New York State Department of Environmental Conservation

Division of Fish, Wildlife and Marine Resources

New York State Falconry Guide

Andrew M. Cuomo
Governor

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Commissioner

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Front Cover Illustration: Red-tailed Hawk from Original Watercolor, Pencil and Acrylic, by New York State Master Falconer Jerry H. Czech, 1996.

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Division of Fish, Wildlife & Marine Resources
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Dear Prospective Falconer:

Thank you for your request for information pertaining to the New York State Falconry Program.

Application for, or renewal of, a falconry license, must be made on forms provided by the New York State Department of Environmental Conservation (DEC). In order to be issued a falconry license, an applicant must:

1. Be a resident of New York State
2. Be at least 14 years of age
3. Pass the Department's falconry examination by receiving a score of 80% or better
4. Possess a valid New York State hunting license authorizing the hunting of small game
5. Submit a $40 license fee
6. Construct DEC-approved facilities for housing raptors

All of the enclosed information should be carefully reviewed so that you will understand the procedures to follow in order to obtain your falconry license.

Procedures for taking the New York State Falconry Exam are:

1. Fill in and return the falconry license application

    a. Falconry exams will be offered twice a year statewide in April and August. Pre-registration for the exam is mandatory

    b. The statewide exam will be given at the DEC Regional Offices. The office locations are listed on your exam application by number and name

2. Submit your application to:

    New York State Department of Environmental Conservation
    Special Licenses Unit
    625 Broadway
    Albany, NY 12233-4752
    Attn: Falconry Program Coordinator

3. You will be notified of the time and location of the falconry exam at least two weeks prior to the statewide exam date.

4. The exam questions may cover the basic aspects of falconry, such as natural history, basic biology, diseases and treatment, housing facilities, handling, training and use of raptors, and federal and state laws and regulations.

5. You must achieve a score of at least 80% on the true/false and multiple choice questions in order to receive a passing score. You will be notified by mail of your score on the exam within 30 days.

6. If you fail the falconry exam, you may reapply for the next exam.

7. If you pass the falconry exam, you will be sent the following falconry forms:

    a. Evaluation of Qualifications for an Apprentice Falconer

    b. Raptor Facilities and Equipment Inspection Report

In addition, you will receive the address of the United States Fish and Wildlife Service Permitting Office.

After passing the written exam, you must meet the following requirements before obtaining your apprentice falconry license:

1. You must have a currently licensed General or Master Falconer agree to sponsor you. He or she must fill out the "Evaluation of Qualifications for an Apprentice Falconer" form.
2. You must have your facilities and equipment inspected and approved by NYS DEC Regional Wildlife personnel.
3. You must possess a valid New York State hunting license that authorizes you to take small game by the use of firearms.
4. A records check will be conducted by the United States Fish and Wildlife Service and the New York State Department of Environmental Conservation. Conviction of a violation of any federal or state wildlife law or regulation within the last five years may prohibit you from obtaining a falconry license.
5. Information forms must be completed and returned to DEC's Special Licenses Unit.
6. If you have met all the requirements of your application for a falconry license, forward the forms and a copy of your valid NYS small game hunting license to: NYS DEC, Special Licenses Unit, 625 Broadway, Albany, NY 12233-4752

The best of luck in reaching your goal, and if we may be of further assistance, feel free to contact the Special Licenses Unit at 518-402-8985.

FROM THE NEW YORK STATE ADVISORY BOARD

This manual has been written as a guide to prospective falconers. All the information contained within has been carefully assembled and is current and up to date. The purpose of the manual is not to discourage the prospective falconer, but rather to inform the individual that there are some serious undertakings involved in the process. Becoming a falconer requires long hours of training and a long-term commitment from the individual. Having a trained raptor is not the same as having a domestic pet. You cannot just leave it with a neighbor to watch when you go away. This manual contains information such as "Do's and Don'ts," prices on necessary equipment, book sources, equipment vendors, and more. It is suggested that you read this manual not only once, but two or three times until you fully understand the responsibilities you are about to undertake. If, after reading and understanding the information in this manual, you still wish to continue, it is suggested that you follow the instructions provided here. We hope that this manual is helpful to you and answers most of your questions.

Good luck.

WHAT IS FALCONRY?

Falconry is the sport of hunting game with trained birds of prey (raptors). Falcons, hawks, eagles and owls have evolved to select certain prey species when hunting for food in the wild. The practice of falconry applies the natural predatory behavior of these birds in taking a wide variety of quarry as part of a cooperative hunting effort with the falconer.

HISTORY

Falconry was originally developed in Asia, some 4,000 years ago, as a means of putting food on the table. Prior to the invention of firearms, it was discovered that the trained raptor was better suited to take game than were the spears and arrows early hunters had at their disposal. The practice of capturing and training hawks and falcons for hunting spread throughout Europe during the Middle Ages, and flourished during the Renaissance as the "Sport of Kings."

It is frequently reported in historical accounts that each station in society, from emperor to peasant, was assigned a specific species and sex of raptor (females being the larger, more aggressive hunters). The rarer, more desirable falcons, such as peregrines and gyrfalcons, were, understandably, reserved for the upper nobility. Less tractable, locally abundant hawks were delegated to the common folk. With the advent of the Industrial Revolution, and the convenience of hunting with a gun, the popularity of falconry waned. But its tradition as a hunting sport, instilled through generations, has persisted into the twenty-first century.

THE BIRDS USED IN FALCONRY

Three taxonomic groups of raptors are most commonly trained for falconry in New York State; falcons, accipiters, and buteos. Falcons are adapted for the high-speed aerial pursuit of birds. Narrow, pointed wings and a streamlined configuration during flight enable these raptors to overtake pheasants, ducks and quail while hunting on the wing. New York's most abundant falcon is the American kestrel, a small, dove-sized falcon, common to open farmland. Though best adapted for hunting mice and small birds, kestrels provide the novice falconer with valuable training experience, which he or she may then later apply to the training of larger merlins, prairie falcons, peregrines, and gyrfalcons, as well as to a variety of captive-bred hybrids and exotic species.

Accipiters are hawks of the forest. Their short, rounded wings and long, rudder-like tails are adaptations for swift and precise maneuverability through thick cover. These birds are best suited for hunting forest-dwelling game, such as grouse and squirrel. The three accipiters indigenous to New York State are the Northern goshawk, the Cooper's hawk, and the sharp-shinned hawk. These species vary greatly in size, the tiny sharp-shin weighing as little as six ounces, the goshawk topping out at more than two pounds. Because accipiters are highly active and often more nervous than most other raptors, training these birds requires expert-level skills and much patience. These are not hawks for the novice.

The buteos, or soaring hawks, occupy the transition zone between open field and forested habitat, where they may often be seen hunting from tall trees along hedgerows, or soaring high above open

farmland. Such broken habitat attracts rabbits, squirrels, and a variety of upland game birds. The red-tailed hawk is our most common buteo, and has become the most popular raptor used in falconry.

Harris hawks, of the genus *Parabuteo*, are a desert species, common to the Southwestern U.S. and Mexico. Similar to red-tails in many respects, they have become popular through captive propagation programs here in New York.

Eagles and great-horned owls are less commonly trained for use in falconry. The vast open areas required by eagles, and the nocturnal activity patterns of owls, have limited their application to falconry in New York and elsewhere.

MODERN FALCONRY

Awareness of the delicate balance of our ecosystems and the resulting commitment to apply ecologically sound hunting methods have sparked a resurgent interest in the ancient sport of falconry. Because predators are integral in the process of natural selection, hunting with trained raptors does not artificially compromise prey populations. Slower, weaker quarry comprise only a small percentage of the overall population, allowing the overwhelming majority to successfully elude predators. In fact, a trained raptor's frequency of successful capture is lower than that of any other method of hunting. For this reason, the fundamental attraction to falconry is not hunting success in the field, but rather the beauty of the raptors' flight, their aerobatic precision and lightening-swift reflexes, as well as the focused determination of a predator in the performance of a natural act.

Falconry equipment, training methods, and hunting techniques have changed very little throughout the centuries. Advances in technology have supplied the contemporary sport with radio telemetry. Miniature transmitters, affixed to the legs, nowadays assist the falconer in tracking raptors that wander too far for the falconer to hear their bells. But historical methods of housing, conditioning, hunting, and meeting proper dietary requirements are tried and true, leaving little need or room for improvement.

THE COMMITMENT TO FALCONRY

Every responsible falconer understands that raptors are not pets. These birds are solitary, territorial predators and are too heavily armed with nature's weaponry to safely engage in social behavior. The only relationship we humans may establish with any raptor is that of a cooperative partner during the hunt. The falconer must be prepared to invest long hours, over weeks or months, during the training process. Even basic maintenance of a fully-trained captive raptor requires at least one hour each day.

TWO FUNDAMENTAL REASONS FOR TAKING UP FALCONRY

First, individuals who are interested in alternative hunting methods have found that falconry affords them greater recreational opportunities. An increasing human population has made it difficult for hunting enthusiasts to find accessible land to hunt. Falconry is a field sport which can be practiced on

smaller parcels of land, and it is easier to acquire permission to hunt with a raptor then when employing conventional hunting methods such as guns or archery.

Second, a less tangible reason for practicing falconry today relates to an individual's desire to learn more about birds of prey. Many individuals who want to know more about raptor behavior and biology have discovered that falconry allows them the opportunity to closely observe birds of prey in a natural state without impacting the behavior of the predator or their prey. This quest for knowledge has motivated many young apprentice falconers to pursue careers in biological and scientific fields, as well as leading a number of scientists and researchers to become falconers. Falconry regulations, both federal and state, acknowledge this process of education through the practice of falconry by creating a licensing system with three levels of experience and expertise: apprentice, general and master.

In summary, it must be emphasized that falconry cannot be treated as a passing fancy. The sport demands a high level of commitment, dedication and willingness to learn on the part of the falconer.

TRAINING

Although the practice of training raptors for the sport of falconry was developed through trial and error some four thousand years ago, it was not until the twentieth century that the scientific bases behind successful training techniques were actually identified. Modern ethnologists discovered that ancient falconers employed rather sophisticated models of animal behavior in training wild-caught raptors to hunt cooperatively with humans, and very little fine-tuning of the old tried-and-true methods is found in modem falconry.

The full spectrum of raptor training, from capturing a wild raptor to the ultimate stage of free-flight, is based on behavioral conditioning and positive reinforcement. In simple terms, falconry relies on a food response system of training, where the bird is rewarded for repeating specific behaviors.

Social animals such as canines respond to punishment as well as reward because the evolutionary tendency of their social units has been to establish dominant hierarchies through aggression and submission. Raptors are primarily solitary, territorial creatures. They engage in very little social interaction. As a result, these birds do not struggle for social dominance and therefore have not evolved a favorable response to punishment.

Training raptors for falconry requires, instead, a food reward system (positive reinforcement) where a desired behavior is reinforced by the falconer each time it is performed. Through frequent repetition, a hawk or falcon begins to anticipate a food reward for behavior it associates with visual or auditory cues from the falconer. This is referred to as building up a “conditioned response.” For example, the bird earns food rewards by coming to sit on a gloved fist in response to a whistle or a fist raised in the air. This sort of behavioral conditioning applies to all eagles, hawks, falcons and owls, and must be observed during each phase of training.

Any raptor, when first taken from the wild, must be handled cautiously and with respect. Virtually every aspect of life in captivity is alien to a wild-caught bird; for example being restrained by leather jesses,

confining walls, sudden movements, loud noises, and perching on a gloved hand. The introduction and acclimation to these stimuli must proceed slowly to overcome the instinctive fear of man and his unnatural environment. All of the factors that we humans take for granted in everyday life impose stress on wild birds, and it is imperative to reduce stress before training can proceed.

The process of acclimating raptors to new surroundings is called "manning," and is accomplished by the gradual introduction of new stimuli under the least stressful circumstances possible. The bird must be carried and fed on the fist at regular intervals and sometimes taught to regain its perch after attempting to fly off. The falconer must approach the bird slowly and carry it on a steady, elevated fist. The bird should be allowed to perch facing any visual activity because the bird perceives motion behind it as a threat.

Falconers learn to read their birds' stress levels by observing overt behaviors. Maintenance activities such as preening, rousing, or bathing are not immediately survival-oriented, and thus normally indicate the bird is in a relaxed state. Freezing in position on the perch, tight feather compaction, or excessive vocalizing and attempting to fly from the fist or perch, while still attached (bating) indicate a stressed state. By analyzing a hawk's physical attitudes, the falconer is able to take appropriate measures to keep stress at a minimum.

Raptors rely on visual cues more than any other sensory signals. For this reason, a hood is often used in manning as well as during activities that may visually alarm the bird. Lacking a human's cognitive powers, raptors distinguish day from night only by the presence or absence of light. Because hawks remain still through the night to conceal their roosting positions, the artificial darkness inside the hood serves to create a similar calming environment. A well-fitted hood is light-tight when in place over the bird's head and flares away from the orbits so as not to make contact with the bird's eyes (corneal abrasions pose unnecessary health risks). Acceptance of the hood is often a slow and painstaking process, but the benefits are invaluable in calming the bird during manning and later when transporting the bird to the field for exercise and hunting, especially with falcons.

Once a hawk has been manned sufficiently to step up on the glove and eat readily on the fist, it must then be enticed to approach the falconer for food. This may be accomplished indoors with enticing morsels of meat held in the glove or attached to a lure. A lure is a dummy pulled by a line which is intended to mimic the prey species you desire your bird to hunt. Normally, falcons are flown to an imitation bird lure, both because the lure provides an excellent exercise tool and because it more closely mimics the natural prey of these bird-hunting predators.

Hawks are traditionally flown to the fist, although many species will readily accept a rabbit lure on the ground. With either method, the lure or glove is garnished with a morsel of raw meat and introduced to the raptor in close proximity, then progressively moved to farther distances. For example, a red-tailed hawk first steps up to the fist from its perch, where it is rewarded with a small amount of food, then is returned to its perch. This sequence is repeated until the hawk responds without hesitation, then the garnished glove is held out several inches in front of the hawk until it hops readily to the fist.

As the distance is increased over a period of several days, the bird's food intake must be rationed to ensure a prompt response to the fist or lure. Daily weighing of raptors during training is an absolute imperative. Inexperienced falconers must rely on the expertise of others to provide them with the optimal "flying weights" of individual species and sexes of raptors (females are larger and fly at heavier weights then males). Both the overfeeding and underfeeding of raptors present the same clinical behaviors to the untrained eye. If the body fat content of a hawk is too high, the bird's appetite is dulled and its response to food will be sluggish. If the fat content is too low, the bird's stamina is weakened and its response to food likewise will be sluggish. The optimum weight range of raptors (within 50 grams for large red-tails; only 5 grams for small kestrels) stimulates the bird's appetite to a responsive level without weakening stamina. Overweight birds become unreliable when not properly motivated and invariably will find an opportunity to go back to the wild; underweight birds are vulnerable to health risks due to their weakened state. A daily log should be maintained to record weight changes and corresponding behavior trends. Even within the same species and sex, each bird varies slightly in metabolism and overall size so that optimal flying weights vary accordingly.

When a hawk or falcon responds by flying the full length of an indoor room to the fist or lure, distances may then be increased outdoors. This stage of training requires the use of a “creance”– a nylon cord weighted at one end and attached to the bird's jesses by a swivel at the other end. The creance is a safety mechanism to prevent the bird from escaping while being flown outdoors. Typically a hawk is distracted when first trained outdoors, and often a lower weight adjustment is required to increase the bird's response level.

When the raptor responds on the creance from a distance of a hundred feet or more, bells and/or radio telemetry are affixed to the legs or center tail feather and the bird may be flown free. Bells and transmitters assist the falconer in locating a bird that has wandered off or perched concealed in dense foliage. The maiden voyage into free flight is often a harrowing experience for the falconer. The fruits of weeks of hard work hinge on the falconer's training skills, and fantasies of watching a jess trailing hawk drift over the horizon lurks in the minds of all falconers during this crucial stage.

Free flight is conditioned just as every other phase of training until both falconer and raptor have attained mutual confidence in each other. Hawks may be taught to follow the falconer through the woods much like domestic dogs, returning to the fist periodically for reinforcement. Falcons may be flown to a swinging lure simulating a bird in flight. The falconer leads the falcon past him/herself during pass after pass to the lure, increasing the bird’s overall fitness.

With sufficient exercise and conditioning, the hawk or falcon is ready to be introduced to game. This process is called "entering." Just as the bird was conditioned to respond to the fist and a lure, it is now entered on a specific type of quarry--usually rabbit or squirrel for a red-tailed hawk; pheasant or duck for a large falcon. After the bird learns to take the lure representing the species it is being trained to hunt, it may then be introduced to wild game of that species. In this fashion, raptors can be conditioned to take prey not normally pursued in the wild, adding diversity and spectacular flights to the sport.

APPROXIMATE COSTS TO BE A FALCONER

The practice of falconry is expensive. Costs, although not generally prohibitive, may be substantial if a mews (housing facility) must be constructed on the falconer's premises. Overhead costs of maintenance, food supplies, and basic field equipment require a regular outlay of funds.

The following is a list of the approximate costs for material, special gear, shelter, and food that are typical for a first-year falconer. Those items followed by * ** usually require eventual replacement or repair. The high and low ranges for these items are indicated. The low figures indicate the cost for minimum acceptable quality of the item in question. The high figures indicate the expense of going "first class." Of course, individuals may be able to do better than these costs in special cases, but in general, they are a fair representation of the costs a would-be devotee to the art and practice of hawking can expect to incur.

ITEM	MAXIMUM COSTS	MINIMUM COSTS
Hood (Indian or Dutch Style)	$ 100	$ 45
Scale	300	60
Falconers Glove ***	90	12
Bells (2 pair) ***	60	40
Leather for leashes, jesses, lures, etc. ***	100	30
Leather working and other special tools	100	35
Perches ***	150	60
National & regional falconry club dues***	75	0
One year's supply of food for one bird ***	500	300
Shelters for the bird	2,000	800
Miscellaneous (bath, swivels, name tags, transport box)	450	200
TOTALS:	$3,925	$1,582

Prepared by the New York State Department of Environmental Conservation

This summary does not include the cost, if any, of getting to and from the flying and hunting areas. Also, such matters as attending national and regional field meets can get very expensive. In short, while one does not have to be wealthy to be a falconer, the expenses are large enough to be a major factor in deciding whether to attempt the sport. It is quite likely that these costs will continue to increase slightly each year.

IS FALCONRY FOR YOU?

As a quick guideline, answer the following five questions:

1. Can you commit approximately one hour during daylight per day everyday to falconry?
2. Do you have the necessary space to construct a facility for your bird?

3. Can you afford the expense of food, equipment, and housing required to adequately care for you raptor?
4. Do you have a legal access to a large enough parcel of land(s) which allows you to hunt and train your particular raptor?
5. Is there adequate game for your raptor on your available land?

FALCONRY IN NEW YORK STATE

If you can answer yes to the above questions the issue of deciding whether falconry is for you will be a little easier. Even experienced falconers should periodically ask themselves these questions as they advance to each new license category or with every intended acquisition of a new species of raptor. What may be adequate time and space for an apprentice with a kestrel may not be realistic for a master with a gyrfalcon.

The New York State Department of Environmental Conservation (DEC), in cooperation with the U.S. Fish and Wildlife Service, (USFWS) offers New York State residents a state falconry license. The minimum age for licensing is 14. Applicants must first pass a written falconry examination with a score of 80% or better, and must possess a valid New-York State hunting license, authorizing the hunting of small game. Housing facilities must be constructed, inspected and approved by DEC, and a $40-license fee (for a five-year license period) is required.

All applicants meeting the above requirements may enter at the level of Apprentice Falconer. Apprentices are more restricted than advanced-level General and Master Falconers in the numbers and species of raptors they may possess. Before obtaining an Apprentice Falconry license, an applicant must seek and be sponsored by a General or Master Falconer, who will then serve as mentor and oversee the capture and training of hawks or falcons by the apprentice.

(See the Falconry Regulations (6 NYCRR Part 173) for details. See DEC's website at http://www.dec.ny.gov/permits/28632.html)

SPONSORSHIP

Sponsorship of apprentices by General and Master Falconers is arranged individually by the apprentice applicant. Names and addresses of current licensees are supplied by the New York Falconry Association, or by contacting the NYS DEC Special Licenses Unit 625 Broadway, Albany, New York 12233-4752.

FALCONRY FACILITIES AND EQUIPMENT

Guidelines for Minimum Requirements

General

The following guidelines were developed by the Technical Advisory Committee of the North American Falconer's Association (NAFA) for the purpose of ensuring that facilities and equipment of prospective falconers meet minimum acceptable standards. The inspection and approval of facilities and equipment is a prerequisite to being granted a falconry license to practice the sport. These guidelines should be considered as minimum requirements.

This booklet does not include descriptions of all acceptable systems. Wide variations, especially in housing, may be expected. What are presented, however, are standards covering the more important aspects to be inspected and illustrations of basic principles involved. These are especially important for the beginner. Where the more practiced falconer chooses to make adaptations based on experience, so long as the basic principles are not violated, such adaptations will be acceptable even though not specifically included here.

Grateful acknowledgement is given to the NAFA for the use of the material and illustrations they provided, and to Professor E.W. Jameson, Jr. for the use of Figures 4 and 5 as taken from *An Introduction to Hawking,* by E.W. Jameson, Jr. and Hans J. Peeters, Davis, California 1971.

Housing

A trained raptor's housing requirements are simple. The primary need is shelter from direct sun, wind, rain and snow. Dryness, fresh air and an absence of draft are also important. These are conditions that a wild raptor seeks, and the closer the falconer comes to providing maximum levels of such, the more his raptors will benefit in health and comfort. The quarters in which the raptor is to be kept, whether indoors (mews) or outdoors (weathering area) or a combination, should ideally be set aside exclusively for the bird(s).

Indoor Facilities (Mews)

The mews may be a separate building (Figure 1] or a room within a building. Ordinarily, sunlight and ventilation requirements make windows on the south or east exposures most desirable. The size of the mews varies with the species kept and the space available, but a room about eight feet high and square is appropriate for a raptor up to the size of a red-tailed hawk. Here the raptor may be kept loose or tethered to an appropriate perch.

Tethering is very much a matter of individual preference. It is most definitely preferable where more than one bird is kept and is mandatory where raptors of different sexes and/or species are kept in the same room.

Accipiters (sharp-shinned, Cooper's and goshawks) must never be placed free among other birds (including their own kind) as they may kill all others. The wise falconer provides separate mews or

partitions the facilities for accipiters even when they are tied, so that in the event of escape, disaster is avoided. When in training, raptors are generally tethered.

The interior of the mews should be severely plain with no beams or ledges to tempt the raptor to fly to a higher perching place (unless the bird is un-tethered, in which case such beams or ledges become, in essence, additional perches). Anything that appears to offer a foothold above their rightful perch holds a raptor's attention. In a well-ordered mews, a raptor sits at ease when tethered because there is no other inviting perching place to sharpen that inherent desire, characteristic of the birds of prey, for a higher pinnacle from which to survey their surroundings.

Windows should be protected on the inside by vertical bars or doweling spaced closer than the bird's width, whether or not birds are kept tethered in mews. If screen or chicken-wire is desired for additional protection or safety, it should be placed outside the vertical barring at sufficient distance to prevent a raptor, free in the mews (intentionally or otherwise), from grasping the mesh and damaging its plumage. This, incidentally, is the reason that bars or dowels are placed vertically rather than horizontally. The mews should be capable of being darkened without interfering with overall ventilation, if newly caught wild birds are to be placed in it.

Mews doors should be secured (by lock if necessary) and should, additionally, have some sort of hook or spring so that the falconer can keep the door safely closed while inside. Doors of any mews which open directly to the outdoors should be protected by an additional door or protective covering inside to prevent escape of a bird free in the mews (intentionally or otherwise) as the door is opened. Such protective covering can be achieved by a hanging cloth or plastic sheet. If this is placed at an angle inside the mews, it provides the falconer with a small enclosed alcove into which they may step and close the outer door behind them before pushing aside the cover to enter the mews itself.

The floor of the mews should be constructed so as to facilitate cleaning. A layer of moisture-absorbing dirt, sand, or newspaper is excellent. Such covering must be changed frequently for cleanliness. Straw, hay, sawdust, or similar material is not normally acceptable as it retains moisture and provides a medium favorable for the growth of pathogenic fungi and bacteria dangerous to the birds' health.

Although, as indicated, numerous variations in a captive raptor's housing may be appropriate under given circumstances, bird cages of the pet store variety or other such enclosures are totally unacceptable, as are facilities which do not afford the bird proper space or protection.

Outdoor Weathering Facilities

Most falconers prefer to place their charges outdoors for sunning, called "weathering," conditions permitting. The birds are placed on appropriate perches on some soft, resilient surface such as a thick, heavy lawn. The surface should be cleanable, or in the case of the lawn, the perch moved frequently enough to prevent soiling the area beneath it. Soft sand should be avoided as it is inclined to get between the bird's legs and the jesses and cause abrasion of the skin. Perches must be placed so that birds are not exposed to direct midsummer or mid-day sun. Any site where birds are to be weathered unattended must be fenced to prevent the raptors from attack by dogs or cats and from undue disturbance by strangers or children. Without such fencing, no bird should be weathered unless under

the immediate and continuous supervision of the falconer. The size of the weathering site is dependent on the length of the restraining leash. Each bird normally requires an area approximately 8 x 8 feet to 10 x 10 feet to prevent its body or wings from touching the enclosing fence or other birds.

Captive raptors may be kept more or less permanently outdoors in an adequately protected weathering site with an open-faced lean-to or an open-ended quonset or “A-frame” (Figure 2).The structure should be constructed of light-reflecting material or painted for maximum light reflection to keep down the interior temperature. Where a bird would be left out overnight using such a shelter, the weathering site must have overhead protection.

Attacks by wild predators (mammal or bird) on falconers' birds can occur even in relatively built-up suburban areas. This is especially true of attacks by wild owls on birds left out overnight. In areas where wild predators may constitute a problem, a totally enclosed weathering site with overhead protection in the form of wire or netting becomes extremely desirable, if not mandatory [Figure 3]. This overhead wire or netting must be high enough (6-7 feet) so that the bird cannot touch it when at the end of its leash and so that the falconer can comfortably enter and leave or work inside the enclosure. As in any weathering site, the bird should not be able to touch the peripheral fencing or any other raptor in the same enclosure. NOTE: A bird or birds should never be placed free in such an enclosed weathering site, but rather, tethered by leashing on normal outdoor perches.

Equipment

Mandatory Prior to Acquisition of a Raptor

Glove: Some type of pliable leather glove is a necessity (one left-only). For smaller species of raptors, a light leather gardening glove is sufficient; for larger species, an all-leather welder's glove is appropriate.

Leash: [Figures 4(b) (h) & 5 (i)]. Leashes vary in size and type depending on the species of raptor. For a kestrel, a 30-inch leather bootlace is appropriate; for red-tailed hawk or other bird of that size, a 60-inch leather leash (1/4 to 1/2 inch wide, 1/16 to 3/32 inch thick) or a 3/16 inch nylon cord with the ends burned to seal them is adequate. A knot (called a "button") is tied in the end to prevent the leash from slipping through the swivel. [Figure 5(g)] shows how to tie a "button."

Swivel [Figures 4 & 5]: Several types are used. The classic "figure 8" swivel [Figure 4(c)] may be purchased from people who manufacture hawking equipment, or a heavy-duty fishing swivel may be used. The larger the bird, the larger the swivel required. The swivel attaches the leash to the jesses and prevents twisting. A commercial "snap" or "dog leash" spring swivel should be used as a temporary alternative only when the bird is fully under control of the falconer and NEVER in tethering a bird to an outside perch. They simply cannot be trusted!

Jesses [Figures 4 & 5]: These are soft strips of tough, thin leather, permanently fastened to each leg of the captive raptor. Overall lengths of 4-6 inches for kestrel or 8-10 inches for red-tailed hawk are appropriate. Jesses are fitted and attached immediately upon receipt of any raptor. Traditional jesses are shaped and attached as shown in [Figure 4(d)(e)(f)]. Another form called "Aylmeri" jesses [Figure 4(h)] consists of a "cuff" and miniature leash for each leg. The leather cuff is placed around the leg and

its ends held together by a grommet. The miniature leash is passed through the grommet and its slit end is then attached to the swivel as are traditional jesses. The use of Aylmeri jesses is encouraged. Not only are they more efficient, but a bird escaping with such, readily loses (or removes) the miniature leashes, leaving it far less encumbered than with traditional jesses.

Bells [Figure 4(a)]: Certain bells are specially made for falconry and are small, lightweight and have an especially loud tone. They must be purchased from people who manufacture hawking equipment. Commercial Christmas-type jingle bells are not suitable. Bells should be affixed immediately upon receipt of the bird, either on the jess or with a small piece of leather called a "bewit," the latter in the manner shown in Figure 4(f). Bells provide a useful signal when something causes an untrained raptor to move about unduly. In the field, they assist the falconer in locating the bird when it is out of sight and serves to alert people that this is a captive bird. Normally two bells, each having a different tone, are used. Some falconers choose to bell their birds at the base of the tail or from a strip of leather around the neck. Birds belled in the latter manner should retain those bells only while hunting as opposed to bells on the legs and/or tail which are permanently affixed. Unfortunately, bells suitable for small species such as merlins, kestrels or sharp-shinned hawks are very difficult to obtain.

Name Tag: A small, light metal tag bearing, at a minimum, the owner's telephone number (and normally their name and address as well) should be attached to a jess or bewit. It should be placed on the bird in case of escape.

The value of the name tag in retrieving lost raptors found by others cannot be overstressed. Some falconers place their contact information on the raptor's bells or on the jesses but such are not nearly so likely to be noticed by the uninformed.

Bath Pan [Figure 1]: A large, shallow pan, tub or cut-down wooden barrel, 3-6 inches deep with a diameter several inches longer than the length of the bird (at a minimum) provides both drinking and bathing water. It should be cleaned and the water changed frequently (at least weekly and more frequently in hot weather). If the bird is kept free in the mews, the bath pan may be installed there; otherwise the bath should be provided outside when the bird is weathering.

Scales: Traditionally, falconers have judged their raptors' condition by the amount of flesh on its breast (sternum) and thighs. This judgment is a difficult one, especially for the beginner. Additionally, a lean raptor need not be hungry and a fat raptor may, in fact, have an excellent appetite. Falconers seek the ideal medium to keep birds in the best condition. The best and safest method of determining the amount to be fed is to weigh the bird daily. Beam or balance (as opposed to spring) scales are preferred. For smaller raptors, scales should register in grams or ¼-ounce graduations. For larger species, 1-ounce graduations (if the nearest ¼ ounce can be interpolated readily) are acceptable, though the finer graduations are preferable.

Outdoor perches [Figure 5 (c) & 6]:

Ring perch. This type of perch is used with birds which normally perch on tree limbs, i.e., the accipiters and buteos. Its design is shown in the figure. For the perching portion of the ring, a thickness of about 1.0 inch is appropriate for small hawks, 2 inches for larger species. The

overall diameter is generally about 12 inches. That portion on which the bird perches should be covered with a fabric such as canvas or carpeting.

Block perch. This type is used for the "true" falcons as they normally perch on flat surfaces. Its design is shown in [Figures 5(d) & 6]. Diameters vary, normally from 4 to 8 inches, depending on the size of the bird. The top diameter must be sufficiently broad to prevent the two jesses from "straddling" the perch (slipping over both sides simultaneously).

Indoor perches:

Screen Perch [Figures 1 & 5(b)]. This type of perch is appropriate for use with all species of raptors used in falconry and is the only perch described in this booklet suitable for use by more than one raptor simultaneously. It consists of a horizontal bar over which a strong cloth such as burlap has been draped. This bar is fastened at chest height to the walls of the mews or to upright posts. The cloth should hang down at least three feet on both sides of the bar and be fastened to a second lower bar either attached to the mews walls or upright posts, or it may swing free. The upper (perching) bar is normally padded with carpet and should be long enough so that the bird can reach neither the ends nor any other birds tethered on it. The means of tethering a bird to the screen perch is shown in Figure 5(f). Caution should be exercised in the use of this type of perch. It should not be used for sick or weak raptors, and no raptor should be left unattended on a screen perch until the falconer has ascertained that the bird is capable of regaining the perch after attempting to fly from it.

Round Perch (Figure 7). This type of perch is most suitable for the accipiters or the "true" falcons. It is shaped very much like a large garbage can. As in all perches described, its size depends on the species of raptor for which it is intended. A goshawk uses a round perch about the size of a 55-gallon drum on end, with other species requiring proportionally smaller sizes. The sides and top rim (perch) are padded, and the bird is tethered to a swivel arrangement in the center of a horizontal platform below the surface of the top of the perch.

Shelf Perch [Figures 5(a) & 7] The shelf perch is most appropriate for use with the "true" falcons and normally consists of a shelf approximately 1 ft. x 2 ft. with a padded edge. All exposed edges and corners of the shelf must be rounded and smoothed so as not to inhibit leash movement. The shelf is mounted projecting from an inner wall or inside corner of the mews. A shelf perch is normally used in combination with a block perch set in on the mews floor so as to give the bird a choice of perches. The leash is either tethered to the block in the normal fashion with its length allowing access to the shelf, or to an eye-bolt at the base of the wall beneath the shelf, the leash length then providing access to either shelf or block. In the latter arrangement, care is required that the leash is not so long as to allow it to become entangled around the block.

Optional Equipment

Lure [Figure 4(i)]. This is a padded leather device, ordinarily covered with the wings or fur of the intended quarry (a fresh carcass of such quarry will also suffice as a lure). The lure is used to call the bird back to the falconer after an unsuccessful flight or for exercise. It is garnished with meat attached by

short strings (unless the actual carcass is used). A four to six-foot line fastened to the lure allows the falconer to swing it in a large arc or circle, making it more visible and attractive. A raptor may or may not be trained to come to the lure. Such training, however, has much to recommend it, since, in essence, it constitutes a safety measure. A raptor will often come to a lure when, for one reason or another, it is reluctant to come to the fist.

Hood. Although symbolic of falconry, the hood, even more than the lure, is a matter of individual preference. Hoods come in a variety of shapes and designs, but the most important factor is proper fit. The edges of the beak opening should not rub or chaff the soft parts around the bird's beak, nostrils or mouth. The interior of the hood must not touch the raptor's eyes (as revealed by moisture inside the hood when removed) and the portion of the hood passing under the raptor's "chin" must not be so tight as to be constrictive.

Food

An adequate and reliable supply of proper food is as important to the raptor's well-being as are considerations of shelter and equipment. Although the proper type and amount of food varies considerably with the species of raptor and the time of year and stage of the bird's training, there are certain basic principles that apply in all cases. The best food for any raptor is natural food, which should make up the principal proportion of the diet. The best and most appropriate examples of such a natural diet are English sparrows, feral pigeons*, starlings, mice and rats. It is unlikely that the falconer can shoot unprotected birds or animals in sufficient numbers to provide a continuous and reliable supply, even for one hawk. (Caution: Ingesting 0.1 lead shot in birds or animals killed with a shotgun may cause lead poisoning in raptors). Day-old cockerel chicks raised to 4-8 weeks old or pharaoh or Corturnix quail may be raised by the falconer (under a game bird breeder's license) and make useful replacements for wild varieties of natural foods. Such replacements should also be considered where unprotected wild birds or animals may contain dangerous levels of chemical sterilants, pesticides and or other poisons. A supplemental food supply such as meat or chicken parts may be used temporarily when natural food is unavailable. Vitamin and mineral supplements are an important part of a captive raptor's diet, especially if the bird is fed non-natural foods more than occasionally. Use of such supplements should be undertaken only after consultation with a veterinarian to determine proper types and dosages since some synthetic vitamins can prove harmful to raptors, as can some supplements containing iron.

* There is some question as to the advisability of feeding pigeons to raptors unless considerable care is exercised. Both wild and domestic pigeons are commonly infected with *Trichomonas galljnae*, a protozoan that causes a disease of the mouth and the tongue in raptors. It is difficult to treat and frequently fatal. Any pigeons used as food for captive raptors should have the head and crop removed and be allowed to cool for at least one hour (preferably longer) after death.

ILLUSTRATIONS

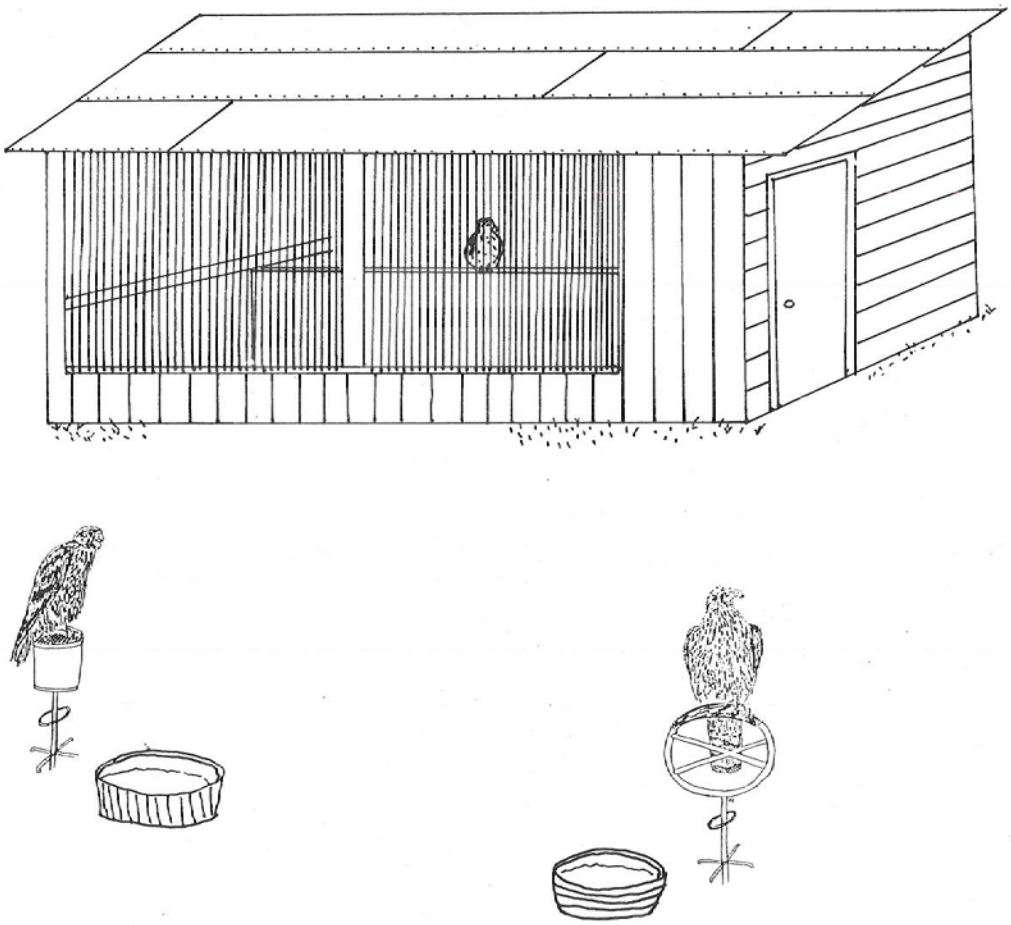

Figure 1. Open-faced mews with screen perch. A hawk and falcon are shown "weathering" with appropriate perches and bath pans.

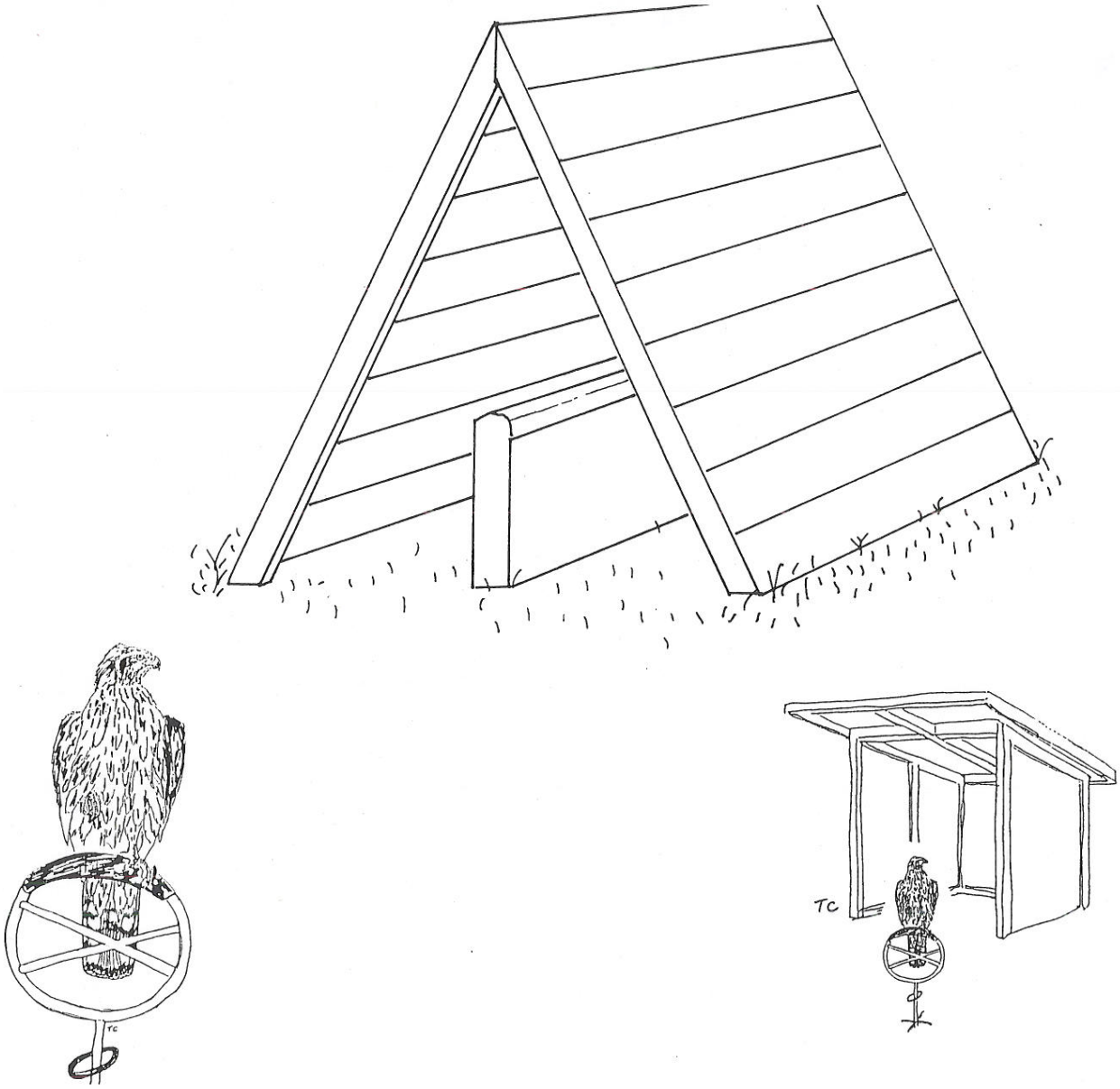

Figure 2. "A-frame" type shelter to protect a "weathering" raptor from direct sun or severe weather.

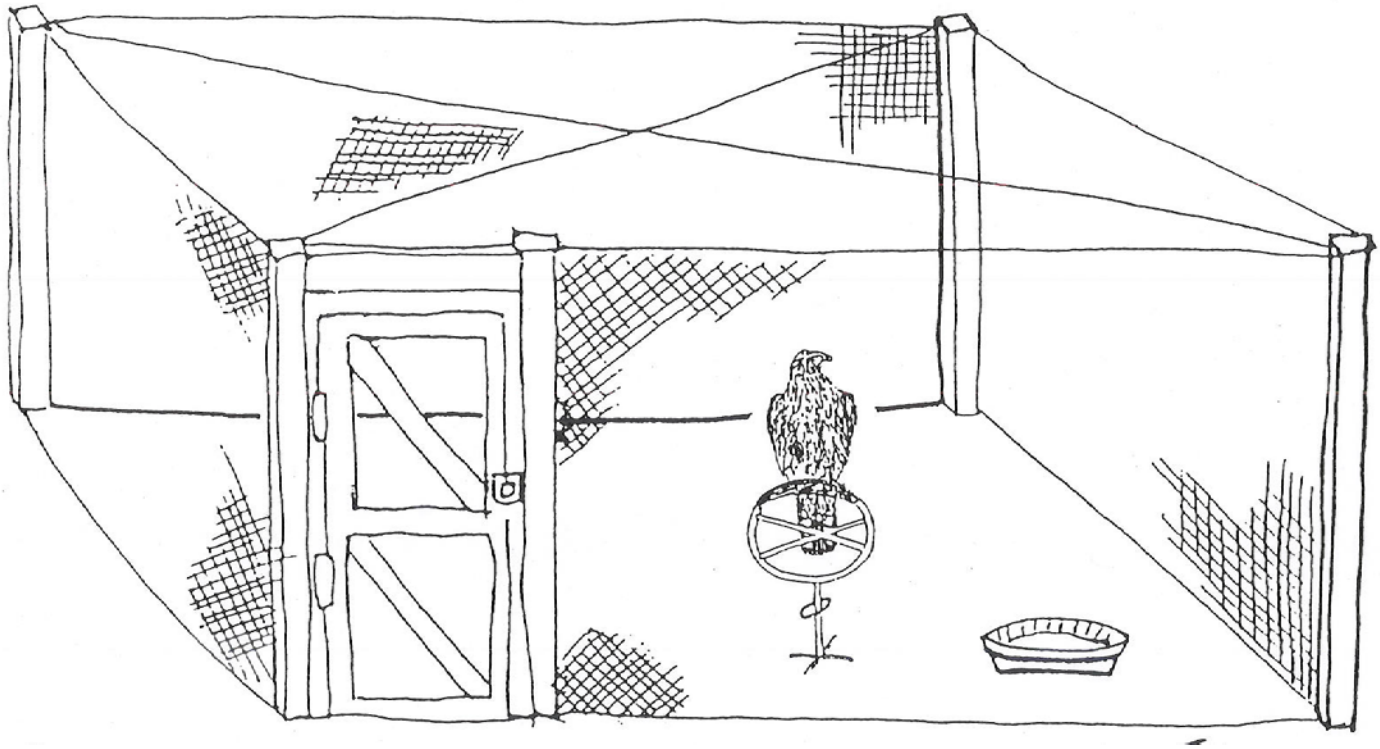

Figure 3. Predator-proof, totally enclosed "weathering" area.

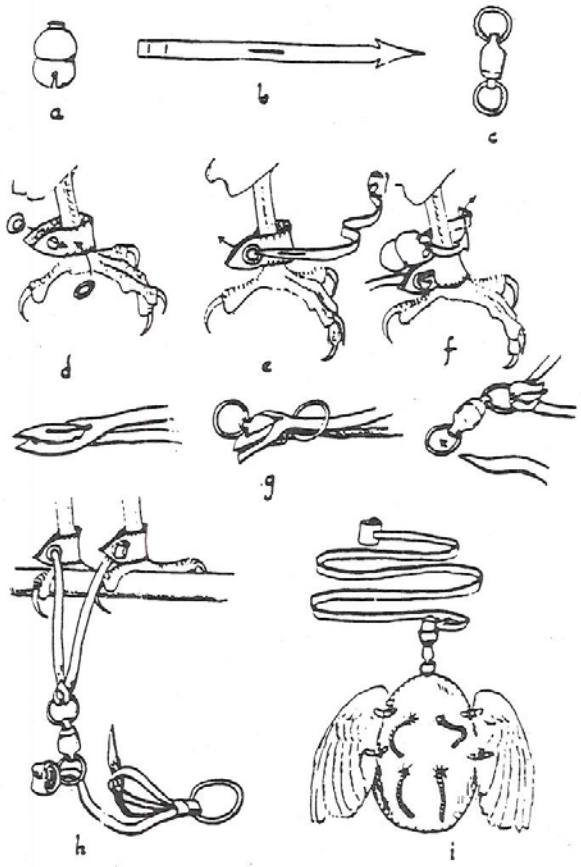

Figure 4.

a) Bell
b) Bewit, for placing bell on raptor's leg
c) Sampo swivel (ball bearing fishing swivel)
d) Attaching the Aylmari jess cuff to the hawk's leg. A metal eyelet consisting of two parts must be squeezed shut with a special pair of pliers
e) Threading the jess strap through the eyelet
f) Attaching the bell. The bewit is folded at the square end, and the "arrowhead" is pulled through the perforations.
g) Attaching the jesses to the swivel. The method shown prevents one jess from sliding down and possibly jamming the swivel.
h) Proper appearance of jess and swivel knot
i) Lure

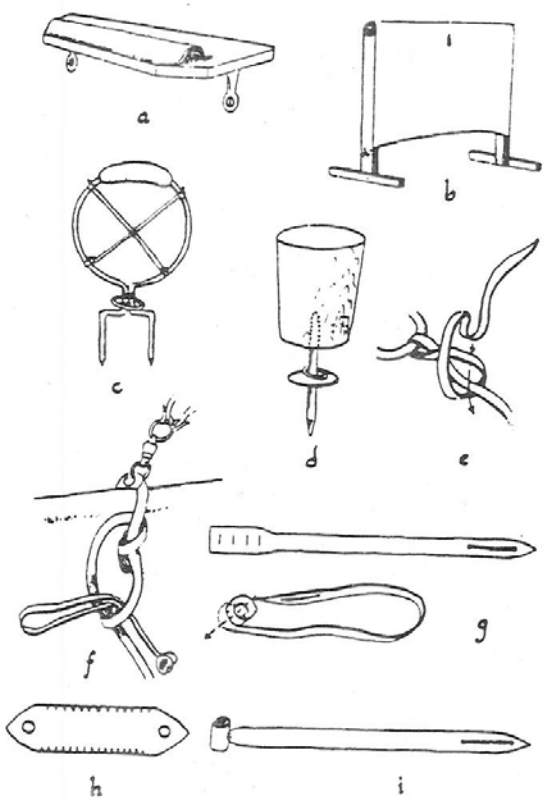

Figure 5.

a) Shelf-perch; the eyelet with swivel (not shown) is attached directly below the shelf at floor level.
b) Screen-perch
c) Ring-perch; the "stem" is wrapped with wire to hold it together.
d) Block-perch.
e) Tying the leash to the ring of a shelf, ring or block perch. The loop of the "tail" of the leash is drawn through the larger complete loop. A tight knot is thus formed, and the "tail " is then pulled through the small loop which remains open.
f) Tying the leash to the screen-perch. The leash is passed through the swivel ring twice. When the knot is tightened as illustrated, a loop remains, through which are pulled the free ends of the leash.
g) Making a jess strap for an Aylmeri jess. The square end of the strap is folded several times, the layers perforated, and the entire strap is pulled through the holes.
h) A cuff for a Aylmeri jess.
i) Complete jess strap.

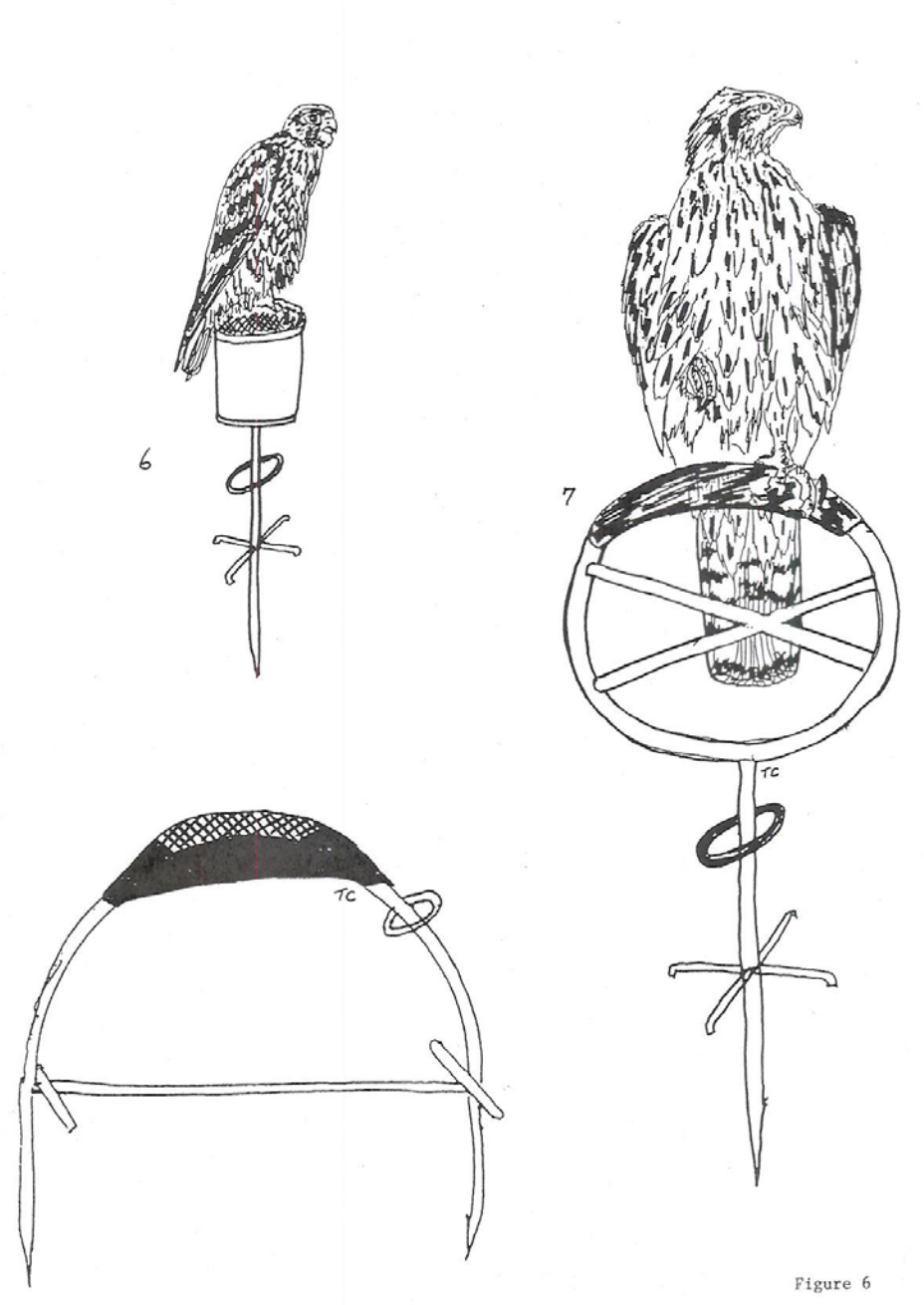

Figure 6. Outdoor perches: Ring perch, block perch and bow perch

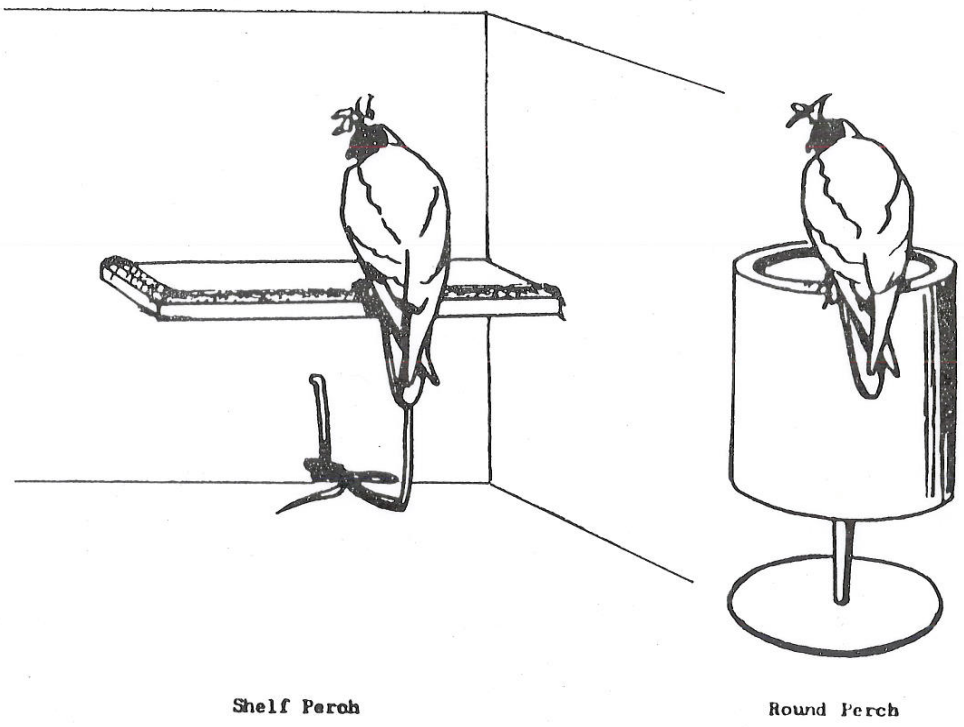

Figure 7. Indoor perches: Round perch and shelf perch

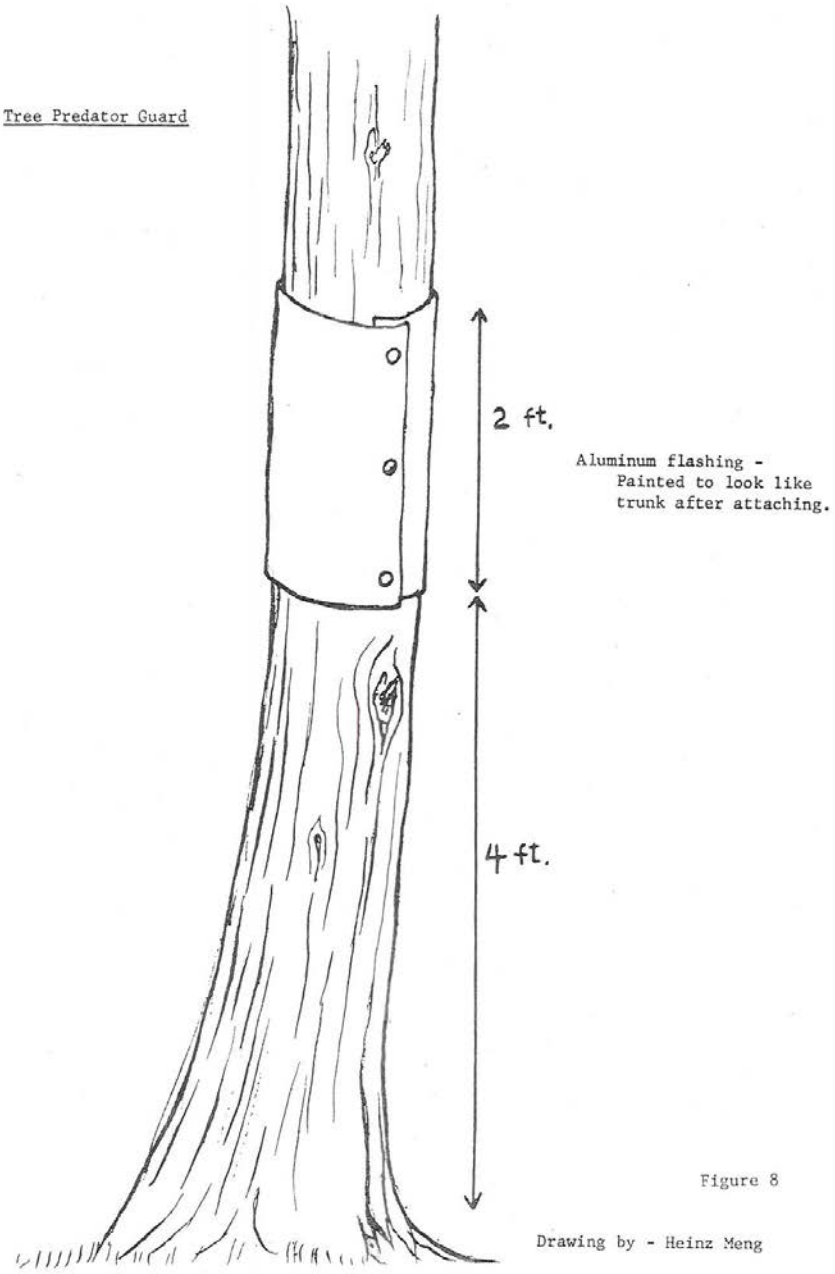

Figure 8. Tree predator guard

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**NOTE: Especially recommended for the beginner.

Veterinary Care Manuals

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Falconry Organizations

North American Falconers Association

Website: http://www.n-a-f-a.com/index.htm

Northeastern region email address: northeastern_director@n-a-f-a.com

New York State Falconry Association

Website: http://www.nysfa.org