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JOURNAL of Wildlife Rehabilitation

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Guidelines for Authors

The *Journal of Wildlife Rehabilitation* is designed to provide useful information to wildlife rehabilitators and others involved in the care and treatment of native wild species with the purpose of returning them to the wild. All feature articles are subject to a review process, and our staff and reviewers work with authors to produce the most accurate information possible in our ever-changing field.

The *Journal of Wildlife Rehabilitation* has various feature categories. We solicit submissions in the form of feature articles, rehabilitation notes, book reviews, news articles related to major events in the field, and selected case studies. Articles on veterinary medicine as it relates to wildlife rehabilitation are also welcome. We would like to expand the *Journal of Wildlife Rehabilitation* to include wildlife rehabilitation articles from countries outside the United States and welcome inquiries regarding such articles. We also have two short features we use for basic information: "For The New Rehabber" and "Simple Things That Make a Difference." They are intended for basic information or new ideas that are easily demonstrated with a short text and photos. All authors receive a $25 honorarium for each article accepted for publication or provide a one year membership or renewal.

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1. An original and two copies of the manuscript should be submitted to the Editor, IWRC, 4437 Central Place, Suite B-4, Suisun, California 94585, USA. The manuscript should include references, photo legends, and footnotes, and should be typewritten, double-spaced, if possible. The author's name, address, and phone number should be placed on at least the first page of the article so it can be readily identified and the author contacted. Please note that each article should be accompanied by an abstract and a set of key words. If tradenames are used for products mentioned the author must indicate whether the product is ™ or ®. A product table at the end of the article should give readers the name and address of the companies involved and generic name or category of product.

2. The *Journal of Wildlife Rehabilitation* is prepared on a Macintosh personal computer with desktop publishing software. If papers are already on a personal computer disk, the submission cover letter should include that information, as well as what type of hardware and software systems were used. Obviously, being able to use the author's disk directly or translate it by machine to Macintosh format prevents input errors and speeds up the process. We are able to translate many IBM files provided that the software (including version) are written on the disk.

3. Manuscripts are received with the understanding that they have not been accepted for publication elsewhere. **It is the author's obligation to obtain permission or reprint rights if the submitted copy has been published elsewhere.** All accepted manuscripts are subject to editing. Unused manuscripts will be returned.

4. A separate page should be submitted with a short synopsis of information on the background of the author. Included should be the name, address, rehabilitation organization, phone number of the author and a biographical paragraph. Where appropriate, please list any academic degrees, special training, or experience that is relevant to the article (i.e., physical therapy—RPT, etc.) Articles pertaining to areas of veterinary medicine that involve tasks or decisions requiring a licensed veterinarian (e.g., soft tissue or orthopedic surgery) require a veterinarian as either the author or a co-author.

5. Black and white photographs are preferred for use in the *Journal of Wildlife Rehabilitation*. When no other option is available, color prints can be converted but this is costly and to be avoided when possible. Photo credits should be listed with the photographs.

6. Acknowledgments are limited to people who have contributed to the article in a major way.

7. References should be noted in the text with the last name of the author and the year published (i.e., Leighton, 1983) and listed at the end of the manuscript in alphabetical order in the following style:

LEIGHTON, FA; Peakall, DB; and Butler, RG. 1983. "Heinz-Body Hemolytic Anemia from the Ingestion of Crude Oil: A Primary Toxic Effect in Marine Birds." *Science* 20:871-873.

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Allan Casey, III
Shirley Casey
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Jan White, DVM
Wildlife Health Center
Institute of Toxicology and Environmental Health
Davis, California

Kevin Willitts, DVM
Alpine Animal Hospital
South Lake Tahoe, California

Cheryl Millham
Lake Tahoe Wildlife Care
Lake Tahoe, California 12

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Editorial . . .

Wildlife Health Professionals:

Healing the animals through working with their environment

When a wildlife health veterinarian gets a call for assistance, it is usually because a number of individual free-ranging animals have become ill or died. For them, getting the case history involves assessing current habitat conditions, including both environmental and human influences. Rather than treating individual animals, the solution is found by changing the environment (often back in the direction of the original condition, although that is not always possible). Thus, wildlife health veterinarians assist individual animals within populations by managing or treating the environment in some specific manner. In today's changing world, they also have to deal with the negative interactions between people and wildlife.

I did a 45 minute consultation with our Nevada state representative in Reno last night and reflected on the fact that wildlife rehabilitators are often challenged in the same way. Back in the early 1980's, California suffered a long multi-year drought that created many problems for wildlife (and the rest of us as well). I was an experienced general wildlife rehabilitator and felt that I had pretty much seen the full range of problems that wildlife had in my county-and I probably needed some humility. I got it one day when my veterinarian called me in an agitated state and demanded that I come out to her lake and "do something to save her 100-year-old carp!" I said, "You want me to do what?" She owned a small working ranch with a small lake that had been dropping both its level and the amount of available oxygen over the last few years. They were pumping their well water into the lake as fast as they could but some of these very large "goldfish" had begun to perish and I found myself in the improbable position of trying to fix it. I went out to assess the habitat and determined that we needed both water and oxygen to save the ailing fish. We brought up my heavy duty air compressor and crisscrossed soaker hoses across the lake. We pumped air and water into the lake 24 hours a day for several weeks until the level began to increase (i.e., the evaporation loss was less than the input). We didn't lose any more of her fish. It was one of my early attempts to "fix the habitat." There have been others. After the passage of Proposition 13, the county asked the local wildlife center that I directed to handle the skunk trapping in Solano County. We began to get many calls and started to assess the situation. After two years, the county was very impressed at the reduction in trapped skunks and inquired what we had done to resolve what had been a vocal and nagging problem for them. We told them we worked on a case-by-case basis to assess the habitat and change it. Teaching people to clean up old wood piles and giving them specific directions on how to humanely keep skunks out from under their homes had become a win-win situation for the county, the taxpayer, and the skunks! We didn't come out too bad either, since we received free rent for our consulting services.

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State Regulations Governing Wildlife Rehabilitation
A Summary of "Best Practices"

Allan M. Casey, III
Shirley J. Casey
WildAgain Wildlife Rehabilitation, Inc.
29319 Northstar Lane
Evergreen, Colorado 80439

ABSTRACT

Of the 41 states in the USA that allow wildlife rehabilitation, all issue some form of license or permit authorizing the rehabilitator to conduct this activity. The specific basis for the rights, obligations, qualifications, provisions and restrictions in these licenses are contained in state regulations promulgated by the state wildlife agency issuing the license. A study of these regulations, conducted by the authors in 1994, revealed a wide variety in the type and extent of regulation (Casey, 1994). In this article, the authors provide, in their opinion, a summary of "Best Practices," highlighting those regulations that appear to be most relevant, practical and workable in facilitating the proper licensing and conduct of wildlife rehabilitation.

KEY WORDS: wildlife rehabilitation state regulations, wildlife rehabilitation applicant qualifications

What is a 'Best Practice'?

As organizations face making major changes in the way they operate, they often take time to look around and see how other similar organizations approach the same problems. Most leaders of organizations now recognize the pitfalls of the NIH syndrome ('not invented here') and thus feel it inappropriate to expend resources reinventing the wheel. As such, a process known as identifying "Best Practices" has found increased popularity and applicability in both government and business (Garvin, 1993). Simply stated, the process involves forming a group to gather data about other organizations, whether they be competitors or just simply organizations with similar goals and objectives, and then assessing which practices or techniques appear to be of most value in terms of helping those organizations achieve their desired outcomes. Obviously, the last step then remains identifying which of these best practices could benefit the group's own organization in light of desired changes.

This identification of "Best Practices" formed the basis of the second part of our 1994 study, which was founded on the survey of state regulations governing wildlife rehabilitation and follow-up discussions with some wildlife agency staff members and rehabilitators from selected states. The first part of the study, which was an identification of the types and extent of these regulations, from all 50 states in the USA, was profiled in our first article contained in the previous issue of the *Journal of Wildlife Rehabilitation* (Casey, 1994). This second article offers our personal assessment, as licensed wildlife rehabilitators, of those state regulations governing the activities of wildlife rehabilitation that appear to be most relevant, workable and practical. As such, we recognize that our personal biases have undoubtedly influenced our conclusions and opinions, which are not expected to be fully embraced by all other wildlife rehabilitators. We do hope that this article generates discussion among rehabilitators themselves, and between them and their respective state agencies. This has been more than just an academic exercise for us, since as members of a stakeholder group convened to help assess and suggest needed changes to the current regulations in the state of Colorado, conducting the study and preparing these articles has formed much of our opinion as to what would constitute an optimum set of regulations.

Why have any Regulations at all?

In this day of big government often seeking ways to downsize themselves (Posner, 1994), and with most of us generally disliking any type of government restriction on how we conduct our lives, why have any regulations at all? We have spoken to many rehabilitators who would indeed cast their vote (very forcefully) in such a manner.

Through the survey though, it became apparent that the wildlife resources in most states, if not all states, actually belong to the people in that state as specified by state statute. And since the term 'people' is used in a collective sense and not as individuals, there are usually very direct and specific restrictions in each state's overall wildlife statutes, regulations and policies prohibiting private possession of wildlife taken from the wild. The term possession not only means long term ownership, but also includes any type of temporary holding or custody. The most common exceptions to these restrictions on private possession involve special licenses or permits for zoos, educational institutions, scientific collecting or commercial parks. And most of these do not allow for any of the animals held under these permits to ever be released back to the wild.

Therefore, for wildlife rehabilitators temporarily to hold wildlife, and later release them back to the wild, and not to violate existing state statutes and regulations, a special type of wildlife rehabilitation permit is usually needed. And for a state to issue a license or permit, they need regulations.

Is Brevity the Best?

Though intuitively appealing, overly brief regulations may not serve the best interests of all major stakeholders involved with wildlife rehabilitation — these stakeholders being the public, the state wildlife agency, the rehabilitator, and the wildlife.

The public's interests may not be best served by a wildlife agency that does not fully appreciate the role of wildlife rehabilitation. Recent trends indicate that more and more people, when finding wildlife in distress, especially orphaned wildlife, will try to get help for the animal, due to strong values and feelings of compassion for the animal when confronted with an animal's pain and suffering (Siemer,1994). If the wildlife agency, when contacted by the rescuer, merely suggests killing the animal, the rescuer often go 'underground,' attempting rehabilitation on their own. Clearly this is not the preferred course of action, recognizing the special skills and facilities needed to successfully conduct wildlife rehabilitation, the risks of exposure to zoonotic diseases, and the fact that rescuers sometimes fail to accept the notion of release or the need, sometimes, for euthanasia. Alternatively, if the agency recognizes wildlife rehabilitation as a legitimate wildlife activity through clear language in the regulations, then agency employees should make reasonable efforts to help the rescuer locate a wildlife rehabilitator and transfer the animal (Bolton,1992).

An overly brief set of regulations can also create situations of conflict and uncertainty between the agency, and the rehabilitation license holder. Wildlife rehabilitation generally falls far outside the normal day-to-day activities of the agency which is more concerned with managing wildlife populations and enforcing hunting and fishing regulations. In light of agency focus on managing wildlife populations, consider the ongoing debate between wildlife biologists, field officers and wildlife rehabilitators over the merits of wildlife rehabilitation, which is focused only on a single animal. Also consider that it is the state wildlife agency that has the power and authority to issue or deny a wildlife rehabilitation license. A complete and workable set of regulations should go a long way towards serving the interests of both the agency and the rehabilitator, in establishing objective criteria around licensing provisions and release requirements. It should insure that qualified applicants receive timely acceptance and that violators of license provisions can be addressed objectively and expeditiously. Lastly, it should help insure that the regulations are applied and enforced consistently across the state, and not left solely to the judgement of the various field officers, who generally have a wide range of opinions regarding wildlife rehabilitation (Siemer,1993).

With this bit of philosophy that forms the foundation of our perspective on regulations, we will now discuss the the examples from our survey that, in our opinion, constitute "Best Practices." (Since by press time, some of the data collected during this survey will be one year old, we apologize in advance for any subsequent revisions to specifically cited regulations that may have been enacted. We also take full responsibility for any errors, omissions and misinterpretations, which are purely unintentional.)

Purpose Underlying the Regulations and License/Permit

Though many states do provide definitions for wildlife rehabilitation, only three (MA, NY and

VT) include language in their regulations that articulates the purpose of wildlife rehabilitation, with the latter two the most clearly and completely worded. In our opinion, a well worded statement of purpose contained in the regulations helps provide a proper perspective and foundation for all of the specific regulations dealing with rehabilitation. Though not included in their regulations, CA maintains an internal policy statement that "...recognizes the value of rehabilitative care and will work with interested (parties) to provide the necessary qualified level of activity to accomplish rehabilitation of sick, injured, orphaned, or displaced California wildlife." And the strongest statement of purpose we found is included in AZ's package sent to applicants that reads "...the Department encourages responsible wildlife rehabilitation by informed individuals as a public service and for the benefit of Arizona's wildlife."

Types and Categories (or Levels) of Licenses

Most states have specified the license or permit as a "wildlife rehabilitation" license and usually support the license with regulations that are based on the normal activities in conducting wildlife rehabilitation. And it is clear that in most of these cases the state wildlife agency has taken the time to understand what constitutes wildlife rehabilitation and, thus, have the regulations best suited to rehabilitation. (There are a few exceptions such as TX, where rehabilitation is technically conducted via a scientific collection permit, but the regulations are very specific to rehabilitation.) The few states that have just placed rehabilitation under some other permit type such as educational, collecting, salvage, agricultural, or non-traditional or non-commercial livestock do not generally have regulations that are clear or specific, or helpful, or at times even relevant to wildlife rehabilitation.

Of the thirteen states that issue multiple levels of permits, generally for purposes of accommodating the novice or apprentice, none adequately address the specific roles and responsibilities of either the sponsoring rehabilitator or the apprentice, nor outline the specific criteria to signify completion of the internship period other than passage of some arbitrary time period ranging from 6 to 24 months.

Though 4 states (CO, IA, PA, and VA) issue three levels, generally to accommodate larger facilities, we feel the two level approach can accomplish the same result. It seems to us that in the best interest of the wildlife, the same regulations and requirements should apply to all license holders, whether home-based or large facility.

Qualifications and Apprenticeship

Though 18 states specify that the applicant must demonstrate "...knowledge and proficiency...," these regulations usually do not provide specific criteria against which the applicant's background, knowledge and skill will be assessed. Without specific criteria, this ambiguity can result in individuals who may not truly possess minimum skill levels being licensed more or less at the discretion of the agency staff. Three states (IN, NY and VA) specify minimum years of experience, presumably designed to ensure that the applicant has a basic knowledge level and has demonstrated sustained commitment. Without indicating specific objectives to be met during this required time period, it seems rather arbitrary and again may not adequately assess readiness to obtain a license.

Alternatively, in our view, an active and involved apprenticeship approach appears to be the best way to truly assess an applicant's knowledge, proficiency and suitability to obtain a rehabilitation license. However, as mentioned earlier, since none of the state regulations adequately address what fully constitutes apprenticeship, the quality and viability of such sponsor-apprentice relationships are seemingly left to chance. Some regulations do in fact touch on a few of the critical issues, such as VA's requirement of its Category I permittees to notify a Category II permittee within 12 hours of directly receiving an animal. Additionally, we feel that AZ and UT, whose regulations specify that the 6 month apprenticeship must include at least 8 hours of work per week, appropriately recognize that apprenticeship is more than just 'signing up' with only casual involvement.

It seems that to insure the viability of an internship program to prepare an apprentice for full licensing, the regulations should address several key areas, including: expectations of apprentices and sponsors; knowledge, skills, and experience to be acquired by apprentices; the qualifications and geographic proximity of a rehabilitator to properly fulfill the role of a sponsor, trainer and coach to an apprentice; willingness of rehabilitators to even be sponsors; legal liabilities and financial requirements assumed, if any, by the sponsor; ability to terminate the sponsorship relationship if the apprentice is not following the guidance provided or showing satisfactory progress; etc. If a state is to rely on this type of internship program as the key determinant of readiness for full licensing, these issues clearly need careful consideration in the regulations.

We also feel readiness of an applicant and suitability is demonstrated by strong recommen-

dations from other licensed rehabilitators such as required in CT, FL, LA, NJ, NM, and TX.

Lastly, even though they possess very extensive and specialized education and training and may be capable of providing excellent rehabilitative care, we believe a good practice to follow is to require all DVM's and degreed wildlife biologists who desire to conduct wildlife rehabilitation on an ongoing basis to be subject to all license requirements. This would include meeting requirements for knowledge and proficiency in working with wildlife (as opposed to just domestics), testing and continuing education (if required of other license holders), and appropriate facilities (e.g., not placing an injured fox in a kennel between two barking dogs). Several states (GA, IA, MA, ME and WA) currently exempt DVM's and wildlife biologists from some or all of these requirements to obtain and maintain a permit, citing their education as prima facie evidence of qualification.

Testing

Ten states (AZ, CT, ME, MA, NM, NY, OR, PA, UT, and WA) currently require passing a test in order to obtain a license. Four other states (MN, NJ, VA, and WI) strongly considering instituting a similar requirement are presumably addressing many of the challenges that accompany such a process, such as determining the basic purpose and objective of the test; who develops the test, and, who keeps it current; what subjects and topics will be covered; who evaluates and scores the answers or passing score; what constitutes acceptable answers; where and how often is the test administered, and by whom; provisions for retesting, if an initial passing score is not achieved; periodic evaluation of the testing program to assess its effectiveness in achieving the desired purpose and objective; etc. In our opinion, if testing is desired, the state should work together with its rehabilitation community to develop and conduct an effective testing program.

For the states that currently conduct testing, the tests are generally conducted periodically during the year and at one of the wildlife agency offices. For those that specify a passing score, correctly answering at least 80% of the questions is required. A few states (AZ, MA, and NM) actually specify in their regulations the subject areas that will be covered in the test, such as wildlife rehabilitation techniques, biology and natural history, habitat requirements, safety considerations in handling and transport practices, and the various state laws and regulations that apply to rehabilitation. Some provide excellent advance study guides (NY) while others only provide a limited bibliography.

An approach to testing that has been advanced in our discussions with several of the states is that of a "take home" test, with the applicant given full latitude (and encouragement) to seek out any and all resources (books, journals, DVM's and other rehabilitators) to complete the test. This approach is more of a true problem-solving exercise, and not just a memory test, in that it requires the applicant to demonstrate initiative, develop networking, identify sources of information, and more. As such it more closely simulates what the applicant will be confronted with at his/her own facility, and can more accurately assess what the applicant's response will be to a wide range and variety of situations. (The closest approach like this is NJ's 6-page application that asks 33 questions for mammals and 27 questions for birds, all on a wide range of rehabilitation related topics.) This approach also has the benefit of requiring the applicant to seek out technical information that will be needed after the license is issued, plus requires the applicant to seek and establish the network of DVM's and other rehabilitators that again and again proves to be invaluable. (Again, this approach would most likely require the state to work closely with established rehabilitators in the construction of the test and in the scoring of applicant's responses.)

Continuing Education

Few people disagree with the need to pursue continuing education. The question is whether or not to require it through regulation. Of the 7 states that require continuing education (AZ, CA, MA, NY, PA, VT, and VA), most require that the training course or activity be approved by the wildlife agency, and in a few cases, the training is specified by the agency. With most wildlife agencies only peripherally involved with rehabilitation, it would appear difficult for an agency to be in a position to assess the individual training needs of every rehabilitation license holder in their state. Additionally, to require that licensees, as a requirement for maintaining their license, attend a specific course, on a specific day, at a specific place seems arbitrary and may completely disregard an individual's training needs, work or rehabilitation schedule, and/or financial ability to travel to attend such training.

Our view is that most rehabilitators who desire to maintain and improve their skills (and the care they provide to wildlife) already seek out the highest quality, most practical, up-to-date and credible continuing education, and not just a minimum course provided by the state. Generally this

is pursued at their own pace and ability to afford the training, and in areas where they have high interest. Agencies who wish to encourage continuing education might consider several options including offering facilities for voluntary training sessions, and at different locations around the state; publishing a bibliography of suggested books, journals, manuals and training programs as recommended by the rehabilitator community; providing conference rooms for rehabilitators to meet and share ideas; providing a library of reading or video taped educational materials that can be checked out through the mail; or adding a section to the required annual report submittal asking the license holder to describe any continuing education activities pursued during the year. Though well intentioned, forced attendance at training programs may or may not result in continued learning or education, or in improved care provided to wildlife.

Facilities

In 36 states, appropriate caging and facilities are a requirement for the initial license, with the inspection and approval process conducted by the wildlife agency, generally the field officer. As such it seems very appropriate for the state regulations to provide guidelines as to suitable caging design, construction and maintenance. This is generally done in two ways.

First, there are ten states that require adherence to either a state specified standard or one proposed by a national association, such as the IWRC/NWRA suggested standards. Though easy to understand and administer, these standards at times can imply rigidity in enforcement. A specific cage design used successfully for many years may vary slightly from a nationally suggested set of dimensions or building materials, though its functionality has been proven to meet or exceed the desired purpose. Strict adherence to such standards may serve to stifle creativity in new facility design, and, in some cases could result in otherwise qualified and needed rehabilitators being denied a license.

Alternatively, as included in the regulations of 28 other states, and our strong preference, is to specify general criteria for caging, as opposed to strict rules. Such criteria generally includes provisions for safety, ventilation, feeding and watering, ability to include natural habitat materials in the enclosure, parasite and pest control, ease of cleaning and disinfecting, sufficient size for freedom of movement and exercise, and appropriate shelter from the elements or sources of stress (predators, noise, people, domestics). We feel the best descriptions and guidelines are contained in the regulations for AZ, GA, TN, and TX. We especially like the attention to detail in specifying facilities for recuperative care and seclusion (AZ, GA and NH), the requirement for daily observation (TX), and the recognition of special caging and handling for transportation of animals (AZ, GA and VT).

Recordkeeping

Through the survey described in our previous article, the majority of the states require an annual report with some basic information on rehabilitated wildlife (species, dates in care, etc.). Yet, while 30 states require the submission of an annual report, none of the regulations nor any of the other information collected during our survey indicated why the information was required or what would be done with the information (except for special reporting in CT related to the rehabilitation of certain rabies vector species). We can only speculate as to its uses by the state, such as determining which species come into rehabilitation, reasons they need rehabilitative care, what species are being released in which locations, and perhaps to assess successful release rates.

It has been our experience that many rehabilitators keep more complete records of their activities, most on an animal by animal basis, than the states' require. These records allow rehabilitators to monitor an individual animal's health and growth, record treatments and diet, and to assess overall success trends in various practices and techniques, etc.

Personally we believe that additional recordkeeping/paperwork should not be required if it is not going to be used. Rather, as an example of a best practice, we prefer that rehabilitators be allowed to follow CA and MO's approach of requiring that complete records be maintained by the rehabilitator, and then be available for inspection on request on an 'as needed' basis. Alternatively, if an annual report is required to be submitted, we like OR's approach of utilizing joint reporting with the Federal report which seems very workable and less redundant.

Release Requirements

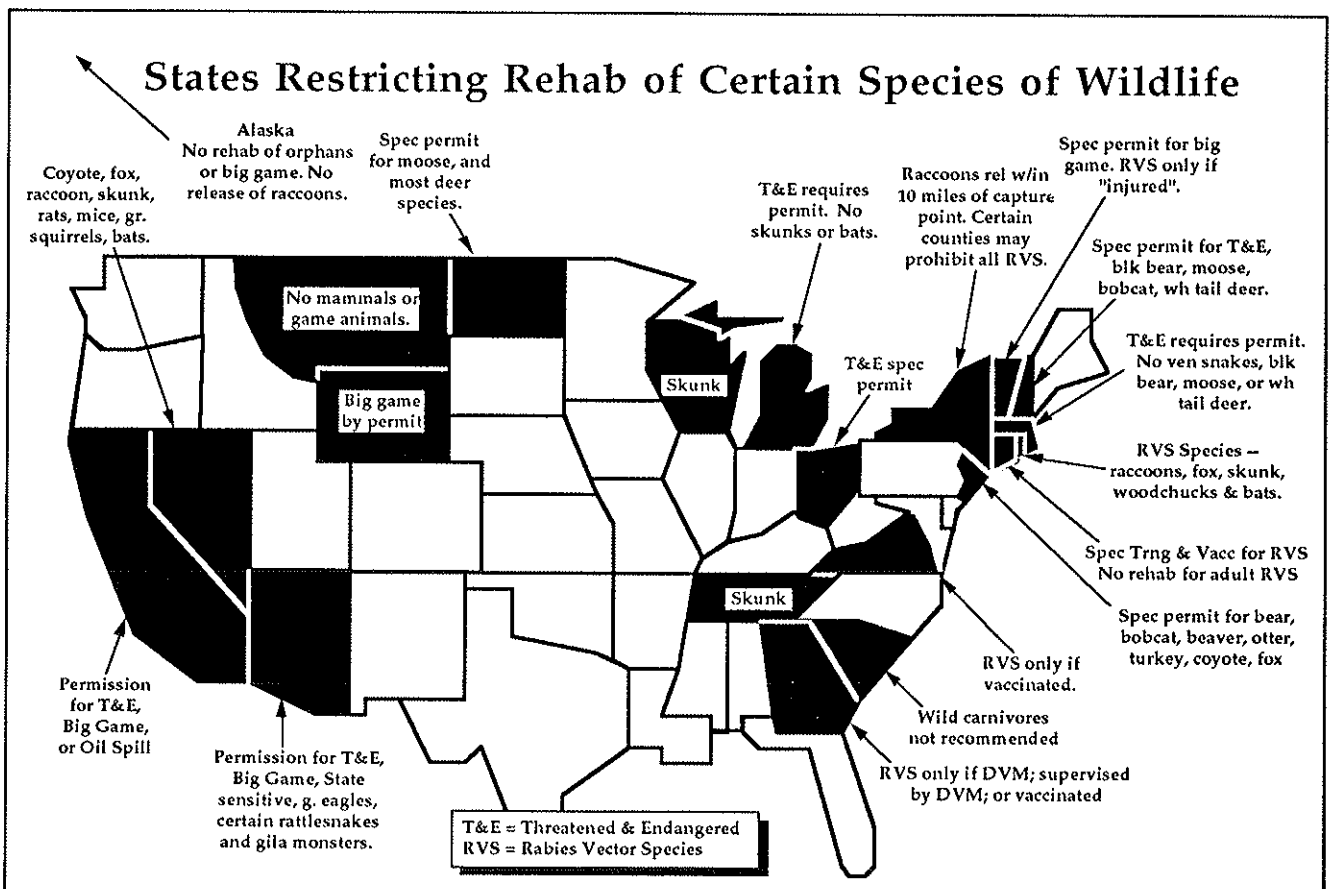
In general, the regulations address release as to location and maximum time to hold the animal. Personally, we believe AZ's regulations related to describing release to be the best. AZ's regulation, that states that "Rehabilitated wildlife shall be released at an ecologically appropriate time of year and into a habitat suitable to sustain it..." appropriately hits on the four major aspects

of release. First, *rehabilitated wildlife* implies that the wildlife in the temporary custody of a wildlife rehabilitator has reached releasability status through attaining physical and psychological maturity and/or has attained a full state of health and recovery from injury or illness (MA, NH, and VA use similar words). Secondly, *release* means to return to the wild (NM and TX additionally specify that the animal must be able to leave at will in a non-captive (presumably meaning a non-fenced) area). Third, *ecologically appropriate time of year* recognizes the animal's seasonal needs for habitat, hibernation or migration (NM also specifies this). And fourth, *habitat suitable to sustain it* implies an area that provides all life-sustaining needs for the animal including natural food, fresh water, cover and range. Such habitat is evidenced through current, natural occurrence of the species (16 states use similar language).

If this definition for rehabilitated wildlife and release is followed, then the need to specify maximum holding times is unnecessary and irrelevant. (Currently, eleven states continue to specify maximum holding times, ranging from 30 - 365 days, requiring agency approval to hold longer.)

Several other states also specify the release location relative to the point of capture, presumably to prevent possible spread of disease. As such, AZ, FL, MA, UT, and VA specify the same geographical area where the animal was originally obtained; NM and TX further restrict to the county of capture or adjacent county; while CT and NY each specify release of certain rabies vector species within 5 and 10 miles, respectively, from point of capture. In our opinion, to properly prevent the potential spread of disease, adult animals should be released within the normal home range for that species relative to point of capture. For orphaned animals that have been in rehabilitative care long enough to ascertain the health of the animal, and/or if the capture point of the orphans is unknown, it seems to us that release in suitable habitat is appropriate, with prior consultation with the local wildlife officer/ biologist.

Though most rehabilitators generally release animals away from humans, NM, TX and UT specify that release must be in a manner or location where the animals are not likely to become a nuisance or threat to humans or their property. We especially like AZ's approach, more from the



Note: The information was obtained from information collected during the survey, generally from regulations specific to wildlife rehabilitation. Other restrictions may in fact exist in other regulations.

IWRC NEWSLETTER

P.C. Hanes, Editor

SLIDE MAKING INSTRUCTIONS

Joe Watson
The Lindsay Museum
1931 First Avenue
Walnut Creek, CA 94596

INTRODUCTION

The following is a copy of the instructions that I give the graduate students in our department at the University of California for slide presentations. Because I actually make the slides for them, they only have to concern themselves with the TEXT and PRESENTATION portions of the instructions. Having been to five IWRC conferences, I have felt that the slide presentations could use some help. Therefore, I respectfully submit these guidelines.

TEXT

It is important to keep the relative size of the characters (alphanumerics) within reason. Standard typewriter fonts are large enough, provided the absolute sizes of the chart or table they appear in is no larger than one-quarter the size of an 8-1/2 x 11 inch piece of paper.

Fold a piece of paper in half and then in half again. If the original typewritten information falls within the boundaries of this piece of paper, the slide will be readable.

When you type a table or draw a chart, place it away from the edges of the paper. Otherwise, you will have shadow lines on the slide.

Use UPPER CASE letters if possible. They are larger, therefore easier to read. Use **Bold.** for titles or for emphasis, if you have that option.

If you use someone else's data, type their last name and the date of publication on a piece of paper and tape it to the bottom of the copy.

When making slides from journals, you should:

Make a clean photocopy.
Cut and paste or tape that copy to a piece of paper.
Tape the authorís last name and year right under the copy.
Photocopy this paste-up and then use white-out to clean it up.

To label a graph, map, photo or whatever, so that it is readable, follow the same general guidelines. Type the labels you are going to use and then enlarge them on a photocopy machine. Attach them to the copy with Magic Mend cellophane tape. If the copy is the size of a half sheet of paper, use labels twice the size of standard typewriter fonts. If the copy is the size of a full sheet of paper, use labels fours times the size of standard typewriter fonts, and so forth.

If you have a laser printer attached to a word processor, use a 12 point font for a quarter sheet of paper, 14 point font for a half sheet of paper and 16 point font for a full 8-1/2 by eleven inch sheet of paper.

For readability, Helvetica, Avant-garde, and Geneva are the fonts of choice. Avoid fonts with fine lines, flags, curlicues and other embellishments.

You can make a typewritten table darker by backing up the page with a piece of reversed carbon paper. Do not draw a line around the table. Pale or faded lines and characters become more faded when photographed. Slides work better with titles and without legends.

PHOTOGRAPHY

Polaroid® makes a black and white instant slide film called "PolaGraph" ™ for about twelve dollars for a roll of twelve exposures. They also have a white on blue film called "PolaBlue"™ at about the same price. The processing equipment costs about $100 and it includes the slide mounter. The frames cost about $5 for 100 frames. Load the 35mm film into your own camera and use the film as you would any other film. As with normal 35mm film, you must process the whole roll whether you expose all twelve frames or only one.

PolaGraph's™ ASA is about 100, which is fast enough to use under most lighting conditions. Put the camera on automatic and shoot between 1/30 and 1/120 second. PolaGraph™ must be processed at 68 degrees Fahrenheit minimum or the emulsion will, not separate properly. Count to 10 after breaking the chemical pack and wait 2.5 minutes for development. The smudge at the end of a roll can be wiped off safely with a piece of soft, wet tissue.

PolaBlue's™ ASA is less than 12, and also needs to be at 68 degrees. An exposure of one second at f8 to f9 is about right. At such long exposure times, use a tripod to stable mount to keep things steady. Count to 4 after you break the chemical pack and wait for four minutes for development. Otherwise, the instructions on the film packet are fairly accurate Both films lose about one f stop after a year of storage at room temperature. You can adjust for that. As with other manufacturers, Polaroid® includes a couple of extra frames on their rolls so you can often squeeze a little more out of them. Polaroid's® instant 35mm system is very easy to use and produces a clean, economical, quality product. Polaroid's® black and white continuous tone and their color film are compromises and work just as well as regular slide film.

High speed Ektachrome™ type B can be used as a substitute for black and white slide film. Shoot at 1.5 or 2 stops overexposed in order to get a light background. With an automatic camera, set the film speed to one-half the film label recommendations.

With manual settings, halve the shutter speed or f stop indicated by the light meter. Take some pictures and then halve the settings again. From this experiment, it is possible to judge whether or not the background is light enough. Again, the whole roll must be processed and there is the additional cost of processing. All in all, this film is not cheaper than Polaroid®, and with having to take it in for processing and pick it up, it is not time and cost-efficient.

None of these instructions will do any good if the picture is taken from across the room. Get close. Fill the frame with the subject and minimize the borders. Remember that the slide is rectangular, not square, and then compose the information accordingly. Hold the page flat with a piece of window glass or plastic. If using direct lighting, aim it from both sides at 45 degree angles to avoid glare. Indirect sunlight (shade) works very well. Use a tripod to hold everything steady and a macro lens or extension tubes to get close in order to have it all.

PRESENTATION

While the presentation is largely a question of style, there are some general considerations that apply. As a rule of thumb, one slide per minute of talk is a reasonable rate. Two slides per minute is the upper limit of what people can focus on and listen to. Face the audience, not the screen, and talk to them. They can read the slide. Some people use the slides and the dark to hide in because of stage fright, and that is all right. Slides work well for that. The reason for giving a talk instead of submitting a paper is to interact with a group of people who came to hear what you have to say. This is their chance to ask questions and hear about the details that do not get written up. It is the speaker's chance to guide the audience through the difficult parts of a complex issue and to elaborate in a way not easily done with the written word.

SAMPLE SLIDE
This font is Helvetica. It is also Bold.
THE FONT SIZE FOR THE TITLE IS 14.
THE FONT SIZE FOR THE TEXT IS 12.
making it easier to read than normal type.
IF YOU WERE TO COMPOSE A SLIDE ON A FULL SHEET OF PAPER USING FONT SIZE 12 OR LESS,
IT WOULD LOOK SMALLER THAN THIS (FONT SIZE 8) AS A SLIDE. And, once you remove the **Bold** and the CAPS, the message is lost altogether. On this level, it is easy to understand why you need to limit the amount of information that you put on a slide so that you can get the camera close enough to the page to
MAKE THE WORDS on the slide BIG ENOUGH SO YOU CAN READ THEM.

Simple Things That Make A Difference -

PERCH POSITIONING

Dorothy Combs
2160 Ridgewood Road
Alamo, CA 94507

To most experienced rehabbers, my bright idea is old news, but maybe there are some like me who need to hear it. My aviary is ideally situated with beautiful canyon views, privacy, and a prevailing west wind. The main perch was situated on a northwest to southeast diagonal. Two raptors. a Cooper's hawk and a Red-tailed hawk, spent their recovery time there, consecutively, of course. I noticed that in the afternoons, when the West wind came up, they would stir restlessly on the perch and not settle down until the wind abated. I

watched their feathers fan in the breeze. It occurred to me that many animals like to face the wind so their fur/feathers will lie flat to the body, preserving heat. I moved the perch to a parallel position to the west, and, sure enough, the subsequent birds who rehabbed in the aviary did not display any restlessness in the breezy afternoons. Perches are replaced when the occupant is released, but the positioning is always the same. I should add that there are other perches in the aviary, but this is always the favorite.

Dorothy Combs is a wildlife rehabber with the Lindsay Museum. She is woodpecker species manager and President of the Lindsay Wildlife Council.

NATIVE CYPRESS SWAMP EXHIBIT LOOKING FOR RESIDENTS

The Brookfield Zoo is developing a native cypress swamp exhibit. Education is the major component of the exhibit with crucial focus being a conservation message about swamps and other wetlands. In accordance with this, we hope to house non-releasable animals appropriate for this habitat. This will help emphasize our message and give homes to animals that cannot survive in the wild.

The following is a list of species being considered for inclusion. We will have to look at their individual "handicaps" carefully to be certain that they will thrive in our enclosures. If you have any of these species and are licensed to relocate them, please contact

Celia K. Falzone, Collections Mgr., Birds
Brookfield Zoo
Chicago Zoological Society
Brookfield, IL 60513
708-485-0263 ext. 473
708-485-3532 fax

All transactions will be subject to review of appropriate licensing and permits.

Snowy Egret
Green-backed Heron
Glossy Ibis
Anhinga
Purple Gallinule
Black-Necked Stilt
King Rail
Clapper Rail
Sora
Limpkin
Wood Duck
Blue-winged Teal
Green-winged Teal
Pileated Woodpecker
Downy Woodpecker
Prothonotary Warbler
Common Yellowthroat
Hooded Warbler
Black and White Warbler
Swainson's Warbler
Northern Farula
Louisiana Waterthrush
Ovenbird
Indigo Bunting
Lazuli Bunting
Varied Bunting
Painted Bunting
Wood Thrush
Northern Cardinal
Summer Tanager
Scarlet Tanager
Hepatic Tanager
Eastern Screech Owl

HSUS TO OFFER SEMINARS OF SPECIAL INTEREST

Guy R. Hodge
Director, Data and Information Services
Humane Society of the United States

The Humane Society of the United States will be offering seminars of special interest to wildlife rehabilitators during 1995. The HSUS has recently opened the National Wildlife Rehabilitation Training Center on property in West Barnstable, Massachusetts. The facility will include a functioning rehabilitation center, classrooms and a dormitory. The center will be offering courses that are structured for wildlife managers and nuisance wildlife operators as well as wildlife rehabilitators.

Of special interest to wildlife rehabilitators are the following courses:

June 16-17, 1995 - Wildlife Capture and Handling - a 16-hour introductory course that will focus on species common to the urban habitat including bats, beaver, chipmunks, coyote, white-tailed deer, opossum, raccoon, raptors (falcons, accipiters, buteos), striped skunk, snakes, songbirds, gray squirrel, and waterfowl. The 16 hours will include lectures. video tapes, demonstrations and supervised hands-on training in the use of capture equipment. Course topics will address legal restrictions on the possession of wild animals, veterinary aspects of animal capture, the flight response in wild animals, the selection and

use of capture equipment, animal handling and the transport of captured wildlife. Faculty: *Bill Brothers,* President of Animal Capture Equipment and Services, *Mike Coffey,* National Park Service, *John Hadidian,* Urban Wildlife Specialist with the US Biological Survey, and *Mark Pokras, DVM,* associate professor at the Tufts University Wildlife Clinic.

August 12, 1995 - Euthanasia of Wildlife- an 8-hour training course structured as an introduction to methods of killing wild animals that are critically ill or cannot be translocated. The class will focus on sodium pentobarbital, T-61™, carbon dioxide, carbon monoxide, cervical dislocation and other chemical and mechanical methods of killing wild animals both in clinical and field situations. Principal Instructor: Mark Pokras, DVM.

September 13-14, 1995 (tentative)- **Introduction to Wildlife Rehabilitation for Veterinary Technicians.** Presentation will focus on first aid procedures, animal restraint, and the administrative aspects of providing care for distressed wildlife.

Humane Solutions to Problems with Urban Wildlife

April 20-21, 1995 - Lincoln, NE - 2-day session including field demonstrations and hands-on training.
May 5, 1995 - Naperville, IL

For further information or to register for any HSUS seminar, write to the *Office of Training Initiatives, Humane Society of the United States, 2100 L Street NW, Washington, DC 20037.*

FORUM CORNER

Marge Gibson
Raptor Education Group, Inc.
N2160 Rollwood Road
Antigo, WI 54409
715-623-4015
IWRC Office: 707-864-1761

Dear Marge:

What is the ethical position on taking former wildlife "pets" into our centers from their owners after they have outgrown the home situation or the owners have become indifferent to them?

Judy Richardson
Ft. Worth, Texas

Dear Judy,

This is a frustrating situation that, unfortunately, most of us can relate to. So many times rehabilitators are pressured by irresponsible people who take a wild baby, many times illegally, and then want to dump it once it grows past the ìcuteî stage and becomes the animal it was born or hatched to be. You asked for the ethical position, Judy, and I will explain that, but the truth is, many of us will end up with former pets because they were in an intolerable situation, and we took on the guilt of their plight. While sometimes uncomfortable. the ethical position turns out to be the best and most professional way to deal with the dilemma.

First, each state is going to be different in the laws that govern each animal. Be sure to check with the state and federal laws and how they relate to the animal involved. Animals that are indigenous to your state will be treated differently by state law and wildlife protection agencies than non-native species.

Once the question of legality is behind you, it is necessary to determine if the animal is releasable to the wild or if it will need a permanent home. If this animal is determined releasable, then by all means accept it and give it an opportunity to be wild. However, if it is not a releasable animal, there are a number of things to consider before you accept responsibility for this critter. Many times, this situation is highly charged with emotion. It isn't easy to be logical or use your best judgment, but for the welfare of everyone involved, that is exactly what you must do. None of us likes to turn down an animal.

First and foremost, consider the welfare of the animal that is being 'given' and the capacity of your facility. Taking in an animal for which there is no room, facility, or budget ends up compromising the animals that already depend on you.

To make it easier, have a set of screening questions, listed form style. Like your history and physical treatment records, an animal acceptance form should have listed questions that will elicit a logical and thoughtful response from you. Include the following:
Is there adequate room for this particular animal? (Are existing animals being crowded?)
Can I provide a better quality of life for it, or would someone else be a better choice?
Will it fit in with the caging available? (Raptors will injure themselves in wire cages designed for mammals, for instance.)
Will any animals currently in care be put at risk by the introduction of the newcomer (introduced disease, budget considerations, reduction in quality of life)?

What will my feelings be about the decision to accept responsibility for this animal six months from now?
Will I have to have my permits amended to accommodate this animal?
Will it be possible to find placement for this animal in a zoo or other permanent care facility, such as a nature or interpretive center?

Being logical is not the same as being unfeeling or cold-hearted. In fact, the reverse is true when you look at the situation for the long-term.

If you have some control over the matter or anticipate the owner/animal relationship breakdown before it happens. you can act as an intermediary. Without taking possession of the critter, you can assist the owners in finding a proper permanent care facility. In this way, you will also be educating the former owners as to the serious commitment a pet is. They will be forced to accept a share of the responsibility that goes along with placement.

It goes without saying that you should maintain good relations with zoos or placement services in the event that you need to call on them.

I hope I've been some help on this tough question. Good luck to you and stay in touch.

Sincerely,
Marge

RECORDS: WHO NEEDS 'EM? COULD IT BE YOU?

Marge Gibson
Raptor Education Group, Inc.
N2160 Rollwood Road
Antigo, WI 54409

INTRODUCTION

The word "paperwork" is enough to send many rehabilitators searching for an "I have to do this first" task. Cleaning cages, cutting food, folding towels are all good tasks that are handy when seeking refuge from the burden of paperwork. It isn't that this task is difficult, but it certainly is not as interesting or as "important," at least on the surface, as the hands-on work we do with the animals that are presented at our centers. Let us explore whys and hows of record-keeping while glancing back to some early efforts in the 1950's that will underscore the need for forms and organization in your record-keeping.

IN THE BEGINNING

My first attempt at record-keeping for wildlife rehabilitation resulted in more of a journal than an actual record. On looking back and reading those early entries, two things are clear: I never realized that the few handfuls of songbirds I cared for those first few summers would turn into thirty years worth of patients numbering several thousand.
I thought each case was so special that I would remember it, and all the specifics of it, forever.
July 12, 1959. I received a beautiful little bird today. It is so very small, just specks of feathers showing through his skin. His belly is so big and kind of orange-colored. It is this ---------- big! Mr. Dana brought him over, he says he thinks it is an Orchard oriole. Everybody says it will die, but I won't let it.

In my own defense, I was just a kid when "rehabilitation insanity" hit me. The time was in the late 1950's. Girls wore dresses, even to play in. Adults were fond of saying, "Children are to be seen, not heard", and meant it. Television sets were found in few living rooms. The migratory birds treaty existed but was not well observed, and most states offered bounties for predatory birds. None of the above made a lot of sense to me. I could live with the dresses and even grew fond of frills. I was respectful to my elders and crowded around my aunt's tiny screen TV with my cousins on Sunday evening to watch "Walt Disney". The one thing I could never accept was the minuscule amount of care, rights and protection given injured birds and animals in order for them to heal and return to their wild state.

I was a quiet but persistent rebel in wild bird care, and before long, people were dropping off little robins, nests of sparrows, and starlings (I can still hear my father groan). Occasional kestrels, then called Sparrow hawks, and harriers were thrown in for good measure. I started getting encouragement from the local Audubon Club, in particular, the chapter's founder, Mr. Robert Dana, a prince of a man.

One summer day, Mr. Dana appeared at my door, wisdom on his wrinkled face, and silver hair falling in front of his gentle blue eyes. "You need to keep a notebook", he said. "Someday you might want to write about all of the birds you took care of. You need to remember what methods work well, with what species." He handed me a ledger-type notebook with a tan cover. The cover said "RECORDS". I set about with a ruler to draw lines on the paper. I needed lines. I was still only ten years old.

FIRST ATTEMPTS

What to write? How do I make records of things I do with the birds? I remember sitting for

a long time, pen in hand, waiting to start my records, but afraid to make a mistake and mess the pages of this fine ledger. Indeed, my first entries were done in pencil and continued that way for several years until I became confident enough to use ink.

My first entries read:

July 13, 1959 - I keep Angel in a strawberry box on the pilot light of the stove. He grew so much even in one day. People keep asking, "Did it die yet?" I am so mad with them. He will be as beautiful as the orchard oriole in my "Birds of America". I feed him with a toothpick. Momma helped me squish a hard boiled egg with some bugs. He seems to like it because he has his mouth open when he hears me uncover the box.

July 16, 1959 - I hate cats! Mrs. Forbes took my newest patient away from her cat. It's a sparrow. He doesn't eat good, I think he is hurt inside. He lays on one side with his wing kinda up. He only has a speck of blood on him, but he is real scared. The grackel I got a few weeks ago is getting white feathers! I don't know why! My bird book says nothing about grackels having white feathers, not even in other states. Maybe it is only part grackel. Angel is growing bigger.

Angel did grow up to be a beautiful Baltimore oriole. (Yup, I named them all!) He returned to my parents' home every season for more than ten years, filling the air with song, brilliant color, and (most important) lots of little Baltimore orioles. The cat-caught sparrow died. The grackle turned out to be partial albino.

In time, my writing skills and records improved. Without realizing it, I started to include natural history information. I referred constantly to my one book, *Birds of America* (Pearson, 1936). Recording information helped me to think. Sometimes, just writing down problems helped find solutions. I gained appreciation for the species and also worked out that notorious rehabber stress.

August 3, 1962 -Mr. Dana brought me over a young nighthawk. This is the first baby nighthawk I have ever seen! Huge mouth, and it is broken. He fell off the bank building where he was hatched. I have to slide the food in the side of his mouth real gentle. I can't keep up with catching moths and flies. Bugs are protein so I will steam some hamburger and see if he can eat that instead of all bugs. Turtle food is dried flies, so I will mix that in with the hamburger. It would be no fun raising baby nighthawks. I bet the parents have to look all day and night for bugs to feed these babies. They eat so much and bugs are almost nothing in your hand. His eyes are so huge! He looks like an owl. His feathers are the color of the ground and leaves. It must be to help them hide their nests. I hate to look at his poor mouth. I feel so sad for it, but I think he knows I am trying to help him live. He makes soft sounds.

JOURNAL OF JUST THE FACTS

My teenage years were not typical. I spent summers working as a carhop and rehabbing the rest of the time. My social life was strange. I did have friends, but they were the kind who would help kill flies for the birds. If I went out at night, it was to kill moths for my brood in the glow if the street light.

I began to get questions about the birds that I raised. Curiosity sent me to my records. Since I was still a teenager, my records became more like a diary filled with the frustration of wanting to wear pierced earrings and short skirts. I judged boys more by how they coped with my birds than if they were handsome football heroes. I soon realized that my records had become private ramblings that I couldn't let anyone else read. Somewhere, buried in trivia, were the robin and three baby goldfinches I got, and the Canada goose with a leg injury, which I took to the vet on May 12, 1965... but they were BURIED. Trying to come up with totals listing how many patients, what they had, and the different species was not an easy task.

May 12, 1965 - I can't believe I wanted to go to the prom with John. He is so nasty! Dianne deserves him! He teases me that he is going to kill my birds. I think he really might. I got another baby robin in today... that makes ten so far this year. Bobbin (the oldest) is nearly ready to be released back at Holman's house. I really get happy when they can go be wild robins. The C. goose is really sick. I think the leg is infected too bad. Dr. Thomas said to bring it over to his house tonight so he can take a look at it, but I can tell he really doesn't want to. Miss Norem brought over a nest of 3 goldfinches. I'll have to take them with me to Mary Jo's party. They are tiny, tiny little things, but really healthy and have a wonderful happy little sound.

Something had to change fast. My records had to become more factual and less journal or be cloistered forever from human eyes. I decided to make a list. It was a concise list of the things I knew were important. I had begun to realize that I may not always remember who Mrs. Smith was, nor where she lived and the circumstances of this bird's coming into captivity.

Date: July 30, 1966
Kind of Bird: Cedar Waxwing
Found by: Marilyn Anderson
Where found: 213 9th Avenue
Injury: Fell from nest

Baby? Age? baby, can't fly
When released: August 28, 1966
Where released: 1608 N. Superior Street (lots of pin cherries and mountain ash berries in area)
Special notes: Strong, independent bird. Anxious to go. Flies well around the shed. Eats berries off the bushes when I put in whole branches. Answers other waxwings in the area. Social with the Purple Finches and chickadees (same shed). Not protective of food or perch area. Good tempered, happy bird.
What fed: Fruit, cut-up, blackberries, worms cut up, steamed hamburger bits washed to get the fat off, small plant bugs.
After release: Came back to sleep three days, spends less time each day. Feeds with local waxwing family. Loves the pin cherry bushes. Pulls off leaves sometimes and drops them? (I'm not sure why.) Not crazy about the mountain ash yet. Drops more than he eats. Properly afraid of bluejays. Flock left area Oct. 7, 1966.

GETTING IT ALL TOGETHER

For many years, the relaxed manner of the individual sheets worked just fine. They served the purpose. As time went on, teaching philosophies changed in vet schools. Empirical therapy gave way to more advanced techniques that reflected a changing society that put more value on animals. Small animal practice grew rapidly during the 1960's and 1970's. With the introduction of technology that included doing blood studies using micro-amounts of blood instead of large specimens, more small animals could be better evaluated. Wildlife veterinary medicine was becoming more firmly established. More and more, I turned to veterinarians for help with x-rays and medication.

One day, after a frustrating case, I realized that the more complete the records and exam were from the beginning, the more time could be saved in the long run. Perhaps even the wrong diagnosis could be avoided. Many times the obvious injury was actually secondary to a primary cause of debilitation. Electrical shock injury is especially difficult to detect with a cursory exam and may be missed unless an exam form is in front of you, reminding you to check.

A set of forms was the answer, each form having its own purpose. Each form evolved having its own color also, another time-saving method. I developed my own set of forms, which can serve as a model.

Each rehabilitation center will have individual differences due to species treated, and so forth, but the basic will remain the same. While filling out the forms on arrival of the animal, you will be better able to get the complete history of the animal. The history can be very important and too frequently is put aside as we struggle to save the life of a critically injured animal. By the time we have time to evaluate the reasons for the injury, the citizen who has presented the animal has gone and didn't leave a number. Every phase of the examination, treatment and even resolution, when delayed, results in "guesstimates" and "probablys" along with a few "I thinks" thrown in.

CONCLUSION

Many rehabilitators start their ways in this profession by helping the occasional bird that hits the window or baby squirrels that become homeless due to a felled tree. We assume ourselves that this is not going to be an everyday occurrence, thus records aren't applicable for us. Somehow we think that this creature and this situation is so special that we will remember the facts forever just as they occurred. So it was for me thirty seven years ago. Just as I was certain that I would always remember the day my daughter took her first step or uttered those precious first words, I now recall those times with an "I think" as a preface. Those situations fade in time, especially when replaced with hundreds of other cases just as special but more recent. The simple truth is, we can do a much better job, a more complete job, and save many more individuals with accurate records. Certainly this is a goal we all want to achieve.

Space limitations precluded appending copies of Marge's admission, treatment and evaluation forms. For copies, please send a SASE to Marge Gibson at the address at the top of the article.

BILL WIECZOREK HONORED BY AAZK FOR RAPTORS IN RESIDENCE PROGRAM

Mr. Bill Wieczorek, of the Spring Brook Nature Center in Itasca, IL, received a Meritorious Achievement Award from the American Association of Zookeepers for the program Raptors in Residence. Bill is the program manager for Spring Brook Nature Center. The "Raptors in Residence" program supports raptor rescue and rehabilitation, captive propagation, interpretive nature study and an American Kestrel Study Group.

Internships and college credit are offered through "Raptors in Residence". Interested individuals should send a letter of inquiry or fax, with pertinent outside interests, background and any prior experience to **Bill Wieczorek, c/o Spring**

Brook Nature Center, 130 Forest Avenue, Itasca, IL 60143. Fax 708-773-2239.

Congratulations, Bill, on receiving this prestigious award and for gaining national recognition for yourself, Spring Brook and the Village of Itasca.

COMPUTERS, PROGRAMS - WHAT DO YOU HAVE, WHAT DO YOU NEED?

Bob Hanes of Central Texas Wildlife Institute, Inc. is interested in hearing from centers and organizations regarding their uses and needs for computers and programs in daily operations. Does your center or group have a computer? What programs are you running? What types of programs do you need for daily operations and record-keeping?

Do you need a computer? Occasionally, CTWI, Inc. receives donations of computers and parts. These can be donated or traded for other equipment to another non-profit wildlife rehabilitation group or center. Write Bob Hanes at Central Texas Wildlife Institute, Inc., HCR 64 Box 30, Hamilton, TX 76531.

USFWS FORENSICS LAB LOOKING FOR SPECIMENS FOR RESEARCH AND ANALYSIS

The National Fish and Wildlife Forensics Laboratory is an entity of the US Fish and Wildlife Service designed to analyze parts and products of endangered and protected animals. Its mission is to assist law enforcement officers in the prosecution of wildlife violations.

In the Serology Section, scientists conduct comparative immunology, polymorphic protein electrophoresis and DNA analyses in order to identify the family, the species, the gender or the individual of origin of confiscated evidence of crime. Testing of the evidence is done on a comparative basis to known reference tissues.

The Forensics Lab is interested in obtaining reference tissues from all bird species, however, galliform and anseriform birds are the current priority. Those tissues will assist in identifying evidence involved in game bird violations. **USFWS has a protocol for the collection of blood and muscle tissue samples from animals that have died. Write or call the lab for a copy of the protocol.** The samples will be very useful in casework and research.

The Morphology Section of the Forensics Lab sends certain whole mammalian, reptilian and avian specimens to complete their reference collection. A list of animals needed for the collection will be provided upon request.

Collection, handling and shipping materials will be supplied at the NFWS Forensics Laboratory's expense.

Write or fax:

Andrew D. Reinholz
Forensic Technician
National Fish & Wildlife Forensics Laboratory
1490 E. Main St.
Ashland, OR 97520
503-482-4191
503-482-4989 fax
Internet: reinholza@mail.fws.gov

NOTE: From Marge Gibson re: USFWS request:

Andy Reinholz, during a phone conversation, added that the lab can also use products from living animals: horn and hoof trimmings, ear punch samples after radio tagging or ID tagging, blood specimens and other products.

Frozen samples are fine, even those frozen for a long period.

Provide as much information as possible with a sample, including origin of animal (state and county), illness if applicable, so the lab personnel may stay aware of what is entering their lab, method of euthanasia or medications given.

It is very important that specimens be correctly identified as to species, subspecies or variety.

Several same species individuals from the same area is fine. Increased sample size helps increase testing reliability.

Contact the lab before taking a sample from a living animal as the lab may have special collection or preservation needs for the sample.

We look forward to this opportunity to work with USFWS with this valuable endeavor and contribution, thus increasing our communication and cooperation with the federal agency.

WANTED: Member Participation

Do you have something you would like to share in the IWRC Newsletter? Drop it to us in the mail at 4437 Central Place, Suite B-4, Suisun, CA 94585 or fax it to us at (707) 864-3106.

animal's perspective, that specifies the release location to be "...without immediate threat to the animal of injurious contact with humans."

Six states (NH, NM, PA, TX, VT and WA) appropriately, in our view, recognize and allow for the beneficial use of non-releaseable wildlife in the rehabilitation process for purposes of cross fostering, surrogate parenting and/or orphan imprinting.

Restricted Species

As shown on the accompanying map, nineteen states contain in their rehabilitation regulations some type of restrictions placed on rehabilitators ranging from special training or handling requirements to prohibition of certain species of wildlife. Generally, these restrictions appear to exist to either protect the rehabilitator from possible exposure to zoonotic diseases from rabies vector species (RVS); prevent the spread of disease through the improper release of rehabilitated (but potentially diseased) wildlife; disallow possession of big game species that have commercial (hunting) value; or provide special instructions for the handling of Threatened & Endangered (T&E) species.

The provisions in the state regulations that prohibit rehabilitation of certain RVS animals in the interest of public safety may actually tend to increase the risk of rabies exposure to the public (Mayhood, 1994). The rehabilitator communities of NY and CT are strong advocates for allowing the rehabilitation of RVS species (Bolton, 1994, Clavette, 1994). This finding is in full recognition that NY and CT ranked #1 and #2, respectively, in highest reported cases of rabies in wildlife in 1992 (Krebs, 1993) and 1993 (Krebs, 1994). They recognize that the public, when not provided with the alternative of getting the animal to a rehabilitator, will often attempt to render aid themselves, especially when orphaned wildlife is involved. They do, however, agree with the requirement that only rehabilitators who have had special training, received the pre-exposure rabies vaccine and agreed to adhere to very tight handling, caging and reporting requirements be licensed to handle certain, high-risk RVS species (Bolton,1994, Simon,1994). (CT's wildlife agency and Department of Health are in full agreement with this position and have recently changed their policy that previously prohibited RVS rehabilitation, to now allow such a program for RVS orphans; have seen demonstrated success of this program (Simon,1994); but they continue to disallow adult RVS rehabilitation. It appears the NY wildlife agency is revisiting their current prohibition of RVS rehabilitation, citing the same concerns and conclusions as CT, though their Department of Health continues to argue for the prohibition.)

Our experience has similarly shown that when the public is unaware of the service provided by wildlife rehabilitators, or told to kill the animal because rehabilitation of that species is disallowed, the public will often disregard the regulation and attempt to rehabilitate the animal themselves. Clearly, this is not in the best interest of the wildlife, nor is it in the best interest of the public because of potential exposure to zoonotic diseases and possible spread of disease in wildlife populations due to improper release of a potentially diseased animal. The best practice in our opinion is that of the 22 states that have wildlife rehabilitation regulations and do not prohibit the rehabilitation of any native (non-imported) species. However, if restrictions do have to exist, then we believe that the CT approach provides an excellent and very workable model.

Other Practices Worthy of Special Mention

- The regulations for PA and IA allow the agency Director to appoint a group of citizens, including rehabilitators, to assist and advise the agency on certain rehabilitation issues.
- AZ requires that an application be acted upon within 60 days.
- IN and MA asks rehabilitators if they want their name placed on the list of rehabilitators or withheld from the list. This allows the individual to make their own choice, given their own preferences in dealing (or not dealing) with the public.
- AZ requires that "...transport...shall be accomplished in a manner which is least likely to cause injury to the affected wildlife." This seems to be a very important point overlooked in almost every state's regulations. This is a nice accompaniment to GA's specific transport caging requirements described earlier.
- GA, NH, PA, and TX specifically provide for the transfer of animals between rehabilitators, especially where better facilities and/or expertise can provide for more expert care.
- If a rehabilitator needs to hold an animal longer than the maximum holding time specified in the regulations, AZ allows the rehabilitator to retain custody of the animal while the request is being processed.
- HI provides written guidelines to its wildlife officers to use when evaluating applicants.
- CT and PA provide a map of the state, by county, showing the location of all of the wildlife

rehabilitators. (CT provides a separate list and map, by county, of its rehabilitators certified to rehabilitate rabies vector species.)

Summary

While we have collected, analyzed, and discussed state regulations affecting wildlife rehabilitation with many people in the last year, we do not consider ourselves experts in wildlife rehabilitation or rehabilitation regulations. Nor would we ever suggest that our personal opinion of the "Best Practices" as presented here is any more than our personal viewpoint of what we believe to be workable and beneficial. Rather, new insights and possibilities seem to emerge on a regular basis. We offer this article to encourage dialogue on these subjects with the goal of ultimately enhancing communication and developing wildlife rehabilitation regulations that work to benefit rehabilitators, wildlife agencies and wildlife.

As has become evident in Colorado's process in reviewing its current regulations using a stakeholder approach (involving rehabilitators, agency employees and the Department of Health), full consensus on all aspects of wildlife rehabilitation is probably not achievable, nor is it necessarily desirable. Our experience has shown that when diverse constituencies are encouraged to come together to share ideas, points of view and suggestions, a properly facilitated process will most often attain more complete and appropriate results than if only one person or group controls the process. As such, this article is provided in the hopes of encouraging a continuing dialogue among the rehabilitator community, and between the rehabilitators and their state wildlife agencies.

We encourage our fellow rehabilitators to take the first step in initiating a dialogue, if it does not already exist, with your wildlife agency as we did a year ago. Most state agencies are required to seek and consider public input, though some embrace this notion more willingly than others. The process requires commitment in terms of time, patience and persistence; understanding and following discussion protocol; and maintaining a long-term perspective (and hopefully a sense of humor). If you are uncertain as to how to begin, we will be happy to discuss alternatives, as well as what worked and did not work during the revision of our state's rehabilitation regulations. If a respectful relationship and effective dialogue already exists in your state, it should be appreciated and continued.

We are convinced that through working closer together, enhancing communications and improving rehabilitation regulations, wildlife in distress ultimately will receive better care and that second chance we are all committed to provide.

(A more detailed and comprehensive report of the survey data and findings, state by state, is available from the authors through WildAgain.)

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A Vital Note about Regulations vs Policies vs Procedures.....

As we constructed our initial survey request to the 50 states, we felt that by asking for copies of the state regulations, we would more or less get that collection of all documented rules and regulations that govern wildlife rehabilitation in that state. Through our study and working with our own state, we have learned that, in addition to the regulations that may be labeled or identified specifically for wildlife rehabilitation, many states often have other related regulations that can significantly impact wildlife rehabilitation. These related regulations could be contained in other sections of the wildlife regulations, state statutes or in the regulations issued by other state agencies, such as the Department of Health. Additionally, many state wildlife agencies have a collection of internal policies, procedures and/or administrative directives that also guide, restrict and influence their actions. Examples of procedural items that could impact rehabilitation include how a facility inspection is conducted; how release sites are chosen or restricted; how rehabilitation of certain species may be restricted or prohibited; and the steps that constitute due process to help resolve disputes between the agency and the license holder.

Therefore, if you are a state licensed wildlife rehabilitator, to become more familiar with, and better understand, your rights and obligations as a licensee, and to insure your compliance with the law, you can ask your wildlife agency to provide copies of all regulations, policies and procedures that can impact your actions as a rehabilitation license holder. As mentioned earlier in the article, since rehabilitation falls outside the mainstream of most wildlife agencies, this request may entail asking additional questions and some persistence on your part.

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About the Authors...

Allan and Shirley Casey, are the founders of WildAgain Wildlife Rehabilitation, Inc., a non-profit (501(c)3) organization based in the foothills west of Denver, in Evergreen, Colorado. They have been rehabilitators since 1986, first in Texas, and in Colorado for the last four years. Permitted for small mammals, they specialize in squirrels, including extensive work with the melanistic, or black, phase of the Abert's squirrel. Through WildAgain, they also conduct and sponsor statewide training on introductory and advanced rehabilitation subjects. WildAgain's goals also include enhancing relationships between rehabilitators and regulatory agencies, and furthering the State of the Art of wildlife rehabilitation.

The Casey's both hold the degrees of Master of Business Administration from Southern Methodist University. When not rehabilitating, Allan is a financial manager for a major international coal mining and marketing company headquartered in Denver. Shirley is President of Strategic Linkages, Inc., which provides consulting services. Shirley is also active statewide in several environmentally focused organizations, including the Colorado Environmental Coalition. Additionally, Allan and Shirley both serve on the Board of Directors of the Colorado Alliance of Wildlife Rehabilitators.

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National
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Association

Neonatal Sepsis in a Porcupine

Jan White, DVM
Wildlife Health Center
Institute of Toxicology and Environmental Health
Davis, California 95616

Kevin Willitts, DVM
Alpine Animal Hospital
812 Hiway 89
South Lake Tahoe, California 96150

Cheryl Millham
Lake Tahoe Wildlife Care
P.O. Box 10557
South Lake Tahoe, California 96158

Introduction

Wildlife rehabilitators are occasionally presented with infant animals that have been born on the road-side following the traumatic death of the mother. Species seen with histories such as this include deer, hares, and porcupines. Opossums are often found in the pouches of dead females because they only gestate for 13 days, however, only older infants stand any reasonable chance of survival.

Porcupines are slow moving, unafraid of humans, and often hit by cars. There have been two other unwritten reports of "road-side deliveries" in this species, one animal survived, the other did not (Shimmel, per. comm).

This case history illustrates several key medical concerns of which wildlife care personnel should be aware when presented with premature or full-term aborted and hand-delivered young.

History

On June 18, 1993, an adult female porcupine was hit and killed by a car along the road near South Lake Tahoe in the USFWS Fallen Leaf Lake campground area. The trauma resulted in a large open wound to the abdomen. A motorist noticed that the abdomen appeared to be moving and investigated further. The infant was pulled from the carcass and the amnionic sac was opened to expose the live infant.

The animal was picked up that day by Cheryl Millham of the Lake Tahoe Wildlife Care organization and brought into the center where it was weighed, measured, given a quick veterinary examination and fed. The animal was wet and the quills had not yet hardened. Over the next hour, they became hard and the animal quickly showed staff it was aware of its defenses. The entire intake process was video-taped because of the unusual nature of the case presentation. The infant weighed 440 gm and measured 7 " to the tail (10" total) and had a rectal temperature of 97.8° F. The "birth weight" was consistent with captive birth weights of porcupines (Roze, 1989) so it is assumed that it must have been very close to the full term gestation age of 210 days (Roze, 1989).

It was placed on a diet of 1 part Multi-Milk™ and 2 parts water. The first day the formula was cut in half with Pedialyte™. The porcupine gained weight daily and ate well (Table 1). The animal was doing well and was given a good prognosis after 5 days in captivity. It was bright, alert, responsive and had well-formed stools. It was gaining weight slowly but as long as it was eating well the authors were confident that it would soon gain weight normally.

This rodent nurses its young for about 127 days (Roze, 1989). However, they begin eating solid food early and by the age of three months may occasionally spend entire nights away from their mother.

Late on the seventh day (9:45 pm) the attitude of the animal became dull and listless and, it did not move between feedings. The animal continued eating but clearly was not feeling well. A rectal temperature revealed a slight elevation at 99.1° F. Increased respiratory rates of 120-152/min were noted.

Given that history over the phone, a systemic infection was suspected. It was felt that a broad-spectrum antibiotic was needed until appropriate diagnostics could be performed to further diagnose the problem. Porcupines are rodents and some rodents when given antibiotics, experience serious disruption of their intestinal flora which can kill them. For example, in Guinea Pigs gram-positive organisms are the predominate intestinal microflora. If an antibiotic significantly reduces the number of gram-positive microflora, gram-negative organisms may overgrow causing any number of problems (e.g., diarrhea, enterocolitis, coliform bacteremia). The literature is replete with warnings not to use gram-positive antibiotics (penicillin, lincomycin, clindamycin, erythromycin, etc.) in Guinea Pigs and hamsters (Harkness, 1983, Clark and Olfert, 1986). However, the various rodent species respond differently to antibiotics and no general rule has been applied. Thus, when faced with a potential infection in the infant porcupine, to be safe, many common antibiotics were ruled out. Antibiotics recommended for rodents include sulfonamides, or sulfonamide-trimethoprim combinations (TMS), or chloroamphenicol. Unfortunately, none of those drugs were available at the center the evening the animal developed respiratory signs. Local pharmacies that could have supplied chloroamphenicol were closed for the evening and at that particular time, TMS was temporarily pulled off the market and was not available in the United States. Information regarding the use of enrofloxacin in porcupines was unavailable to the authors given the late hour of the evening. Because the white cell count was in the normal range and we did not have a "significant" fever, it was felt too risky to try an antibiotic on this baby without more species information.

The rehabilitator spent the night monitoring the animal and keeping the rectal temperature from reaching heights that might induce convulsions. A blood sample was taken. A white blood cell count was performed locally at Alpine Animal Hospital and whole blood was sent in to Consolidated Veterinary Diagnostics laboratory in West Sacramento for processing. The CBC results, except a slight anemia and a few neutrophilic bands, were unremarkable (Table 2).

The porcupine died at 5:45 am on the eighth day (6/25/93). Both veterinarians met at the center that afternoon and performed a gross necropsy where samples were taken for further diagnostics. Cultures were taken from the heart and lungs. Sections were submitted of the thymus, heart, liver and lung.

Necropsy and Culture Results

Fluids were apparent as the initial incision was made into the abdomen as the umbilicus was transected. The pericardial sac was discolored white and adhered to adjacent structures. The left pleural sac was filled with a yellow straw colored fluid. The lungs looked congested and reddened in various areas. There were large brown blotches on the liver which also appeared swollen with rounded edges. The stomach was relatively full of milk formula. No other significant gross lesions were observed. The sex of the animal, a male, was noted.

Culture and sensitivity information on the 2+ gram positive staphlococcus revealed that it was sensitive to: cephalothin, chlorampehnicol, erythromycin, gentamicin, clindamycin, oxacillin, tribrissen, tetracycline, clavamox, and enrofloxacin. It was resistant to ampicillin and penicillin G.

Histopathology Results

Histopathological samples were read by Robert E. Schmidt, DVM, Ph.D, Diplomate American College of Veterinary Pathologists at CVD in West Sacramento. He described a mild thymic hypoplasia and commented that there was poor differentiation of corticial and medullary areas. The intralobular tissue was edematous and inflammatory cells were noted. He also stated that the small appearance of the thymus suggested possible underlying immunosuppression. The lung sample was diagnosed with diffuse atelectasis (collapsed lung). The heart tissue lesions were diagnosed as follows: diffuse inflammatory infiltrate within the epicardium with numerous neutrophils and macrophages (severe epicarditis). This finding was consistent with gross observations of the heart at necropsy. The liver sample was found to have a diffuse moderate to severe hepatic congestion. Based on the histopathology, Dr. Schmidt summarized the findings in the following manner. *"The lesions in the epicardium are consistent with a possible bacterial infection, even though organisms are not seen. Neonatal septicemia with localization could be considered. The thymus appears slightly hyperplastic and somewhat inflamed as the animal may have been immunosuppressed."*

Summary

Obtaining routine blood samples for the purpose of monitoring health from infant porcupines is difficult due to the deep location of the jugular vein and small size and medial location of the cephalic vein. The only sample obtained in this case was taken once the infection had advanced to a life-threatening stage. The comparably low count taken with the increase in band forms may signal an exhausted hematologic system in this infant who also had a small thymus.

In retrospective viewing of the intake videotape, it was noticed that the umbilicus of the baby was not sanitized with Betadyne™ solution (Povidine) or other similar agents at the time of the examination. The accident site was full of dirt and upon further discussion, the amnionic sac was remembered as being contaminated with road site dirt and debris.

The diagnosis in this case is a neonatal sepsis with likely entry through the umbilicus. Due to the untimely death of the female, this baby had no opportunity to ingest colostrum leaving it even more unprotected against a potential infection. The infection caused significant damage to the heart which may have caused heart failure and subsequent respiratory signs. The animal was unable to mount an adequate response to the bacterial invasion. This kind of infection leads to similar lesions in domestic animals and is not considered unusual.

The size and status of the thymus is difficult to determine given that the exact stage of gestation is unknown and similar sizing of newborn porcupines is not available to the authors. However, this case underscores the importance of cleaning the umbilicus when infants are delivered by wildlife care staff.

If anyone has been using enrofloxcin on porcupines, we would very much appreciate knowing whether any adverse reactions have occurred or if it is a suitable choice for this species.

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Table 1
Physiologic Data
6/18/93-6/25/93

Age	*Weight (g)*	*Temp. F°*	*Respiratory Rate/Min.*
Birth Day	440	97.8	104
1 Day	467	N/A	N/A
2 Days	467	97.8	N/A
3 Days	467	N/A	N/A
5 Days	529	N/A	N/A
6 Days	539	N/A	N/A
7 Days	543	99.1	104
8 Days	N/A	98.1	152

Table 2
Hematologic Data
6/26/93

WBC	6.8	(Thousands)
Red Blood Cells	3.47	(Millions)
Hemoglobin	12.4	(g/dl)
Hematocrit	32.5	(%)
MCV	94	(U^3)
MCH	35.7	(UUG)
MCHC	38.2	(%)
Neutrophil Segments	67	(%)
Neutrophil Bands	4	(%)
Lymphocytes	25	(%)
Monocytes	3	(%)
Basophil	1	(%)
Abs. Neutrophil Segments	4556	MM^3
Abs. Neutrophil Bands	272	MM^3
Abs. Lymphocytes	1700	MM^3
Abs. Monocytes	204	MM^3
Abs. Basophil	68	MM^3
Platelets	Adequate	
Poikilocytosis	Slight	

Note: Echinocytes observed. Maybe an artifact or the result of uremia/metabolic disease.

Table 3
Bacteriology Results

Source	Anaerobic Bacteria	Aerobic Bacteria
Heart	No organisms isolated	Rare Gram +cocci 2+ Staph, hemolytic, Coag Positive Sens A
Lung	No organisms isolated	No organisms isolated

Author Profiles

Jan White, DVM, *has been a wildlife rehabilitator since 1975. In that time she has served as the founder and director of the Suisun Marsh Natural History Association, and the operations manage and staff veterinarian for the International Bird Research Rescue Center in Berkeley, California. Presently, she serves as the Executive Director of the International Wildlife Rehabilitation Council and an assistant researcher at the Wildlife Health Center at the Institute of Toxicology and Environmental Health at Davis, California.*

Kevin Willitts, DVM, *is a small animal practitioner who has served on the Lake Tahoe Wildlife Care Board of Directors for the last 6 years. He provides veterinary services both at the center and at his full-service hospital.*

Cheryl Millham *has been a wildlife rehabilitator since 1978. She is the Executive Director and co-founder of Lake Tahoe Wildlife Care, a general wildlife center that cares for 1,000 animals annually. Cheryl is a licensed vocational nurse who brings her human skills to wildlife rehabilitation. Lake Tahoe Wildlife Care is an IWRC accredited facility.*

Editorial

Continued from Page 2

So what is the 1990's version of rehabilitating the environment? Kerri (our Nevada State Representative) called to ask about some American Coots presented from a local park, with bumblefoot. I directed her to do a perch assessment of their park home and try to get the local authorities to fix the habitat. Kerri also spent a lot of time last year walking the local reservoirs and picking up dead botulism birds. She had been getting an unending array of wild waterfowl that were sick from the disease, and soon learned from her inquiries to wildlife health professionals that unless the carcasses were removed from the environment her work load would not decrease. She coordinated efforts with the local park staff, state game and fish and the US Fish & Wildlife to get some assistance in removal of carcasses. When they could not get the animals out of the water—she did so in an effort to reduce the point source of contamination for this disease.

And then there is the ever-present human interaction problem with which wildlife rehabilitators are constantly presented. Cheryl Millham (Lake Tahoe Wildlife Care) finds that about 20% of her staff time as an Executive Director is spent working for animals in human interaction problems. For example, beavers tend to change their environment with their dam building and can cause flooding. In one instance, the flooding was affecting a meadow that local people utilized for hiking and where some homeless people actually lived. The landowners wanted to keep the beavers but reduce the flooding to allow some hiking (but not homesteading). The local rehabilitators worked hand-in-hand with their Fish and Game Captain and devised a syphon to allow some water flow through the dam but left enough water impounded to keep the beaver family happy. This group, like most today, gets many calls about nuisance animals, especially bears, coyotes, and beavers. They, as do many other wildlife rehabilitators, work hard to educate the public and to promote viable methods of living with wildlife. Every successful effort is intrinsically rewarding because the animal in question does *not* present as a rehabilitation case.

Diseases are another problem. During the 1970's it was canine distemper, and then came raccoon parvovirus, followed by a full-blown epizootic of raccoon rabies on the East Coast. All of us have had to deal with the role that an epidemic plays in our local population. Some rehabilitators along the eastern seaboard have actively pursued the rabies issues and worked to find solutions that protect the public, the rehabilitator, and the species involved.

I came to the conclusion, at the end of my conversation with myself, that wildlife rehabilitators have become a part of the "wildlife health professional" group. Long gone are the days when we could be categorized as "little old ladies in tennis shoes working to cure birds kept in boxes." We have learned that if we don't deal with population issues, environmental degradation, habitat loss, epidemics, and emerging wildlife health threats—our workloads increase and animals die, often unnecessarily. I am proud to be a wildlife rehabilitator in the '90's—look how far we have come! We are wildlife health professionals and what's more, the skills we bring to bear on behalf of wildlife are now being acknowledged by such eminent leaders as Dr. Milton Friend who runs the USFWS laboratory in Madison, WI. Dr. Friend was a keynote speaker at our last conference and made numerous references to the increasing professional role of wildlife rehabilitation in the field of wildlife health. Yes, this is an exciting time to be in this field!

--Jan White--

Announcement

Passerine Diet Study

Marnie Allbritten (Umpqua Wildlife Rescue, Roseburg, Oregon) and Susan Heckly (The Lindsay Museum, Walnut Creek, California) both IWRC Board members have designed a study they plan to start this spring on the effects of diet on the growth and development rates of two species of nestling passerine birds. With new diets for passerines appearing every year, songbird rehabilitators have a need to determine which diet is best for those birds they raise. This study is an attempt to determine if three commonly used diets produce comparable growth and development rates when used for two common songbird species, robins *(Turdus migratorius)* and House Finches *(Carpodacus mexicanus)*.

Results of the study will be published in the IWRC *Journal of Wildlife Rehabilitation* and a copy of the study with all results will be distributed to each participating group.

We currently have several wildlife rehabilitation groups on the East and West coasts of the United States who will be participating, and are still looking for at least one group in the Mid-West. If you are interested in participating in this study, or would like additional information, contact Marnie Allbritten at (503) 440-6895 (hm) (503) 440-3353 (wk) or Susan Heckly at (510) 935-1978 ext. 18 (wk).

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Pre-conference events include our Basic Wildlife Rehabilitation 1AB Skills Seminar℠ and advanced seminars on Fluid Therapy and Wound Management in Wildlife Rehabilitation. This year, we may also offer a course on the Medical Management of Oiled Birds. These courses are the "gold standard" by which all others are compared. They fill-up fast, so be sure to register soon after you get your registration materials!

The conference will offer a variey of venues for continuing education ranging from general session papers on a wide variety of interesting topics to small roundtable discussions on issues, or workshops with a "how-to" slant. Our "Call for Papers" is currently out for submissions, and paper selections will be completed in mid-May. This year we have asked for submissions on shorebirds, small mammals and basic care techniques, in addition to other topics that describe new and current methods in wildlife rehabilitation. And of course, the program will be reviewed for continuing education credits for both veterinarians and wildlife rehabilitators by the American Veterinary Medical Association, the California Department of Fish & Game, and IWRC. Guy Hodge, from the Humane Society of the United States, has worked up a number of field trips that we think will delight attendees. Specific topics will be profiled in our registration materials to be mailed in August!

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To use the hotline: call (707) 864-1762; leave a message detailing your question, problem or what specific information you need. The Wildlife Hotline will return your call COLLECT with the help you need.

Photo of Dr. Dennis Bartlemeir and Marge Gibson by Don Gibson