REHABILITATION WILDLIFE COUNCIL

WILDLIFE JOURNAL

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INITIAL EXAM, DIFFERENTIAL DIAGNOSIS AND TREATMENT FOR BIRDS

Following history taking, a quick and gentle physical examination should be made. Included are examinations of the eyes, ears, mouth, feet and cloaca. Heart and lung sounds should be auscultated with a stethoscope. The odor of the breath should be noted. The abdomen should be gently palpated. The long bones should be checked for fractures. If nothing positive has been arrived at, the bird should be confined in a semi-darkened cage, allowed time to settle down and then observed from a distance. Particularly noteworthy is the frequency and character of breathing. In most healthy birds there should be no noticeable body movements associated with respiration; the contour feathers below the sternum should lie completely still. Deviation from this status is highly suggestive of respiratory system disease or abdominal pain.

In any bird the first indication of illness is aberrant behavior. Even very slight aberrations are significant. They may be manifested in a trained bird such as a falcon by failure to perform an act that she always does. Such a slight deviation as failure to fly vigorously at the end of her leash as the trainer approaches to take her into the field for hunting is significant. Or the aberration may be a failure to react in a manner expected for a particular bird. For instance a freshly caught wild duck that is content to sit quietly in a cage rather than flail at the approach of a human is showing signs of serious illness.

Determination of the particular disease or body systems affected is the big problem and the one that forces the clinician to be an oddsmaker. The diseases that must initially be considered in making a differential diagnosis are as follows:

1. Birds that have been hospitalized for a period of time and suddenly show initial signs of illness (i.e. behavior alteration) probably have aspergillosis. This is especially true if the onset is accompanied by rapid weight loss, but no other signs. Close observation in an undisturbed setting is likely to show an increased respiratory rate as well as varying degrees of abdominal breathing.

2. If more specific signs are shown by hospitalized birds, they will most likely be vomiting, diarrhea, or failure to digest a crop of food. The most likely cause is an overgrowth of normal gut flora, particularly *E. coli*. Anorexia often accompanies or even precedes these conditions.

3. A newly obtained wild bird presented with nonspecific signs forces one to rely heavily on whatever history is available to make immediate clinical judgments.



4. Individual newly obtained wild birds showing specific signs may be differentially diagnosed as follows:

a. Signs of CNS disturbance should include various bacterial and viral encephalitidies, concussion and poisoning with the latter two being more prevalent in most situations.

b. Signs of respiratory distress should include aspergillosis, air sacculitis and/or pneumonia from a variety of bacteria and likely some viruses. The former will not exhibit moist rales, sneezing or coughing whereas the latter will usually have moist rales at the very least. Mechanical impingements on the tracheobronchial tree may also be considered as well as tuberculosis in those cases showing severe dyspnea.

c. Signs of gastrointestinal disturbance, i.e., vomiting and diarrhea, are primarily due to *E. coli* infections. However, Salmonellae and Candida albicans should be considered. The latter was omitted from previous disease discussions because of extremely rare occurrence. It is detected usually by culturing the feces; therapy is discussed later.

d. Signs of septicemia include elevated body temperature usually detected on the legs and beak, cloudiness of the eye, as well as anorexia, depression, and possibly altered respiratory characteristics. *E. coli, Pasteurella multocida, Erisypales rhusiopathiae* and viremias associated with pox or systemic viruses (hepatitis or respiratory viruses) are likely candidates.



THERAPY

Once illness has been detected in a bird, treatment must be initiated immediately. As is obvious from the previous section, diagnoses are not likely to be very certain and confirmation of any tentative diagnoses before instituting therapy will take more time than can be afforded. The majority of diseases encountered in wild birds presently fall into one of two catagories: either the disease can be treated with broad spectrum antibiotics (most bacterias) or aside from nursing care, it cannot be treated at all (viral and most fungal). The clinician is faced with determining which body system(s) are being affected by the disease and what is the most effective way of delivering therapeutic drugs to that site. Additionally, provision of good nursing care is equally important.

In the absence of a specific diagnosis the following regimen has been found effective in treating and partially diagnosing diseases in wild birds. At the time of initial examination a blood sample is taken and and from this the PCV and total protein are determined. A blood smear is also prepared. Cultures are taken of the pharynx, trachea (accomplished by thrusting a swab of appropriate sized past the open glottis) and cloaca. Then broad spectrum antibiotics such as chloramphenical, tetracycline, or gentomycin are administered. Birds showing signs of gastrointestinal disease should be given preparations designed for oral use (e.g. Chloromycetin palmitrate, Park-Davis, Detroit, Michigan) using the high end of the dosage range recommended for the particular drug. Generalized septicemic signs should be treated by parenteral administration of antibiotics. Intravenous and intramuscular injections of tetracyclines, chloramphenical and gentomycin are effective. The latter is particularly convenient because single daily injections are sufficient to maintain adequate blood levels. Respiratory infections should also be treated with intravenous or intramuscular injection of antibiotics. Additionally, good results are obtained by providing nebulization or intratracheal therapy. The former is accomplished by placing the bird in an enclosure and nebulizing a solution of antibiotics and muscolytic agents. A recommended aerosal mixture consists of 50 ml of Alevaire, a mucolytic agent, to which has been added 100 mg of chlortetracycline, oxytetracycline, chloramphenical succinate, or other suitable broad specturm antibiotic. This solution is administered at a flow rate that will provide an hour of therapy. The treatment should be performed at least twice daily. In suspected cases of aspergilosis, 1-2 mg of amphotericin-B should be added to the above mixture. Since this drug is light sensitive, therapy must be performed in the dark. A similar solution can be used for direct intratracheal therapy. Here the antibiotics are measured out in terms of body weight dosage, suspended in alevaire, the volume of which is determined as a function of body weight

gin with. An emaciated bird should be supplemented with force feeding to insure adequate intake. If the animal refuses to eat, of course force feeding must continue. If the meal is vomited or retained in the crop, tube feeding of a fluid diet must be implemented. A recommended mixture consists of the normal ration for the bird combined with 5% dextrose and an appropriate amount of a protein hydrolysate preparation. This is all put in a blender and thoroughly mixed until its consistancy is such that it can be administered via a syringe. As an example the mixture for a 1 kg red-tailed hawk (*Buteo jamaicensis*) would consist of the whole bodies of 4-5 skinned laboratory mice (40gm), 50 cc of 5% dextrose and 10 ml of Nutri-cal paste (Evsco Pharmaceutical Corp., Long Island, New York). This is administered in 3-4 divided doses throughout the day by means of a 50 cc syringe to which is attached 12 cm of polyethylene tubing. Adequacy of this forced alimentation in meeting the nutrient requirements is best monitored by daily weighing of the bird.

Subsequent to day one of therapy, alterations in the regimen may be indicated on the basis of results obtained from bacterial culture and sensitivity as well as other diagnostic efforts. However, in most cases, due to the sensitivity of many organisms to broad-spectrum antibiotics, the initial therapy will be continued. If *Candida albicans* is recovered from the cloaca or from caseous lesions in the mouth, therapy will have to be altered at this point to handle this organism. Mysteclin F (E.R. Squibb & Sons, New York, New York) which contains both tetracycline and amphotericin-B is well suited to this purpose.

Therapy of suspected systemic viral infections is handled similarly. The purpose of treatment is to provide nursing care and prevent complications arising from secondary bacterial invasion.



P.T. Redig
Dept. of Veterinary Biology
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CONSERVATION
EDUCATION
RESEARCH

MASSACHUSETTS AUDUBON SOCIETY

Animal Care Program

In 1896 a group of concerned Boston citizens formed an organization for the protection of birds. They named their group the Massachuseets Audubon Society, taking the name of John James Audubon, a well-known wildlife painter. Over the next 80-odd years, the Society's programs and goals expanded in response to the ever increasing problems which threatened all life. Massachusetts Audubon now has active programs in conservation, research and education.

Presently, the Society maintains over 16 wildlife sancturaries and nature centers scattered throughout Massachusetts. All of these offer programs and courses aimed at educating the public about wildlife and the environment. In addition, each year the sanctuaries deal with hundreds of injured or displaced wildlife brought to them by the public. Many of these animals are referred to the Animal Care Center located at Massachusetts Audubon headquarters in Lincoln.

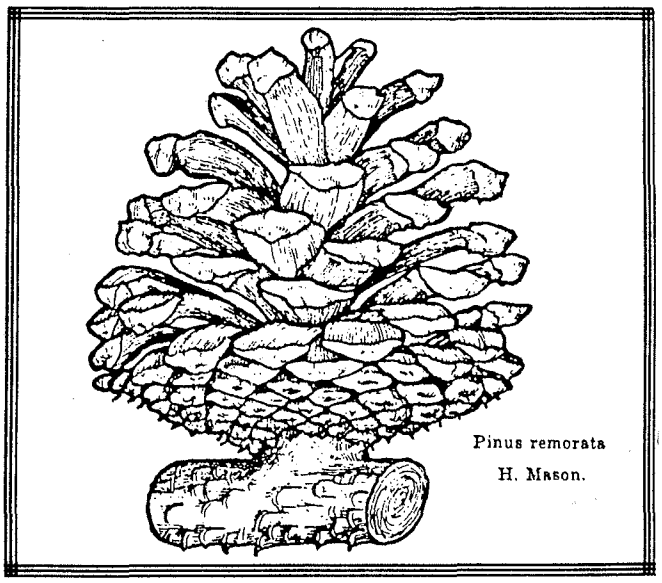
Using the combined services of trained staff members, volunteers, wildlife biologists and veterinarians, the Center handles an average of seven hundred wild animals per year. Approximately 80% of the cases involve wild birds. Although most of these animals are brought to the Center by the public, the Center is actively involved in cooperative efforts with state agencies, local zoos and humanitarian organizations to confront the problems and situations involving individual wild animals as well as populations.

At this time, Massachusetts Audubon is in the process of expanding the Animal Care program. The objective of this expansion is to develop a comprehensive program that includes considerations for the humane treatment of animals as well as biologically sound and realistic policies. Certainly this is no small task! As a result, our efforts at dealing with wildlife take on a "holistic" perspective. In addition to providing treatment and care for individual animals, a great deal of our energy is invested in raising the level of public consciousness to awareness of the problems facing wildlife in an environment which is being rapidly altered by human activities.

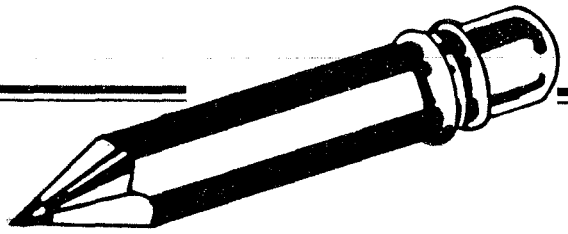
Through public education we hope to influence attitudes to include a deeper understanding of the ways and needs of wildlife, and to direct public interest and concern for wild animals into actions which will be of greatest benefit to wildlife communties. Another growing aspect of our program is to examine what impact rehabilitation has on individual animals once they are released. From a biological point of view, rehabilitation is most successful if an animal is returned to its natural habitat and is able to survive and reproduce. In order to develop an effective program, it is necessary to continually review rehabilitation techniques and to expand our own understanding and knowledge of wildlife in the environment.

The Animal Care Center is only one facet of the work that Massachusetts Audubon does. However, it is a major and important area. In addition, it serves as an excellent example of a wildlife program that works.

Mary C. Donnellon, Public Relations
Marian Zeles, Director of Animal Care
Massachusetts Audubon Society
Lincoln, Massachusetts 01773



READER'S PAGE!



MEMBERSHIP DUES

...We got a chuckle out of the dues schedule. If you are not active, the dues membership is $7.00, but if you are taking care of many birds and carrying the load financially, the dues are $15.00. In any case we are happy to be members of your fine organization. The books and literature we have received have proven to be of great help. Even our veterinarians are impressed.

John & Cecelia Brumer
Plymouth, WI

As to your comment about the dues schedule, every organization must have 1) structure, 2)a firm financial base, and 3) a commitment to upgrade itself. According to our by-laws only Professional and Organizational members may become board members, a position which, if taken seriously is very time consuming, and which requires some degree of experience and expertise in a field that is really still in the pioneer stage. In addition, there are no salaried positions in this organization. We are all volunteers. The commitment is made by those willing to give time and money to the belief that it is our obligation to reach out, indeed seek out, and support our fellow rehabers, and to see that through the vehicle of the COUNCIL they have the opportunity to maximize their wildlife care and rehabilitation techniques. There would be no WILDLIFE REHABILITATION COUNCIL, no Wildlife Journal, no species papers, no informational literature, no one to which to turn with the combined expertise found within our membership if it were not for members like you who financially support this organization.

Carol Hamilton
WRC Corresponding Secretary

RAPTOR ANOREXIA

...This week I released two. One, a female marsh hawk, came in a month or so ago with a broken wing. The vet taped it in place. On release, it made a beautiful flight, wing functioning perfectly. The second, a red-tail hawk, was in a toxic condition when it arrived, weakened and unable to fly. After a week of care, it took off with no problem. But these two illustrate the biggest and most recent problem that I have had. Neither would eat of his own free will in captivity. We even turned live mice or young chicks loose in their cages or boxes to stimulate their appetites and they ignored them. I tried everything anyone suggested or I could think of. For the weeks we had the marsh hawk she never ate a bite that we didn't put into her mouth. She did come to the place where she would take it from my fingers part of the time but if she dropped it she would never pick it up. After a month's captivity, I felt that she should have been hacked back in the proper way, rather than just sudden release, but since she never accepted our offerings anyway and was so feisty and independent we just let her go. The red-tail was returned to the same place it was found and a week hardly makes a difference,...I have only had three out of a dozen or more that refused to eat. What do you do? Is this normal? ...We fed rabbit, squirrel, chicks, and mice. I hope you have some "words of wisdom" on this. It may come up again.

Vivian and Joe Stockton
Rt. 2, Box 229A
Siloam Springs, AR 72761

WILDLIFE RELEASE

As a researcher for the Education Department at the Baltimore Zoo, I am writing to you in hope that you can give me some information related to the project I am currently working on. I am interested in finding out some actual statistics concerning successful rehabilitation of wild mammals and birds back to the wild after they have been cared for by humans. I have contacted all the known wildlife agencies, government bureaus, etc. and none of these had any information since little follow up work is done on released animals. If you have information of this kind, please send me the details concerning these wild mammals and birds; that is: what species, the number released, what part of the country they were rehabilitated in, who were they released by, and how long it has been since the time of release were they known to still be alive in the wild. If you cannot supply these details, then please give me any information you may have regarding any other organizations I could contact to get these statistics. Thank you.

Ms. Jean McGillin
c/o Baltimore Zoo
Druid Hill Park
Baltimore, MD 21217

MORE ON AVIAN CHOLERA

The outbreak of Avian Cholera at the Salton Sea during the latter half of January (Wildlife Journal, Spring 1978) resulting in the loss of 300 birds was initially termed unusual Now, based on reports from Alan Titche, Consultant for the State Department of Fish and Game, the outbreak went on to become a major one, with losses eventually reaching 7,500. The year's loss for the entire state of California was in excess of 25,000 waterfowl. Research continues into the origins of such outbreaks with scientists studying several theories.

The following is exerpted from a conversation between Charlene Modena of WRC and Alan Titche:

C. M.: In the January Wildlife Journal article on avian cholera it was mentioned that avian cholera bacteria is the same one found in dog and cat bites on humans. Will you elaborate on this?

A. T.: I was aware of human infections with this bacterial species and know that those infections are most commonly associated with dog and cat bites. I think that human infections have only rarely, if ever, been associated with contact with waterfowl. The connection between these organisms' presence in dogs' and cats' mouths (where they live normally and without causing these animals any problems whatsoever) and avian cholera is waterfowl is very sketchy, if indeed it exists at all.

C. M.: In an earlier conversation rodents were discussed as a possible reservoir for Pastuerella multocida. Could you explain more about this "reservoir" theory, and how the bacteria might be passed on from rodents to waterfowl?

A. T.: Some investigators have shown that P. multocida resides in rats' mouths and that in this instance rats could constitute a so-called "reservoir of infection" for waterfowl. That is, the organism could reside in some marsh animal species such as rats (the reservoirs) during the time waterfowl are not present in an area (spring-summer) and through some means as yet not understood, the organisms are transmitted from the reservoir to susceptible waterfowl and a new cholera outbreak begins. Whether rats carry the organisms in their respiratory tracts or upper digestive tracts as well as their mouths is not clear to me. I do not know if documentation of rats shedding P. multocida in their feces exists.

C. M.: Another theory suggests host waterfowl. Would they carry avian cholera only by way of their carcasses or feces as well?

A. T.: A distinction between "carrying" and "shedding" might help you here. A carrier waterfowl harbors the organism somewhere in its body after being exposed to the organism. The bird is usually not sick from the organism. At some point the bird is stressed (poor nutrition, other diseases, crowding, injury, etc.) and the organisms are released from its "home" in the bird and are "shed" from some body orifice into the environment. The bird may still be healthy even while shedding the organisms. Alternately, stresses could induce active disease in the bird; in this case, the organisms circulate throughout the bird's body and it dies. The carcass is full of organisms which are then released into the environment as the bird decomposes. So, to answer your question, if a bird carries the organisms in its respiratory tract, shedding may occur from the mouth or nasal passages; if in the gut, shedding could occur by way of feces; if carried elsewhere, either "escape route" might be used.

C. M.: You've used the terms "over-summer" and "enzootic focus. Please clarify.

A. T.: "Organisms over-summer"--Cholera occurs with greatest impact bwtween December and March. Where are the organisms during the rest of the year? In waterfowl carriers? In rats' mouths? In the marsh water or mud? Wherever that is is where the organism could be said to "over-summer". (This is not a technical term.)

"Enzootic focus"--Enzootic refers to a low level of disease which is constantly present in an animal population. So, "enzootic focus" refers to a locale (such-and-such a pond or the entire Delta) at which the disease (cholera) occurs every year and (it is implied) from which outbreaks spread all over the state. This phrase seems to imply that the reservoir theory of origins of each year's outbreaks is true, although some enzootic focus could spawn carrier birds which then spread the disease far and wide.



WARM SPRINGS DAM

Prevent the repetition of the New Melones Dam Reservoir disaster. Construction of the Warm Springs Dam in the Dry Creek Valley area of Sonoma County is being strongly opposed primarily because of the inclusion of one peregrine critical habitat zone within the proposed reservoir boundary as well as the inclusion of two other critical zones located nearby. Unfortunately the Warm Springs Dam was originally authorized in 1967, prior to the Endangered Species Act and is exempt from many of the strict guidelines enacted to help preserve threatened species.

For more information please contact the Warm Springs Dam Task Force, 20400 Fifth Street West, Sonoma, CA 95476

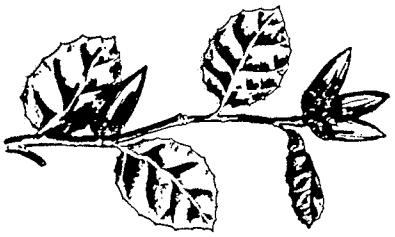


Pin Oak

WRC QUARTERLY MEETING

Date: July 14, 1979
Place: Marin Wildlife Center
76 Park Albert Lane
San Rafael, Ca
(call (415) 454-6961 for directions)
Time: 9:00 a.m. Board Meeting
11:00 a.m. General Meeting

Topic: Wildlife Euthanasia:
Methods and Legalities
Speakers:
Sheila Shannon, D.V.M.
Peninsula Humane Society
Virginia Handley, legislative expert,
The Fund for Animals



Coast Live Oak

Wildlife Journal Editorial Staff:

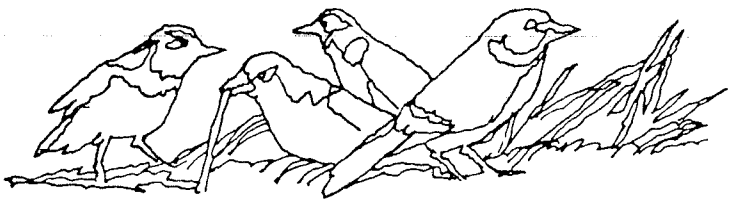
Joyce Abrams — Editor
Marin Wildlife Center
Ann Brice
WRC
Kathy Hobson
Bird Rescue Research Center
Charlene Modena
Marin Wildlife Center
Tina Papenhause
The San Francisco SPCA

HAPPENINGS

Any group sponsoring or attending an event in which participants may be interested in the Wildlife Rehabilitation Council, please contact us. We will be glad to send you informational literature regarding WRC to be made available free of charge to any interested persons.

DEADLINE

All articles, letters, notices, etc. you would like published in the next issue of the *Wildlife Journal* must be submitted in typed form no later than September 1, 1979.



RAISING ALTRICIAL BIRDS———

NOTES ON SUBS

In two previous papers I made suggestions on how to handle and feed car-stunned birds of prey (1970) and how to care for an assortment of other sick, injured, or orphaned small birds (1973). Here I discuss simpler alternatives to the complicated food mixtures made by aviculturists for hand-raising orphans. I also attempt to give reasons for failure, other than the simplistic explanation of sudden change in environment and food: dehydration, malnutrition, and disease. Simple experiments suggest some answers.

DEHYDRATION. How much liquid does a hand-raised nestling need? Some workers (e.g. Kale, 1972) feel that moist mixes fed by forceps or spatula provide adequate moisture. Some (e.g. Mitterling, 1967) give supplementary water by placing a dropper well down the throat. Others feed a soggy mixture of food by dropper.

The danger of giving water or food by dropper is that the bird may drown or gag. If the bird does not swallow readily, water or food gets into the trachea.

The danger of providing no supplementary liquid is dehydration. Part of the dehydration comes as a side effect when the babies are brooded. The simple incubator--a terrarium with covered light bulb--can cause dehydration unless a dish with a wet sponge is placed in it. The skin over the abdomen, almost taut on a very young bird, wrinkles considerably if dehydration is taking place. Weight loss is rapid, the bird becomes lethargic and dies.

To determine the amount of moisture received in natural foods, I collected and froze samples of white grubs, earthworms, wireworms, mulberries, and a substitute food --ground beef chuck. The samples were thawed, weighed on a Mettler H 20 balance, and dried in a drying oven at 26.5 in. vacuum and 60°C until weights stabilized--about 10 weeks. The ratio of moisture loss to total weight was calculated.

Even the moist substitute foods have less water content than natural foods. Baby birds obviously need supplementary moisture. Why not let them decide how much? Water can be offered safely by touching the side of the beak with drops of water on the finger. I do this after each feeding. The babies learn to snap up the drops eagerly. A shake of the head indicates refusal--enough.

A FEEDING EXPERIMENT. The human foster parent needs a quick source of food, readily digestible by the bird, and in small amounts that will not spoil. Elaborate mixes which come by the quart are not practical. However, each substitute has its drawbacks. Turkey starter mash has high protein, but not all birds can handle poultry food efficiently. Starlings are an example (Thompson and Grant, 1968), because of the lack of a crop, only a rudimentary caeca, and rapid passage of food through the digestive tract. This may also be true of other non-seedeaters. Mealworms, unless boiled first, are said to be difficult to digest by young nestlings and to cause impaction in some species because of the chitinous (horn-like) material in the worms' outer coats. My copious supply of manure-grown earthworms is somehow distasteful. Not all birds can handle the fat in ground beef.

Is dog burger adequate? To determine this, I color-banded a clutch of four Starlings which had feathers emerging from pins, weighed them, and started them on Gainesburger and a 1:3 combination of skim milk and water plus vitamin drops.

Dog burger was not adequate for the Starlings. I believe that they needed lipids for synthesis of steroids used in building nerve sheathes, hence the trembling, and the fast recovery of the survivors when given additional fat in the diet.

I had a successful 1977 season feeding American Robin and Barn Swallow fledglings with canned Ken-L-Ration rolled into bits with turkey starter mash. A very young, naked Mockingbird was started on hard-boiled egg yolk dipped in milk, switched to plain Ken-L-Ration, then later fed the bits rolled in turkey starter. All were weaned on Gaine burger and mynah pellets and introduced to natural food according to species. The Barn Swallow did not regain flight in time to

UTE DIET AND DISEASES

migrate and died, presumably of malnutrition, after frost eliminated the natural moth supply.

The National Research Council (1977) suggests canned dog food as suitable for raising the young of many species. A pablum and poultry feed diet, or a dog food and beef and mealworm diet has to be chosen according to what the bird eats in the wild. Hickman and Guy (1973) have a chart of natural wild food of bird groups, with their suggested substitutes. The Dover Publication, *American Wildlife and Plants: a guide to wildlife food habits,* is a valuable reference to the natural foods of many species.

Since there is no one answer to food, we foster parents should keep records and make available our results. We need to watch the babies constantly for signs of health: enthusiastic appetite; weight gain; globular white droppings with dark streak, surrounded with fecal sac during younger days. If we offer a variety of foods, the baby learns to gape more vigorously for its preferences and is more likely to get its needs.

CAUSES OF DEATH. Currently diagnosis of wild bird diseases is not certain until necropsy. We foster parents can provide a valuable service by compiling careful records of normal behavior so that the abnormal can be recognized; and by keeping case histories of illnesses so that symptoms can be linked with necropsies. The goal is to recognize illness in time to save the bird.

IN CONCLUSION. Foster parents have the unique opportunity to make studies of substitute diets, to keep careful case histories of illnesses, and to record normal and abnormal behavior of many species of wild birds. A careful record of diseases can contribute a valuable dimension to the explanation of why 80% of songbirds die within the first nine months of life. Meanwhile, considering that wild parents have about a 20% success rate, and we get the casualties, we have truly made an achievement if we approach the same success rate.

by Hannah Bonsey Suthers
copied from *North American Bird Bander,* Oct.-Dec. 1978, p. 157-159.

Mono Lake Update

California's rainfall for 1978 was 160% above normal, but because of increased water diversion by the Los Angeles Department of Water and Power, Mono Lake waters continued to recede. Consequently, the land bridge, destroyed by blasting in March 1978, resurfaced in September. Once again Negit Island was connected to the mainland and the island's California gull colony jeopardized.

This spring, under the direction of the CA Department of Fish and Game and the CA National Guard, a new channel was dynamited across the resurfaced land bridge, but this procedure is only a temporary measure. The real issue is the long-term protection of Mono Lake and the wonders of the Mono Basin ecosystem, and so the battle continues.

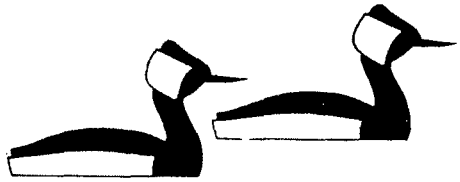
Some of the latest Mono Lake developments are:

1. The CA State Resources Agency, headed by Huey Johnson, the U.S. Forest Service, the B.L.M., the City of Los Angeles, the Ca Department of Water Resources and the CA Department of Fish and Game have formed a task force to seek solutions for maintaining the Mono Basin ecosystem.

2. Assemblyman Norm Waters (D-Lodi), whose district includes Mono County, has drafted legislation (AB-367) to protect Mono Lake. At issue is the definition of "unreasonable" use of water. The CA Water Code gives the state legislature the authority to define the use of water as "reasonable" or "unreasonable". No permit can be issued for "unreasonable" use.

3. At its convention in January the Audubon Society of California voted Mono Lake and the California Condor as their top conservation priorities for 1979. The following week the National Board of the Audubon Society passed a resolution calling for Mono Lake's protection.

4. The Sierra Club has formed a task force aimed at the preservation of Mono Lake



To become more involved in saving Mono Lake or just to keep afoot of events write: Mono Lake Committee, P.O. Box 2764, Oakland, CA 94602.

FAWN CARE

In the spring issue of the Wildlife Journal Sandra Fender wrote an article entitled "The Care and Feeding of Orphaned Blacktail Fawns." I would like to commend Sandra on her informative article and specifically mention the excellent job she did of emphasizing the vital importance of keeping the deer wild.

I would, however, also like to mention a few points where our fawn care differs somewhat from hers.

In the first paragraph it is suggested that it would be helpful for a woman to be present during the initial medical exam because fawns seem to respond to the tones in a woman's voice. During my ten years experience in raising fawns, I have found that deer respond to any voice available at the time--male or female.

I really try to avoid any verbal communication around fawns. I have found that they can imprint on voices as easily as they imprint on the sight of a familiar person. I have seen a whole herd of 11 young deer run up to a solid fence because they overheard two strangers having a conversation on the other side.

Gentle caressing of the young and the wiping of the genitals give the fawn the encouragement and affection it needs. It is all too easy for us to talk to baby animals, but we should remember it can do more harm than good.

In the fourth paragraph Sandra notes that fawns that have been fed straight cow's milk should be watched for bloating and constipation. We have found that fawns fed cow's milk almost always have diarrhea.

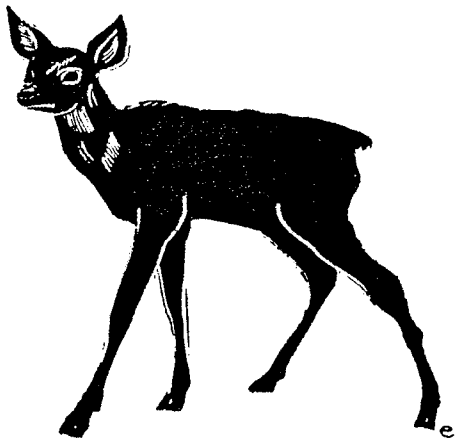
In the section on "Formulas" it is suggested that fawns should be fed 8% to 10% of their body weight daily, divided into four or five feedings. Does she mean 8 to 10% in dry formula weight, weight after mixing or conversion of weight in dry ounces to fluid ounces? I would guess she meant the weight to be converted. For example a five pound fawn should be fed eight fluid ounces of formula in two ounce feedings four times a day. We, however, feed slightly more than that conversion formula would indicate.

The paragraph on stimulating fawns to defecate and urinate may not be clear to inexperienced deer handlers. It should be specified that the anal and genital areas are the appropriate areas to wipe. Use a warm, damp cloth, simulating the mother's tongue. Be patient, sometimes it takes a little time to stimulate them. Be sure and dry the fawn when done and leave it alone to rest.

Regarding housing, I feel that playpens can be very dangerous to fawns. Even young fawns are very powerful and can get caught in the most unlikely places. Nylon mesh is too tranparent, and it has been my experience that deer sometimes try to go through it and become entangled.

I have found solid walls work the best. Well padded bathrooms, laundry rooms and closets are excellent for fawns. I usually keep newborn fawns in a large cardboard box, where they feel safe and well protected.

Jay Holcomb
Director of Wildlife Rehabilitation
Marin Wildlife Center
76 Albert Park Lane
San Rafael, CA



Emily Woodward

CALIFORNIA LEGISLATIVE UPDATE

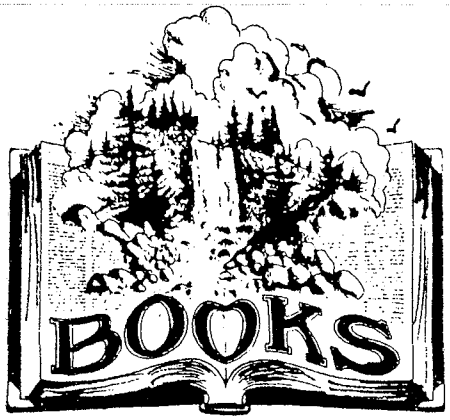
1979-80 SESSION

Bill	Author		Committee
AB 91	Imbrecht	Gives free hunting licenses to low income senior citizens and to residents over 62	Ways and Means
AB 358	Waters	Grants power to the Fish and Game Commission to set wildlife regulations indefinitely	Water, Parks & Wildlife
AB 406	Kapiloff	Phases out plastic ring 6-pack holders	Assembly floor
AB 475	Fenton	Prohibits importation of elk into CA	Assembly floor
SCR 8	Roberti	"Animal Bill of Rights"	Assembly: Water, Parks & Wildlife
SB 473	Roberti	Prohibits importation of elk	Senate floor
SB 834	Richardson	Removes Big Horn Sheep from the protected list so they can be hunted according to Fish and Game specifications	Died
SB 835	Richardson	Removes moratorium on mountain lions. Allows them to be hunted and killed according to Fish and Game specifications	Natural Resources (put over 'til Jan. 1)
SB1066	Holmdahl	Makes it unlawful to import or take bobcats or sell their pelts	Natural Resources

Through the 1979 California Budget Bill it may be possible to ban denning (the extermination of coyote pups in their dens by fire, fishhooks, and other means) and require the daily inspection of traps in government funded predator control programs in California. To support this plan, ask your State Senator and your Assemblymember to either delete the state money allocated for predator control from the budget or approve the appropriation of such money only on condition that said money not be used for any program which includes denning or the setting of traps which are not checked at least once daily.

To get copies of bills or check the status of a bill, phone your Assemblymember's local office. To express your position on pending legislation, write your State Senator and Assemblymember: State Capitol, Sacramento, CA 95814 or phone their local offices.

(Legislative information presented courtesy of The Humane Society of the United States and the Humane Legislative Tree)



CURRENT LITERATURE

Working Bibliography of Owls of the World. Clark, R.J., Smith, D.G., Kelso, L.H. 1978 National Wildlife Federation, Scientific/Technical Series No. 1

Restraint and Handling of Wild and Domestic Animals. Fowler, Murray, D.V.M., 1978 Iowa State Press

"Veterinary Care of Birds of Prey in California", Schulz, T. and Sedgwick, C. California Veterinarian, April 1979 Vol. 33, No. 4

"Radiographic Anatomy of the Barred Owl (Strix Varia)", Michael Jay Shively, D.V.M., Veterinary Medicine/Small Animal Clinician, April 1979, Vol. 74, No. 4

"Ketamine And Zylazine Anesthesia in the Mouse", Kevin J. Mulder, John B. Mulder, D.V.M., Veterinary Medicine/Small Animal Clinician, April 1979, Vol. 74, No. 4

"The Feather Picker", Chuck Galvin, D.V.M., California Veterinarian, April 1979, Vol. 33, No. 4

"Emergency Care in Companion Bird Practice", Duane E. Olsen, D.V.M., Robert E. Dolphin, D.V.M., Veterinary Medicine/Small Animal Clinician, March 1979, Vol. 74, No. 3

"Food Size, Food Type and Foraging Sites of Redwing Blackbirds", Stephen W. Wilson, Wilson Bulletin, Dec. 1978, Vol 90, No. 4

"Habitat and Resource Relationships in Acorn Woodpeckers", Robert C. Roberts, Condor, April 1979, Vol. 81, No. 1

"Metabolism of Flying Hummingbirds", Karl L. Schuchmann, IBIS, January 1979, Vol. 121, No. 1

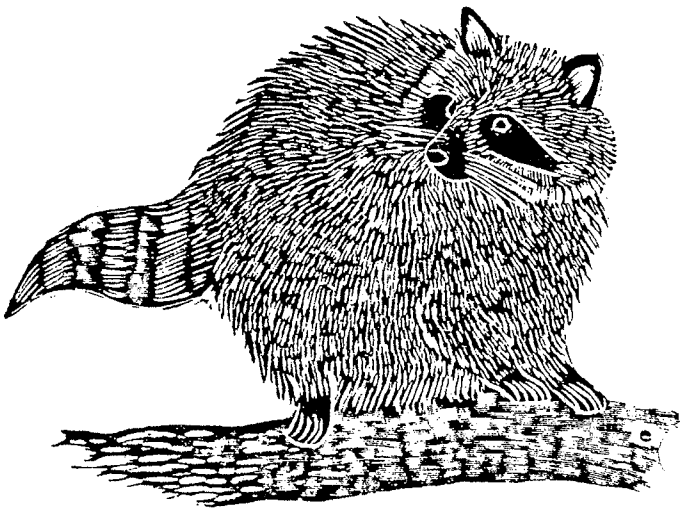
"Sibling Competition and Avian Growth Rates", David F. Werschkul, Jerome A. Jackson, IBIS, Jan. 1979, Vol. 121, No. 1

"Age and Sex Differences in Size of Sharp Shinned Hawks", Helmet C. Mueller et al, Bird Banding, Winter 1979, Vol. 50, No. 1

ADVICE ON RACCOONS OR FALCONS AS PETS

"Do raccoons make good pets?" "How can I get a falcon?" Does your center get queries like these? If so, you may want to save your breath by handing out copies of two well-written replies to these questions.

"A Raccoon at Your House--Pet or Prisoner?" was written by Jay Bell of the Wildlife Care Association in Sacramento and discusses eight reasons why raccoons don't make good pets. Advice on not getting started in falconry is offered by the editor of Watchbird (American Federation of Aviculturists) in reply to a letter asking about falcons as pets. Reprints of both these articles are available from WRC for 25¢ each.



Emily Woodward

WILDLIFE REHABILITATION COUNCIL 1978 RAPTOR STATISTICS

		PROBLEM			DISPOSITION					
SPECIES	TOTAL	ORPHAN	INJURY/ ILLNESS	CAPTIVE	PENDING	CRIPPLED	DIED/ EUTH.	BREEDING	RELEASED	% RELEASED
American Kestrel	197	52	68	13	12	6	60		119	60
Bald Eagle	5		2		1		2	1	1	20
Cooper's Hawk	32	2	9	2	3		11		18	56
Ferruginous Hawk	2		2				2			0
Golden Eagle	19	1	13	1	4	1	5	3	6	31
Goshawk	1						1			0
Harris' Hawk	2			2				2		0
Marsh Hawk	10		5		1		7		2	20
Merlin	2		2				2			0
Osprey	1		1						1	100
Prarie Falcon	4		1						4	100
Red-Shouldered Hawk	29	1	6	1	2	1	11		15	51
Red-Tailed Hawk	134	17	75	8	23	11	52	2	46	34
Rough-Legged Hawk	7		4		1	1	3	1	1	14
Sharp-Shinned Hawk	24	4	17		2		12		10	41
Turkey Vulture	15	2	7	1		1	9	2	3	20
White-Tailed Kite	13	1	7	2	2		9		2	15
OWLS										
Barn Owl	187	66	67	6	21	1	59	2	104	55
Burrowing Owl	39	71	20	6	8	3	15		13	33
Great Horned Owl	139	44	43	4	18	6	42	2	71	51
Long-Eared Owl	4		3			2	1	1		0
Pygmy Owl	8		5				5		3	37
Saw-Whet Owl	12		5				7		5	41
Screech Owl	88	20	44	1	7	1	28	1	51	57
Short-Eared Owl	5		4			1	2		2	40
Spotted Owl	3	2	1		1				2	67
TOTALS	982	283	411	47	106	35	345	17	479	48

Based on the WRC totals, it is estimated that 2,000 raptors are rehabilated annually throughout the entire state. An overall release rate of 50% is consistent with previous years statistics.





Netting for Raptor Aviaries

For those of you rehabilitating raptors and looking for a cheap, safe, and effective material from which to build your aviary, the San Joaquin Raptor Rescue Center has found a solution. They found that the netting used by the oil companies to cover their sump ponds was the perfect product. It is light weight, but extremely strong and durable.

The Center has had all types of raptors in their "net" aviary with great success, including Great-horned owls and Red-tailed hawks. No raptor has ever become tangled in the netting even after hanging from the sides or ceiling. They can let go and fly easily back to their perch. The netting is flexible enough to greatly cushion the impact of a direct flight into the taut material, and flighty Red-shouldered hawks have failed to break their delicate feathers when flying into it.

The netting is not acceptable for housing Kestrels since they can actually squeeze through the openings, nor is it acceptable for Eagles. Their strong talons can tear though the nylon netting.

The company that manufactures the netting is the Coastal Engineering, P.O. Box 5787, Bakersfield, CA 93308. It comes in 25 foot widths and is an easy product with which to work. Two years ago the cost was less than 10¢ per foot.

If you would like to take advantage of the construction techniques used by the San Joaquin Raptor Rescue Center for their raptor aviary, contact Debbie Soares, San Joaquin Raptor Rescue Center, P.O. Box 778, Merced, CA 95340. They have devised an excellent method of construction to prevent tearing and sagging. Anyone interested in seeing this netting "in action" is welcome to visit the Center.

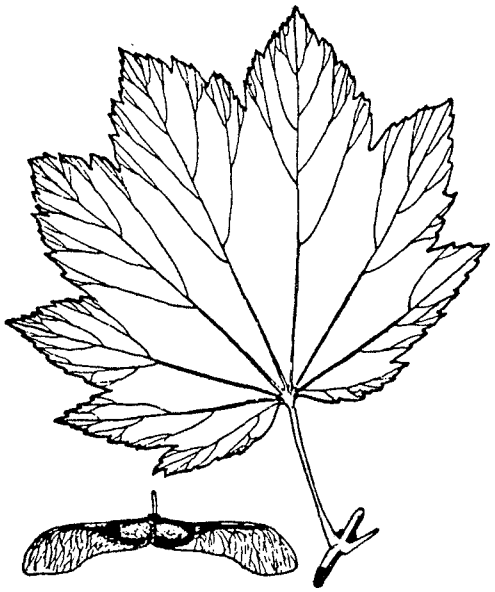
WRC MEMBERSHIP CLASSIFICATIONS

Organizational Membership: To be eligible for membership organizations must be non-profit corporations or public agencies affiliated with a branch of local, state or federal government actively supporting or operating wildlife rehabilitation programs. Organizations so required by law in the function of their activites must have valid local, state and/or federal permits. All organizational candidates must be approved by the Board of Directors.

Professional Membership: Professional membership is open to people actively working in the field of wildlife biology, administration, conservation, management, education, research, humane work or professional practice relating to wildlife. To qualify for such membership a personal vita should be submitted to the Board of Directors.

Associate Membership: Organizations or individuals interested in the work of WRC but not meeting the criteria for membership in the Organizational or Professional catagories may join as Associate members. Associate members may not, however, serve as members of the Board of Directors.

Copies of the WRC By-Laws are available to any WRC member upon request.



Acer circinatum Pursh.

WRC's NEW BOARD OF DIRECTORS

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WRC
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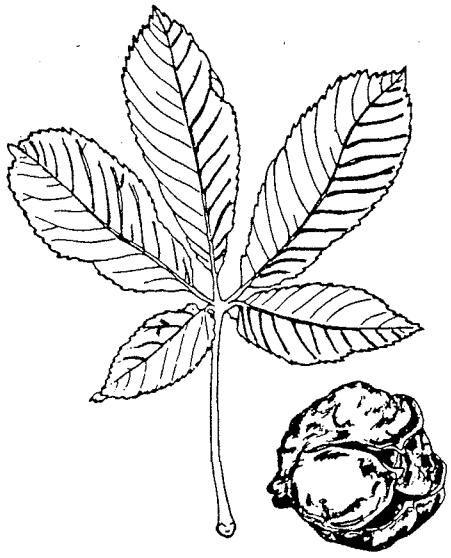
Congratulations are extended to the new Board of Directors and officers. The response to the ballot and questionnaire was impressive; the results of the questionnaire will be reported in the next Wildlife Journal.

While the baby bird season is still fresh in your mind, WRC would like you to take a few minutes to write down the baby bird formulas you have found to be effective and send them to us by Sept. 1, 1979. We plan to compile this information and publish it in a future issue of the Wildlife Journal. This information should be very useful and may even help improve next year's survival statistics.

THE FOLLOWING IS A LIST OF THE INFORMATIONAL LITERATURE AVAILABLE FROM WRC:

Copies may be ordered for 50¢ each unless otherwise noted. There is also a postage and handling fee of 50¢ for 1-5 papers, 75¢ for 6-10 papers, and $1.00 for more than 10 papers.

"Care and Feeding of Orphaned Birds"
"Raptor Care and Rehabilitation" ($7.50)
"Emergency Care of Birds and Squirrels"
"Vector Born Disease Potential in California Mammals"
"Care of Sick and Injured Birds"
"Gardening to Discourage Deer Damage"
"Care and Feeding of Bushtit Babies"
"Great Horned Owl Case Study"
"Necropsy Precautions and Procedures"
"WRC Wildlife Care Problem and Solution Paper"
"Care and Feeding of Jack Rabbits"
"Cliff Swallows"
"Substitute Diet for Orphaned Birds"
"Substitute Diet for Orphaned Mammals"
"Care and Feeding of Orphaned or Abandoned Tree Squirrels"
"Water Turtle Care Sheet"
"Care and Feeding of Baby Doves and Pigeons" ($1.50)
"Avian Drugs and Dosages" ($3.50)
"The Oppossum Species Paper" ($2.00)
"Our Hummingbirds" ($2.85)
"Initial Care of Injured or Oiled Water Birds"



Aesculus californica Nutt.

CUMULATIVE 1979 *WILDLIFE JOURNAL* INDEX

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- Raptors of England
- The Pacific Flyway
- Wildlife Rescue, Inc., Austin, Texas

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- The Care and Feeding of Orphaned Black-tailed Fawns
- Communicating with Lawmakers
- Raptor Management Plan
- Organizational Directory
- Christmas Counts

A limited number of copies of past issues of the *Wildlife Journal* are available from WRC at a cost of 75¢ each. Copies of specific articles are also available at a cost consistent with its length.

* NOTICE *

STEEL SHOT REGULATIONS ISSUED....

In an effort to prevent the inhumane death of waterfowl from lead poisoning as a result of the ingestion of spent lead shot mistaken for seed or grit, the U.S. Fish and Wildlife Service is proposing regulations for the use of non-toxic steel shot. During the 1979 season, steel shot will be required only in 12-gauge shotguns, however, beginning with the 1980 season, it must be used in all gauges and in all zones. Detailed descriptions of the zones where steel shot rather than lead shot will be required for 1979 are available from Fish and Wildlife Service regional offices.

WILDLIFE REHABILITATION COUNCIL APPLICATION (please print): Date: _____

Name: _____ Occupation: _____ Phone (with area code)
Hm: _____
Wk: _____

Address: _____ City _____ State _____ Zip _____

Organization: _____ Your Position _____

Membership: Associate ($7.50) ___ Professional ($15) ___ Organization ($25) ___ Renewal _____
See page 14 for WRC Membership Classifications

I have ordered informational literature (see reverse side) ___ Yes ___ No

Mail to: Wildlife Rehabilitation Council, P.O. Box 3007, Walnut Creek, CA 94598

I suggest the following individuals as potential WRC members:

Name _____

Address _____

Name _____

Address _____

REHABILITATION
WILDLIFE COUNCIL

P.O. BOX 3007
WALNUT CREEK, CA 94598

Please note: Your subscription expiration date is on the upper right-hand corner of the address label. Renew early and encourage a friend to join.