

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
MEMORANDUM OF UNDERSTANDING
FOR
THE PURPOSE OF WILDLIFE REHABILITATION**

This Memorandum of Understanding (MOU) is made and entered into this 30th day of December, 2014, by and between the California Department of Fish and Wildlife and

**Lupin Egan
Native Animal Rescue
1855 17th Ave.
Santa Cruz, CA 95062**

(hereinafter referred to as the Permittee) and expires on December 30, 2017.

WITNESSETH:

WHEREAS, the Permittee has expressed interest in, and proven the ability to rehabilitate native sick, injured, or orphaned game birds, protected nongame birds, resident small game mammals, furbearing, and nongame mammals, reptiles, and amphibians; and,

WHEREAS, the Department is highly desirous that rehabilitation work be done on the previously mentioned species; and,

WHEREAS, the Department frequently takes possession of the previously listed birds, reptiles, amphibians, and mammals and lacks facilities for their care; and,

WHEREAS, the parties hereto desire to coordinate a program of rehabilitation of these animals by means of this Memorandum,

NOW, THEREFORE, it is mutually agreed and understood as follows:

Unless otherwise stipulated in this Memorandum, the Permittee may possess and provide care for sick, injured, or orphaned game birds, protected nongame birds, resident small game mammals, nongame mammals, furbearing mammals, reptiles and amphibians (no mountain lions, elk, adult deer, wild pigs, antelope, bighorn sheep or bear "big game mammals" can be rehabilitated under this permit) pursuant to Section 679 Title 14 California Code of Regulations (CCR); the Third Edition 2000 National Wildlife Rehabilitation Association/International Wildlife Rehabilitation Council Minimum Standards for Wildlife Rehabilitation; and the conditions listed below. Wildlife caging shall comply with the 2000 Wildlife Rehabilitation and Care Standards. Copies of sections 679, Title 14, CCR and lists of fully protected, threatened and endangered wildlife species are attached and become part of this Memorandum.

POSSESSION AND NOTIFICATION REQUIREMENTS

1. This Memorandum does not authorize the Permittee or any representatives of the Permittee to possess or capture for rehabilitation purposes any healthy wildlife from the wilds of this State. This includes animals that are deemed nuisance wildlife that are trapped by pest control agencies or operators. Orphans of "nuisance" mammals may be rehabilitated and released in accordance with the provisions of this Memorandum, but not the nuisance "parent" mammal.
2. Native or non-native wild animals, prohibited by Section 671, Title 14, CCR, MAY NOT be possessed by the Permittee unless otherwise provided for in this Memorandum (see conditions 3, 6, and Appendix A).
3. Permittees shall not initiate rescue efforts for any bear, mountain lion or other big game animals. The Department shall be notified immediately, or on the next working day if the Permittee receives any endangered, threatened, fully protected, big game mammal (excluding mule deer fawns), mountain lion, or prohibited species listed in Section 671, Title 14, CCR. . Notification is not required when the Permittee receives any native or non-native prohibited species listed in Appendix "A" of this Memorandum. Reporting shall be to the Wildlife Investigations Lab (WIL), telephone (916) 358-1462, the nearest Department regional office, or to the Wildlife Rehabilitation Coordinator at (530)357-3986, between 8:00 A.M. and 5:00 P.M. Monday through Friday. If reporting is on the weekend leave messages so that contact can be made the next business day or contact enforcement 1888-DFG CALTIP (1-888-334-2258).
4. All wildlife, carcasses, or parts of wildlife possessed under the provisions of this Memorandum shall remain the property of the people of the State of California through the Department; the Permittee is granted only temporary custody of such wildlife and must exhibit/surrender such wildlife or part upon demand by any officer of the Department.
5. Any increase in mortality of housed wildlife suspected to be caused by an infectious, contagious disease shall be reported to the Departments' Wildlife Veterinarian at WIL in Rancho Cordova at (916) 358-2378 (mammals) or 916-358-1662 (birds) or the wildlife rehab coordinator 530-357-3986 as soon as practical. All diseased wildlife carcasses submitted to a veterinarian or diagnostic lab for necropsy shall be reported to WIL, and copies of lab results shall be forwarded to WIL once received by the rehabilitation facility.

FAWNS

6. Adult deer cannot be possessed or rehabilitated by permittees. Fawn rehabilitators shall not rehab fawns from out of their assigned area (different deer herds) unless separate enclosures are used. Enclosures must be far enough apart that the exchange of saliva, urine, feces or airborne diseases cannot occur. Any questions regarding deer herd boundaries in your area can be referred to WIL (916) 358-1462. In the unusual event that an out-of-state fawn is transported into this state, the fawn shall be isolated from native fawns and immediate transport shall be arranged to send the fawn

back to the original state where it came from or humanely euthanized. Any deer fawn brought to a rehabilitation facility from out of the area (including out-of-state deer fawns) shall be reported to WIL within 24 hours, including its site of origin. Fawns requiring long term "hands on care" due to a serious injury shall be euthanized instead of rehabilitated to avoid habituation and potential public safety issues.

7. Fawns shall not be rehabilitated at a facility that has permanent captive deer residing at the facility.
8. The Permittee shall not trade, transfer, or donate any wildlife or carcasses or parts of wildlife possessed under the privileges of this Memorandum without first receiving approval from the Department. Wildlife temporarily possessed for rehabilitation, excluding deer, may be transferred to another facility possessing a current MOU for treatment of injury, disease, or other conditions requiring temporary maintenance and care. (Eagle carcasses or parts shall be sent to the U.S. Fish and Wildlife Service National Eagle Repository; R.M.A- Building # 128, Commerce City, Colorado, 80022, attn: 'Eagle Lab'. Arrangements can be made by calling (303)287-2110.) Wildlife carcasses or parts obtained under this MOU cannot be kept unless authorized by the Department or appropriate permits are obtained. If a Salvage Permit is obtained through the United States Fish and Wildlife Service, migratory bird carcasses may be kept and used according to permit conditions/regulations .
9. Wildlife carcasses may be disposed of by burial, incineration, used as food for other wildlife, or by other means as approved by the Department. Disposal of wildlife carcasses shall be in accordance with local city or county codes.

RELEASE OF WILDLIFE

10. Upon the recovery of a sick or injured wildlife specimen, or determination that an orphaned specimen is ready for release, the Permittee is authorized to release the animal in a suitable habitat immediate to the area where found. Immediate area is defined as being within a three-mile radius of the site where the individual animal was found unless inappropriate due to urbanization or other imminent threat to wildlife. If there is no suitable habitat in the immediate area where found or if that area is unknown, the Permittee may contact a Department biologist for location approval prior to release of the wildlife specimen. Captive raised or bred reptiles and amphibians shall not be released to the wild. Game and nongame birds may be released in any suitable habitat. The release of any wildlife on private property requires permission of the landowner. The release of wildlife on U. S. Forest Service, National, State, County, or City Park, or State reserve property requires the permission of the State or Federal agency whose responsibility it is to oversee that property.
11. Opossums, eastern gray squirrels, red fox squirrels and starlings, although not native to California, may be rehabilitated and released pursuant to the conditions listed in this Memorandum; however, these animals adversely

compete with native California wildlife to their detriment and the Department recommends euthanasia rather than release. Red foxes shall not be released back into the wild unless determined to be a native red fox.

12. The Permittee shall not display or exhibit any native orphaned, injured or diseased wild animal which is possessed for care or treatment under the authority of this Memorandum, nor shall the Permittee allow any other person to do so. Upon approval from the Wildlife Rehabilitation Coordinator, animals undergoing rehabilitation may be photographed or filmed briefly for press releases or educational films that promote wildlife conservation. Permittees and volunteers shall follow the media contact conditions in Appendix B. Wildlife Rehabilitators should wear appropriate gloves when any wild animal is pictured (or filmed) being displayed/held (both rehab and educational), or being administered animal care in rehab (especially medical care, but also feeding, cleaning etc).

NON-RELEASABLE

13. The permittee may transfer any wildlife, except fully protected, threatened or endangered animals, which cannot be released into the wild because of permanent injury (or red foxes) to a bona fide public zoological garden, museum, college, universities, or other educational or scientific institution as determined by the Department. Records of such transfers will be maintained and be available for inspection. If wildlife cannot be released or transferred, it shall be humanely euthanized.
14. Any wildlife rehabilitator who wishes to exhibit non-releasable injured or orphaned animals originating in the wilds of California will be required to obtain a Native Species Exhibiting permit, as per, California Code of Regulations, Title 14, Section 671.1 (b)(7). Non-releasable birds require additional permission/permit from the USFWS.
 - a. Only wildlife determined to be permanently injured and suitable for public exhibition will be considered for non-releasable status. That determination shall be made by the Department and/ or the USFWS. A veterinarian shall prepare a written document describing the permanent injury that qualifies the animal as non-releasable. A copy of the veterinarian's document shall be forwarded to the Department within 30 days of the veterinarian's classification.
 - b. In the unusual event that an animal is brought into a center imprinted, the Department shall be notified within 72 hours after the Permittee determines the animal is imprinted. If an animal becomes imprinted during the rehabilitation process, the animal shall be either transferred to another rehabilitation (other than the responsible rehabilitator) center to be used as a education animal, euthanized or transferred to a Department-approved wildlife exhibitor.
 - c. Unless otherwise authorized by the Department, only nongame birds,

furbearing mammals, nongame resident small game mammals, reptiles or amphibians shall be used for education.

EDUCATIONAL WILDLIFE APPROVED BY THE DEPARTMENT PRIOR TO 2012
AND HELD UNDER A WILDLIFE REHABILITATION PERMIT

15. All non-releasable wildlife shall be maintained in accordance with the caging and care provisions listed in sections 671.2 and 671.3, Title 14, CCR unless otherwise authorized by the Department.
 - a. Exhibitors, including wildlife rehabilitation organizations, wishing to use wildlife for educational purposes must be either licensed or registered as an exhibitor by the U. S. Department of Agriculture (a "licensed" exhibitor is one receiving compensation; a "registered" exhibitor does not).
 - b. Educators shall display animals while maintaining a reasonable distance between the audience and the animal (a minimum of four feet is recommended). The educator shall maintain control of the animal at all times during exhibition.
 - c. Gloves shall be worn when displaying raptors or mammals.
 - d. The public shall neither be encouraged nor allowed to come into contact with live animals.
 - e. In a continuing effort to maintain dignity to wildlife, educators shall not use display techniques that promote a "pet" type of relationship between the handler and the animal (i.e., refer to the animals using endearing terms like "cute", or allow animals to crawl or climb on the handler or in the clothing or pockets of the handler).
 - f. Any photographs of educational wildlife on brochures or websites, etc. cannot portray the animals as "pet-like"; inside homes, playing with toys, displayed with domestics, eating unnatural foods, etc.

ANNUAL REPORTS

16. The Permittee shall provide the Department with an annual report that is due by January 30th of each year. If annual reports are not submitted by January 30th of each year, this MOU will automatically expire. The annual report shall contain the following information listed below:
 - a. A complete list of all wildlife received by the Permittee during the reporting period. The report shall include a statistical summary of all the "required information" as stated in the minimum standards for Wildlife Rehabilitators, Third Edition, 2000.

- b. A complete inventory of all non-releasable wildlife (this condition is not applicable to non-releasable wildlife possessed under a Native Species Exhibiting Permit) previously approved under a wildlife rehabilitation permit. The inventory shall include
1. All deletions to the previous year's inventory of non-releasable wildlife.
 2. A description of each animal's impairment which makes it non-releasable.
 3. The name of the veterinarian and the Department employee who classified the animal as non-releasable.
 4. The date the animal was classified non-releasable.
- c. A current and accurate record shall be provided of all volunteers, including name, address, phone number, and the location of all satellite branches of the Permittee. These records shall also be available for inspection at the location stated on this MOU. For the purposes of this memorandum "Satellite Branches" are defined as any location where wildlife is held or rehabbed other than the location stated on the MOU.

GENERAL CONDITIONS

17. The Permittee of a wildlife rehabilitation facility shall be responsible for any and all costs incurred in connection with treatment, confinement or transportation of wildlife.
18. Raptors may be transferred to a licensed California falconer for rehabilitation purposes. Such raptors shall be maintained by the falconer and used in accordance with all California falconry laws and regulations.
19. The privileges in this agreement do not authorize the propagation of any wildlife.
20. The use of the Fish and Game logo on wildlife rehabilitation facility brochures, letters, websites, etc. is prohibited.
21. Every rehabilitation facility must have an evacuation plan in case of an emergency and have it on file with the Department's Wildlife Rehabilitation Coordinator. The evacuation plan may include possible temporary relocation at another unaffected facility, location of temporary enclosures, access to emergency medical supplies, access to emergency food and water for animals being held under the wildlife rehabilitation permit.

22. It is the responsibility of the permittee to be aware of city and county ordinances relating to wildlife care and housing. If required by their city or county, facilities must obtain proper permits to conduct wildlife rehabilitation at their facility. This MOU does not allow the permittee or any volunteers to violate any city or county ordinance.
23. Wildlife temporarily held for rehabilitation must be maintained separate from facilities housing domestic animals. For the purposes of this memorandum, a "facility" is considered a location or satellite branch (volunteer's residence) where wildlife is possessed under the conditions of this Memorandum.
24. In those situations where wildlife is maintained at a facility that possess domestic animals, wildlife enclosures shall be constructed to include visual and physical barriers (minimum of 48 inches in height) that protect the wildlife from domestic animal exposure. Wildlife shall also be furnished with species-specific hiding areas, within the enclosures. If wildlife is maintained indoors, within a permittees or volunteers personal residence, the wildlife shall be maintained in a separate room inaccessible to domestic animals. Such wildlife shall have minimal direct human contact. Every effort shall be made to prevent imprinting/ habituation.
25. Individuals who are not an official volunteer/member of a Department-approved wildlife rehabilitation organization shall not be allowed to physically handle wildlife.
26. Wildlife rehabilitation records shall be kept and available for inspection for five years following the end of the calendar year covered by the records. Complete and accurate records of all wildlife received, including the date received type of injury or illness, disposition, and date of disposition. After five years the permittee may dispose of wildlife rehabilitation records.
27. Permittees may not retain any animal obtained under this permit for more than 180 days without additional authorization from the Department's Wildlife Rehabilitation Coordinator.
28. All permittees who care for/ rehabilitate migratory birds must have a valid Federal Migratory Bird Rehabilitation Permit issued by the United States Fish and Wildlife Service.
29. It is recommended that all persons working under this Memorandum who handle any rabies vector species receive appropriate pre-exposure rabies vaccinations as recommended by the United States Department of Health and Human Services Center for Disease Control.
30. All paid staff members and volunteers who handle and provide care for wildlife, under the privileges of this Memorandum, shall receive Department-approved annual training as described in Section 679 of the California Code of Regulations, Title 14. It shall be the responsibility of the Permittee to suspend or terminate the privileges of any staff members or volunteers who do not complete this training. Records of annual training shall be made

available for inspection at the location on this permit.

31. Individuals who work or volunteer for a Department-approved wildlife rehabilitation organization may have their wildlife rehabilitation privileges terminated by the Department upon a recommendation of their Board of Directors or as a result of a finding by the Department that the volunteer acted out of compliance with the terms and conditions of the MOU. The Department may terminate an individual's privilege to rehabilitate wildlife in conjunction with or without filing criminal charges against the individual for violating terms and conditions of this Memorandum. If an individual's privilege to rehabilitate wildlife is terminated, the termination applies to all Department-approved wildlife rehabilitation organizations. In the event an individual's privilege to rehabilitate wildlife is terminated, the Department will notify all wildlife rehabilitation organizations of the individual's name.
32. Every paid staff member or volunteer of a Department- approved wildlife rehabilitation organization who physically handles wildlife shall read this MOU and sign a document affirming they understand and will abide by the terms and conditions of the Memorandum. Each Permittee shall maintain the affirmation documents where wildlife is possessed and make such documents available to the Department upon request
33. Fawn, Bat and Coyote Protocols (species most likely to present public safety issues) were prepared by rehabilitators for the safety of the rehabilitator, the public and the animals. The Fawn, Bat and Coyote Protocols are attached to this MOU as Appendix C, D and E and must be followed as a condition of this MOU. If there is need for deviation please call to receive authorization.

SATELLITES

(Definition of satellite: a location other than the address listed on this MOU)

34. In the case of volunteers rehabilitating wildlife in their homes (a satellite), a copy of the signed MOU shall be maintained with each volunteer.
35. In order to qualify as a satellite branch of the permittee and/or rehab center, the volunteer's facility/home has to submit to an inspection under the same care and standards of the rehabilitation center. The inspection shall be completed by the facility/permittee or representative of the permittee, prior to approving the volunteer to take home animals from the facility unless otherwise authorized by the Department. If a satellite facility is found in violation by the Department the permittees MOU could be revoked.
36. Satellites must be within a reasonable distance to the organization they are affiliated. It is recommended that satellites stay within the same region or county of the organization they are volunteering for. Contact Wildlife Rehabilitation Coordinator for permission to rehabilitate animals for an organization other than the local /nearest organization.

This Memorandum is valid until December 30, 2017, unless revoked prior to that date. The agreement may be revoked upon the request of the parties signed hereto or upon a finding by the Department that the Permittee, or any representative, has not complied with the terms and conditions of the agreement. Upon cancellation of this agreement, all animals possessed under the privileges of this Memorandum shall be transferred or humanely euthanized as directed by the Department.

The Permittee agrees to indemnify, defend and save harmless the State, its officers, agents, and employees from any and all claims and losses accruing or resulting to any person or property in connection with the performance of this Memorandum.

This Memorandum has been executed by and on behalf of the parties hereto as to the day and year first written. The Permittee is responsible for notifying the Department in writing within ten days if a change in address or wildlife rehabilitation director or president occurs. The notification shall include the name of the person who will be replacing the original signer of this agreement and becomes part of the original Memorandum.

By signing this signature page the permittee is agreeing to comply to all of the conditions in this MOU and with the provisions of Section 679, Title 14, of the California Code of Regulations.



12.18.14

Nicole Carion Date
Wildlife Rehabilitation Coordinator
Wildlife Investigations Lab
CA Department of Fish and Wildlife

Permittee Signature Date

Print Name

Organization Name

The following is a list of Native and Non-Native Prohibited Species that **do not** require Department notification to rehabilitate pursuant to Condition 3 of the Memorandum.

1. American Crow (*Corvus brachyrhynchos*)
2. Common Raven (*Corvus corax*)
3. Turkey Vulture (*Cathartes aura*)
4. Northern Goshawk (*Accipiter gentilis*)
5. Cooper=s Hawk (*Accipiter Cooperii*)
6. Sharp-Skinned Hawk (*Accipiter striatus*)
7. Red-Tailed Hawk (*Buteo jamaicensis*)
8. Rough-legged Hawk (*Buteo lagopus*)
9. Ferruginous Hawk (*Buteo regalis*)
10. Merlin (*Falco columberius*)
11. American Kestrel (*Falco sparverius*)
12. Red-Shouldered Hawk (*Buteo lineatus*)
13. Great Horned Owl (*Bubo virginianus*)
14. Long-eared Owl (*Asio otus*)
15. Short-eared Owl (*Asio flammeus*)
16. Barn Owl (*Tyto alba*)
17. Flammulated Owl (*Otus flammeolus*)
18. Northern Saw Whet Owl (*Aegolius acadicus*)
19. Northern Pygmy Owl (*Glaucidium gnoma*)
20. Western Screech Owl (*Otus kennicottii*)
21. Black-shouldered Kite (*Elanus caeruleus*)
22. Common Opossum (*Didelphis virginiana*)
23. Shrew Mole (*Neurotrichus gibbsii*)
24. Broad-footed Mole (*Scapanus latimanus*)
25. Yuma Myotis (*Myotis yumanensis*)
26. Long-eared Myotis (*Myotis evotis*)
27. Fringed Myotis (*Myotis thysanodes*)
28. Long-legged Myotis (*Myotis volans*)
29. California Myotis (*Myotis californicus*)
30. Western Small-footed Myotis (*Myotis ciliolabrum*)
31. Silver-haired Bat (*Lasionycteris noctivagans*)
32. Western Pipistrelle (*Pipistrellus hesperus*)
33. Big Brown Bat (*Eptesicus fuscus*)
34. Western Red Bat (*Lasiurus blossevillii*)
35. Hoary Bat (*Lasiurus cinereus*)
36. Southern Yellow Bat (*Lasiurus xanthinus*)
37. Mexican Free-tailed Bat (*Tadarida brasiliensis*)
38. Western Mastiff Bat (*Eumops perotis*)
39. Little Brown Myotis (*Myotis lucifugus*)
40. Townsend=s Big-eared Bat (*Corynorhinus (=Plegotus) townsendii*)
41. Pallid Bat (*Antrozous pallidus*)
42. Black-Tailed Jackrabbit (*Lepus californicus*)
43. Desert Cottontail Rabbit (*Sylvilagus audubonii*)
44. Brush Rabbit (*Sylvilagus bachmani*) - species of special concern
45. Yellow-cheeked Chipmunk (*Tamias ochrogenys*)
46. Sonoma Chipmunk (*Tamias sonomae*)
47. Merriam=s Chipmunk (*Tamius merriami*)

48. California Ground Squirrel (*Spermophilus beecheyi*)
49. Douglas= Squirrel (*Tamiasciurus douglasii*)
50. Northern Flying Squirrel (*Glaucomys sabrinus*)
51. Pine Squirrel (*Tamiasciurus douglasii*)
52. Gray Squirrel (*Sciurus carolinensis*)
53. Western Gray Squirrel (*Sciurus griseus*)
54. Red Fox Squirrel (*Sciurus niger*)
55. Raccoon (*Procyon lotor*)
56. Weasel (*Mustela frenata*)
57. Mink (*Mustela vison*)
58. Badger (*Taxidea taxus*)
59. Striped Skunk (*Mephitis mephitis*)
60. Western Spotted Skunk (*Spilogale gracilis*)
61. Gray Fox (*Urocyon cinereoargenteus*)
62. Coyote (*Canis latrans*)
63. Bobcat (*Felis rufus*)
64. Deer (*Odocoileus hemionus*)

Media Contact Conditions

1. Request the media entity/representative accept video or photographs you have taken instead of them sending a team of people to your facility. If the media entity/representative would like to take their own pictures or footage ask them to be brief and not touch or talk to the wildlife.
2. Make an effort to stay out of the pictures and videos. If the rehabber (a human) is in contact with the wild animal it may promote “pet-like” images.
3. Always ask the media to photograph the animal in a respectable manner that portrays it as a wild animal and not as a pet.
4. If you have to be in the picture **do not** handle the animals in a pet like manner, For example: do not allow animals to crawl on you, suckle your fingers, drink out of a bottle while being coddled, sit in your pocket, etc. during a video or for a photo.
5. Please clear any media “events” with the Department’s Wildlife Rehabilitation Coordinator (and you may want to notify Jennifer Brown with the USFWS if you are using a federally permitted bird(s)) in advance.
6. Do not allow the media or the public to handle wildlife!
7. Keep the focus of the story about wildlife, their natural history, conservation and how to live in harmony with wildlife.
8. Do not present wildlife in unnatural settings. Do not have human toys or people food in the picture. Do not present animals wandering around your house or on top of desks or computers.

Many rehabilitation centers have education animals and these conditions for media contacts should be abided by when doing an educational presentation, as well.

PROCEDURES FOR FAWN REHABILITATION

Marjorie Davis

GENERAL DISCUSSION. This protocol is tailored to fawns only. On occasion we are able to get an adult on its feet and back into the wild, but this is not the focus of our facility. It takes inner-strength, and a complete understanding of the species to raise fawns 'wild' and to make difficult, but necessary, decisions on their behalf. Wildlife is under stress the entire time it is in captivity. Stress kills. Fawns easily succumb. Fawns are genetically programmed to be wild.. Do not deprive them of this wildness. They must not be thought of as cute, cuddly pets. They are prey animals. Therefore, the greatest gift we can give them is to allow them to retain their natural fear of predators, which includes man. Do not permit them to think of us as friends. We are not. The fawn facility shall not be open to the public. All human contact shall be kept to a minimum during the months a fawn is in captivity and during its release back into a natural habitat.

NATURAL HISTORY. Mule and Columbian black-tailed Deer are the predominant deer of California. A Black-Tail's life is spent among dense shrubs and forests, in contrast to the open country of the Mule Deer. In 1986, when we received our first fawn, there were no guidelines, or any written material available for the rehabilitation of this species. After many years of hands-on learning, success' and failures, and detailed record keeping, Fawn Rescue compiled and published a comprehensive Fawn-Care manual. This manual, 'The Black-Tailed Fawn – Care In Captivity', contains natural history, maps, drawings, diagrams, biological data and a complete guideline for the care of fawns from rescue to release. As we continue to learn, this manual is updated and revised. It is strongly recommended that this manual be followed as a guide to the understanding and rehabilitation of fawns.

DEVELOPMENT OF PROCEDURES. THINK WILD. This is the basis for each step we have taken in compiling the following procedures. Mandatory procedures are underlined, others are ones that we strongly recommend. It took many years of success, failure, adjustments and complete revisions to develop procedures that work. Our facility deals with over 100 fawns yearly. Each fawn's circumstances are different, and sensible decisions must be made according to their individual needs.

RAISING ORPHANED, ILL, OR INJURED FAWNS

SCREENING CALLS. It took many futile trips, in answer to 'rescue' calls, to learn that there are times when the caller can, and should, handle the problem without our help. Now we ask questions and explain what responsibility is ours, and what is theirs. We do not relocate 'unwelcome' deer. We no longer dash madly around a fenced back yard trying to run down a healthy fawn, often injuring it in the process. We advise the caller to open the gate, place water a slight distance outside the fence as an enticement, leave the area, and allow the animal to escape without the stress of the chase. When the problem is an injured or ill fawn, ask the caller to leave the fawn completely alone until you arrive, Moving an injured fawn, holding its head on one's lap, the human touch, the sound of a human voice can throw an alert but injured fawn into shock and does nothing to 'comfort' it. To the troubled fawn, we are a predator. It cannot understand that we are there to help.

RESPONDING. Use an enclosed vehicle having a divider between the driver of the vehicle and the animal. Do not transport a fawn in the back of an open truck, nor on the seat of a passenger car. Rescue calls are always emergencies. Keep the rescue vehicle fully

equipped so valuable time is not lost. Carry a small plastic animal carrier, with a blanket on the floor, for young fawns. Cardboard boxes and wire cages are not safe containers. A carpeted floor allows older fawns to ride free of any restraints. An animal stretcher and a long-handled net are secured in the vehicle. Blankets, towels, and a medical kit are essential.

EVALUATION. Carefully assess the situation before approaching the fawn. A healthy fawn, picked up by a person who mistakenly thought it was abandoned, shall be immediately returned to the exact location where it was found, then left alone. A doe will not return to her fawn if she senses danger. Every effort shall be made to reunite a doe and her fawn. If the animal is down, but alert, a net may be needed to stop an attempt to escape. Determine if the injury is severe enough to require a stretcher.

CAPTURE/RESTRAINT. Approach with caution. Keep those hoofs away from you at all times. They can inflict serious injury. A long-handled net held in front of a fawn's head will sometimes slow it down just long enough to be captured. Be quick. One chance is all you'll get. Control a fawn by grabbing it behind the neck and pushing down strongly. It will flatten itself to the ground. Straddle it from behind without putting weight on its body. Cover its head with a towel to calm it. Carry an injured fawn on a stretcher. Keep control of the neck until it is safely contained. Prop a slightly injured fawn on its sternum by placing blankets on either side. Do not use hobbles or other physical restraints. Stress can kill. Do not tie restraints around the nose and mouth, which encumbers its breathing. Deer are extremely sensitive to tranquilizers and they shall not be used for simple transports. The wrong dosage can be fatal. However, if a fawn is badly injured, in obvious pain, or impossible to manage, a small amount of tranquilizer will benefit both the fawn and the handler. Xylazine 100mg injectable -.07cc per each 20 lbs, given IM, is a safe and adequate dosage.

PHYSICAL EXAMINATION/QUARANTINE. Well fawns are driven directly to the facility for a routine exam. Quarantine, for as long as is necessary, any fawn that appears to be ill. Antibiotics are beneficial in treating open wounds and infections. However, antibiotics upset the balance of normal flora within the digestive system while attacking the problem bacteria. Use Probios – 180-D, during and after therapy, to help maintain the natural balance of the intestinal micro flora. After examination, place the fawn in a warm, quiet environment to let it calm down – alone. A fawn that appears to be calm and submissive is under stress, often in shock. An obviously healthy, alert fawn may be placed directly into the pen to be with others of its own species. This is the best therapy of all for a frightened fawn. A severely injured fawn shall be driven at once to a veterinarian for immediate medical attention, or euthanasia. Rely on the vet's judgment for the evaluation, but rely on your knowledge of wildlife, and the law, for the final decision. Find a vet who will be frank about long-term problems that may arise from any injury that will prevent this prey animal from becoming agile, fully alert, and powerful adult deer who's survival depends upon its ability to escape from a predator. Do not attempt surgery if the prognosis is not positive. A fawn that has multiple injuries (two broken legs, etc.) will shut down from stress if it cannot get to its feet to stand as it heals. They do not tolerate harnesses, slings, or restraints. Severely injured fawns shall be euthanized. Recycle into a natural habitat. The body is a natural part of the food chain and must not be wasted.

HOUSING. A newborn fawn needs warmth and security. During extreme cold, rainy weather it cannot be placed alone in a large outdoor pen. Place it in a secure area that is completely free of humans, domestic animals and unnatural noises or disturbances. If nights are warm it is more natural for it to be kept outdoors in a small sheltered enclosure. Keep it warm, dry and protected, but don't pamper it. Indoor confinement caused depression. Allow it to be

outdoors as much as possible. Approach only at feeding time, unless it is ill and needs more frequent attention.

The goal is to make the adjustment from confinement to release as natural as possible. Therefore, the ideal release is directly from the enclosure where they are raised. This is a goal worth striving for and is not that difficult to accomplish. We advertise for homeowners to help in fawn-care, with great results. The homeowner-volunteer builds an enclosure on their large, remote acreage. Four fawns are stabilized at our facility, then transferred to this out-shelter where they are raised until they are ready for release. The gate is opened and the four fawns are free to live in the surrounding, familiar territory since this is not always possible we must prepare the fawns for the transition from captivity to freedom. These enclosures shall be as wild and natural as we can provide. A facility that has no natural area in which to raise fawns 'wild' shall not attempt the rehabilitation of fawns. Transfer these fawns to a facility in your region that is better equipped for raising fawns.

Erect the enclosure in a wooded area containing rocks, logs, hilly areas, with brush for hiding and browsing. Leave it natural. Only remove sharp objects that might cause injuries. The enclosure shall be large enough for unhampered running, jumping and a swift retreat from any disturbance. Shade is essential. Natural ground, as the substratum, keeps contamination to a minimum. A visual barrier, either natural, or installed, must keep the fawns from contact with humans and domestic animals. Bamboo fencing works well, allowing light and air through, while providing a natural, flexible barrier. However, it's important that the fawns be able to look out into extended natural habitat and have contact with free-ranging wildlife when possible. The release of fawns into a wide open territory, after being raised in barracks-like confinement, is an overwhelming experience with they are not prepared to cope.

Enclosure materials: Fencing – 8' high (to protect from predators) small-mesh (ideal "2 x 2", maximum 2" x 4") galvanized wire fencing is suitable for protection and visibility. Gates with secure latches. A three-sided waterproof shelter constructed of plywood – 4' wide X 6' deep x 4' high. Leave the front completely open for quick exit. Feeding racks for bottles, attached to fencing, with a 12" space between each bottle hole. A water faucet, or automatic water system.

Minimum outdoor enclosure size for fawns: Neonates (4): 15'x20'x8'. Nursing (Spotted) (8): 50'x100'x8'. Juvenile (Unspotted) (6): 50'x100'x8'. The larger this enclosure is the better it serves our purpose in raising fawns 'wild'.

Feeding Racks: Racks permit the fawns to be raised healthy and wild. Nothing protrudes into the pen but the neck of the bottle and the nipple. Bottles are placed in feeding racks from outside the fence, so there is no need for humans to enter the enclosure.

NURSING / NUTRITION. Formula: Day One Formula 30/40 for Black-Tailed Deer. Manufactured specifically for the nutritional requirements of Black-Tailed fawns by Fox Valley Animal Nutrition Inc. Phone: 800-679-4666. Because of the high protein and fat content of this specialized formula, fawns thrive, eat less, and are more satisfied. Use standard eight ounce baby bottles and standard nipples. Enlarge the hole by cutting a ½ " X through the nipple. A fawn will not nurse if it must struggle to suck. A complete feeding schedule may be found in Fawn Rescue's fawn-care manual.

Assign one care-giver to feed the fawns. Neonates will need help as they are introduced to the nipple, stimulated and cleaned. Do not talk or pamper these fawns as they are being attended. Within a few days well fawns are trained to feed at the bottle racks and will no longer need handling. This prevents imprinting. They must relate to each other, not to humans. Do not talk or make unnecessary movements while the fawns

are nursing at the feeder. As they approach the feeder, nurse, then leave, observe them closely for their overall well-being.

A large variety of natural browse is essential for proper growth. Collect fresh natural browse that is native to their release site. They will instinctively choose their natural deer food. Fawns will not eat anything toxic to them. They must be prepared to recognize their natural foods upon release. Oak leaves, acorns, toyon bush, wild grapes, manzanita, poison oak, hanging moss (lacy lichen), wild fruit tree leaves and fruit, vetch, a variety of forbs (weeds) and grasses. Do not feed fawns garden vegetables, farm or domestic animals foods which will attract them after release and may result in them being shot. Grain is a natural grass they will find in the wild, therefore, Dry-COB (no molasses) may be offered in limited amounts as a daily supplement.

GENERAL. Tame fawns are put in with others of their own age then left strictly alone. They quickly learn that they are deer and are released with their group. We have never had any problems or complaints concerning them after release. It may be necessary to keep an injured juvenile, received in the late fall, into the winter months. However, healthy fawns shall not be wintered over, or kept in confinement past their normal release age. Once a fawn is fully weaned there is no valid reason to keep it in captivity. All fawns must be released during the season in which they were rehabilitated. None may be kept in captivity as permanent residents of the facility.

RELEASES. Release fawns in groups as they mature. They are not all born at the same time and will not all mature together. There is no reason to have only one 'release day' each season unless your facility only has a few which must all go out together. Once a healthy fawn is weaned and recognizes its natural browse it has no further need for humans. The longer it lives in captivity after being weaned the more dependent and imprinted it becomes. Fawn Rescue fawns are raised in groups of four of approximately the same age and are released as a family. Follow-ups prove that these groups stay together through their first year. Resident deer do not accept strange fawns. For this reason one lone fawn is not a good candidate for release in an unfamiliar location. The ideal is to open the gate and allow fawns to make a gradual return to the wild in familiar territory where they have been raised. They would not recognize the place where they were born, nor their native herd. Otherwise, thorough research must be made to locate a suitable habitat for this large-animal species. A Black-Tail's range may be from 90 to 600 acres of wooded rural land. The release must accommodate this need, provide plenty of natural browse and a year round water source. Other human-related hazards must be considered: vineyards, fences, hunting areas, gardens, public roads, etc. Most public parks don't make acceptable release sites due to the overpopulation of deer and public access. Private landowners may not want additional wildlife on their property and the animal could be trapped or shot. Permission to release fawns in these locations shall be obtained in writing from the landowner or from a public park official. Notify the property owner of the time and day you will be on their property. To insure against overpopulation, no more than six fawns shall be released in any one area during the year. They must compete with resident herds for space and nourishment. Do not tranquilize any fawns before release. Sedation puts them at a disadvantage both mentally and physically. These prey animals must be fully alert and able to adapt at once. Allow the fawns to travel without restraint during transport. Due to the motion of the vehicle they quickly lie down and ride well. Keep the release low key. The release shall not be open to the public. Fawns must not relate their new home to humans. After the fawns are released leave at once.

Release Day: These wild and powerful animals cannot be captured easily from a large pen. A fawn will not run through an open gate that is located in the center of a long fence. If they must be transported to another location build a fawn chute approximately 3' wide x 18' long

x 8' high at one corner of the fence. Install one gate at the entrance and another at the far end. Line the chute and gates with plywood. Park the transport vehicle just outside the far end of the chute, close to the gate. Using several volunteers, walk slowly behind the group of fawns inside the pen, herding them toward the entrance to the chute. If this is done quietly, without alarming the fawns, they will run through the gate and into the chute. Close the gate quickly behind as many fawns as have run into the chute. You may not get them all on the first try and the ones left behind will be alerted and harder to herd. Two volunteers are needed inside the chute, one to pick up and carry the fawn and another to guard against the others escaping. Once they are confined in the chute don't stand still, keep moving in, don't hesitate. Catch them off guard as they hit into the wood panel, lose their balance, and are most vulnerable. The more quickly and quietly you work, the less problems you'll create. Grab the fawn from behind, keeping those hoofs away from your body. Keep control of the neck. Have a volunteer outside the gate to open the gate and truck hatch as you transfer it to the vehicle. Close the back quickly. Repeat with each fawn, taking care not to open the vehicle hatch too far allowing the first to escape. This can happen. They will all be transferred within minutes. Be prepared to leave at once. Some fawns may jump around in the vehicle at first but will not injure themselves. Once the vehicle begins to move they will lay down. It is not necessary to black out windows. It's important to drive right to the water source, if possible. Open the back, stand quietly to the side and allow them to exit.

CONCLUSIONS. Every fawn is received due to human interference. It is our deep obligation to correct this wrong by caring for and returning them back into the wild where they belong. Some will not survive. If we have done our job well, in the THINK WILD mode, most of them will. Our rewards are in knowing we made the effort, and in watching them bound away to freedom.

Appendix D

California Bat Conservation Fund Procedures for Bat Rehabilitation

GENERAL DISCUSSION: Bat rehabilitation is problematic because bats, along with skunks and foxes, are considered a rabies vector species. In actuality, rabies is considered rare in free-flying bats. Results of large-scale studies have shown that generally less than 1% of apparently healthy bats are infected with rabies (Brass, 1994a). In California, studies have indicated that approximately 1 in every 1,000 bats will test positive for rabies (Hill & Brown, 1984). These numbers may fluctuate according to species, location and season. (Brass, 1994b) However, these numbers jump dramatically when bats are found on the ground. From 4% to 10% of grounded bats (biased sample) may be found to test positive for rabies. (Brass, 1994c)

Rabid bats will almost always display paralytic rather than furious rabies. In paralytic rabies, bats usually lose the ability to hang or fly and become very lethargic and apparently unaware of their surroundings. They may still bite in self defense, but only if handled. Furious rabies is manifested in markedly aggressive behavior, with the animal snapping, biting and chasing anything that might come into its line of vision. As the disease progresses, rabid bats become unable to fly or hang normally, separate themselves from their colony and fall to the ground. It is at this point when bats become most dangerous to people who, with good intentions, discover the bat, pick it up and expose themselves to rabies.

Since laws have been enacted requiring dogs to be vaccinated, human deaths from rabies has become extremely rare in the United States. Dogs carry 99% of rabies on a worldwide basis (Brass, 1994d). Exposure to rabies in the U.S. now usually involves wildlife or unvaccinated domestic cats that are allowed to run free. Because of this potential for rabies exposure, it is best if wildlife centers make every effort to minimize the public's contact with bats by picking up bats in distress immediately and informing callers of the potential risk of handling bats.

NATURAL HISTORY: Bats are the second largest order (Chiroptera) of mammals in the world with approximately 1,100 species. Bats are quite diverse and can be found on every continent except the Arctic. There are 45 species of bats in the United States, all microchiropteran (small). There are 24 species of bats in California, with all but one being insectivorous. The sole exception is the nectar feeding Mexican long-tongued bat (*Choeronycteris mexicana*) found in the most southern regions near the Mexican border. Fourteen species of bats in California are now listed as "species of special concern."

Because of the great diversity in bats, rehabilitators often find themselves caring for animals that seem to have little in common except for their ability to fly, their need to hang upside down, and their insectivorous diet. Consequently, prior to undertaking the rehabilitation of any bat, an apprenticeship and/or networking relationship with an experienced bat rehabilitator is crucial for the novice bat rehabilitator. This protocol is not intended to be a manual for bat rehabilitation, but rather a general guide. It is highly recommended that all novice bat rehabilitators attend at least one Department of Fish and Game approved workshop/training session to learn car procedures. The California Bat Conservation Fund offers these workshops.

DEVELOPMENT OF PROCEDURES: Until recently, very few wildlife rescue centers would

accept bats for rehabilitation. When we started the California Bat Conservation Fund's bat rehabilitation center 15 years ago, only one wildlife center in the Bay Area would accept bats for rehabilitation. This general lack of interest was reflected nationwide. Therefore, our procedures were developed mostly by trial and error, working with bat biologists and a veterinarian.

Much has changed in the last few years. The explosion of public interest in bats, fueled by educational programs to inform the general public of the enormous importance of bats to healthy ecosystems, has led to a desire to help these animals. Today, it is not uncommon for bats to be brought into wildlife centers by people who expect the animals to receive the same level of care as any native wildlife in need of attention. And, just as the public's interest in bats has grown in recent years, so has the amount of information available about bats. Today, as one scrolls through the internet, one finds many websites dedicated to bats and their rehabilitation.

It is important to note that, although a great deal of knowledge has been gained about bats in recent years, bat rehabilitation is still in a relatively early stage of development. Unfortunately, this creates an arena in which there are still many opinions about what is the best procedure for individual animals. To this end, the following guidelines have been gathered and compiled into this format at the request of the California Department of Fish and Game's Central Coast Region. These are procedures that the California Bat Conservation Fund has developed over several years through trial and error and with the assistance of Dr. Scott Sims, a veterinarian, and Drs. Elizabeth D. Pierson and William E. Rainey, both bat biologists with the University of California at Berkeley. One procedure that cannot be under emphasized is the need for all rehabilitators handling bats to have their rabies vaccinations up to date. NO rehabilitators without this protection should handle a bat at any time.

REQUIREMENTS FOR BAT REHABILITATION: Wildlife rehabilitation facilities shall assign one bat team leader and assistants who are vaccinated for rabies to care for all bats accepted into the facility. These shall be the ONLY people handling bats. All care people handling bats *must* have their rabies immunizations and be current on their rabies boosters. Bats should not be handled or cared for by rehabilitators out of this group, but should stay with their initial care person and their assistants until they are released or transferred. Bats may be transferred from one location to another by an unvaccinated rehabilitator, but it must be understood that the bat will be placed in an escape proof cage for transport and under no circumstances be taken out of this cage or handled during transport. If a rehabilitation facility has no veterinarian available that is adept at pinning wing fractures, transfers should be made immediately to a facility that has a veterinarian willing to surgically pin the wing, or perform any surgery or major procedure. External Splinting or gluing of the wing will result in a non-releasable bat except for the very rare "greenstick" fracture.

Any bat found on the ground must be handled as a potential rabies contact. Handlers should be alert for any CNS symptoms in a bat, although rabies may show symptoms other than CNS problems. Bats that show symptoms of rabies shall be euthanized immediately. Under NO circumstances shall wildlife rehabilitators or phone volunteers offer health advice to individuals who are concerned regarding potential exposure to rabies. Individuals who are concerned about contracting rabies should be advised to consult their physician.

Bat rehabilitators shall use either gloves or a wrapping cloth when handling bats. A terrified bat will try to bite. Letting the bat chew on a piece of cloth will often keep the animal distracted while it is being handled. Another technique that works well is to cover the bat's head with a soft cloth during handling. Utilizing this method will help keep the bat calm and also help prevent the handler from being bitten.

Adult bats brought in with injuries may be released as soon as they have recovered and are capable of sustained flight (5-15 minutes in the air without the need to land, depending upon

species). Any facility that accepts bats for rehabilitation shall have one or more flight cages or an escape proof room available for exercising bats several times a week.

SCREENING CALLS: It is imperative that all information regarding the finder of the bat be recorded. The name, phone number and address of the finder should be documented and maintained with the bat's records, along with the exact location where the bat was found. Callers should be informed of the risks of handling bats with their bare hands. Bats that have bitten people or pets or had any contact with children shall not be accepted for rehabilitation. Refer the finder to the Dept. of Health Services or the local Animal Control agency in their area to test the bat for rabies. Any bat that has bitten a person must be destroyed immediately and sent in for rabies testing. No exceptions can be made.

RESPONDING TO CALLS: A bat rescue kit should be made up and kept within reach at all times. Most rescue calls will come in after dark. A bat rescue kit should consist of: A small escape proof cage equipped with bedding for transport, 1cc syringes loaded with Ringer's (for rehydration in the field; most bats that are in need of rescue are in *immediate* need for SQ rehydration), gloves, a net with extendable pole, and flannel cloths for picking up and wrapping bats to lessen stress. Additionally, feather dusters work well to tease bats out of inaccessible crevices or cracks found in many ceilings where nets will not fit. If the bat is capable of flying, interview people nearby to determine that there was no contact, examine the bat for rehydration, offering it water orally even if it does not seem dehydrated, and release it outside where it can fly to shelter immediately in nearby trees. If the bat is injured or seems sick, place it, pick up cloth and all, into the transport cage and secure the lid. The bat's life depends on your professional handling. As bats that have bitten people must be euthanized, make every effort to keep from being bitten yourself.

EVALUATION FOR RABIES SYMPTOMS: The bat should be evaluated immediately for any possible CNS symptoms that might indicate rabies. Rabies symptoms are varied, but usually involve an inability to hang normally or walk on all fours. A bat's inability to hang normally, or stand on all fours (using their wings as front legs, although red and hoary bats cannot "walk" on all fours at any time), clutching their hind legs to their abdomen, crying out, wings held over the head for long periods of time, dirt found in the mouth, persistent erections of the penis in male bats, and general paralysis with no interest in trying to hide underneath bedding are the most commonly observed symptoms of rabies in bats. The natural state of torpor, which is exhibited by the seemingly lethargic, slow movement of bats which are cold, is often confused with rabies symptoms. A cold, sleepy bat should be allowed to warm up and awaken before being evaluated for CNS symptoms. Hoary bats will typically adopt a defensive posture of lying on their backs when approached, hissing and screeching, while flailing with their wings. This is normal behavior for hoary, and often red bats, and should not be confused with CNS symptoms.

PHYSICAL EXAMINATION: Once it is determined that the bat is not displaying symptoms of rabies, an examination may proceed to determine if the bat has any broken bones, and/or open wounds or other injuries. Jeweler's magnifying glasses are invaluable during these examinations because of the very small size of most bats. Be sure to check the *entire* wing, down to the tips of the fingers, for breaks or tears in the wing membrane. Then check the bat for any injuries to the body, head, and teeth. Antibiotics should be started immediately for any injured bat. If the bat is cat-caught, it should be assumed that there will be punctures to the body as well as the wings, even though they may not be visible upon examination. Over half of all injuries in bats brought to our rehabilitation center involve compound fractures of the arm bones (radius and humerus) of the wings, and these can often be pinned successfully I.M. by a veterinarian experienced in this procedure. The bat should then be weighed with a gram scale, forearm measurements taken, and as is usually necessary, rehydrated with Lactated Ringer's

Solution. Dehydration is almost always present in grounded or distressed bats, and can be determined by checking the wing membranes; a bat's wing membrane is normally silky and pliable. Wings that feel dry or "crispy" indicate extreme dehydration that will necessitate SQ rehydration with a 1cc syringe and 25 gauge or smaller hypodermic needle. Tuberculin or diabetic syringes work well for this purpose. When in doubt, rehydrate SQ. The bat's approximate age can also be determined at this time by checking the sharpness of its canines. Young bats have needle sharp teeth; older bats will have teeth that are progressively worn down and shortened or "pegged". Infant bats, with rare exceptions, will only be found from May through July in California.

CARE IN CAPTIVITY: Once the bat is rehydrated and allowed to quiet down, mealworms may be offered if the bat is a juvenile or adult. Infant bats should be offered a puppy formula weakened to 1/4 strength, gradually increasing the formula to full strength over the next three or four feedings. When feeding a juvenile or adult bat, a mealworm's head may be pinched off and the guts "toothpasted" (squeezed) into the bat's mouth, which will normally be open in a defensive posture when the bat is first handled. Once the bat realizes that the mealworms are food, they should be encouraged to chew the entire mealworm. Some species of bats learn to eat from a shallow dish left on the bottom of their cage very quickly. Other bats may never learn. It is suggested that forceps be used to offer mealworms so that bats do not associate feeding with human hands and become dependant upon being hand fed. Do not feed a bat mealworms before being taken to the vet for pinning; their stomach should be empty before anesthesia is administered. After the first feeding the bat should be introduced to a small holding cage with soft non-terry type material on the bottom and draped over the sides of the cage in a way that allows the bat to crawl underneath the material to hide. A shallow dish of water and a dish of mealworms may be left close to or underneath the cloth where the bat chooses to hang, and a heating pad set on low should be set on the side and over the top to encourage the bat to hang normally. The cage should be placed in a quiet, dark room where no potential predators are housed or reside (i.e., owls, other raptors, rats, domestic cats or dogs) so that the bat can rest with a minimum of stress.

Most crevice dwelling bats learn quickly to walk down to the bottom of the cage or to a shelf and eat out of a shallow dish. Water can also be offered in shallow dishes. Baby food jar lids or shallow plastic lids make acceptable dishes. Cracking mealworms just behind the head will disable them so that they cannot escape from a shallow dish. After a bat becomes used to eating out of a shallow dish they can then be offered deeper dishes that do not allow mealworms to escape and cracking the mealworm's neck may be discontinued at that time. An occasional bat, and a sizable percentage of Mexican free-tail bats, will not learn to eat on their own and must be hand-fed for their entire stay in captivity. Many pallid bats will become ill on a constant mealworm diet and should be fed domestic crickets. All insects being fed to bats must be kept in a nutritious, mold-free medium (wheat bran, grain, cereals, etc.) and should be dusted with a powdered vitamin/mineral supplement, such as Vionate™ before being offered to the bats. Most bats can be offered free choice of insects, but some bats, especially pallid bats, may become obese if offered an unlimited supply of food. All bats in captivity should be weighed regularly to see if their food should be limited or more should be offered. Bats normally gain up to 1/2 again their normal weight in the fall to prepare for hibernation and should not have their food limited for this natural seasonal response.

RAISING INFANT BATS: Conventional wisdom has always decreed that bats hand-raised from infancy cannot be released. However, recent studies have shown that hand-raised colonial bats are capable of surviving in the wild if released back into their own or conspecific colonies in a careful, well thought out manner. More studies are now under way to study the survivability rates of hand-raised bats. It is becoming increasingly apparent that orphaned, colonial bats are suitable candidates for release as soon as they become adept at flight. No evidence is yet available, pro or con, regarding the survivability of solitary species that are hand-raised and then released.

Infant bats weighing less than one gram for smaller species (i.e., myotis species), or 3-4 grams for larger species (i.e., big brown, pallids), need to be fed every two hours, day and night. Infant bats weighing between 1 and 3 grams for smaller species, and 5-6 grams for larger species, should be fed every three hours. Infant bats will need to be fed during the night until they are approximately 3 week of age. They can then be introduced to mealworms and weaned from formula gradually over a period of two weeks. Check with your local bat specialist for formula suggestions. Do NOT use Esbilac™ puppy formula as it may cause severe metabolic bone disease in infant bats. Infant bats should be kept in a somewhat warmer environment than an adult bat, but care must be taken to not overheat them. Always have a space in their container where they can roost to avoid excessive heat. Check them every hour or so, and if they are found hanging from the screening on the top of the container, it is probably too warm. Experiment with heating pad placement until you become adept at keeping a comfortable temperature available at all times. It is very important for infant bats to be raised with other infants, preferably their own species. Transferring infants to a rehabilitator who can raise it with others of its own species is preferable to raising it alone.

If infants are found on the ground below known colonies, every effort should be made to return the infant bats to their roost once the rehabilitator has determined that the fallen infants are not injured or seriously dehydrated. CBCF has found that hanging fiberglass screening in a way that allows the baby bats to climb back up into their roost works well for free-tails and myotis bats. Every effort should also be made to alleviate the cause of the infants falling from their roost, i.e., extreme heat, disturbance, or other causes that can possibly be mitigated. Mother bats will quickly accept their returned offspring, but few bats can actually pick their babies up and gain enough altitude to return to the maternal roost. The infants can also be placed in a shallow pan with a cloth to sit on and placed high enough that mother bats can fly straight back into the roost with them. We have facilitated many mother/child reunions with this method. If infants cannot be returned to their colonies, they must be taken to a wildlife rehabilitation center and raised until they can fly. At that time, they should be returned to their own or a conspecific colony.

PERMANENT BATS: A few wildlife rehabilitation facilities have permits to keep non-releasable bats for educational programs. Occasionally, a bat will be accepted at a wildlife center that cannot be released back into the wild, often because of a break in the wrist joint or elbow that will not regain sufficient rotation to allow flight. Evaluation of the bat by a veterinarian to determine its inability to fly must be obtained, along with permission from the California Dept. of Fish & Game, and the bat shall be kept in quarantine (isolation) for six months before being used for programs. During this time, the bat's temperament should be evaluated to determine if it is a suitable candidate for a life of being bought out into (for a bat) a noisy, bright environment, and handled. Some bats become quite comfortable once they begin to trust their handler, and adapt very readily to the noise and lights they will be subjected to in educational programs. Some bats are simply incapable of adjusting to even limited handling and being out "in the open" and suffer a great deal of stress whenever they are taken from the safety of their cage. Bats that cannot adapt are not considered suitable educational candidates and can sometimes be transferred to a museum for a nocturnal display where it can join other bats in a much less stressful setting. If a wildlife rehabilitation facility has not permits to have bats for educational purposes, but feels they have a non-releasable bat which would make a good candidate for an educational program, they should inquire to see if one of the rehabilitators who conduct educational programs can transfer the bat to their facility.

Permanent bats must NEVER have any contact with wild bats, both while they are in quarantine, and later when they are placed into an education program. Once a permanent bat has gone through the six months quarantine it can be placed with other bats used for educational programs, but must be kept from any contact with wild bats or other animals. As bats can live up to 30 years, many of CBCF's educational bats have been with us for 13 years or longer. Our bats used for educational programs are allowed to roost together if

they are normally found together in the wild. But many bats will not normally roost with other species, and in most species, females will not tolerate males except during breeding season or hibernation. In big brown bats, for instance, females are highly social while males prefer to be solitary or live with one other male. Our rule is: If bats don't roost together in the wild, we do not place them together in captivity. Bats should also not be allowed to breed in captivity. Non-releasable females often lack the ability to exercise sufficiently for safe delivery of an infant that can weigh as much as 1/3 of the mother's weight at birth. Separating males from females during breeding seasons has worked well at CBCF. In addition, permits are needed for breeding wildlife and these permits are normally only given to zoos and research facilities.

CAGING: Caging for bats that are injured, especially fractures, should be small enough to inhibit movement as much as possible. Crevice dwelling bats prefer to hide underneath soft, non-terry cloth material draped over the sides and bottom of their cage. Foliage roosting bats (Hoary bats and Red bats) normally hang from the petiole of a leaf in filtered sunlight during the day, and so should be allowed to hang from the appropriately sized twig, real or artificial, fastened to the top of a cage that is placed in partial filtered sunlight for at least a few hours each day. Newborn bats do well in large cool-whip containers, modified with screen replacing the middle of the lid, so that they cannot wander off and become lost as they might in a larger cage. A range of temperatures should be offered by placing a heating pad sent on low and top and down one side of the cage, allowing the bats to enter torpor by choosing a lower temperature. Foliage roosting adult bats do not normally need heating pads and will actively avoid them. The exception to this are injured bats, which should be kept in a warm cage (approx. 80° Fahrenheit) during the entire time they are recuperating, as a torpid bat's tissues will not heal. The cages should be escape proof and capable of being sterilized after use. We find that Rubbermaid Tuff Totes™ in various sizes, available at hardware and drug stores, make excellent cages for injured bats and for transport. They are escape proof and can be easily sterilized and stacked when not in use. The one caveat is that care must be taken to insure that the bat's toes are not accidentally caught by the lid when it is snapped on. The middle of the lid should be removed and replaced with chew proof netting for ventilation. Hot glue guns are used to affix the netting to the top and sides of these cages.

Bats that are capable of flight should be housed in a flight cage large enough for the bat to attain speed while flying. The flight cage should have appropriate roosting areas, either material draped over a heating pad for crevice dwelling bats, or foliage arranged at the top for Lasiurine (foliage roosting) bats. All cages must be escape proof. Small bats can squeeze through a hole or crack that is 3/8 inch wide by 1 1/2 inch long. The new energy saving fluorescent light bulbs stay cool and allow enough light for handlers to care for the bats without getting so hot that the bats might accidentally burn themselves brushing against the light.

FLIGHT CAGE SIZES AND CONSTRUCTION: Flight cage sizes may vary depending upon the size and species of bat. Bats with low wing loading aspects have a slow, fluttery flight better suited to hunting in cluttered habitats. These bats can fly quite well in a flight cage of 6' X 6' X 8'. Bats with long, narrow wings, i.e., the free-tail bats, hoary bats, and some myotis bats, have a high wing loading aspect and must have a larger flight cage to attain the speed necessary for flight. These bats often migrate long distances and need to spend much of their time aloft in the wild. Bat rehabilitators should be familiar enough with bats to be able to identify which species will need larger cages. We have used flight cages of 9.5' X 4.5' X 8' to successfully teach free-tails to fly well, but ideally a 20' X 8' X 8' cage should be used whenever possible. Bat flight cages should be constructed of untreated wood frames with plastic netting. The plastic netting should have no more than 1/4 or 1/8 inch openings. Bats can damage their wings by accidentally slipping a wing through larger openings. (Netting may be purchased from Internet Inc. 1 (800) 328-9456). Hardware cloth is not recommended. Fiberglass screening is acceptable for temporary caging for some species of bats, but tears easily and can be chewed through in a few minutes by the larger bats, allowing them to escape. Juvenile bats should be started out in a cage no more than 3' X 4' X 4' for flying until they are capable of landing safely

(usually in about 1 week). Starting juvenile bats out in these smaller cages will avoid most first-flight type injuries.

RELEASE: Bats should be released back into the area where they were found as soon as they are capable of sustained flight, demonstrate the ability to gain altitude during flight, land well, and the weather permits. Bats should not be released when storms are forecast or temperatures drop to near freezing. Small, solitary bats such as *Myotis californicus*, or bats that have had serious injuries, should be over-wintered until spring arrives and insect populations are up. If the bat is a juvenile and the maternal colony's location is unknown, the juvenile bat should be released into a nearby conspecific colony. Communicate with bat biologists in your area to determine where these colonies may be found. Colonies often migrate unexpectedly due to shifting insect populations, changes in the weather, or disturbances. It is important to determine that the colony is actually present BEFORE releasing juveniles into that location. Solitary bats can be released at dusk into the general area where they were found. All bats should be released at dusk so that their flight can be followed visually and the bat picked up quickly if it drops to the ground. Cold, torpid bats are incapable of flight. Make sure the bat has adequate time to warm up before release. CBCF uses heating pads with adapters for automobile cigarette lighters; this insures that the bat will be warmed and ready for release by the time you reach your destination.

Solitary bats can be released as soon as they can fly as they will immediately resume their migration. Stormy weather should be avoided on the release day, and pregnant hoary and red bats should be taken to the central valley for release as they do not normally give birth in coastal or the cooler mountainous areas.

Phone Protocol for Wildlife Center Volunteers

Most Wildlife Centers are the main source of education on bats for the public. But many phone volunteers are not prepared to answer questions on bats. We have prepared a guide for the most frequently asked questions. This guide may be referred to by all volunteers who take phone calls from the public.

I just found a bat on the ground. What should I do?

Do NOT pick up or touch the bat with your bare hands. Any bat found on the ground is very likely to be sick, and may have rabies. Place a small box or container (preferably non-metallic) over or near the bat and use a piece of paper or the lid of the box to gently scoop the bat into the box, again being careful not to touch it with your bare hands. Close the container securely and bring the bat to the wildlife center immediately. As most bats are dying of thirst by the time they are found, the bat will need to be brought into a wildlife rescue center as quickly as possible.

There is a bat flying in my house. How do we get it out without hurting it?

Open all doors and windows to the outside in the room where the bat is located. Close all doors to the rest of the house to keep the bat from flying deeper into the house. Turn out the lights in the room and LEAVE the room for a few hours. The bat will

usually smell the fresh air and find its way outside. Occasionally a bat will not leave and must be coaxed out. One method is to gently throw a large sheet over the bat while it is flying and very carefully shake it out once outside. If a bat is hanging on a wall, a small, preferably non-metallic container may be carefully placed over the bat and a piece of paper or cardboard can then be gently slid between the container and the wall so that the bat will fall into the container. The container can then be taken outside and left on its side in a safe, shaded area so that the bat can walk out and fly away. If the bat cannot fly or appears to be injured, it should be taken to a wildlife center immediately.

Can I get rabies from a bat?

Bat can contract rabies, although the numbers are much lower than people have been led to believe. Anywhere from 1 in 1,000 to 1 in 200 bats in the wild (depending upon species and geographical location) will contract rabies. Bats do not have "outbreaks" of rabies, and no research has ever shown evidence of rabies "epidemics" in bats. (Dr. Denny Constantine, pers. comment. 1996) Bats are not asymptomatic carriers of rabies, remaining healthy but spreading the disease. If a bat gets rabies they will fall and die within a few days of showing symptoms. The rabies virus will be present in the infected bat's saliva and may be transferred to another animal or human by a bite.

Simply not picking up a bat will lower your chances of getting rabies from a bat to statistically zero.

Do bats attack people?

Bats do not attack people or get "stuck" in their hair. Bat researchers, who often must work very closely with bats, are never attacked by them, no matter what the provocation. But bats, like any wild animal, will bite in self-defense if they are picked up or handled. The smaller bats will often fly close to your face because they are hunting the mosquitoes that are attracted to human breath. The mosquitoes, on the other hand, ARE attacking and biting you.

How do we get rid of a colony of bats in our house?

As their natural habitat becomes destroyed, bats often move into the attics, eaves or walls of houses and other structures. Unless the numbers of bats are very large, most homeowners are unaware that bats are using their house as a day or night roost. Bats can be humanely evicted during the early spring and late fall; they must NEVER be evicted during nursery season (early May through September), as the babies will be unable to fly away with their mothers. Humane evictions consist of hanging nets over the exit holes, making a type of one way "doggie door" that is left up for a week or so until it is certain that all bats have left. The entry/exit holes can then be permanently sealed. Using poisons on bats is illegal in California and most other states as this practice has been shown to be extremely dangerous to humans and has actually made some houses uninhabitable. "America's Neighborhood Bats", by Merlin Tuttle, University of Texas Press, soft cover (about \$9.00) has an excellent chapter on humanely excluding bats and instructions for placing nets. The nets should be placed over the exit holes and nailed or fastened on the top and sides, but left open at the bottom with the bottom edge hanging approximately 18 inches below the exit hole. Fiberglass screening, available at any hardware store, is an acceptable material for netting. Bats sometimes congregate in the ceiling or on walls of porches at night. This called a "night roost" and is made up of bats that are out hunting insects. These bats can be discouraged from roosting in unacceptable locations by placing a small fan directed toward the bats and leaving it on a high setting for several nights.

Aren't bats just rodents?

Bats are not related to rodents. They are actually more closely related to us than they are

to rodents. Bats do not chew wood or insulation. They live up to 30 years or more and reproduce very slowly; most bats have only one offspring per year. Bats are not considered vermin, and are crucial to a healthy environment. They are considered keystone species in many ecosystems, meaning that many ecosystems would crash if bats were removed. In California, bats are very important for mosquito and insect crop pest control.

Can I keep a bat as a pet?

It is illegal in California and other states to keep wild animals as pets, even for a few days. Bats do not do well in captivity and will die quickly if they do not get the proper diet and care. Another important consideration is that any bat that is easy to catch may be sick with rabies. For your safety as well as the bats', bring it to a wildlife rescue center immediately.

References

Brass, Danny A. (1994) Rabies in Bats: Natural History and Public Health Implications. Livia Press, a,b,c). Distribution of Bat Rabies in the United States. Pg. 137-147 d). Rabies in Terrestrial animals. Pg. 19.

Hill, John E. and Smith, James D. (1984) Bats: A Natural History. University of Texas Press, Austin. Pg. 168

Appendix E

PROCEDURES **For** **COYOTE REHABILITATION**

GENERAL DISCUSSION. Larger and more dangerous than most animals seen by rehabilitators, the coyote is well known to be responsible for significant depredation of small domestic animals and, in heavily urbanized areas, has clearly demonstrated its capability to be a potential threat to public safety. The past two years have seen a sharp increase in incidents of humans being injured by coyotes. Some of these incidents have resulted from humans attempting to protect their small domestic animals from extremely aggressive coyotes while other incidents have involved no domestic animals at all. Rather, coyotes have approached and inflicted serious bites with most victims being children. For these reasons, the rehabilitation of coyotes, particularly the act of raising orphaned pups for release, should be undertaken only by those individuals who can/will perform this work in a responsible and pragmatic manner and who are capable of making some difficult, unpleasant and unpopular decisions.

NATURAL HISTORY. Information regarding the natural history, biology and behavior of coyotes is available on this center's web site at fundwildlife.org along with many other web sites. The easiest access to this data, with any search engine, is by using the key words "canis latrans". You should expect to experience slight variations among the information provided by different sites particularly in the areas of nutritional habits, dispersal behavior and general behavior. This is a direct result of geographical differences along with variances in species population density in the study areas from which the data was gleaned. However, these variations are not particularly germane to the work performed by rehabilitators. It is strongly recommended that anyone considering the rehabilitation of coyotes conduct some research in order to better understand the nature of this species.

DEVELOPMENT OF PROCEDURES. The following procedures were neither derived from books or manuals nor were they written by a bureaucrat sitting behind a desk. Rather, they are the product of many years of dealing with an extraordinarily high number of coyotes. (Average of 140 per year.) Some of these procedures are a result of simple good common sense while others were developed from lessons learned the hard way. These procedures were developed over many years with two goals: (a) To provide the maximum care, in every respect, of coyotes in a rehabilitation status and, (b) To ensure that our actions in no way contribute to these coyotes becoming depredation or public safety problems. Some of these procedures are so essential that they are considered mandatory and are clearly worded as such. Others are more flexible. However, in all cases, it is important that you clearly understand the purpose of these procedures. Use your imagination and ensure that you fulfill their "spirit and intent".

INJURED/SICK ADULT COYOTES

SCREENING CALLS. In addition to calls about "nuisance" coyotes, which are not part of the rehabilitation process, one of the more common calls you will receive will be from citizens reporting an injured or sick coyote that is limping, skinny and usually mangy. Before automatically responding to these types of calls, ask some well thought out questions to help you determine how mobile the animal might be. If the animal runs off as someone begins to approach, don't waste your time responding to this call, as the animal will run off with your approach as well. Explain this to the citizen and ask them to call you immediately if they see the coyote again and it appears down enough to be captured. On the other hand, if the answers to your questions make you believe that the animal can be captured, ask the citizen to keep an eye on the animal in the event it moves prior to your arrival.

RESPONDING. Be prepared! Have an appropriately sized transport carrier, a net or catch pole and a good pair of gloves. (Very few gloves will protect you from the bite of a coyote but they will reduce some of the damage).

EVALUATION. Upon arrival at the scene, take a moment to assess the coyote and its immediate surroundings. Is there an obvious injury that you may need to "favor" during the capture? What is the animal's demeanor? Is it alert? Will it attempt to move or drag itself away from your approach? Plan your approach from a direction that will keep the coyote from entering any roadway and, if possible, will drive it toward a natural or man made barrier thus slowing its progress and enhancing your chances of quick capture.

CAPTURE/RESTRAINT. Use your net or catch pole to achieve capture of the coyote and then utilize whatever method necessary to maneuver it into your carrier. If you must make direct contact to achieve this, and regardless of the coyote's demeanor, anticipate that it will render a defensive bite and execute your movements accordingly. Do not be a hero! Do not allow yourself to receive a bite!

PHYSICAL EXAMINATION. This must be conducted in a dispassionate manner with one view only! What is the potential for this animal to be repaired, restored to it's original condition and released? Many veterinarians will be focused only on the potential for repairing the animal and will not be thinking about the animal's need to survive in the wild. You must be the more pragmatic one and be willing to make the hard decisions.

- If the injury experienced by the coyote will leave it with even the slightest disability, the coyote shall be immediately euthanized.
- If surgery is indicated and being considered, is the veterinarian "reasonably" confident that it will be successful and will leave no disability? If not, the coyote shall be euthanized.

- If the coyote has a fracture in two or more legs, and regardless of how repairable they may be, the coyote shall be euthanized. (Almost impossible for a leg fracture to heal unless the animal has "three good legs" upon which to maneuver and support its weight).
- Surgery referred to as an FHO (Femoral Head Osteotomy) should not be conducted due to the extended healing time necessary and the poor potential for proper false joint growth. (Unlike the domestic dog. The coyote will panic when you enter for cleaning, etc. and will place excessive stress on the joint under repair).
- If a fracture will require a KE (external fixation device), surgery shall not be undertaken unless the rehabilitator has the means to house the coyote in a situation which will have neither chain link, welded wire nor any other object upon which the KE might catch and be ripped out.
- If there is a preponderance of evidence, either circumstantial or actual, that an injured coyote you received was responsible for predation of any domestic animal, that coyote shall be euthanized without regard to the extent of injuries.

HOUSING. The minimum caging guidelines established IWRC & NWRA shall be met and preferably exceeded. Following are additional coyote housing requirements:

- Construction must be of 11 gauge, or stronger, chain link or the equivalent gauge welded wire.
- If chain link, the clamps holding tension bars to vertical posts should be bolted from the inside with the nut on the outside. (Reduces possible injury from protruding bolt).
- Enclosures must have fully secure roof of solid material, chain link or a combination of both.
- Enclosures must have wire under the ground connected to the vertical perimeter wire, or, footing, or either concrete or wire, connected to the perimeter wire and extending a minimum of 12 inches beneath ground level.
- Enclosure must be equipped so as to provide an area of protection from the direct sun and inclement weather. Enclosures should be properly habituated to provide for the coyote's need to remain from view and hide during enclosure cleaning, etc.
- Domestic dogs must not be in areas housing coyote enclosures! If neighbors have dogs, there must be a visual barrier between them and coyote enclosures.

NUTRITION. Highly diversified nutritional habits can best be identified from research on appropriate web sites. With this information, an assorted diet can be reasonably achieved. Every effort shall be made to minimize or eliminate the use of dry dog food! Contact the nutritionist at your local zoological facility. There are commercially prepared foods available that fulfill all nutritional requirements, do not resemble dry dog food and are usually far less expensive than a good quality dry dog food.

RELEASES. Upon full recovery from injury/illness, adult coyotes must be released in the area within which they were found! **There shall be no exception to this polity!** For coyotes, a release point can be up to 2 miles from the point of origin as long as the two points are not fragmented by a major highway or large residential community. If there exists an extremely compelling reason why an adult coyote should not be returned to its original habitat, the coyote shall be euthanized. Under no circumstances will adult coyotes be relocated!

RAISING COYOTE PUPS

NURSING. Coyote pup's eyes open at approximately 14 days old. This is also the age when they cut their upper and lower canine teeth. Upper and lower incisors are cut by 16 days. At 21

days they will begin to eat semi-solid food regurgitated by the mother. Full weaning begins at 28-30 days and is fully achieved by 37-40 days.

- If nursing an "eyes-open" pup, create some type of a curtain barrier that allows you to see what you are doing without the pup seeing your face.
- Begin a weaning process, with semi-solid food, as early as possible. The quicker the pup is weaned, the less handling is required.
- Nursing (bottle feeding) must be done in a dispassionate manner. The pup shall be placed on a clean surface in the same position as if nursing from its mother. Never hold a pup in your arms for nursing. While the pup must be held in the proper nursing position, it must never be stroked or otherwise physically comforted.
- When completed with nursing and stimulation, as necessary, for waste elimination, immediately place the pup back in its quarters and ignore it until next feeding time.
- Never talk to, or otherwise attempt to verbally comfort a pup. Do not engage in conversation with others while nursing or in proximity to any pups.

QUARANTINE. Quarantine of individual pups or litters, prior to any commingling, is optional but is recommended. If done, quarantine time should never exceed 14 days.

NUTRITION. Same as "adult coyotes" with emphasis placed upon the need to avoid dry dog food/puppy chow. In addition:

- Containers used for food should be self-constructed or of a type that would not normally be seen in a yard housing a domestic dog.

HOUSING. Same requirements as "adult coyotes" with the following additions:

- If coyotes frequent your property, enclosures housing pups must be augmented with a tight mesh welded wire or even "chicken wire" extending from ground level to three feet high around the entire perimeter of your enclosure. (Upon seeing the approaching adult coyote, a pup will see it as its mother and will extend its forearm through the chain link. The adult coyote will see the pup as an intruder and will violently rip the pup's arm off through the wire).
- Where possible, a "feeding slot" should be built into a selected area of the enclosure perimeter. That area should then be secured from view, without seriously hindering proper ventilation, so that food will "mysteriously" appear through the slot, falling into a feeder, without the pup(s) seeing the approach or presentation of food by a human.

GENERAL.

- With the exception of quarantine periods, which should not exceed 14 days, under no circumstances will a coyote pup be raised alone!
- Coyote pups shall not be "wintered over" for release the following spring.
- Coyote pups with injuries that would require orthopedic surgery shall be euthanized.

RELEASES. This is the final but most dilemma-ridden facet of raising coyote pups. There are options for release but, before selecting one, consider the following:

- Numerous field studies have documented the "average" dispersal age to be 10 months. The youngest documented dispersal was a male pup who began dispersal behavior at 7 months and achieved complete dispersal 3 week later. (This particular study did not utilize telemetry. No data was available on the survival of the "early disperser"). Since we would loath to release captive raised pups in the "dead of winter", a release earlier than normal dispersal age is the only viable choice. Best advice is to allow the pups to reach maximum possible age while keeping a close eye on your "weather window". Release the pups prior to the development of "repeated" inclement weather.
- A very strong "bonding" will develop among captive raised pups. While this bonding cannot be discerned with a human in proximity, as the pups "should" be scared and frantic, the use of binoculars to conduct surreptitious observation will make the bonding highly evident. Splitting up pups who have been "friends" for months would be devastating to their phyche and would probably reduce survival potential. Release together, bonded pups will remain together at least until reaching reproductive age. The strengths and adeptness of one will help offset the weaknesses of another. Survival potential will be increased.

RELEASES OPTIONS. While fully considering the above items, following are some options for release:

- Develop a relatively non-invasive method of marking individual pups upon arrival. At release time, return each pup to the area from which it originated. (While biologically sound, this option is not fully conducive to survival potential unless, by slim chance, the pup encountered its mom and siblings, if alive, and scent recognition was achieved before the pup was driven out of the area).
- Release all pups in the same location at the same time. Release location could be that from which one of the pups originated. If this is done, select that location with minimal human residences. Only downside of this choice would be the number of pups in the group. For example, if you were to release 6 or more pups in an area, that sudden infusion of coyotes might put tremendous pressure on an area that may already be at carrying capacity for the species.
- Network with other rehabilitators within the region. Upon completion of quarantine periods, but before pups are commingled and begin bonding, execute transfers to ensure the each coyote rehabilitator, or each coyote enclosure, has at least 2 pups but not more than 4. A release of 4 or less would minimize the impact on the chosen release habitat.

CONCLUSION. The release of a now healthy adult coyote back to his/her original habitat can be an extremely rewarding experience. This coyote was already surviving and had the misfortune of getting injured. Your efforts restored this animal to its original condition and allowed it to continue its life. Your efforts at raising coyote pups will not be quite as rewarding. There will be losses. Learn to cope and get over it. Recognize that not all of your pups will survive after release. Even those raised by their mothers have a relatively high "natural" mortality rate. Recognize that you can in no way compensate these pups for all that they "would" have learned from their mothers. With this in mind, do everything within your power and imagination to ensure that these pups are raised wild and free of human imprinting. These efforts along will significantly increase their survival potential.

Charles Traisi
E-mail: CTraisi@aol.com

