Sample

Spring 1992 Vol. 15, No. 1

WILDLIFE JOURNAL

Journal of the International Wildlife Rehabilitation Council



Emergency Road Kits for Wildlife Rehabilitators . . . . page 16

Guidelines for Authors for the *Wildlife Journal*

The *Wildlife Journal* 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 featured articles are subjected 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 *Wildlife Journal* 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 *Wildlife Journal* to include wildlife rehabilitation articles from countries outside the United States and welcome inquiries regarding such articles. We 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. We pay authors a $25 honorarium for each article accepted for publication or provide a one year membership or renewal.

Submission Instructions

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.

2. The *Wildlife Journal* is prepared on a Macintosh personal computer with desktop publishing software. If papers are already on a personal computer disc, 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 disc directly or translate by machine to Macintosh format prevents input errors and speeds up the process.

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, and phone number of the author. Where appropriate, please list any academic degrees, special training, or experience that is relevant to the article (i.e., physical therapy—RPT, etc.)

5. Black and white photographs are preferred for use in the *Wildlife Journal*. When no other option is available, color slides and 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.

WILDLIFE JOURNAL

Spring 1992 Vol. 15, No. 1

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Editorial . . .

IWRC Celebrates it's 20 Year Anniversary!

Believe or not, it was 20 years ago that IWRC was formed to "provide service and assistance to organizations or individuals involved in the management, rescue, medical treatment, and rehabilitation of wildlife." What a 20 years it has been, not that I have been here for all of them! I did not begin rehabilitating wildlife until 1975 or join IWRC until 1976. However, looking at some historical documents, I can get a glimpse of the "early days."

The minutes are a "interesting" to read. Board meetings were closed to members until 1977. The "forefathers" both male and female, key wildlife rehabilitators in the San Francisco Bay area, had a vision to bring together fledgling groups of wildlife care professionals, even before there was much of a profession! Only a handful of people were actually employed doing wildlife rehabilitation in the '70's and most of them were also responsible for curator-type duties in museums. Still, there was a vision that someday wildlife rehabilitation would become a force of its own, speaking for wildlife in ways that had here-to-fore not been done.

We had virtually no money in those days. Our first year's income was $399.94. Everything that managed to get done, after baby bird season, of course, was done by volunteers. As more and more people across the country came to rely on the Wildlife Rehabilitation Council (as it was named in those years), it became harder to meet member expectations with only volunteer help. Volunteers, busy with their own centers, had a difficult time getting all the tasks done—with the day to day routine, service tasks becoming the most taxing. After much discussion, and several board resignations over the issue, it was decided to hire staff and establish a central office in northern California.

We started with one staff person, Sally Lewis, who organized and set up the framework for our office systems. Over time, we added two more part-time positions, one to coordinate the conference and one just to deal with literature sales. We started with 200 square feet of office space and grew into 400 square feet. This year, we are projecting to expand to 800 square feet as our programs and materials just keep on enlarging.

We have just begun a project to computerize our accounting and inventory that will make staff even more efficient in tracking progress for the board and for government accounting requirements.

Our programs have enlarged over the years as well. The *Wildlife Journal* used to be under 12 pages—this issue will be 28 pages with the Annual Report! The Skills Seminars started out as a local training class and now serve approximately 500 people across North America every year! The conference, once local, now moves around the continent as well! Even our Board of Directors, once local, is now composed of professionals from the United States and Canada. All of this has been done with a membership base of less than 2,000 active members—no small feat I assure you.

It has been an exhilarating 20 years and there is so much left to be done! We look forward to the future, knowing the structure is now at hand to tackle those challenges and that IWRC has truly become an "institution" that will live on long after any of its present members do!

-Jan White, DVM-

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Raising White-tailed Deer in Washington: A Successful Fawn Strategy

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Introduction

This paper is designed to provide a general guideline for raising orphaned and injured fawns and includes a basic feeding regime that has proven to be successful for White-tailed Deer. I have been collecting information and strategies from three wildlife rehabilitation centers in my area. Sardis Wildlife Center, Custer, WA, Wolf Hollow Wildlife Rehabilitation Centre, San Juan Island, WA, and Olympic Wildlife Center, McCleary, WA. All been very generous with their time and information. This paper is a conglomeration of all the best ideas from all three centers. Treatment of injuries or trouble shooting beyond the minimum will not be addressed here.

Fawns are very susceptible to trust. It would be a grave disservice if they forgot their naturally cautious fear of humans. Never "cuddle and coo" the fawns or promote unnecessary security. It would be a short life if they were released just to walk up to a hunter in search of a handout.

Initial Care and Housing:

Young fawns, presented hungry and slightly dehydrated but otherwise healthy, are treated as follows:

A) Upon admittance

- perform brief physical examination (proceed from nose to anus systematically, check for an umbilical cord and, if present, dip in 5% tincture of iodine to prevent infection)
- stabilize if necessary, check hydration level
- reduce stress
- weigh
- obtain rectal temperature (101-103° F is the acceptable range)
- check fecal sample as soon as available
- check for parasites (especially ticks which can transmit zoonotic diseases)
- tag or define identification features

First 24 Hours

Warm oral electrolytes should be given orally, 5x per day e.g., Bounceback™, Carnation™, Pedialyte™, and Infalyte™.

A pan of pesticide free soil is immediately put into their cage, so that they can eat it and inoculate their gut with local beneficial flora.

The initial 48 hours in captivity is a critical period when the fawns are taught to bottle feed. Hold the bottle up so that the fawn's neck is outstretched and it cannot gulp the formula. It is necessary to carefully note the quantities the fawn drinks during each feeding.

Fawns need to be stimulated to urinate and defecate. Use a warm, damp cloth or soft paper towel to gently wipe the perineum. Be careful not to rub too hard. Note the condition of the stools to make sure that they are digesting the formula properly. When the diet consists of only electrolytes and goat's milk, the stool should resemble yellow toothpaste. Wipe mouths to prevent bee stings, and wipe the anal area to prevent infection. A bucket of warm water can be used to carry the rags to the pen so they will remain warm until used. Rags used on anal areas should not be used to wipe the mouth or placed back into the bucket of warm water.

The newly admitted fawn is generally housed in a small isolation pen, approximately 4' x 3', to stabilize medically. This also is a good idea to prevent cross contamination with other fawns while waiting for fecal results and any other results necessary. The pen can be heated with a heat lamp if the body temperature is subnormal or shock is severe. Heating lamps are better than heating pads due to the frequency of urination. Be sure to keep a careful eye on the fawn to prevent overheating. Non-slip pads, such as old bathroom rugs, and sheets make good flooring because they prevent the fawn from slipping and injuring itself and also reduce the stress level.

Second 24 Hours

The fawn is gradually introduced to goat's milk or formula by increasing proportionally the amount of goat's milk, i.e., begin with full electrolytes, next to 3/4 electrolytes/ 1/4 goats milk, next to 1/2 electrolytes/ 1/2 goat's milk, next to 1/4 electrolytes/ 3/4 goat's milk, and finally to full goat's milk. This transition may take two to three days. White-tailed deer have been successfully raised on kid milk replacer or llama milk replacer in an attempt to avoid scours and diarrhea. Additionally, lactobacillus has been added to the feedings for the first five days to help establish gut flora (i.e., goat's milk yogurt, Microvet™ or Proviocin™ powder. *(Editors note: This formula is described for white-tailed or mule deer—not the Black-tailed deer for which Doe Milk Replacer™ (National Food Lab, Inc., P.O. Box 2277, Dublin, CA 94568) is standardly used for best results.)*

B) When stable

As soon as the fawn is strong and is adept at bottle feeding it is moved into an outdoor fawn pen which houses fawns of similar size. Three fawns per pen reduces competition and the potential for mass contamination. They are usually reduced to four feedings per day (e.g., 8 a.m., 12 p.m., 4 p.m., and 8 p.m.) based on age/weight. Generally, fawns are fed about 40 ml/kg body weight (3 oz./lb). Feeding guidelines by age as described by Connell, (1985) are as follows: 1-5 days of age, 2 to 3 oz. given 5 to 6 times daily; 6 to 7 days, 4 to 6 ozs. 4 to 5 times daily; 2 weeks of age, 8 to 10 oz. 4 to 5 times daily; 3 weeks of age, ad lib. to 16 oz. 4 times daily; 4 weeks of age—ad lib. 3 times daily; 6 weeks of age ad lib. 2 times daily; 7 weeks of age—ad lib once daily. It is better to underfeed than overfeed in order to reduce the probability of diarrhea. Another method is to offer the fawn 10% of its body weight daily.

Fawns need to be stimulated until they are consistently eliminating on their own. Generally, they are able to urinate by themselves before they are able to defecate without stimulation.

If, at any time, a fawn is experiencing diarrhea revert to 1/2 electrolytes and 1/2 goat's milk for several feedings until the stool becomes firm. Gradually increase the formula until it is full strength goat's milk. Try to determine the cause of the diarrhea. Unchecked, diarrhea may become a life-threatening problem and so action is taken immediately to avoid major problems. If diarrhea is persistent, further fecal studies should be done, such as flotations, smears, and cultures. Also retest your goat milk for any contaminants, such as salmonella, brucellosis, TB, and large numbers of *E.Coli.*

Begin offering browse once they are in the fawn pen. While browse materials vary by geographic location, all three centers I work with clover first as the sole browse item. When the fawns begin eating the clover, the stool will become darker shades and finally is shaped into green balls.

When a group of similarly aged fawns are eating and digesting well, they can be introduced to formula feeding in a pan. First, the middle feeding of the day is replaced by pan feeding. It might be helpful to split the rations into two pans that are securely anchored to prevent accidents. When ALL of the fawns are eating from the pans, the evening feed is replaced by pan feeding, followed by the morning feeding. During this time, observe the fawns to determine that each is eating well. It is very important at this point to watch carefully and make sure that each fawn is getting a fair share of the milk.

Feeding Techniques

Before a fawn is passing feces on its own, it needs to be stimulated after each feeding. The most efficient way, I have found is by using two buckets of hot water, one with bottles in it and one with soft cotton rags in it. It is important to keep the two buckets separate and to handle the bottles first and feed all the fawns. Take the bucket of bottles outside the pen and grab the bucket of rags. Use a rag to wipe the face FIRST and then stimulate the perineum. Put the dirty rags aside well away from the clean ones. This sequence works to prevent oral-fecal contamination.

Until the fawn is taking the bottle well, it may be necessary to actually go in to the pen and help them eat. An effective technique is to firmly, but gently, hold the fawn between your legs, extend

its neck upward, and begin bottle feeding. Some fawns are very uncomfortable with human contact, as they should be. However, it is important that they eat well and not gulp or pull at the bottle.

To prevent taming, as soon as the fawn is eating well it is a good idea to contrive a way of feeding without human contact. I have seen examples of various techniques. One idea is to paint a doe on wood and have holes cut into it where the teats should be. The bottles are inserted through these hole. Another idea was a box attached to the side of the pen and covered with deer hide. Holes were cut in the bottom for bottles to be inserted in. The backside of the box was cut out to allow the bottles to be changed from outside the pen. Other inconspicuous methods of feeding include throwing browse over the top and using chutes built into the walls of the pen. They should still be monitored but cleverly, for example through cracks in the wood. This method minimizes human contact, but it requires more observation to ensure that the fawns are eating and growing well. It is still important to watch bowel movements for change.

Fresh, clean water should be available at all times. Care should be taken that water is offered in a non-tip or weighted bowl. Oral vitamins, especially the B vitamins and iron, should be given daily. Mineral blocks and browse should be available at all times

Browse

At Sardis Wildlife Center, clover is used as the first browse. Ocean spray, blackberry, alder, and other natural food items are added to the diet. Because fawns learn to recognize harmless browse by what they are given, care should be taken to introduce them to a variety of browse. Browse aids in developing the appropriate gut flora that is necessary for proper digestion. Fawns that have been fed goat's milk and commercial browse have a strong potential to develop problems, due to the inadequacies of their gut flora to handle natural foods.

Never use willow, tansy ragweed, or bleeding heart. These and many other species are poisonous to ruminants.

As fawns begin to eat browse, their stools will become darker brown, and then green. Stools appear as various size pellets. When the most nutritious browse has withered in late fall, small amounts of Douglas Fir and Western Red Cedar can be used (see accompanying chart).

Commercial Supplements

The rumen develops at approximately 6 weeks of age. Deer need 16-20% crude protein in their diet. Food items often used include Calf Manna. Corn, if used, should be mixed with other feed and used sparingly (low in protein, high in carbohydrates).

When the fawns are in the second enclosure they can be gradually introduced to grain mixtures (i.e., Dairy 14™) and/ or whole wheat bread, apples, carrots, etc. Gradually fawns are weaned by decreasing the amount of milk and increasing the other solid foods and browse. The fawns at Sardis are usually fully weaned by mid-September, or will wean themselves a couple of weeks earlier. Fawns usually start to wean off the bottles and onto pan feeding around 6-7 weeks old. They are usually completely off formula by twelve weeks but the schedule varies with the proposed release time. For example, at Wolf Hollow Rehabilitation Centre the fawns are kept until the hunting season is over. They are offered formula in a pan twice daily (9AM and 6PM) until two weeks prior to the end of hunting season. This also helps to fatten them up before their first winter. They are usually eating 100% browse by twelve-thirteen weeks. The weaning schedule is approximate and each fawn should be carefully monitored for weight loss and any other changes.

Tools of the Trade

At Sardis and Wolf Hollow, lamb nipples are used because they most closely resemble a doe's nipple. Glass bottles are easy to sanitize effectively and should be rinsed thoroughly. Any traces of detergent can promote diarrhea. Occasionally bottles should be soaked in dilute Clorox™ (1:30) and then rinsed very well.

The bottles should be marked with ounce increments to determine the amount of formula that the fawn is drinking at each feedings. Examples of glass bottles include: the old Coca-Cola™ bottles and large Koala Springs™ and Clearly Canadian Bottles™. Usually fawns will not overeat so the amount at each feeding will probably be slightly irregular.

Any milk replacer-powder should not contain hormones or antibiotics. Kid Milk Replacer, Land-O-Lakes™ is a good milk replacer. The addition of antibiotics should be avoided whenever possible. Often, gastrointestinal problems can be solved without introducing antibiotics into the body. For example, diarrhea can sometimes be stopped by using yogurt or acidophilus. It is

important, however, to determine the cause of the diarrhea.

Pruning shears are vital for gathering browse. They should be kept sharp so that damage to the remaining stand is minimal. The shears should have a regular designated location so that they can be readily used by anyone. Ideally, a pictorial guide should be available for inexperienced browse gatherers.

A good system for daily records on the fawns is vital, for example, a clipboard with a page for each fawn. The amount of formula consumed, the characteristics of the stool, and general attitude of the fawn should be entered after each feeding.

Housing

Fawns should be housed in an outside pen as soon as they are medically stable. The Olympic Wildlife Center has recently constructed new fawn pens. They are of various sizes depending on the topography of land, ranging from the smallest at 60' x 30' plus an 8' x 8' sleeping/shelter area. Separate enclosures are used if there are problems or when there are numerous fawns. Olympic Wildlife Center considers three fawns (of similar size and development) per pen to be ideal in order to reduce competition and allow for strong grouping attachments. They will be released together so strong attachments are very good. The flooring should be natural ground. The author steers away from wood shavings due to concern over bacterial contamination, such as *Klebsiella*. The walls should be solid wood and at least six feet high in order to inhibit human contact. There should be shelter available. A good strategy used by Olympic Wildlife Center in designing their pens was to put the shelter in a corner that can be closed off from the rest of the pen. This is helpful when it is necessary to treat ill or injured fawns without causing undue stress on the rest of the fawns in the pen.

Keeping fawn groups separated also is valuable for inhibiting spread of disease or bacterial contamination. For example, at the Olympic Wildlife Center one group of fawns was diagnosed with coccidia. Thankfully, they had been kept separate from the other fawns and only the fawns in the one pen had to be treated. A batch of goat milk contaminated with salmonella drove home the lesson of rechecking the goat milk shipments periodically for contaminants.

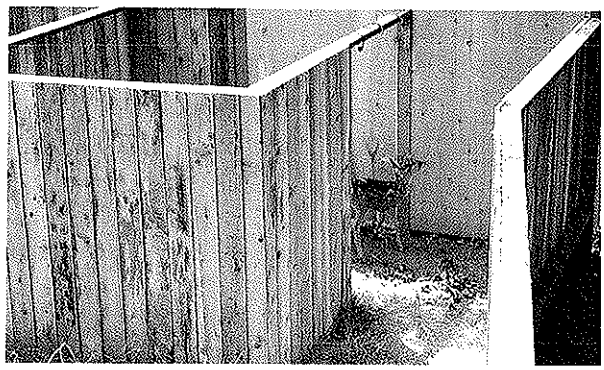
Since Wolf Hollow keeps their fawns until after the hunting season, it has been valuable to them to have a second pen that covers 1/4 acre or more to house fawns until release time. This enclosure was designed to completely shut off human contact. Chutes and drawers are used to feed. A double door is used to prevent escapes. It is set way back in the woods to prevent noise from the center making contact. The fawns are moved in large groups out to this enclosure after they are eating plenty of browse and pan feeding two times daily.

An important common sense fact when dealing with all wildlife is that no dog contact should be allowed. Too many deer are injured by dog attacks each year. It is very important not to allow the fawns to become careless when dealing with dogs. On that same point, all predator contact should be strongly avoided.

Each pen should, idealistically, permit the rehabilitator to feed without being seen. A variety of browse should be planted in the off season and at any other appropriate time to ensure a continous supply of natural browse. The fawns will eat it as fast as it grows, but that is why it was planted.

Restraint and Medicating

A veterinarian is responsible for prescribing and dispensing medications, but many times the director or another licensed rehabilitator must make the decision to treat based on established veterinary policy. The veterinarians will give further directions as needed on a case-by-case basis. Fawns can be difficult to handle for transport and



Fawn in a deer enclosure.

may require sedation. Check with your veterinarian or an experienced wildlife rehabilitator for assistance in these situations.

Internal Parasites

A regular worming routine should be established once the fawn is stable. Common internal parasites include nematodes (of the stomach, intestines, and colon), ascarids, and hookworm. Symptoms include anemia, debilitation, emaciation, diarrhea, anorexia, and death. A fecal sample, studied under the microscope, is the best method to detect these worms.

The medication of choice for these parasites is Mebendazol™ dosed at 10-15 mg/kg per day for 2 days. Care must be taken so that an individual animal is not given more than the calculated dosage. Other agents shown to be effective against ascarids, nematodes, and hookworms are Thiabendazole (50-100mg/kg per day for 3 to 5 days) and Levamisole (dosage varies according to form). (Fowler, 1986).

Ivermectin™ is a fairly new but very effective anthelmintic. It works against a wide range of internal and external parasites. It can be used to treat for lungworm and stomach worms that are common in deer, as well as used to treat sarcoptic mange and sucking lice.

Lungworm occurs in wild artiodactyls. Clinical signs included ataxia, debility, rough and shaggy coat, dyspnea, bronchial coughing after alarm, anemia, diarrhea, nasal discharge, and enlarged axillary lymph nodes. A diagnosis is confirmed by examining a fecal sample under a microscope. Ivermectin has proven to be effective against lungworm. (Fowler, 1986) Fenbendazole, Panacur™ , has also been effectively used.

Another internal parasite of concern is coccidia, diagnosed by examining a fecal sample. Symptoms include diarrhea that may be bloody, depression, anemia, and death. Treatment is sulfadimethoxine or sulfamethazine (50mg/kg per day for 10 days) or Amprolium™ (10mg/kg for 5 days) (Fowler, 1986).

One more concern is to check for giardia. It is a protozoan that exists in contaminated water. It causes liquid diarrhea which quickly results in dehydration. It is treated with Metronidazole.

There are a number of bacterial infections that have deleterious effects. Prevention is the best answer with good hygiene and sharp observation.

Release

As with any release, the animal must be able to feed itself, recognize a variety of foods, be physically healthy, free of parasites, be able to maintain a healthy weight, and be cautious of humans, cars, dogs, and guns. The potential release site needs to have a natural water source, plentiful natural food, adequate shelter, and be distant from human settlements. All of these standards may be difficult to meet, but every effort should be made to do so to ensure a good chance of survival.

They are releasable after they have been eating only browse for two weeks, are not losing weight, and are having normal bowel movements

Fawns should be released in groups and where possible in an area where they can join an existing group. They should be released early in the day as they are diurnal. They are usually ready for release at fourteen weeks but opinions vary on when is a good time to release. Some centers like to keep over hunting season, some like to keep over the winter, and some like to release two or more weeks prior to hunting season. Each strategy has advantages and disadvantages. The decision is best made after contemplating your own situation, geographic location, and condition of the fawns.

Common Deer Food in Washington State

(Dept. of Wildlife of Washington State, Hunting Pamphlet, 1991)

** 3/4 of the annual diet is tender shoots of woody plants.
** In spring/summer, up to 1/2 of the diet is tender growths of forbs and grasses.

Primary Source

acorns of oak
buds and leaves of:

trailing blackberry	Vine Maple
Western Red Cedar	Cranberry
Salmonberry	elder
Red Huckleberry	Thimbleberry

Secondary Source

forage of:

Red Alder	Salal
bitter cherry	scotch bloom
rose	

fruits and buds of apple and pear trees
young shoots of Douglas Fir

Attractive and Nutritious Forbs

Agoseris	alfalfa
clover	deervetch
Pearly Everlasting	fireweed
peavine	trefoils
vetch	yarrow

Grasses and Grass-like Plants

bluegrass	Orchard Grass
Mountain Brome	oats
wheat	

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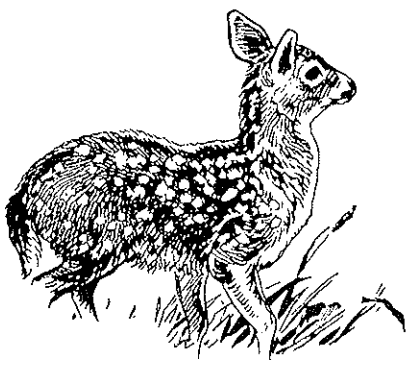
About the Author

Kimberly Martin-Dolmans has a Bachelor of Science in Biology earned in December 1990 from Western Washington University, Bellingham, Washington. She is a licensed wildlife rehabilitator in the State of Washington. She has been active in rehabilitation since she designed a class in college for credit in spring of 1990. It was the first season for Sardis Wildlife Center and she was able to get in on the ground floor of a new center. The center had a rapidly expanding case load and she learned fast to keep up with the load.

Currently, she is living and working in Olympia, Washington which is over three hours away from Sardis but still works on projects with the crew at Sardis. She recently submitted the updated copy of the volunteer handbook for the Spring 1992 season. She is the triage person for the Olympic Wildlife Rescue Project in McCleary, Washington which is much closer which allows her to still be active in rehabilitation while working full-time at a veterinary hospital. She volunteers time at the Wolf Hollow Wildlife Centre in the San Juan Islands during the summer seal and fawn season.

Her goal is to become a veterinarian and specialize in wildlife. Meanwhile, she continues to go to school and volunteers in wildlife rehabilitation until she can begin veterinary school.





Natural History & Rehabilitation of the Cliff Swallow *(Petrochelidon pyrrhonota) Part II*

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Introduction

This is the second part of a two part article that began in Vol. 14, No.4. Part II deals specifically with the rehabilitation of the Cliff Swallow.

Cliff Swallow Rehabilitation

The rehabilitation of Cliff Swallows is somewhat more difficult than some of the other more common birds found in wildlife care centers. There are many factors to consider in treating these birds and caring for them. The fact that they are colonizing birds and their habits are very much synchronized with each other presents some problems in their rehabilitation.

Unfortunately, there have been no studies done to determine the survival rate of swallows following wildlife rehabilitation. Questions that plague wildlife rehabilitators when rehabilitating these species include: do hand-reared birds migrate back to their traditional wintering grounds? Is there adequate muscle mass to provide the bird with enough strength to make the 3,000-4,000 mile journey? Do established colonies accept newly released birds?

In the spring, the most common bird presented to northern California wildlife centers are birds who have "fallen from the nest." Cliff Swallows can make up a large part of these intakes. There are many reasons birds become separated from their nests.

The nests could be exposed to conditions such as wind, predators, or a man-made problem. If the parent bird rejects the chick, it may be ejected from the nest. In such cases, there may be a developmental or genetic problem with the chick or a problem with food availability.

Fostering Cliff Swallows

One simple and effective rehabilitation method for Cliff Swallows is to foster them in existing nests at colonies. This is assuming that the bird cannot be returned to its own nest for some reason. The author has attempted to foster 150 Cliff Swallows over 2 seasons in 3 colonies. Of those attempted, only 15 birds were later found to have died for one reason or another.

Colonies of Cliff Swallows are easy to locate and while some nests are truly inaccessible, the clever wildlife rehabilitator can usually gain access to some. Of course, any candidates for fostering should be examined to insure they do not have ectoparasites and are in good health and hydration. The best candidates for fostering are Cliff Swallows aged 7 to 15 days old. (Older chicks often fall from the nest when fostering is attempted.) Young should be added to existing nests during the afternoon when there is a relative inactivity of feeding activities. All young should be counted and care should be taken not to place too many birds in one nest. Monitoring the nest is important for a few hours to insure that all is well. The author never places more than 3 additional birds in a nest and never leaves a set of parents with more than 6 birds in the nest.

Nestling Captive Care

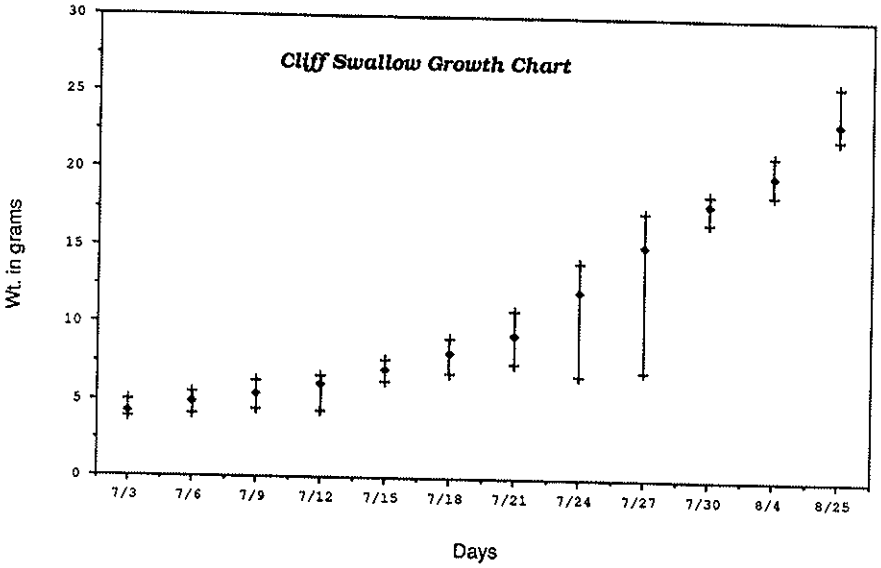
Housing

While incubators work the best for nestlings, birds that are 1 to 13 grams can be adequately housed in a small laundry type basket (10" x 14") with a fine screen top. Margarine tubs can be placed inside the baskets and lined with soft paper toweling. A heating pad can be placed under the basket and set on low. A wet sponge placed in a separate tub should be placed in with the birds to maintain humidity. Heat and humidity are essential for young nestlingS survival. The temperature range should be from 82° to 90° F and the water reservoir should be periodically checked and filled, if low. At 8 to 12 days of age, the young begin to thermoregulate and the ambient air temperature can be lowered to 70° F.

Captive Diets

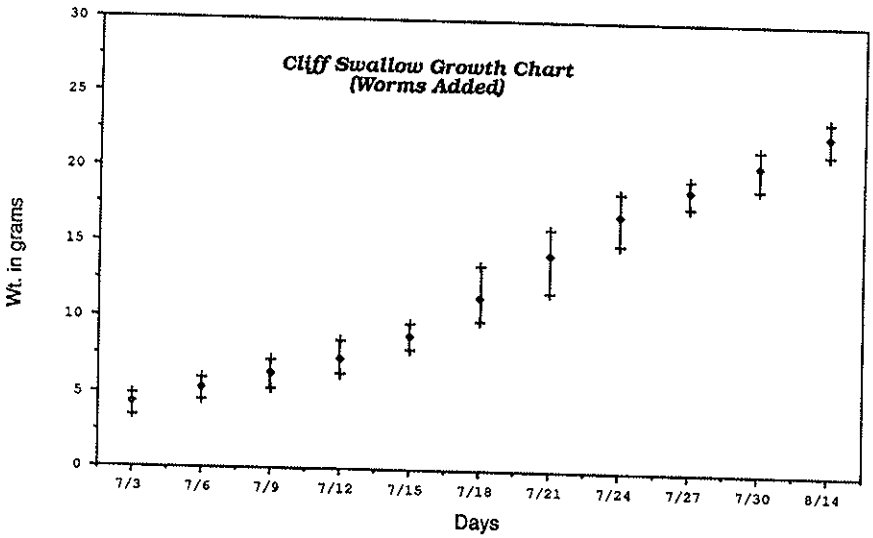
The author has used two similar diets to rear Cliff Swallows successfully. The first diet contains 1 cup of Science Diet (Canine Growth formula), 1 hard boiled egg, 1 tablespoon of tricalcium phosphate, 6 cc's of Super B™ vitamins, and 2 cc's of Avitron bird vitamins. Diet No. 2 is the same as No. 1 with the addition of 1 cup of live mealworms. All ingredients are blended together in a food processor and mixed until it has formed a pancake batter consistency. The problems with Diet No. 2 are that it spoils easily and the Calcium:Phosphorus ratio is reversed and difficult to balance. This diet should be made and refrigerated with small amounts being taken out into room temperature for one feeding at a time. Alternatively, portions of either diet mix can be poured into ice cube trays and frozen until used.

Both diets No. 1 and No. 2 provide adequate Kcals (.82 Kcal/ml and 1.41 Kcals/ml respectively) and protein levels for growth, however, Diet No. 2 gave better empirical results in a controlled study using 10 birds (see growth charts). The birds that were fed the mealworm diet grew at a nominally faster rate and had fewer feather or bone problems. The kinds of problems that were observed included stress marks on the feathers, stunted feathers or feathers that easily broke and curled feathers that grew in looking as if they were inverted. Some birds on Diet 1 which has a $Ca:PO_4$ (Calcium:Phosphorus) ratio of 1.25:1 appeared to develop metabolic bone disease. However, *both* diets need some adjustment in the $Ca:PO_4$ ratio to bring them closer to the desirable 2:1 ratio. Mealworms, used to increase the ratio, are expensive and that is one major drawback to using this diet. *Editors Note: It also should be noted that mealworms grown in bran and newspaper are not balanced and would not improve the ratio to the necessary 2:1 ratio.* The amounts of calcium needed to balance the diets are indicated below. The $Ca:PO_4$ ratio in Diet No. 2 (1:2) was calculated using a worm ratio of 1:9 (as if grown in bran and newspaper). However, this ratio is improved depending on what the worms are fed to the point where it is possible to be as high as 1:1 (Fowler, 1986). The amount of calcium needed to balance diet No. 1 is 4,500 mg per batch and for diet No. 2 with bran-fed worms (Ca:P ratio of 1:9) the amount of Calcium is so high that it is not feasible(e.g., 28,350 mg)! If the reader is going to try this diet—*use only worms raised on solidly balanced feeds such as chicken scratch, game chow, dog food, or other balanced foods.*



Feeding should begin as early in the morning as possible (e.g., 5:30 am) and continue for 14 hours. The feedings should be done every 30 to 45 minutes, especially when the young are growing fast. Feeding is accomplished with the 3 cc syringe. Feeding is done in small squirts. Usually 1/2 cc is enough to fill the "crop." (Cliff Swallows do not have a true crop, but rather a thickening of the proventriculus (Welty, 1975).)

Cliff Swallows gap readily upon any outside stimulus. Fill the crop and allowed to empty before the next feeding. Food can be observed in the "crop" . Watch for food motility so that food does not sit in a full crop and spoil.



Overfeeding can cause a rupture of the "crop" area or cause regurgitation.

At 8 to 12 days, the tube mix can be thickened and mealworms can be fed to the birds along with small pieces of moist Canine Science Diet. It is important to "soften" the worms prior to feeding. This can be done by working the mealworm through a pair of hemostats. Live worms should not be fed at this age, so make sure to "soften" the cranial end of the worm. At this age, feedings may have to be done every 20 minutes as the birds seem to empty their crops quite frequently.

Cleanliness Is Essential

Feeding birds is often messy. However, it is extremely important that the birds be kept clean and that their basket tissues are changed when soiled. If old food is left on the feathers, bacterial overgrowth can become a problem and the feathers can be permanently damaged. Fecal material is usually formed in a sac and a pair of tweezers can be used to remove the fecal sacs.

Fledgling Care

At 13 days, the birds can be transferred from an incubator to a system with only a heating pad for heat. Birds in small laundry basket housing can be placed in larger baskets. Housing sizes can be increased every two days so that by the time the bird is 18 days of age it is in caging large enough to begin to use its wings. One system used successfully was large wire cages which were lined with soft nylon screen netting around the inside of the cage to protect the birds from damaging their wings as they begin to flap near the cage walls. Another system often employed is to place the birds inside a human play pen with various perches. Perches are initially placed low to the ground and are gradually lifted every few days.

It is at this age that self-feeding must be taught. Moist Canine Science Diet should be fed with whole mealworms. Other insects such as flies and wax worms, can be used if available. The food should be sprinkled with Super Preen™ or other avian vitamin. Soft Science Diet (Growth) and mealworms should be placed in the cage to help entice the birds to self-feed. Try to encourage the birds totake food from the tweezers instead of sticking it in their mouth. This will help them learn to self-feed.

Birds should be taken out into flight pens and flown daily to build pectoral muscle. This is accomplished by using a broom or stick and gently touching the branch where the bird sits to get it to alight into the air. Each day they should be flown a little longer. Birds start off flying 5 minutes or less before tiring (increase in breathing, refusal to alight). Prior to release, they must be flying strongly for at least 20 minutes without tiring.

As the birds begin to fly, and once they are known to be self-feeding, they can be placed in outside aviaries. The aviaries should be large (e.g., 20' x 30'). This sizing is necessary if the pen is used as the flight aviary. Natural perches are placed in the pen to allow for roosting and perching. A tray of water and plenty of food, including mealworms should be placed with the birds. This will assist them in becoming waterproof as they bath and preen on their own.

It is important to note that one Cliff Swallow will consume from 50 to 100 mealworms a day so keeping food available is quite a task. Wherever possible, it is important to offer a variety of natural foods (e.g., spiders, earwig beetles, bees, wasps, other flying insects), especially live foods. This can be a fun project for children who wish to assist in locating insects.

It is at this time that the bonds between the Cliff Swallows and humans must be broken and so human contact should be reduced. While most Cliff Swallows fly on their own once in flight aviaries, some birds may require some prompting. Birds should remain in outside housing for 10 to 14 days prior to release.

It is important to time getting the birds into outside aviaries early enough so they have time to acclimate to the wild and still be released back with a colony prior to it breaking up for migration. This requires the wildlife rehabilitator to be vigilant in moving birds through the system just as soon as they mature. If one is off by a week or two, colonies of birds can be impossible to locate. Overwintering birds is ill-advised as they rarely survive an entire year without secondary problems taking their lives, usually just before the swallows arrive the next year. The other option is to contact rehabilitators who live to the south and transport the bird to them to be integrated into a colony prior to its migration. However, the time frame here is also very short. The best method to handle the problem is to keep the birds moving through the rehabilitation system and get them out to a colony before the break-up.

Dehydration

Dehydration is a major presenting problem for the wildlife rehabilitator. Birds may sit out of the nest in the sun for hours prior to being discovered and brought in for assistance. As a result, they are often cold and dehydrated. Thus, most on

intake, are assumed to be dehydrated and are given 10% BW (body weight) in Lactated Ringers subcutaneously over their lower backs. Lactated Ringers can be mixed into the first couple of feedings to help with the rehydration process. Birds are then placed in an incubator or over a heating pad to stabilize them. The ambient air temperature should be at least 85 to 90° F.

"Cat-Caught Birds"

"Cat-caught" birds are another problem that is presented to wildlife rehabilitators. Careful evaluation of these birds is necessary. A seemingly small puncture wound can become a life-threatening infection in only hours. The usual bacteria cultured from these wounds are gram negative (*Pasteurella* sp., *Pseudomonas* sp.) and are responsive to Amikacin (5 to 15 mg/Kg) IM or SQ BID for 5 days with or without Ampicillin (50 mg/Kg) IM BID for 5 days. Birds in shock can be treated with dexamethazone (2 mg/kg) and fluids as described above.

Some of these birds may have ruptured air sacs which appear as puffy areas of inflated skin. While the veterinary literature is divided regarding whether a sterile syringe should be employed to periodically deflate such air sacs, the author has had positive experiences by removing the air several times per day.

In these cat-caught birds, respiratory signs may develop (gurgling, wheezing, etc.). Often the bacteria cultured are *Pasteurella multicida* or *Klebsiella pneumoniae*. Birds with ruptured aid sacs or cat-caught-associated respiratory signs are often treated presumptively with Amikacin (5 to 10 mg/Kg) IM or SQ for 5 days. However, *Pasteurella*, is usually treated with a sulfonamide such as Trimethoprim sulfamethoxazole (2 ml/Kg) PO or IM BID for 7 days or tetracycline (200 to 500 mg/Kg) PO for 7 days. However, due to resistance, culture and sensitivity of the air sac or aspirates are recommended.

Fractures

Fractures are another common injury found in Cliff Swallows. Since they must fly 4,000 to 6,000 miles annually during their migrations, it is imperative that they have excellent flight abilities. Wings should have an extension of 160° on both sides (see Giblett, 1990 article for more information regarding the use of a goniometer). The author has not had good experiences in producing excellent flight abilities from Cliff Swallows that have suffered broken wings. Therefore, he has been euthanizing them.

Leg fractures on the other hand have a good prognosis. Tape splints have worked well to stabilize leg fractures providing they are changed every seven days to ensure that the bird does not outgrow the splint. Leg fractures heal quickly, often requiring only 7 to 10 days in a splint. Occasionally, a Cliff Swallow will have a fracture that is too severe to salvage and may require amputation. The author had two one-legged Cliff Swallows that were released in a colony near his home. Both were seen in the two years subsequent to release at that same colony.

DISEASES

Diseases in Cliff Swallows are not well documented. Most of the problems observed are related to captive care and handling. For example, spoiled food that is fed with high bacterial counts may cause enteritis in these birds. The usual bacterial cultured in these cases are *E. coli* and *Salmonella* sp. The signs of enteritis include anorexia, regurgitation, and runny fecal material. While antibiotics are not generally recommended in the face of *Salmonella*, often these birds are treated based on their signs and without benefit of culture and sensitivity. Herd health treatment for enteritis is Amoxicillin (50 mg/Kg) orally for 7 days BID.

Trichomoniasis

Trichomoniasis is an infectious disease that is commonly seen at communal bird feeding stations (where moist feed or contaminated water are present) and in wildlife care centers where young birds are fed with common feeding implements. It can live in tap or distilled water for two to five days at 5 to 10° C but will die in a dry environment (Emanuelson, 1983). The cause is a protozoan called *Trichomonas gallinae*. Found commonly in pigeons, it is transmitted to raptors when contaminated pigeons are eaten.

The incubation period is 4 to 14 days (Emanuelson, 1983) but young may die within one or two days of developing the disease. Signs include cheesy white to yellow oral lesions that are elevated and can be peeled off the oral mucosa with little or no bleeding. Confirmation of the diagnosis can be made by taking a .09% saline soaked solution swab and dabbing the lesions. Place the swab on a warmed microscope with .09% saline and look at the saline. The moving protozoa will have four anterior flagella and one that trails posteriorly (Emanuelson, 1983).

Treatment, if started quickly, can be effective. Emtryl™ (Dimetridazole) (50 mg/Kg) given

Continued on page 18

IWRC 1991 Annual Report



ChrisMihulka

President's Message

I am very proud of the work that IWRC is doing and enormously honored to have been elected as its president. Although we are far from perfect, I can honestly say that I feel our members get incredible value for their membership dues. From literature (which we are constantly striving to update on a regular basis) to the *Wildlife Journal* (despite running late over the last year, you can be assured you will get all issues!), from Skills Seminars to our annual conference, membership in IWRC keeps you learning and current in a field which, like any medical field, is constantly changing.

Although trying to stay on top of developments in this field reminds me at times of being the end person in a game of "Crack the Whip," I attribute IWRC's continuing growth to its ability to attract outstanding people - leaders in this field. For example, as the new president, I follow a man for whom I have a great deal of respect and love, and who will be greatly missed, Jay Holcomb. Another person, and one for whom I would like to use this column to express my appreciation, is a woman who has in particular served as a role model for me. (I hasten to add that I have recently stopped using her as a role model in interests of my sanity and now merely look up to her wih tremendous respect, without holding her up as a benchmark of what I need to do...You'll see why!)

This woman, who shall be at the moment nameless, has been at the forefront of our field from the time there was a "field" to lead. She started as a rehabilitator over 15 years ago and was involved with this organization before there was an "I" in IWRC. Having decided she wanted the additional knowledge and skills that she could only attain by being a veterinarian, she completed two extra years of undergraduate courses to get the science curricula she had lacked, while working full-time, volunteering with IWRC, and developing a wildlife rehabilitation center and education program. Attending one of the premier vet schools in the country, she continued to work with IWRC, NWRA, and her center, including raising some $450,000 in funds to buy land and construct a facility. Two days after finishing vet school, she was on a plane to Alaska to work on the *Exxon Valdez* oil spill. In the following two years, she was involved in 12 oil spills, while still working with IWRC and NWRA, and taking her national licensing boards and several state exams. (No, she did not pass them all on the first try, but then neither do many vets who leave school for the kind of practices to which these exams are geared and thus for whom every day on the job is a chance to study.)

You may have figured out by now that I am talking about Jan White, IWRC's executive director and the editor of the *Wildlife Journal*. She was recently honored by NWRA (National Wildlife Rehabilitators Association), which has an awards program, with a Significant Achievement Award for her contribution to wildlife rehabilitation through her 10 years of work on the standards program.

Her road has not been one of unmitigated progress - she lost her best friend and mentor, Sandra Emanuelson, a veterinarian, to breast cancer in 1983; her father died while she was at an oil spill; her mother is critically ill even while I write this; and she herself had emergency surgery not long ago for an acute, life-threatening condition. Jan acknowledges her imperfections as an adult child of alcoholics - how she pushes herself and often those around her, how she's just now trying to learn what "moderation" means, how her tendency to create a co-dependent relationship with her work (which becomes her life) has led her to try to become indispensable through trying to control more than she should or physically can. Does anybody besides me see him or herself in this description? I have also always found her immensely approachable, willing to share her knowledge and experience, while being open to learning from others.

There are many outstanding people in wildlife rehabilitation. No matter what attracts us to this field, the drive to constantly improve our skills and our contribution to the non-human inhabitants of the planet makes each of us a little out of the ordinary. Personally, I am proud that there are people like Jan leading the field - even if I can't keep up with them (which in itself is one more lesson to learn with grace!)

Louise Shimmel

State and Provincial Representatives Committee Report

Marnie Allbritten

The 1991 IWRC Conference in Vancouver, British Columbia brought together a unique group of people who were interested in providing help to IWRC on a state and provincial basis. These dedicated wildlife rehabilitators have formed the first State and Provincial Representative Committee for IWRC and have already started working on projects to help wildlife rehabilitators in their geographic provinces and to provide feedback, organizational skills, and expertise to the IWRC.

A survey was conducted of all the representatives to see which goals they wanted to set for the committee and what projects they wanted to begin immediately. The four areas which they decided to concentrate on for 1992 were:

1) An education/information exchange to help standardize wildlife care in each state

2) A directory of all state and provincial representatives which would be available to all members of IWRC

3) An up-to-date list of rehabilitators in each state

4) An idea exchange to find out how other states handle problems and exchange information.

If you have a project or suggestion you would like to see your IWRC representative pursue, why not contact them and see how you can help? If you don't see your state or province in the list of IWRC State and Provincial Representatives and would like to be an area representative, please contact Marnie Allbritten, 292 Cleveland Hill Rd., Roseburg, OR. 97470 and she will be happy to send you an application and selection criteria.

1991 Membership Report

Rose Green, IWRC Office Manager

This year our membership rolls have increased by approximately 13%, going from about 1300 members to 1468 members. This significant increase was due to the ongoing efforts of our office staff to constantly promote memberships through outreach mailings, skills seminar classes, phone and mail inquiries, and referrals of other members. Many thanks to those members and board members who make a point of promoting IWRC to their friends and acquaintances.

The office implemented a membership tracking system in June 1991 that will enable us to determine the source of most memberships. The results up to this quarter are shown in the charts included with this report. A more complete tally will be able to be had after one full year of tracking. We hope to begin a system to better track renewal percentages starting with this quarter's (October 1991) renewals.

We started sending out IWRC logo/decals and Hot Line stickers with the latest issue of the *Wildlife Journal*. The first ones were not as good as we wanted, and were not waterproof. The printer agreed to re-do the order, and so the new decals that are being sent out to new members and renewals are of a better quality.

The office receives about twenty mail and phone inquiries regarding membership a week. We answer them with a membership brochure and a current literature form, and, if there is a skills seminar in their area, we include information regarding the class and registration.

The conference and skills seminar classes have been instrumental in helping to increase our membership. Keeping these activities rolling is a good way to continuously introduce new members, but we must all take responsibility for promoting IWRC. Remember to carry our materials with you to hand out when the opportunity arises!

IWRC STATE AND PROVINCIAL REPRESENTATIVES LIST

Alberta, Canada
Karl Grantmyre
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51562 - RR. 222
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Wildlife Rescue Ass. of British Columbia
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Texas
Judy A. Shaffer
4415 Sleepy Hollow Dr.
Paris, TX. 75460
(903) 785-9569

Treasurer's Report

Crystal Norris, Treasurer

IWRC
Revenue & Expense Statement
January 1, 1991 to December 31, 1991

Beginning Balance 1-1-91		$5,199.04
REVENUES		
Skills Seminars	42,084.50	
Conference	23,074.80	
Literature	18,975.76	
Membership	27,078.50	
Standards & Accreditation	100.00	
Miscellaneous	3,578.02	
	$114,891.58	
EXPENSES		
Skills Seminars	$ 23,227.97	
Conference	9,682.14	
Oil Symposium	1,129.39	
Journal	23,482.39	
Literature	9,818.17	
Membership	2,089.09	
Administration	36,775.18	
Board of Directors	858.15	
Standards & Accreditation	867.22	
NWRA	1,458.93	
Miscellaneous	1,575.12	
	$110,963.75	
Ending Balance 12-31-91		$9,126.87

14th Annual Conference Report
Bill Marshall

IWRC conferences bring together people, knowledge and know-how. The meeting place in 1991 was Vancouver, British Columbia, Canada's west coast jewel by the sea. Now truly international, the IWRC conference was very cordially hosted by the members of the Wildlife Rescue Association of B.C. Our special thanks to Susan Herunter, Saskia Morton, Liz Thunstrom, Judith Siegert, Douglas Dunn and Bill Marshall, conference chair.

Some two hundred and fifty rehabilitators came to enjoy the last days of fall and the thirty-nine papers and workshops presented. We surveyed the participants and found they rated the conference "very good." For sixty percent of participants, this was their first IWRC conference. We noted that about half came from the northwest and the rest from all over the continent (and a few from overseas). With over 40 restaurants up the street, the Aquarium, Stanley Park, English Bay and Second Beach just a few strides away from the hotel, it was hard to find any complainers.

A highlight of the conference was the field trips to the Wildlife Rescue Association, Orphaned Wildlife (OWL), Monika's Wildlife Shelter and the Riefel Bird Sanctuary.

The presenters and workshop leaders "performed" beyond expectation and were very much appreciated by all participants. Our special thanks for the effort, dedication and organization of the presenters & leaders who came to Vancouver to share their gifts or insight and knowledge. The Proceedings will be of great value for years to come. Order your copy while supplies last.

From the cool, crisp mountain and ocean air of Vancouver in 1991, we go to oceanside again to the humid and tropical Naples, Florida, in 1992. IWRC conferences are not really planned to be vacations of the mind and body... they just turn out that way! Why not join us this year?

Dr. Mike's Foolproof Imping Method©

Mike Person, DVM
Delton Veterinary Hospital
8203-127 Ave.
Edmonton, Alberta
Canada T5E 0A1

This technique is so logical and so obvious that it seems incredible that the idea could have eluded me for over thirty-five years. Even more incredible is the fact that nobody else seems to have thought of it either. However, since neither I nor any of my hawking acquaintances have ever seen it in print before, I now risk perpetual censure and ridicule by having the temerity to publish it with my name attached.

My experiences employing the traditional methods of using imping needles made out of metal, bamboo, or even plastic left a lot to be desired. The manufacture and fitting of synthetic imping needles took a lot of time fiddling around, and when the whole job was finished I knew it was likely to be temporary because the end of the needle would eventually break out of the shaft. The method of overlapping and sewing shafts that was described by Jack Mavrogordato in A *Hawk For The Bush* is difficult and requires that the hawk be forcibly restrained for a relatively long period — something that most of us are loathe to do.

The principle of this technique is based on the theory that the only material completely compatible for use as an imping needle in splicing a feather shaft is a feather shaft. Not only does it provide a perfect biodynamic match in terms of strength and flexibility but it is already preformed by nature to allow for a perfect intramedullary fit.

The beauty of this technique is that it is so simple, so quick, and so effective that any novice can do a perfect job on the first attempt! Given the materials at hand, a good assistant to cast the hawk, and a minimum of practice, the entire process can be completed in less than two minutes. Not only that, but there is no need to restrain the hawk for more than a few seconds. Worries about rotation or distraction of the replacement feather due to minor movements prior to glue set are a thing of the past. Even without adhesive, the fit is so perfect that distraction is difficult and rotation is impossible!

MATERIALS NEEDED:

1) One felt tipped pen.
2) One sharp, stiff-bladed knife.
3) Waterproof adhesive (e.g., 5 minute epoxy; silicone caulking; model cement).
4) One undamaged replacement feather that matches broken feather to be imped. Never attempt to imp a feather before it has fully grown and its base has completely hardened.
5. One feather, from any source, of similar size and straightness for use as the imping quill. (Usually this can be the salvaged main portion of the broken feather.)



relaxed Redtail with VERY full crop

PROCEDURE:

1) (FIG. 1) Use the pen to clearly mark the top side of the butt end of the replacement feather. (The shaft of a feather is completely asymmetrical. In order to insure a perfect fit of the imping quill, the various pieces of feathers must always be oriented alike. Unlike the remainder of the shaft, the butt of the feather is not naturally colored on the top side.)

2) (FIG. 2) At the point that the vanes begin, cut off and save the butt end of the replacement feather. (Cut it square since rotation will not be a problem anyway. Try not to crack the shaft in the process, but don't worry too much as the glue will fix it later.)

3) (FIG. 3) Prepare the imping quill by grasping the shaft of the feather selected for this purpose near its tip and stripping the vane entirely off one side.

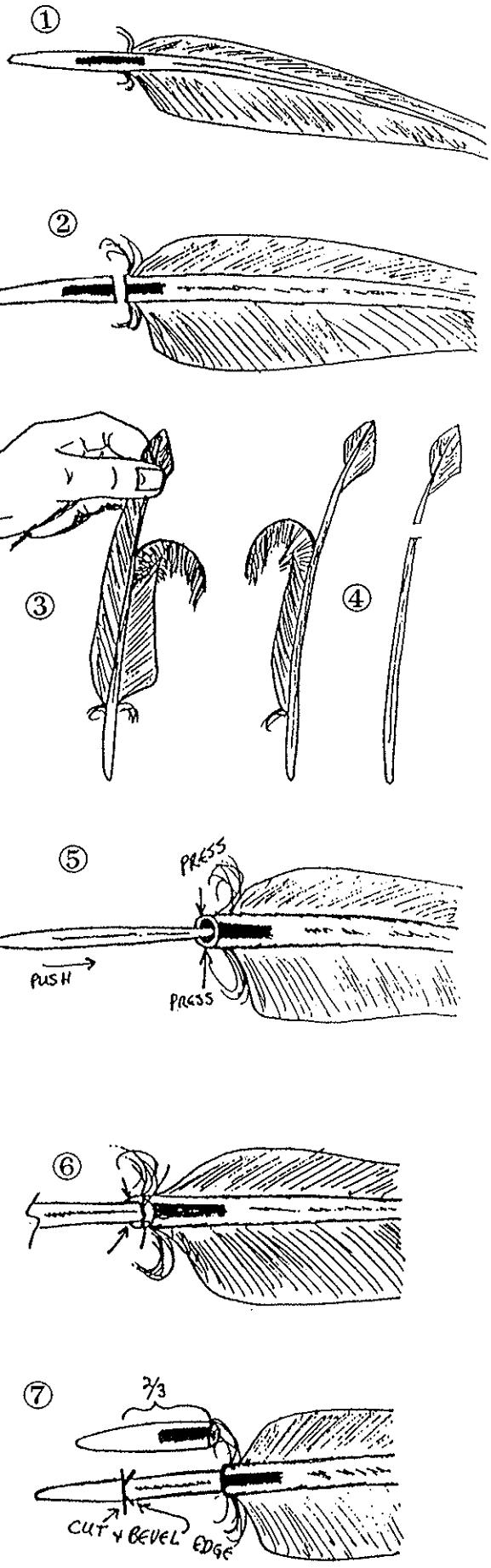
4) (Fig. 4) Repeat the procedure on the other side so that now the imping shaft is nothing more than a bare quill. Cut off and discard about 1/3 of the length from the small end of the quill.

5) (FIG. 5) Use lateral supporting pressure from thumb and forefinger to prevent splitting the shaft of the replacement feather while forcing the small end of the imping quill up into it as far as it will go. (Be sure that the top side of the quill is oriented to the top side of the shaft.)

6) (FIG. 6) T***he imping quill must snugly fill the opening of the replacement shaft.*** If it doesn't, withdraw it, cut off a little more and try it again. Repeat this process until there is a perfect match and then force the quill into the shaft after coating it with glue.

7) (FIG. 7) Cut off, with beveled edges, the exposed (butt) end of the imping quill except for a length equivalent to 2/3 the length of the butt end of the replacement feather that was cut off in step 2. Leave this protruding from the replacement feather. Discard but end of the imping quill.

8 (FIG. 8) See that the top sides of the replacement feather and imping quill are matched and test fit the imping quill by driving it down into the butt end of the replacement feather. Support the sides of the opening to prevent splitting. If the quill is too large to force into the opening, cut off a very small piece, bevel edge, and try again until the two pieces of replacement feather can be perfectly

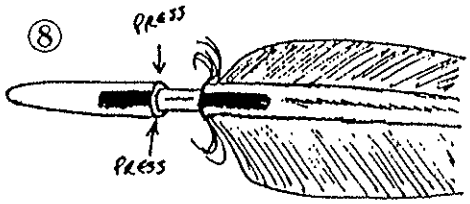


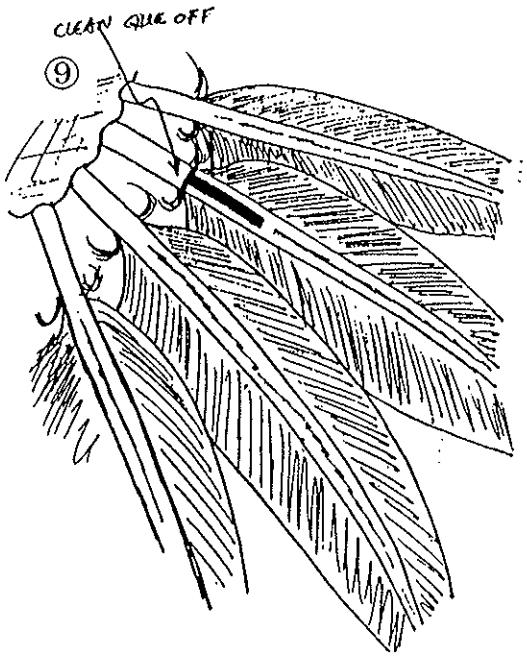
fitted together over the imping quill. Discard the butt of the replacement feather.

9) Cast the hawk in the usual manner and expose the base of the broken feather. If it wasn't already cut off to make the imping quill, cut it off now exactly the same way as you cut the replacement feather in step 2.

10) While providing the usual support to the shaft opening, prefit the replacement feather by driving the exposed portion of imping quill down into the butt end of the broken feather. Withdraw it, coat the imping quill with glue and push it finally back into place (FIG. 9). Carefully remove any excess glue and immediately allow the hawk to stand. (Do not permit bathing or preening until the glue has had time to set.)

Editor's Note: *Feathers or whole carcasses can be kept under salvage permits for this purpose. Contact you state and US Fish and Wildlife Service representive for applications.*





Postgraduate Course in Wildlife and Zoo Animal Health

Jersey Wildlife Preservation Trust (JWPT), in conjunction with the Durrell Institute of Conservation and Ecology (DICE), is proposing to organise a post-graduate Course in Wildlife and Zoo Animal Health in the Autumn of 1993 or early 1994. The Course will last 2-3 weeks and will consist of laboratory studies, field work and lectures. The initial part will be based in Britain, probably at DICE (University of Kent), the latter part at Jersey Wildlife Preservation Trust. The Course Directors will be A.F. Allchurch, MRCVS, J.E. Cooper, FRCVS and D.R. Waugh, PhD.

The aim of the Course is to provide practical and theoretical training for veterinary graduates in health monitoring, disease control and preventive medicine in wild animals, with particular reference to free-living populations. There will be a strong emphasis on the increasingly important role of veterinarians in wildlife conservation and the need for close collaboration with field biologists and others. Although the Course will be open to all with the requisite qualifications and interests, applications from developing countries will be particularly welcome.

Those interested should write in the first instance to either:

A.F. Allchurch, MRCVS.,
Jersey Wildlife Preservation Trust,
Les Augrès Manor,
Trinity,
Channel Islands,
United Kingdom

or

J.E. Cooper, FRCVS.,
DICE,
The University,
Canterbury,
Kent CT2 7NX,
United Kingdom

Further information will be provided in due course, when the response has been assessed.

Emergency Road Kits for Wildlife Rehabilitators

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Introduction

Many wildlife rehabilitators who do capture and transport-type work cover a large geographic area, and there can often be a significant time gap between picking up an animal and getting it to a veterinarian or a wildlife care center for emergency care. The author, who covers a county that is almost the size of the state of Connecticut, has found that an emergency road kit facilitates capture, transport, and field-treatment of the most pressing conditions (i.e., shock, concussion, bleeding, fractures, and eye injuries).

This article presupposes that the rehabilitator who is doing the transport is at least trained in the basic skills and has sufficient experience with local species to be able to estimate weights in order to calculate dosages. Further, it is presupposed that the rehabilitator has an ongoing professional relationship with a licensed veterinarian who is the source of the medical supplies listed and who would develop the policies that direct the rehabilitator in medical emergencies.

Providing On-Scene First Aid

It is not the intention of this article to address capture and restraint techniques; however, the equipment listed has proven to be helpful. Nets, with varying lengths of poles, can be purchased. Small-meshed nets, or a pillowcase on a hoop is preferable for birds in order to minimize feather damage.

Simply treating shock (warmth, steroids/fluids with B vitamins) at the capture site, rather than 45 minutes to an hour later at a facility, can mean the difference between life and death in a critical case. Since steroids take approximately 15 minutes to reach effective blood levels (and this time frame varies with the type of steroid, its formulation, and route of administration), administering them to a head-trauma patient at the pick-up site can limit swelling and resultant damage to the central nervous system. It is important to note that *fluids are given concurrently* with steroids in order to help maintain reasonable blood pressures as vasodilation occurs with their use as well as with the warmth provided to the animal in transport.

Immediate immobilization of fractures can keep a closed break from becoming open and help prevent sharp bone ends from further disrupting muscle tissue, tendons, or blood vessels. A quick flushing and cleaning of an open fracture or wound, followed by an ointment dressing, can help keep exposed bone, tendons, or tissue from drying out. Flushing debris from an eye can help limit corneal damage and reduce the on-going pain of having debris in an eye.

Capture and Restraint Equipment:

1 pr. Welder's gloves
1 pr. Lightweight leather gloves
1 Salmon net or equivalent for mammals
1 Herring or other small-mesh net (even a pillowcase) for birds
1 large towel or blanket
1 small towel
Nested cardboard boxes/pet carriers of various sizes, with newspaper or towels for the bottom, and towels to cover.

Medical Supplies:

1 Hot-water bottle (or an empty gallon jug)
2" Vet Wrap™
2" x 2" Gauze Pads, 3" x 3" Telfa™ pads
Fluids (e.g., 2 1/2% Dextrose in Lactated Ringers or equivalent)
Gavage Tubes (sizes 8,12,14,16)

Dexamethasone Sodium Phosphate or Azium™
Injectable Vitamin B complex
Sterile Saline (for lavage of wounds)
Antibiotic eye ointment (without steroids) such as Chloramphenicol
Water-soluble antibiotic ointment *(such as Betadyne™, Furacin™, or Nolvasan™)*
1cc syringes with 25 gauge by 5/8" needles for medications (or .3, .5, 1cc insulin syringes with 26 or 27 gauge needles for small birds)
12, 20 or 35 cc syringes for giving fluids
Quick-Stop™ (hematinic to staunch bleeding)
Cotton balls
Cotton-tipped applicators
2% Nolvasan Solution™ (to be diluted 1:40 to make .05% solution) for lavage
Sterile needles in various sizes
tweezers
hemastats
masking tape

Record Keeping Supplies:

Intake forms for finders to fill out
Pens
Educational / organization literature to leave with finders
Medical forms on which to record any field treatments (especially important because you will be estimating weight)

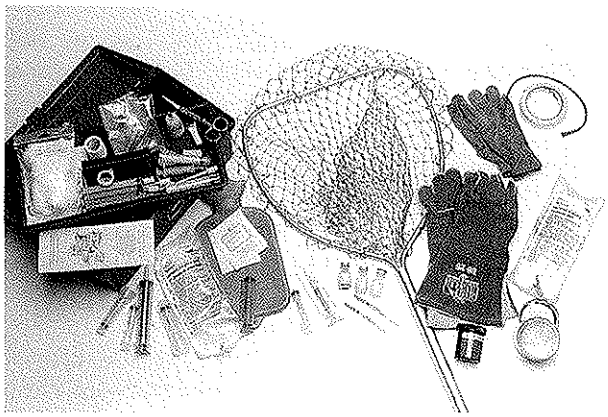


Photo by Chris Mihulka

Packaging Your Kit

A small plastic fishing tackle, art, or tool box is lightweight and can hold all the medical supplies, gloves, hot-water bottle, record forms, and literature. If not picking up an animal from a finder's house (where hot water should be available for heating fluids and filling the water bottle), fill the hot-water bottle before you leave and place it over or next to the fluids to keep them warm.

Small quantities of Dexamethasone Sodium Phosphate and Vitamin B Complex can be injected into empty sterile 10 ml saline bottles. A sterile needle can then be used to withdraw the appropriate dosage based on your estimate of the animal's weight. Carrying only a small amount of fluids and medications limits the investment, necessary space, and weight of the supply box, and decreases your loss if you leave the kit in the car on a very hot or cold day.

A small jar, with cotton balls soaking in .05% Nolvasan™ (Chlorhexadine) solution, as well as small plastic bags with dry cotton balls, cotton-tipped applicators, a roll of vet-wrap, gauze pads, Quick-Stop™, a small jar or bottle of Nolvasan™, Furacin™ , or Betadyne™ ointment, and syringes can all fit in a remarkably small space. All of these items, plus a variety of syringes, needles, and tubes, will fit into the top of a tackle box.

It is not suggested that you try to perform extensive care procedures on the roadside. If you are alone and do not have the experience to perform treatments by yourself, simply wrapping the bird or small mammal in a towel can keep it still and protect a fracture site. Those of us who live where the summers are hot need to remember that the ambient temperature must be considered. If it is already 90° F, you do not want to create hyperthermia.

Remember, when picking up raccoons, use a carrying cage that is dedicated only to raccoons because of the risk of passing *Baylisascaris procyonis* (the roundworm of the raccoon) on to other species of animals.

Conclusion

For a small investment in equipment and some well-spent time organizing it, wildlife rehabilitators can put together an emergency road kit that will enhance efforts to save wildlife. This brief article, while only touching on topics such as capture, restraint, and emergency care, provides a blueprint from which the wildlife rehabilitator can assemble and adapt such a kit for their specific situation.

Continued from page 12

for five days was commonly used in the United States until it was removed from the market. It is still currently available in Europe. Instead, affected birds in the USA are treated with Flagyl™ (Metronidazole) (30 to 50 mg/Kg) given orally for five days.

Avian Pox

Avian pox virus is another common disease that can affect Cliff Swallows. Pox virus is in the genus *Avipoxvirus* and is one of the largest DNA type viruses. The virus is transmitted by mosquitoes and transmission can occur as long as one month after an infected meal (Kennedy-Stoskopf, 1983). Aerosol transmission can occur in crowded aviaries (Kennedy-Stoskopf, 1983).

The incubation period is usually one to two weeks. Avian pox occurs in three forms in the Cliff Swallow: cutaneous, diphtheritic and septicemic (Gerlach, 1986). Birds may show signs of the cutaneous or diphtheritic form or both. The septicemic form is acute, often fatal, with few cases showing any skin lesions. Signs of the cutaneous form include wart-like bumps that typically show up around the unfeathered portions of the body such as the base of the beak, legs, feet, or around the eyes. Signs of the diphtheritic form include white opaque slightly raised nodules found in the mouth, crop, esophagus, sinuses or trachea (Kennedy-Stoskopf, 1983). Birds with signs should be isolated from others.

The virus may cause damage (e.g. necrosis, fibrinous pneumonitis) to vital organs such as the liver or lung and birds may die from the effects of the disease (Kennedy-Stoskopf, 1983). However, over the time frame of one to two weeks, the skin lesions may scab up and the lesions fall off.

Birds may develop secondary bacterial or fungal infections due to the immunosuppression that accompanies this virus. Lesions around the beak may also leave the bird unable to self-feed. Other lesions may become infected secondarily with bacteria.

Treatment is primarily supportive. Antibiotics are indicated only if a bacterial problem is present since they are themselves immunosuppressive. Supportive care with gavage feeding (if necessary) and vitamin supplementation (Vitamin A at 2000 IU/kg given IM once and Vitamin C at 50 mg/Kg given IM once) have been helpful in supporting affected birds (Gerlach, 1986). Actual lesions can be treated with a mixture of iodine and glycerol (3:2) applied once or twice daily to keep them from becoming infected (Gerlach, 1986).

Prevention is the most efficient way of dealing with this disease since no vaccines have been developed for wild birds. The most common mechanical transmission is by mosquitoes which can be dealt with by using aviaries that have netting which will exclude mosquitoes. Mosquito abatement measures can be undertaken to reduce exposure. Good hygienic procedures should be followed in caring for and rehabilitating these birds.

Coccidiosis

Several cases of coccidiosis were incidentally observed in Cliff Swallows. The species observed was the *Isospora* sp. Cases were diagnosed by fecal floatation. The affected birds were treated with Albon™ (Sulfadimethoxine 5%) (27.5 mg/kg) PO for five days. These cases were not observed to be pathologic for these birds but were treated anyway.

Blood Parasites

Plasmodium and *Hemaproteus* are two type of blood parasites that have been observed in the Cliff Swallow. While none of the cases presented as ill and were not treated, these parasite can be a problem. Screening for blood parasites is done by reviewing blood smears using Wright's or other stains.

Ectoparasites

Other types of problems observed in Cliff Swallows include the various mites and fleas that can infest nesting colonies. The most common flea to affect Cliff Swallows is *Echidnophaga gallinacea*. These fleas can be detected by blowing away feathers around the neck and in the apteric areas (e.g., no feather tracts) of the bird. There are also various mites that have been found on swallows. Most can be treated with pyrethrins-based avian mite sprays. Air sac mites and a few others (e.g. *Leptosyllidae*, or various species of feather lice) can be treated with Ivermectin™ (200 µg/Kg) IM or SQ given once and then repeated in 10 days (Harrison, 1986).

Release

The releasing is an important final step and considerations for release are many. All birds should be examined thoroughly prior to release. Birds should be checked for any growths or lesions on their skin or mouths. They must be waterproof and their feathers must be in excellent condition (no feather rot, missing, broken or weak feathers). They should weigh between 18 and 24 grams.

They should have feet without lesions from improper perches. They should be strong fliers and be flying 20-30 minutes without stopping. They should have well developed keel musculature.

Pre-release blood work can be obtained from either a toe-nail clip or the caudal metatarsal vein. The pre-release packed cell volume (PCV) on Cliff Swallows should be between 37-45 %). Total proteins, as read by refractometer should be between 2.5 to 3.5 g/dl.

One way of reviewing birds for release is to make up a check list or a form that includes the pre-release requirements. Then, as the bird meets the requirements, the form is checked off and the bird is released.

Release Site

The release site should be at an active colony during the early afternoon when there is a lot of activity going on at the colony. Birds can be placed in a "portapet" and taken to the appropriate site. When the box is opened, the bird will leave the box and join the colony. It is the authors experience that newly released birds will fly with and appear to "blend" in with the flock.

CONCLUSION

Rehabilitating Cliff Swallows can be a positive learning experience. Cliff Swallows, due to their colonial nature, require a more sophisticated approach to successful rehabilitation back to the wild. Assigning the same people Cliff Swallows allows them to learn the most and to provide for consistency of care while in captivity, which will in turn boost the survival rate. A good fostering program should be developed to allow for the earliest return of the birds into colonial life which will further their chances for long-term survival.

More long-term survival information is needed to evaluate methods of rehabilitation utilized in Cliff Swallows. Rehabilitated birds should be banded so that overtime some information regarding the survival of these rehabilitated birds can be obtained.

This paper is the culmination of three years of field observation and rehabilitation efforts. It is hoped that the information as described will assist other wildlife rehabilitators in their efforts to care for Cliff Swallows.

Acknowledgements

I would like to thank Jan White, DVM for her extensive review of the paper and the hours of editing that she and the other editors at the Wildlife Journal did in order for this paper to have taken its present form. I would also like to thank the volunteers at the California Center for Wildlife who provided much of the routine care for the Cliff Swallows described in this paper.

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Lightweight Raptor Transport Caging

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Introduction

The Lindsay Museum has a wide variety of birds that are used for education. We also have a wide age range of volunteers that use these birds in programs. Five years ago the biggest complaint was the weight and unwieldy shape of the carriers for birds. We needed carriers in a variety of sizes that were sturdy, easy to care for, inexpensive, and light weight.

Our design uses schedule 40 PVC pipe as the frame and "rip stop" nylon as the enclosure. The nylon has proved to be very durable against the birds but the metal bumps on the floor of the van have caused some fraying. We are going to reinforce the bottom corners. The initial mock up was canvas and that might also be a good choice for the bottom panel but it is too heavy to use for the whole cover, particularly on the larger carriers. The nylon and canvas covers are removed from the frame and just rinsed with cold water between uses. Volunteers who use these carriers have found them very easy to handle. The sizes we use are: (W x L x H) small, 16 1/2" x 16" x 17 1/2"; standard, 21" x 24" x 24"; eagle, 36" x 36" x 36". The small carrier requires 15' of 3/4" PVC and 6' of 1/2" PVC and the eagle size requires 12' of 1/2" and 27' of 3/4" pipe.

One advantage for the birds has been the forgiving nature of the material. A bird that leaps around does not injure feathers. The eagle travels in these carriers, as does a raven. (I do not recommend leaving passerine birds in for a long period of time because they do pick and poke.) We further limit the inclination to pick at the cover by using French seams that leave no exposed fabric edges (like the double folded seams on jeans).

The material on the perch in the carrier could be rope or carpet. As it is not a "permanent" perch, we use indoor-outdoor carpet cut to fit and attached to the wooden dowel. An alternative perch can be made of PVC pipe with a hole drilled vertically through the pipe about 1 1/4" from each end. Thread the end of a piece of rope through the hole and knot it on the bottom. Pull it up tight and then wrap it firmly around the tube until you reach the other hole. Thread the end of the rope down through the second hole, pull tight, knot it and cut off the excess. Insert the completed rope perch in place of the dowel shown in the diagram.

In order to keep the birds from seeing out, we have chosen not to install ventilation panels or holes. If your climate dictates ventilation, we suggest that metal grommets be installed around the sides near the bottom of the carrier. The opening for the handle in the top of the cover will allow for convection.

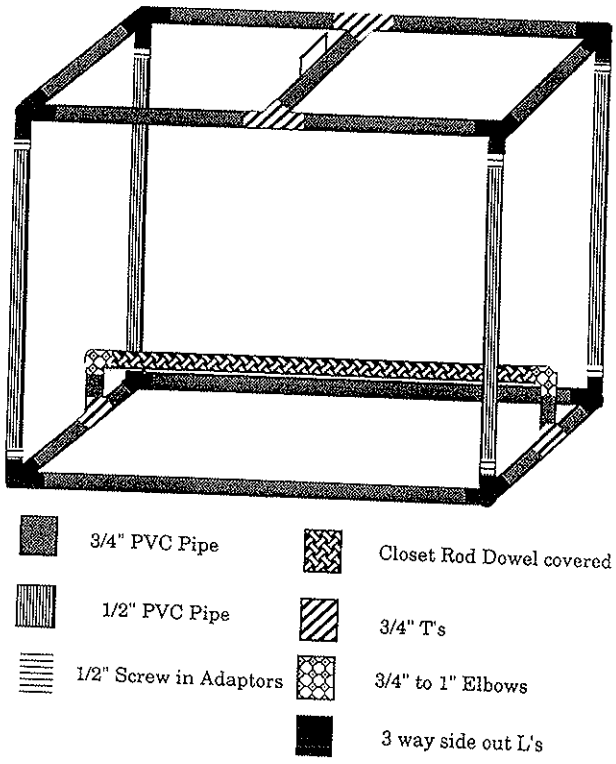


Fig. 1. PVC Pipe Frame for Raptor Transport Cage

Materials List:

Frame:

3/4" schedule 40 PVC pipe (enough for all horizontal pieces and the perch supports)
1/2" schedule 40 PVC pipe (enough for corner vertical pieces)
4 T connectors (3/4")
8 3-way side out L connectors (2 slip fit 3/4" openings and 1 threaded 1/2" opening)
8 1/2" screw in adapters
2 3/4"-to-1" elbows
1 can PVC joint primer
1 can PVC cement
1 handle
sheet metal screws or bolts to attach handle
1" dowel or 1" PVC pipe for perch
perch covering
1 metal ring large enough to slide over covered perch

Cover:

Yardage appropriate to size chosen
2 jacket zippers (plastic, separating) to suit height of carrier
Velcro to fit width of carrier

Tools:

Hack saw or PVC pipe cutter
Tape measure
Screwdriver or wrench for handle installation
Drill or hammer for perch cover installation
Scissors and sewing machine

Directions:

Cut all pipe to appropriate lengths. Screw adapters firmly into 3-way L's. Prime the inside of an adapter and the end of a 1/2" pipe piece, cement the pipe and inside of the adapter and quickly force the pipe into the adapter until it seats (all connections are to be made in this manner). Do the same with the other 3 corner verticals. Assemble the bottom side pieces with the center of the T receiving the short perch supports. Glue one end of the side bottom pipe into one side of a 3-way L that has a vertical installed, being sure that the perch support is parallel to the corner piece, then glue the other end into another 3-way L with the vertical installed, being sure that all verticals are parallel. Do the other side in the same manner and then join the two sides with the end pieces. Glue a side top piece into a side of one of the remaining 3-way Ls and then fix it to the top of a 1/2" pipe being certain that it is parallel with the piece directly below it, then do the other end of the same pipe. Do the same on the other side. Assemble the remaining top pieces into the H form and then fix them to the four corners. Screw or bolt the handle in place. Put the "3/4-1" elbows onto the ends of the perch so that the 3/4" ends go straight down. Cover and install the perch. The finished frame should resemble Fig. 1. If you wish to have different perches for different birds, you can leave the joints between the perch support and the 3/4" end of the elbow without glue and make duplicate perches, but always be sure that the perch elbows are firmly seated before use.

Wash and dry all yardage before cutting. Cut all fabric 1" larger in each dimension than the outside measurement of the frame. Cut one piece of fabric to the width of the carrier and the measurement from the top front, down the back, and then to the front bottom (Fig 2). Measure the position and size of the handle and cut a slit in the corresponding position in the long piece of fabric. Cut a piece about 2" larger in each dimension than length and width of handle. Cut two side pieces and one front piece. Sew one part of the Velcro along the front bottom edge of the long piece and the other portion of Velcro on the bottom edge of the front panel. Stitch one half of each zipper to the front edge of each side panel. Sew the other half of each zipper to the sides of the front panel. Using French seams, sew the top of the front panel to the top front edge of the long piece and then sew the side panels onto the long piece. Be sure to clip all hanging threads.

Slip the cover over the frame, insert bird, zip up—and GO!

Acknowledgements: Special thanks to Curt Clumpner and Susan Patton for their computer illustrations for this article.

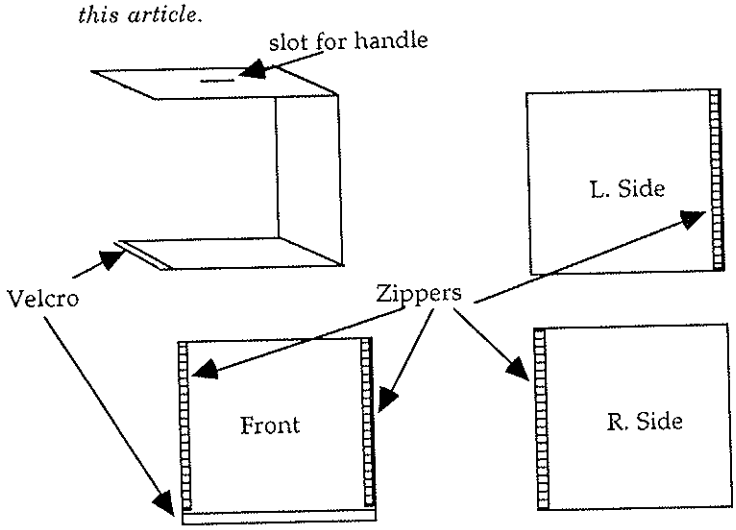
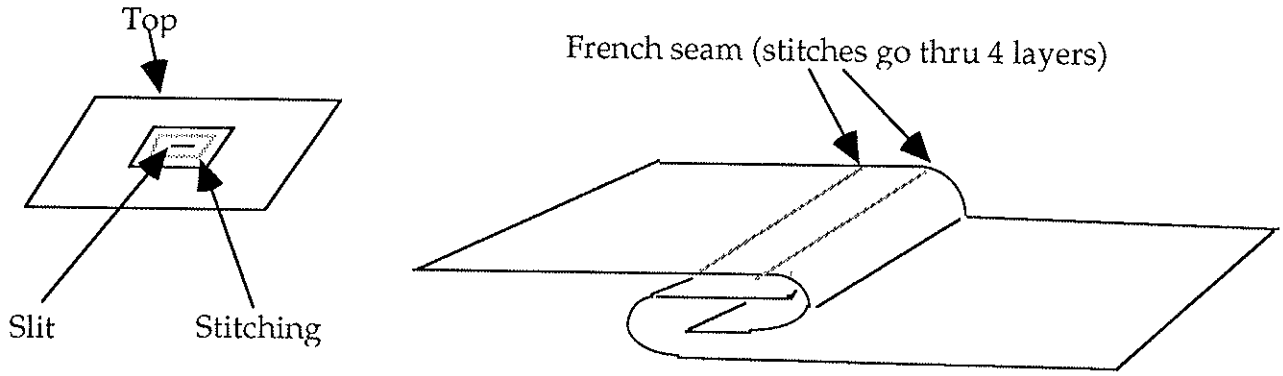


Fig. 2. Canvas cover for Raptor Caging



Raptor Canvas Top Illustration and French Seam Drawing

Letters to the Editor

Dear Jan,

In (belated) response to your editorial in the Summer 1991 Journal I wish to commend the IWRC Board for its very fair and reasonable policy of "assuming that a member of the Board accused of misconduct should be presumed innocent until all accusations can be fully investigated." I am very surprised and disappointed to hear that the N.W.R.A. did not do the same! Presumably accusations of this nature should come from differences in information or philosophy. Unfortunately, it is more likely that such serious complaints are lodged for reasons of blind ambition by embittered people who only see the removal of 'someone' as their own only hope for advancement. (I believe I read of a similar situation several years ago at the SPCA of Monterey Co.) Prudence "Presumes Innocence" but checks it out.

Yes! We need a system that we can turn to. Unfortunately, we in the field really do not know (1) What to do if something needs attention or intervention, or (2) When to just "agree to disagree" with each other. I don't know anyone who knows how to make effective changes in situations we all agree are "bad," (which isn't helped much by the fact that most of us, being uncompromising idealists, aren't speaking to each other, anyway, most of the time!) We are all aware of situations that we are trying to ignore lest we end up doing more harm than good, and that is not a solution!

Most of us do the best we can, and learn by our inevitable mistakes as we go along, feeling very bad when we make them. Since we know "we aren't perfect" we are reluctant to be the one to "throw the first stone." We might get that stone thrown right back! Or we just don't know who to consult or who actually can intervene. I have often wished I could consult the IWRC or the NWRA for such advice but I *don't even know which organization is the one to ask,* or do I ask both? (What are the real differences in each organization that makes one the logical place to turn to for what sort of help or advice, anyway?)

Example: *How do you deal with a notoriously bad (local) independent Rehaber without risking that they will just "go Underground" if they lose their permit?* The Public, local vets, pet shops etc. still have their phone number and don't know if they are off the shelter's list. (In one case here they were off the list of three No. VA shelters and got on a fourth's for awhile.) "Don't interfere! If they go Underground it just makes things worse." I was once advised by a more experienced Rehabilitator. Besides Whistle-blowers usually pay a price; no one wants to lose the trust of their peers! (Since "no one is perfect" we all could be next.)

Example: *How does someone bring to the attention of a Center that they should reconsider one or more of their procedures, without ultimately risking winding up in court or the newspapers?* A year or so ago I heard of two Centers who routinely put their Cottontails in the same room with the Raptors, (which I am sure the Raptors loved). The high losses of the Cottontails were accepted "because they are known to be difficult." One well known

Director patted her Center on the back in their newsletter "for taking them in at all!" since "Some centers won't because they are so hard to keep alive." (Cottontails are my specialty. *They are no more difficult than anything else* ***if*** *you use the right things and* ***respect*** *their need for a stress free environment!)* How many other Centers routinely put Cottontails, or other prey animals, within sight, scent or sound of predators? *Who should point out that such compromises are not acceptable as good Rehabing?*

Those in the field that I have discussed these matters with respond that "It isn't our job to police anyone. That's up to the State!" But "the State" has no idea of what is going on, what the minimal standards of care should be, nor the money or manpower these days to find out and enforce them. (You do have to wonder, when some shelters send far more animals to one rehabilitator than any one person can possibly care for in a short period of time, just *who* is watching the State or other local authorities?)

In areas where the local authorities have little or no respect for Wildlife Rehabilitation it creates a real Paranoia that maybe "everyone's permits will be revoked if anyone says anything." No one dares to expose a fragile system of ardent volunteers to any close, potentially hostile, scrutiny. The end result is that there are many situations that conscientious, caring rehabilitators feel helpless to intervene in. So nothing is ever dealt with beyond the level of gossip, which is destructive to everyone and doesn't fix anything.

I think there are many complex , and interrelated issues involved so we will need several solutions. A panel of moderators should be the last resort before going to the media and legal system but there should be several other levels of recourse available first.

Suggestion:

We need a safe place for open discussion. Would it be possible to have a Q & A. column in the Journal asking if this or that policy or procedure is up to current acceptable standards? Why not have 2 or more experienced opinions expressed? How about something like the 2 member teams of Movie critics who can occasionally agree/disagree (2 Thumbs up! or 1 up & 1 down).

Anne Landers and Dear Abby are popular columns because they give people a chance to hear about real problems from the people having them, and read a variety of responses in the mail that these columns get back - not because Anne or Abby make final judgments because they infallibly know what is best. (I could then ask "what are the survival/release statistics for Cottontails kept with Raptors?" and be told if it is, or isn't, as bad as it sounds, or if there is a trick to it I wasn't told about.) This way if "someone's slip is showing," (can't think of another way to say it), everyone can check their own. The worst offenders would probably get anonymously sent copies in the mail. If they failed to respond and nothing changed, *then* their critics could go to the next level.

-Emmy Reese-

Wanted: Eagle Rehabilitators and Educators

The National Foundation to Protect America's Eagles (NFPAE) desires to establish contact with wildlife rehabilitators and educators helping to restore and protect eagles through public education and rehabilitation. In 1991, the NFPAE gave financial contributions to eagle rehabilitation and eagle environmental education programs in over 45 states, and would like to become aware of other organizations involved in such activities. Please contact Al Louis Cerere, President and CEO, National Foundation to Protect America's Eagles, P.O. Box 1325, Pigeon Forge, Tennessee 37868 (615) 429-0011.

National Eagle Center Looking for Employee Candidates

The National Foundation to Protect America's Eagles is looking to hire persons interested and/or experienced in the handling, care, training, rehabilitation and breeding of Bald Eagles and Golden Eagles, and a desire to conduct public environmental education using non-releasable eagles and birds of prey. Please contant Al Louis Cecere, President , P.O. Box 1325, Pigeon Forget, Tennessee 37868 (615) 429-0011. Send a cover letter describing why you are the person that should be hired, with your resume.

Beaver Information Wanted:

We are updating the "Rehabilitation Notes: Beaver" and the author, Debbie Marcum, would like to compile a list of medications that have been used successfully with this species (e.g., pneumonia: Chloroamphenicol). Please use a postcard to note the medical problem (including endoparasites) and related medication and send it to: Debbie Marcum, Wildwood Farm, 14206 FM 2769, Leander, Texas, 78641-9109. Contributions will be acknowledged in the paper. Thanks!

Book Review

I Can See You Naked: A Fearless Guide to Making Great Presentations

Ron Hoff
Andrews and NcMeel
4900 Main Street
Kansas City, MO 64112
1988
Price $9.95, 251 pgs.

The eye catching title of this book arouses the curiosity of the reader and prepares us for a fresh creative approach to making presentations. As luck would have it that is exactly what is delivered between these covers. Stimulating curiosity, getting the undivided attention of the audience and being memorable is what *"I Can See you Naked"* is all about.

The information is presented in a humorous and easy to read manner without sacrificing the seriousness of the problems addressed which will be familiar to presenters of all experience levels.

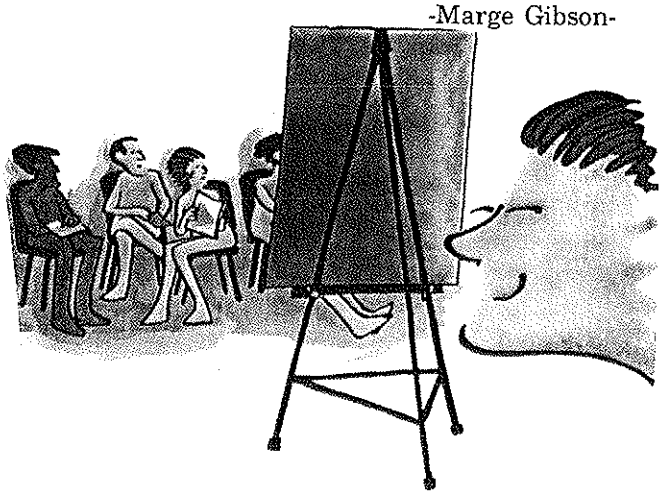
The format is well organized and simple. The chapters are a diverse, entertaining mixture of "nuggets" of advice which encourage the reader to improve his or her delivery with each presentation. Catch phrases sum up the chapters allowing you to select appropriate sections. Quotations and anecdotes are used frequently and effectively. Humorous graphics are numerous enabling the reader to visualize his or her own presentation situations. If there was one problem it would be that the graphics are too effective. Occasionally during my own recent presentations a familiar image from the book will float through my mind necessitating large amounts of self control on my part, so as not to break into uncontrollable giggles.

The author takes the reader step by step beginning with "Why did they ask me?" and "Can I do it?" through evaluating your evaluations. Common problems are addressed such as the insecurity of the first time presenter, nervousness, how to read your audience, looking the part, dealing with questions and the art of offering "compassionate" criticism.

One of the strengths of this book is that it looks at problems that affect the very core of us all, our self-esteem. It offers common-sense tips, solutions that work, (some instantly) leaving the reader amazed they hadn't thought of it before. Best of all *"I Can See You Naked"* allows us to laugh at ourselves while gaining insight, identifying and understanding our own strong points as well as our weaknesses. In chapter after chapter you will watch yourself unfold, certain that Mr. Hoff is writing your own life story, as it pertains to your public presentations. You will recall and sometimes relive those embarrassing moments you had been so certain had happened only to you. It is such a comfort to realize you don't have a corner on the market of bloopers and fumbles.

This book will make you think. This book will get the creative juices flowing in the most mundane of speakers. This book will improve your ability to make presentations, but even if it didn't, at the very least this book will allow you to take yourself a little less seriously and smiles will decorate your face.

-Marge Gibson-

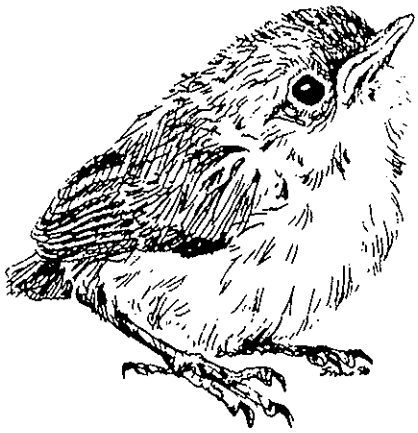


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Photo by Chris Mihulka