perc =	2.02E-02	6.70E-02	
Filter Minimum =			
Filter Maximum =			
Type (1 or 2) =			
# Values Filtered =			
Scenario #1	>75%	>75%	
Scenario #2	<25%	<25%	
Scenario #3	>90%	>90%	

Discussion

Scenario Tree # 1. This Scenario Tree illustrates the present quarantine program in which all dogs and cats entering Hawai'i undergo 120 days of quarantine. The initiating event in this scenario is the estimated number of dogs and cats entering Hawai'i. Of this population, an estimated proportion of infected animals was determined based on prevalence data of reported rabies cases in the United States. A multiplication factor of 10 was used to account for under-reporting. Since 82% of all imported dogs and cats originate from the mainland United States, prevalence data from other countries of origin were not used.

The risks of the estimated population of infected animals, the risks of the estimated number of animals which may be smuggled into Hawai'i, and the risks of the proportion of animals released after 120 days of quarantine were used to determine the overall risk value of the present program. This is expressed in an algebraic value of 3.52×10^{-2} (.0352).

Scenario Tree # 2. Scenario Tree # 2 illustrates the proposed alternative rabies prevention program, in which an animal must receive vaccinations, be serologically tested, and microchip identified prior to entry. The initiating event in Scenario Tree # 2 is again the estimated number of animals entering Hawai'i, with a significant increase in numbers because of the shortened quarantine period. Of this population, an estimation was made of the numbers which would successfully comply with all pre-entry requirements. A risk assessment on the proportion not complying was conducted through the 120 day quarantine scenario. A risk assessment of the compliant proportion was conducted through the 30 day quarantine scenario.

In both cases, an estimation of infected and non-infected animals was used. Again, the risks of infected animals, smuggled animals, and animals released after 120 days and 30 days quarantine were used to determine the risk value for the alternative program. For Scenario Tree # 2, this value is expressed in an algebraic value of 9.07×10^{-3} (.00907).

The key factors in this risk assessment process included:

1. The population of dogs and cats entering Hawai'i. For the existing program, an estimation was made based on importation data over the past 10 years. As estimation of the most likely numbers were determined utilizing a uniform distribution. For the alternative program, a greater increase in importations were expected because of the shortened quarantine period.

2. The proportion of infected animals in the imported population was estimated based on the reported cases of rabies in the United States. A triangular distribution was used with the minimum value being the reported value, the most likely value being 1.5 times the reported value, and the maximum value being ten times the reported value.

3. The estimated population of smuggled animals was kept constant in both Scenario Trees as a conservative approach to the risk assessment process. This is in spite of the opinion that a reduced quarantine period would lessen the incidence of smuggling.

4. The final risk factor included the animals released after 120 days and 30 days of quarantine. Since rabies has a long and variable incubation period, there is an inherent risk that an animal released from quarantine may still be incubating the disease.

The models for this risk assessment are summarized in the Scenario Tree Format on pages 17, and 18. The Evidence Sets for each of the Scenario Trees are shown on pages 20 and 21.

The Parameters used in the mathematical models for each of the Scenario Trees are shown on pages 22, 23, and 24.

The mathematical formula used in the calculations of the risk values is shown below along with the spreadwheet representation of it.

$[(1-a)(c+(1-c)eg) + a(b+(1-b)df)]^N$ where N = number of animals

$$[Q_1 (Q_2(Q_3Q_4 + P_3Q_4) + P_2 (Q_3Q_4 + P_3Q_4))+P_1 (Q_2 (Q_3Q_4 + P_3Q_4) + P_2 (Q_3Q_4 + P_3Q_4))]^N$$

Conclusions

From the algebraic values resulting from 10,000 iterations of the simulation, we see that the proposed alternative rabies prevention program has a risk value of approximately four times less than the present program. The reasons for this significant difference are the steps required in the alternative program. Because of these additional steps and the confidence that we have in the microchip identification system, and the newly developed seroneutralization test, it is recommended that the alternative program be adopted.

However, in the adoption of the alternative program, there are two additional considerations that need to be discussed. The first is Scenario Tree # 3, the Post Quarantine Period for the Alternative Program (Page 19). Although this scenario tree does not affect the quantitative risk assessment, since the animal is already released into the community, it does have an effect on the overall program. By inspecting these animals monthly for the three months following release from quarantine, we will in essence have had the animal under some surveillance, if not entirely under quarantine, for a total of 120 days. This is starting with the day the animal enters quarantine.

Qualitatively, this post-quarantine period should give us an added level of confidence in the new program.

The second item of consideration is the necessity to amend the Hawai'i Revised Statutes to increase the penalties for violations to these new regulations. It is our belief that by reducing our quarantine period, we may be sending a message that Hawai'i is softening on its resolve to keep our State rabies-free. By increasing our penalties and becoming more stringent in the enforcement of these regulations, we will maintain the same message that Hawai'i is serious in remaining a rabies-free state.

As a closing statement, although we would prefer that this alternative program was as uncomplicated and easily communicated as the present quarantine program, the nature of the disease gives us very few options to consider. As complex as this new program may seem, it can be enforceable with adequate resources.

References

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8. *Personal communication. Dr. Alex Wandeler*, Head, Rabies Unit, Member, WHO Expert Committee on Rabies, The Animal Diseases Research Institute, Agriculture Canada, Ontario, Canada.

9. *Analysis of the risks of importing rabies into New Zealand through the importation of dogs and cats*, Ministry of Agriculture and Fisheries, New Zealand, 1994

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12. *Rabies surveillance in the United States during 1994*, John W. Krebs, et. al.; JAVMA, Vol 207, No. 12, December 15, 1995.

The following people participated in the Expert Consultation on Rabies and in the Risk Analysis that led to this document.

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C. Dr. Michel Aubert, Directeur, Laboratoire d'etudes sur la rage et las Pathologies des Animaux Sauvages, Malzeville, France.

D. Dr. Florence Cliquet, Chief, Applied Immunology/Vaccinology Laboratoire d'etudes sur la rage et las Pathologies des Animaux Sauvages, Malzeville, France.

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To | Initial | Date
AEHA | ESP | 4/30/92
PSS | CA | 4/30
BIO
AQ.

April 20, 1992

DIS 4/30/92 RECEIVED 4/29/92

x c w/all attachments to DOH

Dr. Leticia V. Espaldon, Director
Department of Public Health and Social Services
Government of Guam
P.O. Box 2816
Agana, Guam 96910

Dear Dr. Espaldon:

Thank you very much for your letter of inquiry for prevention of entry of rabies into Guam. So much has been happening in this area of regulating international transport of animals that it has not been possible to assemble a meaningful set of materials to send you. Even as I write this, a meeting is scheduled on this subject at Paris, France April 22-23. I will share more after I attend this meeting. At this time, I recommend the following for your use:

A. A pre-publication copy of Section 11, "International Transfer of Animals" from the report of the Eight Meeting of the World Health Organization Expert Committee on Rabies held September 24-30, 1991. (Enclosure # 1). Permission to prove this pre-publication copy was granted by Dr. F. -X Meslin, Chief of Veterinary Public Health. This is an appropriate guide as it recognizes that considerable variations exist among member countries and states worldwide, variations which may be controlled on regional bases.

B. Critical variations among countries which must be considered to exist include the following: vaccine quality, examinations prior to issuance of zoo-sanitary certificates, issuance of certifications of vaccination, positive and permanent identification of animals, security during transport, capability and reliability of serological testing, and the desire to circumvent regulations regarding international transport of animals.

Critical variations and uncertainties which will remain include immune responses related to age of animals at vaccination or exposure, efficacy of a single dose of vaccine and reliability of a single serological test. Puppies and kittens, with or without maternal antibodies, respond variably and generally inadequately to rabies vaccination. If less than three months of age at primary vaccination,

immune responses are unreliable. If $\geq$ 3 months of age at primary vaccination, a second dose should follow six months to one year later. Specific requirements for administering different vaccines should be followed.

Evidence of very long incubations periods has been presented in human cases or rabies occurring post-puberty in human patients exposed in early childhood. Caution is appropriate in immature animals which could have been exposed to rabies neonatally or early in life and may, following an extended incubation period, develop rabies following maturation.

Of importance in serological determinations is the fact that animals vaccinated during incubations of rabies or exposed prior to the development of protective levels of antibodies may continue to progress to clinical rabies. Unvaccinated animals or animals which did not respond to vaccination may develop antibody titers during late incubation, but will continue to progress to clinical rabies. Once rabies virus has begun to progress intraneurally, humeral antibodies will not halt it. In these situations, a single positive serological test is no assurance that the animal is free of rabies.

C. Requirements for transport of animals potentially incubating rabies should include the following:

1) Unvaccinated dogs and cats should be placed in secure quarantine separated so as to preclude transmission of rabies during quarantine for a period exceeding the incubation period in these animals, generally considered as six months. If the animals are held for a shorter period (but never less than four months), they should be held in residential quarantine for the remaining time of up to six months with monthly certification of health and immediate notification to veterinary authorities of any unusual behavior.

2) Regulations to ensure correct, preferably permanent identification of animals must be enforced. Certificates and permits must be valid. Countries which cannot ensure such reliability must be excluded as origins for international transport of animals.

3) Immature dogs and cats, irrespective of vaccination and serologic status, should be required to go through full quarantine. True caution would require that if not yet mature at the time of scheduled release from quarantine, such animals would then be placed under residential quarantine until reaching maturity.

4) Where vaccination/serology requirements may permit entry of animals with reduced or no quarantine at destination, the following must be considered:

a) At least two officially certified vaccinations at least six months apart, with the most recent being between one and twelve months prior to embarkation, would exclude juvenile or recently transshipped dogs or cats from entry without

quarantine. The would also provide needed immunization reliability.

b) At least two serological tests with demonstration of titers $\geq$0.5 IU conducted at a minimum of four and preferably six weeks apart while the animals are held in official or supervised residential quarantine in the country of destination would provide security against transmission during a possible intraneural incubation period. This would also provide the necessary reliability to the serological test results.

c) Animals from countries or origin of a species in which rabies virus strains with unique antigenic or pathogenic characteristics, including low virulence or low salivary excretion, or in which rabies related viruses have been identified, should be excluded from entry. True caution would require that dogs and cats from such countries should be admitted only under provisions of lifetime surveillance.

D. Optimally a system of rabies status should be organized for countries from and to which international transport of animals is to occur, from *very low risk* to *very high risk*. Transport and entry requirements could be identified for each country. At the present state of our capability in risk assessment, reliability of vaccines and serologic tests, and international enforcement capabilities, such requirements would be complex. A projected description of such requirements for international transfer of animals is enclosed (Enclosure # 2).

E. A copy of the 1992 Compendium of Animals Rabies Control prepared for use in the U.S. by the National Association of State Public Health Veterinarians is enclosed (Enclosure # 3).

The following references from recent literature may also be useful to you.

Eng, T.R. and D.B. Fishbein. 1990. Epidemiologic factors, clinical findings and vaccination status of rabies in cats and dogs in the United States in 1988. J Am Vet Med Assn **197**:201-209.

(The RFFIT test as described in) Smith, J.S. P.P.A. Yager and G.M. Baer. 1973. A rapid reproducible test for determining rabies neutralizing antibody. WHO Bulletin **48**:535-541.

Kaolin adsorption of animal sera in the RFFIT is used by National Veterinary Services Laboratory, USDA, which performs the animal rabies vaccination tests. Our experience has been that the test with kaolin adsorption is highly reproducible, but we have not run comparative tests with and without adsorption. My view on the suitability of the RFFIT test to determine the immune status of a dog or cat is that it is a sensitive test but it has shortcomings for purposes of international transport of animals:

OIE-FAVN vs. RFFIT ??

(RFFIT test cont)

a. False positive tests do occur. One test should not be definitive.

b. The possibility of incorrect identification or recording precludes trusting a single RFFIT test.

c. The test may be positive in a dog or cat vaccinated during the intraneural phase of incubation. Yet the animal will develop rabies.

d. The test has definitely not been proven in juvenile dogs or cats exposed to rabies prior to vaccination.

Larsh, S.E., 1965. Indirect fluorescent antibody and serum neutralization response pre-exposure prophylaxis against rabies. Ann Intern Med **63**:955-964. The mouse neutralization test is considered to have about a 0.8% false positive level according to the Larsh study.

The establishment of effective immune levels for vaccinated people is described in a series of papers by Atanasiu and Co-workers in the WHO Bulletins as follows: 1956 - **14**:593; 1957 - **17**:911; 1961 - **25**:103 and 1967 - **36**:361.

A fairly good report on antibody titers in dogs and protective status is in: Chomel, B., G. Chappuis, F. Bullon, D. Cardenas, D. deBeublain, T. Lombard and E. Gambruno. 1988. Mass vaccination campaign against rabies: are dogs currently protected? The Peruvian experience. Rev Inf Dis 10 Supplement: S697-S702.

Yours sincerely,

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INTERNATIONAL TRANSFER OF ANIMALS

A. Rabies status of member countries or non-contiguous provinces.

A-1 Specified rabies free. *Very low risk* No rabies in any species of non-quarantined animals during at least the past two years. No human rabies from indigenous exposure. The national surveillance program is evaluated by the organization as valid.

A-2 Rabies free in terrestrial animals. *Low risk* No rabies in any species of non-quarantined terrestrial animals. No human rabies from indigenous exposure by terrestrial mammals.

A-3 Rabies present in wild animals. *Moderate risk* - in export of dogs and cats. *High risk* in export of wild reservoir animal species. Endemic or epidemic rabies in wild terrestrial animals, may or may not be in bats. Rabies in dogs and cats originates from wild animal exposure.

A-4a Rabies present in dogs and cats. *High risk* Endemic or epidemic rabies in urban cycles in dogs and cats. Rabies in wild terrestrial animals originates from canine exposure.

A-4b Rabies present in multiple species. *High risk* Endemic or epidemic rabies in urban cycles in dogs and cats, and in rural cycles in wild animals. Cross-transmissions may occur.

A-5 Rabies related viruses or unique strains of rabies present. *Very high risk* Strains with unique antigenic or pathogenic characteristics (low virulence, long salivary excretion) identified in wild or domestic animals. More typical strains of virus may or may not be present.

B. Recognized measures to protect countries of destination.

B-1 Total prohibition of importation of privately owned animals. Strict regulation of importation of animals for zoos or research facilities.

B-2 Prohibition of importation of privately owned animals with regulated exemptions for assistive animals, zoo and research animals, and animals admitted temporarily for breeding, racing or show.

B-3 Quarantine in government owned or licensed facilities for six months, or four months followed by two additional months of restriction to owners' premises with bi-weekly certification of health.

B-4 Requirement of at least two officially certified vaccinations at least six months apart with the most recent between one and twelve months prior to embarkation. This would prevent entry of juvenile or recently transshipped dogs and cats. These vaccinated animals would be confirmed as properly vaccinated by two serological tests with titers at least 0.5 IU/ml and at least four weeks between tests. This would exclude animals from release during the intraneural incubation period.

B-5 Requirement of at least one officially certified vaccination one to twelve months prior to embarkation plus a serological confirmation of titer at entry.

B-6 Requirement of at least one officially certified vaccination prior to or at entry.

B-7 Requirement of quarantine on consigned premises for four or six months with monthly certification of health.

B-8 Unrestricted international transfer.

C. World Health Organization or other international required organizations should annually evaluate the rabies status of each member country or noncontiguous province on the basis of surveillance reports over the immediate past two years. This status report should be provided to each country annually. Any changes in status of a country should be promptly reported to the organization and through it to each member country.

D. All documents required by member countries should accompany animals in international transfer, including:

D-1 Identification of each animal, preferably in a permanent manner.

D-2 International zoo-sanitary certificates prepared by national veterinary authorities of the country of origin.

D-3 Valid international certificates of vaccination, if applicable.

D-4 Import licenses prepared by national veterinary authorities of the country of destination, if required.

E. During transit, animals of different origin must be kept from any direct contact in sealed units such that removal of the animals will break the seals.

REQUIREMENTS FOR INTERNATIONAL TRANSFER OF ANIMALS

Status of Exporting Country	Status of Importing Country			
	Specified rabies free	**Rabies free in terrestrial animals**	**Rabies endemic in terrestrial animals**	**Rabies related viruses or unique strains**
Specified rabies free Status A-1	Unrestricted transfer	Unrestricted transfer	Vaccination	Vaccination
Very low risk	Measure B-8	Measure B-8	Measure B-6	Measure B-6
Rabies free in terrestrial animals Status A-2	Full quarantine or Quarantine & vaccination	Vaccination & Serological testing	Vaccination	Vaccination
Low risk	Measures B-3, B-4	Measure B-5	Measure B-6	Measure B-6
Rabies endemic in wild animals Status A-3	Full quarantine or Quarantine & vaccination	Full quarantine or Quarantine & vaccination	Vaccination - May add Serological Testing	Vaccination
Moderate - high risk	Measures B-3, B-4	Measures B-3, B-4	Measure B-5 or B-6	Measure B-6
Rabies endemic in pet and wild species Status A-4	Prohibit entry or Full quarantine	Full quarantine or Quarantine & vaccination	Vaccination - May add Serological Testing	Vaccination
High risk	Measures B-2, B-3	Measures B-3, B-4	Measure B-5 or B-6	Measure B-6
Rabies related viruses or unique strains Status A-5	Prohibit entry	Prohibit entry	Prohibit entry	Vaccination
Very high risk	Measure B-1	Measure B-1	Measure B-1	Measure B-6
Requirements for horses & livestock	Quarantine on premises	Vaccination; Quarantine on premises	Vaccination	Vaccination
	Measure B-7	Measures B-6, B-7	Measure B-6	Measure B-6

Compend[illegible]n of Animal Rabies Contro[illegible] 992*

National Association of State Public Health Veterinarians, Inc.

The purpose of this Compendium is to provide rabies information to veterinarians, public health officials, and others concerned with rabies control. These recommendations serve as the basis for animal rabies control programs throughout the United States and facilitate standardization of procedures among jurisdictions, thereby contributing to an effective national rabies control program. This document is reviewed annually and revised as necessary. Immunization procedure recommendations are contained in Part I; all animal rabies vaccines licensed by the United States Department of Agriculture (USDA) and marketed in the United States are listed in Part II; Part III details the principles of rabies control.

Part I: Recommendations for Immunization Procedures

A. **VACCINE ADMINISTRATION:** All animal rabies vaccines should be restricted to use by, or under the direct supervision of, a veterinarian.

B. **VACCINE SELECTION:** In comprehensive rabies control programs, only vaccines with a 3-year duration of immunity should be used. This constitutes the most effective method of increasing the proportion of immunized dogs and cats in any population. (See Part II.)

C. **ROUTE OF INOCULATION:** All vaccines must be administered in accordance with the specifications of the product label or package insert. If administered intramuscularly it must be at one site in the thigh.

D. **WILDLIFE VACCINATION:** Vaccination of wildlife is not recommended since no rabies vaccine is licensed for wild animals. Because of their susceptibility to rabies, neither wild nor exotic carnivores, nor bats should be kept as pets. Hybrids (offspring of wild animals bred with domestic dogs or cats) are considered wild animals.

E. **ACCIDENTAL HUMAN EXPOSURE TO VACCINE:** Accidental inoculation may occur during administration of animal rabies vaccine. Such exposure to inactivated vaccines constitutes no rabies hazard.

F. **IDENTIFICATION OF VACCINATED DOGS:** All agencies and veterinarians should adopt the standard tag system. This practice will aid the administration of local, state, national and international control procedures. Dog license tags should be distinguishable in shape and color from rabies tags. Anodized aluminum rabies tags should be no less than 0.064 inches in thickness.

1. RABIES TAGS

YEAR	COLOR	SHAPE
1992	Red	Heart
1993	Blue	Rosette
1994	Orange	Fireplug
1995	Green	Bell

2. RABIES CERTIFICATE All agencies and veterinarians should use the NASPHV form #50, "Rabies Vaccination Certificate," which can be obtained from vaccine manufacturers. Computer-generated forms containing the same information are acceptable.

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Compendium of Animal Rabies Control 1992

Part II: Vaccines Marketed in U.S. and NASPHV Recommendations

Product Name	Produced By	Marketed By	For Use In	Dosage	Age at Primary Vaccination[1]	Booster Recommended	Route of Inoculation
A) INACTIVATED							
TRIMUNE	Fort Dodge License No. 112	Fort Dodge	Dogs	1 ml	3 mos. &	Triennially	IM[2]
			Cats	1 ml	1 yr. later	Triennially	IM
ANNUMUNE	Fort Dodge License No. 112	Fort Dodge	Dogs	1 ml	3 months	Annually	IM
			Cats	1 ml	3 months	Annually	IM
DURA-RAB 1	ImmunoVet License No. 302-A	ImmunoVet, Vedco, Inc. & Fermenta Animal Health	Dogs	1 ml	3 months	Annually	IM
			Cats	1 ml	3 months	Annually	IM
DURA-RAB 3	ImmunoVet License No. 302-A	ImmunoVet, Vedco, Inc. & Fermenta Animal Health	Dogs	1 ml	3 mos. &	Triennially	IM
			Cats	1 ml	1 yr. later	Triennially	IM
RABCINE 3	ImmunoVet License No. 302-A	SmithKline Beecham Animal Health	Dogs	1 ml	3 mos. &	Triennially	IM
			Cats	1 ml	1 yr. later	Triennially	IM
ENDURALL-K	SmithKline Beecham License No. 189	SmithKline Beecham Animal Health	Dogs	1 ml	3 months	Annually	IM
			Cats	1 ml	3 months	Annually	IM
RABGUARD-TC	SmithKline Beecham License No. 189	SmithKline Beecham Animal Health	Dogs	1 ml	3 mos. &	Triennially	IM
			Cats	1 ml	1 yr. later	Triennially	IM
			Sheep	1 ml	3 months	Annually	IM
			Cattle	1 ml	3 months	Annually	IM
			Horses	1 ml	3 months	Annually	IM
CYTORAB	Coopers Animal Health Inc. License No. 107	Coopers	Dogs	1 ml	3 months	Annually	IM
			Cats	1 ml	3 months	Annually	IM
TRIRAB	Coopers Animal Health Inc. License No. 107	Coopers	Dogs	1 ml	3 mos. & 1 yr. later	Triennially	IM
			Cats	1 ml	3 months	Annually	IM
RABVAC 1	Solvay Animal Health, Inc. License No. 195-A	Solvay Animal Health, Inc.	Dogs	1 ml	3 months	Annually	IM or SQ[3]
			Cats	1 ml	3 months	Annually	IM or SQ
RABVAC 3	Solvay Animal Health, Inc. License No. 195-A	Solvay Animal Health, Inc.	Dogs	1 ml	3 months &	Triennially	IM or SQ
			Cats	1 ml	1 year later	Triennially	
			Horses	2 ml	3 months	Annually	IM or SQ
IMRAB	Rhone Merieux, Inc. License No. 298	Pitman-Moore	Dogs	1 ml	3 months &	Triennially	IM or SQ
			Cats	1 ml	1 year later	Triennially	IM or SQ
			Sheep	2 ml	3 months & 1 year later	Triennially	IM or SQ
			Cattle	2 ml	3 months	Annually	IM or SQ
			Horses	2 ml	3 months	Annually	IM or SQ
			Ferrets	1 ml	3 months	Annually	SQ
IMRAB-1	Rhone Merieux, Inc. License No. 298	Pitman-Moore	Dogs	1 ml	3 months	Annually	IM or SQ
			Cats	1 ml	3 months	Annually	IM or SQ
EPIRAB	Coopers Animal Health Inc. License No. 107	Coopers	Dogs	1 ml	3 months &	Triennially	IM
			Cats	1 ml	1 year later	Triennially	IM
B) COMBINATION (Inactivated rabies)							
ECLIPSE 3 KP-R	Solvay Animal Health, Inc. License No. 195-A	Solvay Animal Health, Inc.	Cats	1 ml	3 months	Annually	IM
ECLIPSE 4 KP-R	Solvay Animal Health, Inc. License No. 195-A	Solvay Animal Health, Inc.	Cats	1 ml	3 months	Annually	IM
CYTORAB RCP	Coopers Animal Health Inc. License No. 107	Coopers	Cats	1 ml	3 months	Annually	IM
FEL-O-VAX PCT-R	Fort Dodge License No. 112	Fort Dodge	Cats	1 ml	3 months & 1 year later	Triennially	IM
ECLIPSE 4-R	Solvay Animal Health, Inc. License No. 195-A	Solvay Animal Health, Inc.	Cats	1 ml	3 months	Annually	IM

[1] Three months of age (or older) and revaccinated one year later.
[2] Intramuscularly
[3] Subcutaneously

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Part III: Rabies Control

A. PRINCIPLES OF RABIES CONTROL

1. **HUMAN RABIES PREVENTION:** Rabies in humans can be prevented either by eliminating exposures to rabid animals or by providing exposed persons with prompt local treatment of wounds combined with appropriate passive and active immunization. The rationale for recommending preexposure and postexposure rabies prophylaxis and details of their administration can be found in the current recommendations of the Immunization Practices Advisory Committee (ACIP), of the Public Health Service (PHS). These recommendations, along with information concerning the current local and regional status of animal rabies and the availability of human rabies biologics, are available from state health departments.
2. **DOMESTIC ANIMALS:** Local governments should initiate and maintain effective programs to ensure vaccination of all dogs and cats and to remove strays and unwanted animals. Such procedures in the United States have reduced laboratory confirmed rabies cases in dogs from 6,949 in 1947 to 148 in 1990. Since more rabies cases are reported annually involving cats than dogs, vaccination of cats should be required. The recommended vaccination procedures and the licensed animal vaccines are specified in Parts I and II of the Compendium.
3. **RABIES IN WILDLIFE:** The control of rabies among wildlife reservoirs is difficult. Selective population reduction may be useful in some situations, but the success of such procedures depends on the circumstances surrounding each rabies outbreak. (See C. Control Methods in Wild Animals.)

B. CONTROL METHODS IN DOMESTIC AND CONFINED ANIMALS

1. **PREEXPOSURE VACCINATION AND MANAGEMENT**

Animal rabies vaccines should be administered only by, or under the direct supervision of, a veterinarian. This is the only way to ensure that a responsible person can be held accountable to assure the public that the animal has been properly vaccinated. Within 1 month after primary vaccination, a peak rabies antibody titer is reached and the animal can be considered immunized. An animal is currently vaccinated and is considered immunized if it was vaccinated at least 30 days previously, and all vaccinations have been admininstered in accordance with this Compendium. Regardless of the age at initial vaccination, a second vaccination should be given one year later. (See Parts I and II for recommended vaccines and procedures.)

(a) DOGS AND CATS

All dogs and cats should be vaccinated against rabies at 3 months of age and revaccinated in accordance with Part II of this Compendium.

(b) LIVESTOCK

It is neither economically feasible nor justified from a public health standpoint to vaccinate all livestock against rabies. However, consideration should be given to the vaccination of livestock, especially animals which are particularly valuable and/or may have frequent contact with humans, in areas where rabies is epizootic in terrestrial animals. (See Part II for recommended vaccines.)

(c) OTHER ANIMALS

(1) WILD OR EXOTIC ANIMALS

No rabies vaccine is licensed for use in wild animals. Because of the risk of rabies in wild animals (especially raccoons, skunks, coyotes, and foxes), the AVMA, the NASPHV, and the CSTE strongly recommend the enactment of state laws prohibiting the importation, distribution, relocation, or keeping of wild animals and wild animals crossbred to domestic dogs and cats as pets. The period of rabies virus shedding in infected wild or exotic animals (including ferrets) is unknown; therefore confinement and observation of those animals that bite humans are not appropriate.

(2) ANIMALS MAINTAINED IN EXHIBITS AND IN ZOOLOGICAL PARKS

Captive animals not completely excluded from all contact with rabies vectors can become infected. Moreover, wild animals may be incubating rabies when initially captured; therefore, wild-caught animals susceptible to rabies should be quarantined for a minimum of 180 days before exhibition. Employees who work with animals at such facilities should receive preexposure rabies immunization. The use of pre- or post-exposure rabies immunizations of employees who work with animals at such facilities may reduce the need for euthanasia of captive animals.

2. **STRAY ANIMALS**

Stray dogs or cats should be removed from the community, especially in areas where rabies is epizootic. Local health departments and animal control officials can enforce the removal of strays more effectively if owned animals are confined or kept on leash. Strays should be impounded for at least 3 days to give owners sufficient time to reclaim animals and to determine if human exposure has occurred.

3. **QUARANTINE**

(a) INTERNATIONAL

CDC regulates the importation of dogs and cats into the United States, but present PHS regulations (42 CFR No. 71.51) governing the importation of such animals are insufficient to prevent the introduction of rabid animals into the country. All dogs and cats imported from countries with enzootic rabies should be currently vaccinated against rabies as recommended in this Compendium. The appropriate public health official of the state of destination should be notified within 72 hours of any unvaccinated dog or cat imported into his or her jurisdiction. The conditional admission of such animals into the United States is subject to state and local laws governing rabies. Failure to comply with these requirements should be promptly reported to the director of the respective quarantine center.

(b) INTERSTATE

Dogs and cats should be vaccinated against rabies according to the Compendium's recommendations at least 30 days prior to interstate movement. Animals in transit should be accompanied by a currently valid NASPHV Form #50, Rabies Vaccination Certificate.

4. **ADJUNCT PROCEDURES**

Methods or procedures which enhance rabies control include:

(a) LICENSURE. Registration or licensure of all dogs and cats may be used to control rabies by reducing the stray animal population. A fee is frequently charged for such licensure and revenues collected are used to maintain rabies or animal control programs. Vaccination is an essential prerequisite to licensure.

(b) CANVASSING OF AREA. House-to-house canvassing by animal control personnel facilitates enforcement of vaccination and licensure requirements.

(c) CITATIONS. Citations are legal summonses issued to owners for violations, including the failure to vaccinate or license their animals. The authority for officers to issue citations should be an integral part of each animal control program.

(d) LEASH LAWS. All communities should incorporate leash laws in their animal control ordinances.

5. **POSTEXPOSURE MANAGEMENT**

ANY ANIMAL BITTEN OR SCRATCHED BY A WILD, CARNIVOROUS MAMMAL (OR A BAT) NOT AVAILABLE FOR TESTING SHOULD BE REGARDED AS HAVING BEEN EXPOSED TO RABIES.

(a) DOGS AND CATS

Unvaccinated dogs and cats bitten by a rabid animal should be euthanized immediately. If the owner is unwilling to have this done, the animal should be placed in strict isolation for 6 months and vaccinated 1 month before being released. Dogs and cats that are currently vaccinated should be revaccinated immediately and confined and observed for 90 days.

(b) LIVESTOCK

All species of livestock are susceptible to rabies; cattle and horses are among the most frequently infected of all domestic animals. Livestock bitten by a rabid animal and currently vaccinated with a vaccine approved by USDA for that species should be revaccinated immediately and observed for 90 days. Unvaccinated livestock should be slaughtered immediately. If the owner is unwilling to have this done, the animal should be kept under very close observation for 6 months.

The following are recommendations for owners of unvaccinated livestock exposed to rabid animals:

(1) If the animal is slaughtered within 7 days of being bitten, its tissues may be eaten without risk of infection, provided liberal portions of the exposed area are discarded. Federal meat inspectors must reject for slaughter any animal known to have been exposed to rabies within 8 months.

(2) Neither tissues nor milk from a rabid animal should be used for human or animal consumption. However, since pasteurization temperatures will inactivate rabies virus, drinking pasteurized milk or eating cooked meat does not constitute a rabies exposure.

(3) It is rare to have more than one rabid animal in a herd, or herbivore to herbivore transmission, and therefore it may not be necessary to restrict the rest of the herd if a single animal has been exposed to or infected by rabies.

(c) WILD OR EXOTIC ANIMALS

Wild or exotic animals bitten by a rabid animal should be euthanized immediately. Such animals currently vaccinated with a vaccine approved by USDA for that species may be revaccinated immediately and placed in strict isolation for at least 90 days.

6. **MANAGEMENT OF ANIMALS THAT BITE HUMANS**

A healthy dog or cat that bites a person should be confined and observed for 10 days; it is recommended that rabies vaccine not be administered during the observation period. Such animals should be evaluated by a veterinarian at the first sign of illness during confinement. Any illness in the animal should be reported immediately to the local health department. If signs suggestive of rabies develop, the animal should be humanely killed, its head removed, and the head shipped under refrigeration for examination by a qualified laboratory designated by the local or state health department. Any stray or unwanted dog or cat that bites a person may be humanely killed immediately and the head submitted as described above for rabies examination. Other biting animals which might have exposed a person to rabies should be reported immediately to the local health department. Management of animals other than dogs and cats depends on the species, the circumstances of the bite, and the epidemiology of rabies in the area.

C. CONTROL METHODS IN WILD ANIMALS

The public should be warned not to handle wild animals. Wild carnivorous mammals and bats (as well as the offspring of wild animals cross-bred with domestic dogs and cats) that bite people should be humanely killed and the head submitted for rabies examination. A person bitten by any wild animal should immediately report the incident to a physician who can evaluate the need for antirabies treatment. (See current rabies prophylaxis recommendations of the ACIP.)

1. **TERRESTRIAL MAMMALS**

Continuous and persistent government-funded programs for trapping or poisoning wildlife are not cost effective in reducing wildlife rabies reservoirs on a statewide basis. However, limited control in high-contact areas (picnic grounds, camps, suburban areas) may be indicated for the removal of selected high-risk species of wild animals. The state wildlife agency and state health department should be consulted early for coordination of any proposed population reduction programs.

2. **BATS**

(a) Rabid bats have been reported from every state except Alaska and Hawaii, and have caused rabies in at least 18 humans in the United States. It is neither feasible nor desirable, however, to control rabies in bats by areawide programs to reduce bat populations.

(b) Bats should be excluded from houses and surrounding structures to prevent direct association with humans. Such structures should then be made bat-proof by sealing entrances used by bats.

11. INTERNATIONAL TRANSFER OF ANIMALS

Almost all governments have official requirements for the international transfer of animals. Rabies is one of many diseases that may be imported if major precautions are not taken. When animals originate from rabies infected countries recipient countries usually have rules which vary from total prohibition of importation to unrestricted entry.

The following sections have been formulated keeping in mind increased knowledge that has accrued in recent years concerning rabies vaccination and immune response mechanisms, the epizootiology of rabies, particularly in wildlife and its spread to dogs and cats - the animals particularly threatening human beings - as well as rabies incidence in both exporting and importing countries.

11.1 International transfer recommendations

All animals of all species in international transit should:

(a) be transported in separate sealed units so that removal of the animals breaks the seals;

(b) have valid international zoo-sanitary certificates prepared by the national veterinary authorities of the country of origin;

(c) have valid certificates of vaccination authorized by the veterinary authorities of the country of origin.

(d) have import licenses prepared by the national veterinary authorities of the country of destination, if required.

The measures suggested below and guidelines for the possible reduction of quarantine and other requirements (without undue risk to an introduction of rabies to an importing country) should not preclude the application of more stringent requirements required by the respective government authorities.

11.2 Rabies-infected and rabies-free areas

The WHO definition of a rabies-free country is an area that can be considered rabies-infected if an indigenously acquired rabies infection has been confirmed in humans or any animal at any time during the previous two years. Conversely, a rabies-free area may be defined as one in which no case of indigenously acquired rabies has occurred in humans or any animal species for two years in the presence of adequate disease surveillance.

11.3 Considerations in establishing requirements for the entry of dogs and cats through international transport

The following must be considered in establishing national or area requirements:

(a) The incubation period of rabies is variable. Regulations must consider that it may be as long as 4-6 months (or rarely even longer);

(b) the pathogenesis and immune reaction of rabies in immature animals, i.e. puppies, is inadequately defined. Full quarantines should always be required for their entry.

(c) immunological responses of animals vary with types of vaccines, age at vaccination, number of doses and the condition of the animals. Two doses of vaccine at least 6 months apart provide a more certain immune response than does one dose;

(d) animals vaccinated during the incubation period may develop antibody titres without the progression of the disease being affected. In animals which may have been exposed, at least four months must elapse following vaccination to ensure that the animals were not incubating rabies;

(e) current serological tests (the RFFIT and MIT) are very sensitive - but false positive results may occasionally occur, especially on dog sera. Two tests on separately collected sera would give more reliable evidence of immune response than would one test;

(f) misidentification of animals of vaccination certificates or of serum samples may occur, as well as improper recording. Precautions must be taken to assure their accuracy;

(g) rabies related viruses and lyssaviruses other than rabies have been recognized in several countries. Animals infected with such viruses may behave differently than rabies infected animals, and may respond differently to rabies vaccines, but the risk of such infection is very low. No transmission of lyssaviruses other than rabies virus has been reported by dogs or cats so far.

11.4 International transport of dogs and cats between rabies free countries or areas.

If the origins of these animals can be documented and all international transit recommendations and national requirements are met, direct intercountry movement of animals should be unrestricted.

11.5 International transport of dogs and cats from rabies infected countries to rabies-free countries or areas

It is recommended that dogs and cats be quarantined at the country of destination for 4-6 months in facilities approved and supervised by government veterinary services. If animals are held only four months, they should be subject to movement restrictions to be specified by the national authorities during an additional two months, with monthly certification of health and immediate notification of authorities of any unusual behaviour, including biting.

Rabies-free countries which modify their systems by reducing quarantine requirements increase the possibility of importing rabies, depending on the epidemiological conditions and intensity of surveillance of the country of the dog's origin.

If quarantine for a minimum of four months is impossible, the following alternate step may be considered in reducing quarantine:

animals to be transported would be required to have at least two vaccinations, one not earlier than three months of age and another

not less than six months later, and between three and six months prior to embarkation, with official certificates including dates, animal identification, and address at times of vaccination. At the country of destination, the animals would be held in official quarantine until completion of two positive serological tests on sera collected at least four weeks apart. Animals yielding two positive tests and certified healthy would be released to home confinement under monthly recertification of health by veterinary authorities. Animals with a negative serological test would be quarantined for at least four months.

11.6 International transport of livestock, zoo, research and show animals from rabies infected to rabies-free countries

Countries that are free from rabies should either prohibit the importation of certain species of mammals, in particular Carnivora and Chiroptera, or permit their entry only under licence, subject to quarantine in premises and under conditions approved by the government veterinary service. Entry may be permitted for limited periods or for life. The use of animals for exhibits or for experiments should only be permitted after a quarantine for four months.

In view of the increase in the number of reported rabies cases in wild animals acquired as pets, national authorities should control the trade in such animals because of this potential source of human exposure. The keeping of such animals as pets should be discouraged. Adequate quarantine measures, a minimum of 4 months, combined with vaccination with inactivated vaccines, should be adopted.

11.7 Special exemption for guide dogs for the blind

Certified guide dogs for the blind already present in rabies-free countries or areas should be permitted to accompany their owners into rabies infected countries if the dogs are vaccinated with an approved inactivated vaccine and demonstrated to have an antibody titre prior to departure; remain outside the rabies-free country less than six months; if the owners affirm their guide dogs were continually confined or on leash while in infected areas; and if the antibody titres are reconfirmed upon return.

11.8 International transport of all animals from rabies free to rabies infected countries or between infected countries

Such animals should meet all international transfer recommendations. If transported from rabies free to rabies infected countries they should be vaccinated at least two weeks prior to embarkation. If transported between two rabies infected countries they should be vaccinated before embarkation or revaccinated at origin or destination.

David A. Crawford
1240B Palau Loop
Yigo, Guam 96929

January 15, 1998

Vice Speaker Senator Anthony C. Blaz
Committee on Finance and Taxation
Twenty-Fourth Guam Legislature
155 Hesler Street
Agana, Guam 96910

Dear Senator Blaz:

I want to apologize for my previous letter dated January 14, 1998 on not supporting you Proposed Bill 478. My non-support was based on the lack of in-depth news coverage. I reviewed a copy of you bill and with minor alterations, the members of the Ad Hoc Quarantine Reduction committee can support it fully. Please continue your excellent work. We hope that we can be present during any future public debate to support you bill.

We support any legislation that lowers the quarantine requirement as long as we protect the People of Guam from rabies. Based on the scientific data we have obtained (as outlined in my previous letter dtd. January 14, 1998) our assertion remains using the protocols outlined in the International Animal Health Code, it is statistically impossible to introduce rabies into Guam by way of a properly inoculated and tested pet.

Our main concern with you bill as written is allowing the Director of Public Health to direct the number of days an animal must remain in quarantine. This may defeat the purpose of your bill. However, we would support allowing the Director to deny entry of an animal from an area where rabies are uncontrolled, the pet fails the blood antibody titer test prior to importation, or the animal does not have proof of rabies inoculation. Further, if the animal fails any the blood tests after importation to Guam, it must remain in quarantine facility for the full 120 days.

Additionally, funding Public Health to manage the program is very important. To our understanding public health does not have the dedicated resources to manage this program. That is why we suggest raising the entry permit fee and allowing Public Health to use these fees instead of depositing it into the general fund. We also support **strong penalties** (fines) against owners that fail to follow Guam's protocols. Here again, we feel these fines should be dedicated for Public Health use in management of the quarantine program.

Lastly, members of our group have aready volunteered to assist Public Health in any way possible. Some of which are knowledgeable in the preparation and interpretation of laws. Please feel free to use our expertise.

Thank you Senator Blaz for your help. We gladly support you in you curent and future efforts. If you would like copies of the documents referred to in my previous letter, or if you have any questions or comments on any of the issues raised please contact me at 653-0578.

Sincerely,

David A Crawford

DAVID A CRAWFORD
Member, Quarantine Reduction Ad Hoc Working Group

Attention: Senator Anthony Blaz

Date: 1/16/98

Company:

Number of Pages: 2

Fax Number: 4723562

Voice Number:

From: DAVID CRAWFORD

Company:

Fax Number: 671 653-0578

Voice Number: 671 653-0578

Subject: Proposed Bill 478

Comments:

Please pass to Senator Blaz.

Thank You.

Governor approves change in quarantine for dogs and cats

News Release No. 97-092

Tuesday, May, 13, 1997

Governor Ben Cayetano has approved, today the Board of Agriculture's rule that allows shorter quarantine for dogs and cats. The new rule takes effect on May 23, 1997, with the first animal to be accepted 90 days thereafter.

"Changing Hawaii's 85-year old animal quarantine law makes way for an improved system in maintaining our rabies-free status, while providing a shorter quarantine period to caring pet owners who take the necessary steps to bring their healthy animals to Hawaii," said Governor Cayetano.

"During the past three years in which it took to research and develop this alternative system, I have stated that I would only approve such a change if the public's welfare is protected. I have met with my administration and the State Veterinarian on numerous occasions, and I am satisfied that this new system has more checks and balances which provides an added measure of protection necessary to keep your State safe."

In order to qualify for a 30-day quarantine, a pet cat or dog must meet certain requirements including proper vaccinations with an approved inactivated rabies vaccine, two rabies blood tests (one conducted prior to arrival, and the second conducted upon arrival in Hawaii), and the implantation of a microchip obtained from the State of Hawaii.

Department of Agriculture Chairperson James Nakatani and State Veterinarian Calvin Lum will be holding an informational briefing for the media, tomorrow morning, May 14, 9 a.m., at the Animal Industry Division's Conference Room (99-941 Halawa Valley Street). Any media interested in attending is asked to contact the Department's Information Officer, Ann Takiguchi at (808) 973-9560.

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Pets

Transient military housing facilities do not accept pets. Some off base transient facilities do. Therefore, if you do decide to ship your pet, you may want to leave the animal in the United States until you are situated in your new home. You can then notify the person who is taking care of your pet to proceed with shipping arrangements.

Reservations must be made in advance for commercial or Military Airlift Command (MAC) shipment of pets. Shipment of two animals on MAC is allowed (if available) for PCS moves only. With the move of international air service to Tokyo International Airport at Narita, and retention of domestic air service at Haneda, it has become necessary to modify policies under which pets belonging to US Forces personnel are forwarded from the United States through mainland Japan to Okinawa. Pets destined for Okinawa that arrive at Narita airport will be transferred to Haneda for forwarding to Okinawa now only if the pet's health certificate is properly completed and endorsed, and the rabies vaccination is current. Pets whose documentation is incomplete will be quarantined in mainland Japan until proper documentation is obtained. The cost of quarantine in an approved Japanese facility may cost up to 1,800 yen a day plus extra transfer and handling costs.

Many pets still enter Naha International Airport directly. Unless they have proper documentation, they will be quarantined in Naha at the owner's expense. In addition, the owner is responsible for daily care of the pet during the quarantine period (which means a long, daily drive to the south end of the island.

Import Requirements:

According to Army veterinary officials, import requirements for dogs are: a rabies immunization at least 30 days old but not older than 180 days (3 copies), and a health certificate no older than 10 days upon the animal's arrival on Okinawa (3 copies). The certificate must include the rabies vaccination information, state that the animal is free of all communicable diseases and that it originates from an area that is rabies free for the last six months. The health certificate must also be endorsed by the USDA (US Department of Agriculture). Endorsement by a state veterinarian is not sufficient, nor is issue of the certificate by a federally accredited veterinarian. However, the USDA endorsement is not required where the rabies certificate and health certificate are both on DD Form 2071 (Certificate for Rabies Vaccination and Inter-state Movement) and the form is signed by a military veterinarian. Use of DD Form 2071 is recommended, as Japanese Customs officials recognize it more readily.

Cats must have a health certificate no more than ten days old upon arrival in Japan, indicating that the cat is free of all communicable diseases and originates from an area free of rabies for the past six months. It is recommended that the cat be vaccinated against rabies at least 30 days but not more than 180 days before shipment.

Copies of orders assigning the sponsor to this command must also be included. All documents must be marked "For US Forces Okinawa." If the animal is shipped by air freight, the kennel should have the following painted on the sides in large, uppercase letters, "FOR US FORCES OKINAWA."

Personnel are reminded that one day is lost due to crossing the international date line when coming to Okinawa from the CONUS. If planning to ship birds or other pets, owners should check with the nearest Japanese Embassy or consulate concerning import requirements.

Failure to follow these instructions could result in costly quarantine of the animal for up to six months in mainland Japan.

Upon arrival of the pet in Okinawa, Japan, the sponsor (or his designated representative with power of attorney from the owner) will go to the Air Cargo Office that transported the animal.

These offices are located across Highway 332 from Naha International Air Terminal (NIAT). The cargo office will provide you with documents accompanying the pet. The owner must take these documents and the animal to the Government of Japan (GOJ) Animal Quarantine Office located on the south side of the ground floor of the NIAT building. This office will have the necessary number of copies of the Quarantine and Examination Certificate as well as the Customs Declarations of Personal Property. After the owner has filled out these forms, the GOJ veterinarian will examine the animal, affix his seal to the papers, and release the pet to the owner on a 14-day working (home) quarantine. The owner must then take the documents to the GOJ Customs Office located in the same area to clear the animal through customs and then return to the Air Cargo Office to complete the transactions there.

It is important to schedule the arrival of your pet during the time that the GOJ Animal Quarantine Office is open. The hours are 0900 to 1700 Monday through Friday, and 0900 to 1200 on Saturdays. The office is closed from 1200 Saturday to Monday morning and all Japanese holidays. Facilities are not available to care for your pet for an extended period of time and pets may be claimed only when this office is open.

Animals accompanying passengers on commercial flights (hand-carried or as hold baggage) will be processed immediately following the arrival of the flight. During the 14-day quarantine period, the animal must be kept leashed when out of confinement. When the animal completes the quarantine period, it must be presented to a US Forces Animal Clinic for final examination. This is not a casual whim of the Japanese government. It is a bonafide regulation to keep the island free of rabies; failure to comply could result in a fine and the removal of the animal from Japan. Dogs and other pets that remain on Okinawa must be immunized for rabies at least every 180 days. Cats are to be immunized for rabies annually. If this limit is exceeded the animal must then be in quarantine for 30 days. So remember, get your dog immunized within EVERY SIX MONTH period.

Return to the Shipments page.

This page was revised by Dorie Parsons on May 24, 1996.

Importing Cats to the UK

Contents:

A further article on the subject may be found here.

Britain in the USA: Quarantine

The following is extracted from the Britain in the USA home page, maintained by British Information Services (BIS), New York, part of the Press & Public Affairs Office of the British Embassy in Washington DC.

Last major update: August 1995

All domestic dogs and cats must undergo six months in quarantine on arrival into the United Kingdom. An import licence must be obtained from the Ministry of Agriculture, Fisheries and Food in Britain.

Application forms and guidance notes, including a complete list of kennels and catteries licensed for quarantine purposes, are available from British Information Services in New York.

Accommodation must be reserved at a quarantine premises and arrangements made for the animal to be transported from the port of arrival before an import application is completed. Some premises will submit the form on the customer's behalf and many also operate a carrier service.

All quarantine premises are privately owned and vary in the level of comfort and care provided for resident animals. It is recommended that brochures be compared and premises visited whenever possible before a final choice is made.

The details in this article are updated from time to time. For the latest version click here.

Can I bring my pets into the UK?

The following is extracted from US to UK moving FAQ.

written and maintained by Greg Sandell.

I have no firsthand information on this, but here is a small amount of information I have gathered from others over email. (If anyone would like to contribute more information, please write, as this seems to be a truely Frequently Asked Question.) The British are rather proud of having zero incidences of rabies in their country, and are rather eager to keep it that way, so pets are screened with extreme care. One person wrote: "All pets (dogs, cats, etc) must undergo a 6 month quarantine. You bring the animal in, check it into an approved quarantine kennel (you can visit the animal there) and if all goes well, take it out after the six months are up. It's very hard on the pets and it is also quite expensive to board them. With the advent of the chunnel, the policy may change but if it does, it won't be for some time yet." Many people tell me, and this has been confirmed by newspaper articles, that a **large** proportion of pets die during these six month quarantines.

Another person wrote: "A free guide is obtainable from the Ministry of Agriculture, Fisheries & Food (Whitehall Place, LONDON SW1A, U.K., tel. 011 44 171 270 8080). Your cat must be quarantined in a registered cattery (i.e. approved by the Ministry for quarantine purposes). A list of rregistered catteries is included with the guide. The cost worked out at roughly $1500 per cat. Most of this cost is the cattery fees for the six months quarantine period."

Can I bring pets with me?

This is extracted from Things to Know Before You Go,
a web site maintained by the British Tourist Authority.

Due to the possibility of animals bringing disease to the UK, you are not allowed to bring them with you on holiday. All pet animals entering the UK must have a current licence and undertake six months quarantine at an approved quarantine premises. It is now possible to bring pet birds to the UK, certain quarantine conditions still apply. Please note any illegally imported animal is likely to be destroyed. For further advice contact the Ministry of Agriculture, Fisheries and Food, Government Buildings (Toby Jug Site), Hook Rise South, Tolworth, Surbiton, Surrey KT6 7NF, England.

Boarding & Quarantine

Boarding & Quarantine including some adverts for Quarantine Kennels

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Passports for Pets

PASSPORTS FOR PETS

Passports for Pets claims:
We are a voluntary organisation working to revise the out of date quarantine laws of the United Kingdom and to bring in a modern scientific alternative.
Why not visit their site?

HAWAII'S ANIMAL QUARANTINE LAWS

Hawaii is a rabies free state. Hawaii's quarantine law is designed to protect residents and pets from potentially series health problems associated with the presence and spread of rabies. Success of the quarantine program is dependent on maintaining isolation of your pet from other animals for the required quarantine period.

We are proud of our record of pet health and animal care. Our trained animal caretakers are concerned about the animals in their charge, and are available to help ease the transition to your new home in Hawaii. Experienced and knowledgeable people at the Animal Quarantine Station are available by letter or telephone to assist you with any additional information you may need.

IT'S THE LAW

Importation of dogs, cats and other carnivores into Hawaii is governed by Chapter 4-29 of the State of Hawaii, Department of Agriculture Administrative Rules. This law says that these animals are required to complete a 120-day confinement in the State Animal Quarantine Station. If specific pre-arrival and post-arrival requirements are met, animals may qualify for a 30-day quarantine followed by 90-day post-quarantine observation period where the pet is released to the owner.

The animal quarantine program began in 1912 with a quarantine period of 120 days. A 30-day quarantine alternate program was approved in 1997.

To view and print the following documents and forms you need a copy of the Adobe Acrobat Reader. Download a free Reader by clicking on the "Get Acrobat" icon. This will link you to the Adobe web site, where step-by-step instructions are available.

- Animal Quarantine Brochure [87KB, aqsfullb.pdf]

  This brochure contains important information about pre- and post-arrival requirements, quarantine station procedures, policies, rules, operations and fees.

- Request For Electronic Microchip Form [88KB, aqs73.pdf]
- Pet Owner Statement Form [240KB, aqs-2.pdf]
- List of Approved Animal Hospitals [250KB, aqs-20.pdf]
- Breed Code Listing and Color Code Listing [92KB, breed.pdf]

Department of Agriculture
Animal Quarantine Station
99-951 Halawa Valley Street
Aiea, Hawaii 96701-3246
Telephone (808) 483-7151
FAX (808) 483-7161

Committee on Finance & Taxation
Vice Speaker Anthony C. Blaz, Chairman

Committee Report on Bill No. 478

"AN ACT TO AMEND SECTION 34302(b), ARTICLE 3, CHAPTER 34, DIVISION 2 OF TITLE 10 GUAM CODE ANNOTATED (GCA) RELATIVE TO RABIES PREVENTION AND QUARANTINE OF DOGS AND CATS AND TO APPROPRIATE $10,000 FOR THE IMPLEMENTATION TO SUCH AMENDMENT."

SIGN-IN SHEET FOR BILL NO. 478 AND SUBSTITUTE BILL 478

Committee on Finance & Taxation

1:30 P.M.

Twenty-Fourth Guam Legislature, Public Hearing Room

SIGN-IN-SHEET January 13, 1997

BILL 478

		TESTIMONY			
DENNIS RUDRIGUEZ	DPH & SS				

Comm ttee on Finance & axation

Vice Speaker Anthony C. Blaz, Chairman

AGENDA

Tuesday, January 13, 1998 at 9:00 AM
Public Hearing Room

▲**Bill 456**: AN ACT PROVIDING FOR INTEGRATED SOLID WASTE MANAGEMENT

Tuesday, January 13, 1998 at 1:30 PM
Public Hearing Room

▲**Bill 307**: AN ACT RELATIVE TO REQUIRING THE DEPARTMENT OF PUBLIC WORKS TO REDESIGN AND RECONSTRUCT ROUTE 4 WITHIN THE VILLAGE OF YONA TO BETTER SERVE THE INCREASING TRAFFIC FLOW ALONG THIS PARTICULAR HIGHWAY AND TO SIMULTANEOUSLY ADDRESS THE INCREASING NUMBER OF VEHICULAR ACCIDENTS OCCURRING REGULARLY ALONG THIS ROADWAY WHICH MAY BE PARTLY ATTRIBUTED TO ITS ORIGINAL DESIGN AS A RESIDENTIAL STREET, AND APPROPRIATING THE SUMS NECESSARY TO COMPLETE THE PROJECT.

▲**Bill 268**: AN ACT TO AMEND PARAGRAPH (c) OF SECTION 3304, TITLE 13, GUAM CODE ANNOTATED, AND TO ADD A NEW SECTION 4215 TO THE SAME TITLE, RELATIVE TO REQUIRING BANKS TO RENDER CHECK DEPOSITS AVAILABLE FOR WITHDRAWAL WITHIN A DEFINITE NUMBER OF DAYS.

▲**Bill 343**: AN ACT TO DIRECT THE DEPARTMENT OF ADMINISTRATION TO IMMEDIATELY RELEASE ALL FUNDS APPROPRIATED TO THE DEPARTMENT OF EDUCATION FOR THE PURCHASE OF TEXTBOOKS.

▲**Bill 375**: AN ACT TO AMEND 16 GCA SECTION 3101 (b) RELATIVE TO EXEMPTING GOVERNMENT OF GUAM FROM REQUIREMENTS OF CHAUFFEURS LICENSE.

▲**Bill 389**: AN ACT TO APPROPRIATE EIGHT HUNDRED AND SEVEN THOUSAND DOLLARS ($807,000.00) FROM THE GENERAL FUND TO THE GUAM POWER AUTHORITY TO RECOVER RELOCATION COSTS OF THE UMATAC TRANSFORMER SUBSTATION.

▲**Bill 431**: AN ACT TO AMEND §§ 104203, 104204, 104206, 104207 AND TO DELETE §§ 104208-104211 OF ARTICLE 2 OF TITLE 21 GCA TO UPDATE AND IMPROVE THE REAL ESTATE (DEALERS) LAW.

▲**Bill 472**: AN ACT TO AUTHORIZE AND APPROPRIATE ONE HUNDRED THOUSAND DOLLARS ($100,000) TO THE DEPARTMENT OF PUBLIC WORKS FOR THE CONSTRUCTION AND INSTALLATION OF TRAFFIC LIGHTS AT KEY BUSY AND UNSAFE INTERSECTIONS OF GUAM ROADS AND STREETS; AUTHORIZE OTHER MISC. APPROPRIATIONS; EARMARK AND PROGRAM THE SUM OF 2 MILLION FROM THE FISCAL YEAR 1998 COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) OF GUAM HOUSING AND URBAN RENEWAL AUTHORITY FOR THE CONSTRUCTION OF YOUTH AND COMMUNITY CENTERS IN THE MUNICIPALITIES OF AGAT, YIGO, MONGMONG/TOTO/MAITE AND BARRIGADA; TO ADD NEW ITEMS (F), (G) AND (H) TO § 54102, TITLE 5 GCA, RELATIVE TO THE WIDENING AND REPAVING OF CLARA STREET IN TOTO LEADING TO J. Q. SAN MIGUEL ELEMENTARY SCHOOL AND SUBSEQUENTLY ANY ROADS LEADING TO SCHOOLS THAT ARE UNSAFE OR DO NOT MEET THE HIGHWAY STANDARDS ESTABLISHED BY THE DEPARTMENT OF PUBLIC WORKS.

▲**Bill 474** AN ACT TO AMEND SECTION 7108, CHAPTER 7, TITLE 16, GCA TO ALLOW VEHICLES TO BE OPERATED UPON GUAM'S HIGHWAYS FOR A PERIOD OF THIRTY (30) DAYS PRIOR TO REGISTERING SAID VEHICLE WITH THE DEPARTMENT OF REVENUE AND TAXATION.

▲**Bill 475**: AN ACT TO AMEND SECTION 70130, DIVISION 3, CHAPTER 70, TITLE 11, GCA RELATIVE TO VOIDING ANY OBLIGATION, LIEN OR CONTRACT HELD BY SUCH PERSON OR COMPANY AND ENTERED INTO DURING THE PERIOD OF SUCH COMMERCIAL OR MONEYMAKING ACTIVITY WITHOUT A BUSINESS LICENSE.

▲**Bill 434**: AN ACT TO ADD A NEW § 30101.1 TO 11 GCA TO EXEMPT BED AND BREAKFAST INNS FROM THE HOTEL OCCUPANCY TAX.

▲**Bill 478**: AN ACT TO AMEND §34302(B), ARTICLE 3, CHAPTER 34 DIVISION 2 OF TITLE 10 GCA RELATIVE TO RABIES PREVENTION AND QUARANTINE OF DOGS AND CATS AND TO APPROPRIATE 10,000.00 FOR THE IMPLEMENTATION TO SUCH AMENDMENT.

FISCAL NOTE **BBMR-F7**
BUREAU OF BUDGET AND MANAGEMENT RESEARCH

Bill Number: 478 Date Received: 1/12/98
Amendatory Bill: Yes Date Reviewed: 1/21/98

Department/Agency Affected: Public Health and Social Services
Department/Agency Head: Dennis Rodriguez
Total FY Appropriation to Date: $79,008,311

Bill Title (preamble): AN ACT TO AMEND SECTION 34302(B), ARTICLE 3, CHAPTER 34, DIVISION 2 OF TITLE 10 GUAM CODE ANNOTATED (GCA) RELATIVE TO RABIES PREVENTION AND QUARANTINE OF DOGS AND CATS AND TO APPROPRIATE $10,000 FOR THE IMPLEMENTATION TO SUCH AMENDMENT.

Change in Law: Amends Section 34302(B) Article 3, Chapter 34, Division 2 of Title 10, GCA.

Bill's Impact on Present Program Funding:
Increase XX Decrease ____ Reallocation ____ No Change ____
Bill is for:
Operations XX Capital Improvement ____ Other ____

FINANCIAL/PROGRAM IMPACT

ESTIMATED SINGLE-YEAR FUND REQUIREMENTS (Per Bill)			
PROGRAM CATEGORY	GENERAL FUND	OTHER	TOTAL
Public Health	$10,000		$10,000

ESTIMATED MULTI-YEAR FUND REQUIREMENTS (Per Bill)						
FUND	1st	2nd	3rd	4th	5th	TOTAL
GENERAL	See	Comments				
OTHER						
TOTAL						

FUNDS ADEQUATE TO COVER INTENT OF THE BILL? 1/ -- IF NO, ADD'L AMOUNT REQUIRED $_
AGENCY/PERSON/DATE CONTACTED: DPHSS / Peter John Camacho / 1/21/98

ESTIMATED POTENTIAL MULTI-YEAR REVENUES						
FUND	1st	2nd	3rd	4th	5th	TOTAL
GENERAL FUND						
OTHER						
TOTAL						

ANALYST Stephen J. Guerrero DATE: 1/21/98 DIRECTOR for Joseph E. Rivera, Acting DATE 1/21/98

FOOTNOTES: See attached.

Bill No. 478(COR) will have a positive impact on the Department's present financial condition. The bill mandates PHSS to develop rules and regulations pursuant to the Administrative Adjudication Law to reduce the length of quarantine for both cats and dogs entering Guam.

The General Fund revenues available for appropriation, as adopted in Public Law 24-59, is $353,292,790 (includes $7,600,000 Autonomous Agency Fund, $7,000,000 Use Tax and $36,000,000 in Section 30 funds). The appropriations for FY1998 in P.L. 24-59 is $346,128,092 plus continuing appropriations for debt service of $2,504,141 for a total appropriation against of $348,632,234. Pursuant to P.L. 24-59, surplus FY1998 revenues available for appropriations is $4.6M.

However, it should be noted that the expected combined collection from both the Autonomous Agency Fund and the Use Tax is only $3.0M, a reduction of $11.6M ($14.6 - 3.0 = $11.6). As such, $341,739,919 in revenue less $348,632,234 in appropriations leaves an expected shortfall of ($6,892,315) as of P. L. 24-59.

TWENTY-FOURTH GUAM LEGISLATURE **Office of the Vice-Speaker**

ANTHONY C. BLAZ

PRESS RELEASE

For Immediate Release

January 12, 1998

Vice Speaker Anthony Blaz, Chairman of the Committee on Finance and Taxation announced that he has introduced legislation to amend Guam's current law regarding the quarantine of dogs and cats.

Bill 478 amends Article 3, Chapter 34 of Title 10 GCA relative to rabies prevention and quarantine of dogs and cats. If passed the bill will shorten the minimum quarantine period from 120 days to 30 days. "The current quarantine law is quite stringent and unreasonable", stated Blaz. "It is an outdated law that needs revision and updating."

The bill states that in order for pets to qualify for the 30 day quarantine period, certain requirements must be met to ensure proper vaccinations including approved inactivated rabies vaccine, two rabies blood tests (one conducted prior to arrival, and the second conducted upon arrival in Guam) and the implementation of a microchip obtained from the Department of Public Health and Social Services.

"My real concern is keeping our island rabies free." These requirements are reasonable precautionary measures to ensure the safety of all dogs and cats coming into Guam. At the same time, it will reduce the pet owners costly expense and lengthy separation from their beloved pets." Blaz stated.

The public will have a chance to voice their concerns on Bill 478 at a public hearing set for tomorrow at 1:30 PM in the Legislature's Public Hearing Room.

155 Hesler St. Agana, Guam 96910 Tel: 472-3557/58/60 Fax: 472-3562 EMail: tonyblaz@kuentos.guam.net

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Frankie J.T. Lynn 12/3/97

P.O. Box 22472 Barrigada

Guam 96921

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date

Edward Bacon Dec. 03, 1997

HCR 17113

Inarajan, Guam 96917

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, fmacalma Date: 12-3-97

FRENEIL C. MACALMA
BOX 5241 UO6 STA
MANGILAO GU 96923
734-2465 (H)
475-3406 (W)

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Jesse C. Aguigui Date: 12/3/97

Jesse C. Aguigui
P.O. Box 844
Agana, Gu 96932

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Barbara D. Rose 12/3/97 P.O. Box 5681, Agana Guam 9693

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

DAVID Lillig #12 VISTA MAR, ASAN 96922 12/3/96

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Thomas J. Tibi 03 Dec 97

BUT PROTECT U.S FROM RABIES PLEASE.

142A MAIES ST., MALOJLOJ

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Michael C Stein 12/3/97

Michael C. STEIN

OHA TOWERS #1003

TAMUNING GUAM

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Ruby A Sinvara 12/3/97

P.O. Box 2659

AGANA, GU 96932

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

[signature] 12/3/97

472 Rt 8, Ste 13-131

Maite 96927

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Angela M. Borzachillo 12-3-97

P.O Box 7704 Tamuning, Guam 96931

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

[signature] PO Box 6710 Tmn 96931 12/3/97

PATRICIA SN FLORES

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date: 12/3/97

AG Prosecution

Guam Judicial Center Bldg.

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date: 12/3/97

P.O. Box 4617

AGANA, GUAM 96932

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date: 12/3/97

PO Box 24788

GMF GU 96910

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Maria Bailey 12/3/97.

PO Box 21720, GMF 96921

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date: 12/3/97

P.O. Box 27626 GMF Guam 96921

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Lee [illegible] 12/3/97

120 W. O'Brien Ste 2-200E

Agana, Gu 96910

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Arthur R. Camacho 12/3/97

P.O. Box 2164

Agana, Guam 96910

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

David Sullivan 12/3/97 143 Sabana, Yona

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Kathlene Johnson Date: 12-3-97

Kathlene K. Johnson

204 Calachucha Barrigada

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Nadine Rinow 12-4-97

124 Linda Street Reideo GU

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely,

Date: 12-3-97

B T C.

P.O. Box 3916 Asana Gu. 9683

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Yvonne Campos Chaffauvos Dec. 3, 1997

P.O. Box 26790

GMF, Guam 96921

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Cindrilita R. Vkay 12/3/97

184 Aurora St.

Kaiser Dededo, Gu 96912

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Deberah L.M. Pickelsimer 12/3/97

113 Jesus T. Iriarte St.

Barrigada Guam 96913

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date: 12/3/97

120 W. O'Brien Dr., Ste 2-200E

Agana, Guam 96910

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date: 12/3/97

P.O. Box 4924

AGANA, GUAM

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

12.04.97

Rizalay S. Tugad

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Craig J. Guerrero 04 Dec 97

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Jean C. Bamba 12/4/97

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Rebecca M. Andres 12/4/97

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Date:

Ruth W. Blas 12/4/97

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely, Don Weakley Date: 12-4-97

I encourage the Revision of our outdated Quarantine laws.

Dear Senator,

As a resident of our island of Guam, I urge you to speedily implement the study and implementation of a revised quarantine procedure for importation of pets to lessen the burden on the people and pets of Guam.

Thank you very much for your help in this endeavor.

Sincerely,

(Print name)	(Signature)	(Telephone)	(Date)
Colleen Wilson	Colleen Wilson	637-9749	12-8-97
SUE KUTZ	Sue Kutz	565-1800	12-8-97
JOHN ZILIAN		472-1294	12-8-97 637-5824
LEWIS, HARRY R.		653-3649	12-9-97.
JOHN GUERRERO		477-2675	12-9-97.
CHERLYN BETHEL	Cherlyn Bethel	649-9518	12/10/97
Rachel Martinez	Rachel Martinez	637-4617	12/10/97
Theresa Barnes	Theresa Barnes	649-7724	12/10/97