



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# New York State Falconry Examination Manual

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and

The New York State Falconry Advisory Board

with assistance from the

New York State Falconry Association  
and the  
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## General

1. Hawks belonging to the genus Accipiter are also known as . .
  - a. broad wings
  - b. long wings
  - c. short wings
  - d. all of the above

Ans. c

2. Which of the following is generally true regarding male raptors . . .
  - a. first to return from migration
  - b. chose the nesting area
  - c. provides most of the food after the young have hatched
  - d. all of the above

Ans. d

3. A raptor tends to reach full size . . .
  - a. at one year of age
  - b. when they leave the nest
  - c. at six months of age
  - d. at five years of age

Ans. b

4. Which species of raptor does not exhibit sexual dimorphism . . .
  - a. Kestrel
  - b. Red-tailed Hawk
  - c. Peregrine
  - d. none of the above are correct

Ans. d

5. A relaxed hawk is likely to . . .
- a. preen
  - b. raise and tuck one foot
  - c. rouse
  - d. all of the above

Ans. d

6. Which of the following does not describe a portion of a raptors wing?
- a. coverts
  - b. alula
  - c. cere
  - d. secondaries

Ans. c

7. Which of the following terms does not fit with the others?
- a. talon
  - b. train
  - c. tarsus
  - d. hallux

Ans. b

8. Which factor is most important in determining what raptor any falconer should fly?
- a. appropriateness of raptor housing
  - b. availability of prey suitable for that raptor
  - c. proximity to other falconers flying similar raptors
  - d. none of the above

Ans. b

9. The terms "passage," "imprint," and "chamber" describe...
- a. the legal status of the falconer
  - b. the nature of the mews area in which a raptor is kept
  - c. how the raptor was raised
  - d. none of the above

Ans. c

10. All “raptors” includes species of the order or orders...

- a. Strigiformes
- b. Falconiformes
- c. Accipitridae
- d. both a and b

Ans. d

The term “raptor” includes all hawks and owls. Accipitridae is the largest family of hawks and eagles within the order Falconiformes, but it is not an “order”.

11. Desertion of the nest by adult raptors is most likely to occur...

- a. just prior to egg laying
- b. during late incubation
- c. during hatching
- d. just prior to fledging

Ans. a

Once the eggs are laid, most raptors, though not all, are likely to stick with their clutch, despite disturbances.

12. True or false: If the first clutch of eggs is destroyed soon after being laid, many hawks and falcons will lay a second clutch.

Ans. True.

This tendency has been used by raptor propagators to maximize the progeny of breeding pairs. The system is called “double clutching.” Caution: some raptors, if disturbed on eggs in the wild, will abandon their nests and close down their reproductive systems for the season.

13. A falconer is most likely to encounter a “brancher” of a species of hawk or falcon in...
- a. January
  - b. March
  - c. June
  - d. October

Ans. c

A brancher is a young hawk that has left the nest or eyrie, but has not left the immediate vicinity. In New York, a falconer will most likely encounter a brancher of the species of hawks or falcons used in falconry in June. Great Horned Owls typically breed in January or February (depending on geographical location), so branchers of this species would be encountered earlier than June (February or March).

14. There is an observed trend of young avian predators (particularly falcons), shortly after leaving the care of an adult, to begin taking quarry considerably larger than is the norm for adults of the same species. This is probably because...
- a. the youngsters are still growing and need more food than adults
  - b. the young birds are stronger and can out-compete their elders for larger, more nutritious prey
  - c. more skill is required to catch a smaller bird
  - d. all of the above

Ans. c

Certain principles of aerodynamics dictate that any bird lighter than a raptor that is chasing it can, if the wing loading is even approximately the same, always turn inside the turning radius of the larger, heavier bird. This factor operates very powerfully for a few months, but as the raptor develops flying skill and dexterity, smaller and less dangerous quarry are taken with increasing frequency.

15. The bird most likely to breed naturally in captivity is...
- a. a passage bird
  - b. an imprint eyas
  - c. a raptor (parent)-raised eyas
  - d. all of the above

Ans. c

Raptor-raised eyases are the most successful captive breeders. Captive bred raptors have produced significant numbers of young in the United States.

16. Male and female hawks can be determined in most species by...

- a. the faster speed of the females
- b. the faster speed of the males
- c. the larger size of the females
- d. the larger size of the males

Ans. c

In most species the coloration of the sexes is similar. Speeds probably don't differ between the sexes, but especially in the bird-eating species, there is a great difference in the size between males and females. Males of some species are one-third smaller than the females.

17. Falconiforms in immature plumage appear to be...

- a. smaller than when they become adults
- b. larger than when they become adults
- c. the same size as when they become adults
- d. larger or smaller than the adults, depending on how well they were fed as nestlings and on how successful they were as hunters after leaving the nest

Ans. b

The juvenile flight feathers tend to be longer than the adult feathers to compensate for the less developed muscles and less ossified bones. This may give immature birds the appearance of being larger.

18. In Buteo, Parabuteo, and Accipiter, molting of the primary wing feathers...

- a. starts with the inner most primary (ornithologically number 1) and proceeds in sequence to the outermost primary (ornithologically number 10)
- b. starts with the number 10 and proceeds inwards to number 1
- c. starts with the primary number 4 and proceeds in both directions
- d. proceeds in an irregular fashion but is the same sequence on each wing

Ans. a

The correct answer for the genus Falco would be c. Caution: The critical word here is "ornithologically." Historically, falconers counted primaries just the opposite. What is ornithologically number 1 is, to some falconers, number 10. However, most modern falconry literature counts according to the ornithological method.

19. Haggards (adults) are not taken for falconry because...
- a. they may be too old and might die soon
  - b. they are too difficult to train
  - c. they are nature's breeding stock and should be allowed to function as such
  - d. they will only take the prey species they have specialized to catch in the wild

Ans. c

Young birds of prey have more than a 70% mortality rate before they reach breeding age. The consensus of falconers and regulators in the United States is that those birds that have survived to adulthood should be allowed to remain in the wild as part of the breeding population.

20. True or false: Hawks and falcons hunt by sight and hearing; their sense of smell is not well developed.

Ans. True

21. One is most likely to find the "cere"...
- a. on the head of a raptor
  - b. on the feet of a raptor
  - c. on the wings of a raptor
  - d. around the breast area of a raptor

Ans. a

The cere is the waxy yellow, blue, grey, or green skin at the top of the beak in which the nostrils are situated.

22. The "tarsus" of a raptor is part of the bird's...
- a. wing
  - b. leg
  - c. tail
  - d. head

Ans. b

The tarsus is that part of the leg which extends from the foot upward to the first joint. It is the portion where jesses and bewits are attached.

23. A bird's "train" is it's...

- a. head
- b. wing
- c. foot
- d. tail

Ans. d

The train is the tail.

24. "Deck" feathers are...

- a. the central pair of tail feathers
- b. the feather tuft on top of a falcon's hood.
- c. the feathers used in imping a broken tail or wing feathers
- d. the row of feathers which run down the wing above the primaries and secondaries

Ans. a

25. A good indication of completed growth in eyases is when the bird is...

- a. full summed
- b. hard penned
- c. both a and b
- d. b but not a

Ans. c

Hard-penned and full summed are synonymous. They mean that the blood has withdrawn from the newly grown large feathers of the wings and tail, and that the feathers have hardened.

26. Your bird is likely to "mantle"...
- a. when in active pursuit of quarry
  - b. when standing over quarry
  - c. both a and b
  - d. neither a nor b

Ans. b

The term "mantle" is used to describe both a) the stretching of one wing and one leg on the same side, which is an indication that the bird is relaxed and contented, and b) the spreading of wings and tail over food or quarry, which is a defensive behavior used to conceal food from other animals.

27. A bird that is very comfortable with its surroundings and has a full crop is likely to...
- a. gorge
  - b. hack
  - c. rouse
  - d. rangle

Ans. c

"Rouse" is an action common to all birds in which all the feathers are slowly erected, the bird shakes itself and the feathers then slowly settle back into place. It is considered a sign of tameness and well-being. "Gorge" is permitting a hawk to eat all it can, until it refuses to eat more. "Hack" is the state of complete liberty sometimes permitted to eyases during the first few weeks after they can fly. "Rangle" pertains to small stones given orally to a hawk.

28. A bird is likely to "preen"...
- a. following a bath
  - b. when it is content
  - c. both a and b
  - d. neither a nor b

Ans. c

"Preening" describes a birds' behavior in straightening and dressing its feathers. It is a sign of a well-adjusted raptor. A bird will often preen following a bath, or when it is content and comfortable.

29. "Cast" means...

- a. the act of disgorging a pellet of fur, feathers, bones, or all three
- b. two falcons flown together
- c. to hold or wrap a hawk so as to prevent movement
- d. all of the above

Ans. d

All are correct. A casting is the indigestible portions of a raptor's meal, usually the bones and feathers of their prey, which are formed into a compact pellet and disgorged through the mouth. The word, "cast," is also used to mean two raptors of the same species flown together, of either sex. One also "casts" a bird to immobilize it.

30. The medieval falconer was most likely to "enseam" his or her bird...

- a. when it was hood shy
- b. immediately after capturing the bird
- c. when the bird was too fat
- d. when the bird was sharp-set

Ans. c

"Enseam" means to prepare a hawk for flying by eliminating her reserves of fat. Today it may refer to the practice of feeding washed meat. The medieval term referred to certain purges (e.g. rangle) given to a hawk which were supposed to rid it of excess fat and mucus, thus making it more eager to fly.

31. A hawk or falcon is most likely to "put over" its crop...

- a. when entering a stoop
- b. while being entered on new quarry
- c. just before eating
- d. just after eating

Ans. d

To "put over" a crop is the action of a raptor when, by movements of the neck and shoulders, it forces food from the crop into the stomach. A crop has been "put away" when all the food in the crop has been moved into the stomach.

32. A bird is most likely to "feak"...

- a. just before making a kill
- b. just after taking a bath
- c. just after a meal
- d. just before breaking in

Ans. c

To "feak" is the action of a raptor wiping its beak against the perch or on the glove after feeding.

33. True or false: The term "austringer" refers to one who normally flies passage falcons rather than eyases.

Ans. False

"Austringer" means one who keeps and hunts with the accipiters. It is derived from the Latin "aster," the former generic name for the Goshawk.

34. A passager or passage hawk is...

- a. any raptor taken on migration
- b. a raptor taken on its first migration
- c. any intermewed raptor
- d. none of the above

Ans. b

A passager is a raptor captured on its first southward migration, hence a bird in the immature plumage and therefore of known age. First-year birds captured in non-migratory situations are also called passagers.

35. True or false: It is desirable that your bird "crab" after striking a quarry.

Ans. False

"Crabbing" is a clash or fight between falcons or hawks. Sometimes it happens in the air, sometimes on the ground over captured quarry.

36. The word "strike" used by a falconer means...

- a. the instant of contact between a hunting raptor and either quarry or lure
- b. loosening the braces or removing the hood
- c. both a and b
- d. neither a nor b

Ans. c

"Strike" has several meanings. It is used to describe the moment of impact. "Striking the braces" is the act of loosening the braces of a hood. "Striking the hood" is the act of removing the hood from the hawk or falcon.

37. The phrase "rake away" is used to mean...

- a. to abandon the flight and careen away
- b. a falcon flying low to the ground
- c. the cutting down of a swift flying quarry by a slashing strike-and-pass by the Goshawk
- d. none of the above

Ans. a

"Rake away" is used to describe a flight at quarry or to the falconer that is aborted. The bird flies toward an intended target and then suddenly changes course away from that target.

39. True or false: "Intermewed" described a medieval practice now considered archaic by North American falconers.

Ans. False

Intermewed simply describes a bird that has been kept a full year. Literally it means "interval in the mews" referring to the summer period of inactivity in the mews during which time a hawk molts. Hence, an intermewed hawk is a hawk that has been molted in captivity.

39. Drinking water is also known as . . .

- a. yarak
- b. bowsing
- c. warbling
- d. carrying

Ans. b

40. A bird that is “keen” could also be said to be . .

- a. hungry
- b. sharp-set
- c. ready to kill
- d. all of the above

Ans. d

41. A slip is best described as . . .

- a. a chance at quarry
- b. release of a short wing after quarry
- c. the flight of a short wing after quarry
- d. all of the above

Ans. d

## Apprentice Birds

1. The falcon in which sexual dimorphism is found in both plumage coloration and pattern is the...
  - a. Peregrine Falcon
  - b. American Kestrel
  - c. Gyrfalcon
  - d. None of the above.

Ans. b

In the adult plumage, both the American Kestrel and the Merlin demonstrate conspicuous coloration differences based on gender. However, immature Merlins of either sex look the same.

2. Which of these birds lacks distinctive "immature" plumage during their first year?
  - a. Goshawk
  - b. Red-tailed Hawk
  - c. Merlin
  - d. American Kestrel

Ans. d

American Kestrels differ from other falcons in that their first year plumage is very similar to their mature plumage. They differ also in the manner of the first molt. The body plumage, but not the large wing and tail feathers, are molted and replaced in the late summer. This means the first body plumage is scarcely fully grown before it begins to molt.

3. True or false: The American Kestrel is closely related to the Eurasian Sparrowhawk.

Ans. False

The Eurasian Sparrowhawk (*Accipiter nisus*) is a small Accipiter or short-winged hawk and is very similar to the Sharp-shinned Hawk (*A. striatus*). The American Kestrel (which was formerly called the American Sparrowhawk) is the smallest North American falcon.

4. A small hawk alights nearby, and immediately pumps its tail up and down several times. This "tail pumping" is a good identification field mark of a...
- Sharp-shinned Hawk
  - American Kestrel
  - Broad-winged Hawk
  - Northern Harrier

Ans. b

Tail pumping, head bobbing, and hovering are the classic field identification characteristics of an American Kestrel.

5. A very small raptor hovering 20 feet above an open field is most likely a...
- Sharp-shinned Hawk
  - American Kestrel
  - Merlin
  - Cooper's Hawk

Ans. b

There is nothing shy about a Kestrel. It lives, hunts, nests and perches right out in the open for all to see. The most typical hunting method of the species is that of hovering. Even when hunting from atop a pole, it may not make a direct flight to the quarry. Instead it may fly out over the spot where it has seen something move, then hover over it before dropping down.

6. Although in the summer this raptor employs a hunting style adapted to catching grasshoppers and mice, wintering individuals often show a more typical falcon style when capturing small birds.
- Northern Harrier
  - American Kestrel
  - Broad-winged Hawk
  - Sharp-shinned Hawk

Ans. b

7. The species that is most sensitive to weight fluctuations is the...
- Gyr Falcon
  - Red-tailed Hawk
  - Peregrine Falcon
  - American Kestrel

Ans. d

Due to its small size and fast metabolism, an American Kestrel's weight should be monitored regularly, particularly in cold weather.

8. True or False: It is a good idea to have an American Kestrel wedded to the lure prior to flying it free?

Ans. True

Having an American Kestrel wed to a lure is good for conditioning and recovery.

9. When caring for an American Kestrel, the falconer must be particularly attentive to...
- weight management
  - other avian predators
  - injuries due to bating
  - all of the above.

Ans. d

Due to the American Kestrel's small size and delicate nature, special attention must be paid to its weight management and to injury prevention. They are also vulnerable to other avian predators.

10. A trait of the American Kestrel in the wild that carries over and becomes a vice when it is trained in falconry is...
- a. soaring.
  - b. warbling.
  - c. bowsing.
  - d. carrying.

Ans. d

Kestrels have a tendency to carry, which serves them well in the wild but makes for poor falconry. This tendency can be overcome with consistent training. Turning an American Kestrel into a great game hawk has its challenges, but many falconers have been successful in taking small game, including birds, with Kestrels.

11. Traditional falconry equipment items not routinely used with American Kestrels include...
- a. bells
  - b. hood
  - c. traditional Jesses
  - d. all of the above

Ans. d

Few falconers take the time or trouble to bell or hood a Kestrel. These birds become so tame that there is little advantage to a hood and they are extremely difficult to fit. Bells are unnecessary because they would have to be so light in weight that they would be of limited utility. Flying the bird with traditional jesses are illegal.

12. True or False: In the wild, a Red-tailed Hawk will take neither game birds nor passerines.

Ans. False.

In periods when the Red-tailed Hawk's normal food supply of rabbits and rodents becomes scarce, it becomes a surprisingly competent bird hawk, greatly feared by larger waterfowl and all upland game birds. Additionally, at such times, Red-tailed Hawks may successfully attack other kinds of birds including crows, ravens, gulls, owls and other Buteos. In the western desert, Red-tailed Hawks live as much on rattlesnakes and other reptiles as they do rodents.

13. The sex of Red-tailed Hawks can be predicted in most cases by...

- a. weight and size
- b. eye color
- c. coloration of plumage
- d. none of the above

Ans. a

The North American bird manual no longer accepts the determination of sex of Red-tailed Hawks made by banders because of the large overlap in the criterion used to distinguish the sexes. Falconers, however, continue to make good educated guesses. The most reliable criterion is weight. The males follow well the concept of the term "tiercel" by truly being about 1/3 smaller than the females on average, but the size range within each sex is quite large: 26 to 44 ounces for males, 36 to 70 ounces for females, represent extremes. Males on average weigh 34 ounces, and females 49 ounces.

14. True or false: There is no sexual dimorphism in the Red-tailed Hawk.

Ans. False.

In addition to being much larger and heavier, the females generally, through not always, have larger, more powerful thighs and feet, broader and larger heads, wide wings and a blockier overall build. As to behavior, the males are somewhat more spirited but also more temperamental. The females more readily "crash" into heavy cover in pursuit of quarry but they lack the quickness and aerial dexterity of the males.

15. True or False: Red-tailed Hawks only nest in trees.

Ans. False.

In the western states, Red-tailed Hawks occasionally choose cliffs as their nest sites and in Arizona they sometimes nest in the tall saguaro cacti. Some also nest on the ledges of tall buildings in major urban areas, such as New York City.

16. In New York State, Red-tailed Hawks will lay their eggs in...

- a. February/March

- b. March/April
- c. April/May
- d. May/June

Ans. b

Egg production in Red-tailed Hawks (as in most raptors) varies with the climate. In New York, Red-tailed Hawks lay their eggs in March or early April. Incubation averages 30 days and is shared by both sexes.

17. When their nest tree is climbed by a human, Red-tailed Hawks usually...

- a. attack the intruder
- b. disappear and permanently desert the nest
- c. utter vocal cries from a distance
- d. sit tightly on the nest

Ans. c

Eastern Red-tailed Hawks almost never attack an intruder at the nest. Western Red-tailed Hawks are sometimes more aggressive.

18. In the wild, Red-tailed Hawks generally fledge how many young?

- a. 1
- b. 2
- c. 3
- d. 4

Ans. b

On average, two are successfully fledged.

19. The Red-tailed eyas generally leaves the nest for the first time at...

- a. two weeks

- b. four weeks
- c. six weeks
- d. eight weeks

Ans. c

Young Red-tailed Hawks leave the nest at 45 days, but often return to the area in early summer.

20. During the fall migration, the best place to trap a passage Red-tailed Hawk in New York with a bow net or a mist net is...
- a. atop a ridge running from northeast to southwest
  - b. atop a ridge running from east to west
  - c. in an agricultural valley with interlocking field and forest
  - d. on the beach

Ans. a

Migrating hawks tend to ride the updrafts southward from ridge to ridge. Two weeks after the Equinox, the Red-tailed Hawks begin to move, and the first cold front brings them over by the dozens each day. The best day is a fine cold day following foul weather, but if the wind gets too high it is hard coaxing them out of a soar. Trapping Red-tailed Hawks remains good into November.

21. True or False: There are many varieties of Red-tailed Hawks in North America.

Ans. True

Up to 14 sub-species have been described for Red-tailed Hawks (*Buteo jamaicensis*), but falconers know that the Red-tailed Hawk is so variable that no two individuals look alike anyway. Two subspecies stand out. A very pale subspecies, the Krider's Hawk, occurs in the West, with a tail on the adult that is almost white. Further north in upper British Columbia and the Southern Yukon, a very dark Red-tailed Hawk strongly resembling a Golden Eagle in color has been given the name of Harlan's Hawk. Leucistic (white) individuals also exist in localized areas within the Red-tailed Hawk's range.

22. The species best suited for taking rabbits is the...

- a. Merlin
- b. Red-tailed Hawk
- c. Peregrine Falcon
- d. any of the above

Ans. b

The Red-tailed Hawk is oriented toward ground quarry, particularly large rodents and rabbits. The other birds are oriented toward avian prey.

23. To properly exercise a Red-tailed Hawk...
- a. block it out in a place where it will bate continuously
  - b. stoop it to the lure repeatedly (25-50 times)
  - c. fly it multiple times on a creance
  - d. take it to the field and hunt with it

Ans. d

No stationary or "back yard" conditioning can compare in effectiveness to a regular, long walk with the bird following from tree to tree or tree to fist. A falconer can also carry the bird and call it off repeatedly or practice "fly-ups" while standing on a chair or ladder. However, this alone won't get an intermewed bird back into hunting shape. The best method is to fly your bird hard and often.

24. Some eyas hawks may become so aggressive when they mature that they should only be taken as passagers. The species that displays this behavior to the greatest degree is the...
- a. Goshawk
  - b. Harris's Hawk
  - c. Red-tailed Hawk
  - d. Prairie Falcon

Ans. c

Eyas Red-tailed Hawks are known for their aggressive tendencies when they get older. Also, if an imprinted Red-tailed Hawk is lost, it may become a menace to dogs or humans.

25. Your imprint eyas Red-tailed Hawk has attacked a member of your hunting party. She binds to the person's body with both feet and hangs. Some of her talons have drawn blood and there is a danger of serious injury. The best way to remove her is to...
- pull the hind talon of each foot backward and slide the foot forward.
  - pour water on the hawk.
  - throw the garnished lure or live pigeon on the ground.
  - grab the hawk by its head and squeeze.

Ans. d

In an emergency situation where there is potential serious damage to a human being, a domestic animal, or another raptor, a hawk can be removed from a "bind" or "crabbing" situation by clutching its head. When their head is grasped firmly, raptors typically let go of whatever they are doing and grab that which is binding their head. Nevertheless, this method does not always work. The next best method is answer a. In non-emergency situations where there is no danger of serious injury, the preferred method for removing an angry bird from a bind is to pull the rear talon of each foot back out of the wound and slide the front talons forward.

26. True or False: If your Red-tailed Hawk misbehaves, it should be disciplined immediately so that it will associate the punishment with the aberrant behavior.

Ans. False

The non-social nature of raptors precludes any understanding by them of the use of pain or force or threat of force in their training.

27. True or False: Aggression by a Red-tailed Hawk may not be manifested until its second or third year.

Ans. True

Increased aggression toward humans and pets may develop in eyas Red-tailed Hawks upon sexual maturity.

28. Which raptor has the reputation for being the easiest to man?
- passage goshawk
  - passage prairie falcon
  - passage Red-tailed Hawk

d. passage sharp-shinned

Ans. c

29. The reason to select an American Kestrel over a Red-tailed Hawk as your first bird is . . .

- a. they need to be fed less often
- b. they are less likely to carry
- c. they are easier to keep healthy
- d. none of the above are true

Ans. d

30. Which bird is most tolerant of the cold?

- a. Red-tailed Hawk
- b. Harris' Hawk
- c. Aplomado falcon
- d. None of the above

Ans. a

31. The hunting style of a wild Red-tailed Hawk is best described as . . .

- a. waiting-on
- b. attack from above
- c. perch and wait
- d. none of the above

Ans. c

32. Taking an eyas Red-tailed Hawk from the nest is preferred over trapping a passage Red-tail because . . .

- a. they are less likely to become aggressive

- b. they are easier to keep healthy
- c. they are more natural hunters
- d. none of the above

Ans. d

33. Red-tailed Hawks are commonly trained . . .
- a. using operant conditioning techniques
  - b. to stoop the lure repeatedly
  - c. to hunt quail
  - d. none of the above

Ans. a

34. The hunting style of a Kestrel most closely resembles . .
- a. Goshawk
  - b. Peregrine falcon
  - c. Gyrfalcon
  - d. Merlin

Ans. d

35. Male Red-tailed Hawks are preferred over females because . . .
- a. females are too clumsy to take squirrels
  - b. males are more agile and take jack rabbits easier
  - c. males are easier to man

d. none of the above

Ans. d

36. Your American Kestrel is best suited to hunt . . .

- a. Quail
- b. Starlings
- c. English sparrows
- d. b. and c. above

Ans. d

37. A field aid that helps identify the American Kestrel is . . .

- a. hovering
- b. bobbing of the head
- c. pumping the tail up and down upon landing
- d. all of the above

Ans. d

38. The raptor most likely to kill its prey with its powerful grip is . . .

- a. Jack
- b. Jerkin
- c. Red-tailed Hawk
- d. Kestrel

Ans. c

## Other Falconry Birds

1. Defining characteristics of true falcons include...

- a. possessing heavy crushing feet
- b. having a "toothed" or "notched" beak
- c. feeding only on birds
- d. having the most maneuverability

Ans. b

All true falcons in the Genus: Falco have a "toothed" or "notched" beak. The "tomial teeth" are on the maxilla (upper mandible). The notches are on the lower mandible.

2. True or false: Large falcons kill their prey primarily by the tremendous gripping power of their feet.

Ans. False

Falcons are known for subduing their prey quickly by severing its spinal cord with their beak.

3. The hawks that dispatch their vertebrate prey by severing the spinal cord are the...

- a. Falcons
- b. Buteos.
- c. Accipiters
- d. Eagles

Ans. a

The four projections on a falcon's beak (2 upper and 2 lower) are used to shear or sever the spinal cord of their prey, sometimes with one well-placed bite that helps kill the prey quickly. The "tomial teeth" are on the maxilla (upper mandible). The notches are on the lower mandible.

4. The bird least likely to "slice" is the...
- a. Peregrine Falcon
  - b. Red-tailed Hawk
  - c. Golden Eagle
  - d. Goshawk

Ans. a

Slicing is the forcible discharge of excrement by Accipiters, Buteos, and Eagles; all Falcons drop their mutes straight down after they have left the eyrie.

5. Stick nests are not built by...
- a. Accipiters
  - b. true Falcons
  - c. Buteos
  - d. Eagles

Ans. b

True falcons do not build their own nests. They use ledges, hollow trees, old nests of other species, and manmade structures for nesting. Caracaras and forest falcons, however, do.

6. True or False: In the case of most falcons, the male does most of the hunting for about the first two weeks after the young hatch.

Ans. True.

When the young are quite small, the male will do most of the hunting. As the young continue to grow and their demands exceed the capability of the male to meet their needs, the falcon will also fly out in search of food.

7. The species that is most apt to occupy and defend the largest territory is the...
- a. Gyrfalcon
  - b. Northern Harrier
  - c. Cooper's Hawk
  - d. American Kestrel

Ans. a

Generally, the larger the bird, the more territory it needs to provide food and shelter for a nesting pair and their young. Golden Eagle territories in Europe have been measured at 16 square miles, and those of Gyrfalcons in the northern latitudes at 14 or 15 square miles. Northern Harriers, Cooper's Hawks, and American Kestrels are not likely to require more than 1 mile. The far-ranging habits of Gyrfalcons also require more territory.

8. The largest of the following birds is the...
- a. Jerkin (Gyrkin)
  - b. Jack Merlin
  - c. Peregrine Falcon
  - d. Peregrine tiercel

Ans. a

There is some overlap between the male Gyrfalcon (jerkin) and the female Peregrine (falcon). However, the jerkin is on an average, larger. The male, or "jack" Merlin and the male, or "tiercel" Peregrine are both considerably smaller than either the Peregrine Falcon or the male Gyrfalcon.

9. The Peregrine Falcon...

- a. exists on all continents except Antarctica
- b. lays more eggs per clutch than any other species of raptor
- c. preys on all other species
- d. has no species that competes with it except man

Ans. a

Some variant of this species occurs on all continents except Antarctica, and on all major islands except New Zealand and Iceland. The Peregrine tends to be replaced in all arid interior continental environments by one of the desert falcons, and is absent as a breeding species from major areas of tropical rainforests.

10. A malar stripe is likely to be found on a(n)...

- a. Peregrine Falcon
- b. Ptarmigan
- c. Mollen hood
- d. Ornate Hawk Eagle

Ans. a

In any plumage, the real mark of the Peregrine is the face bar, known as the "mask" or "malar stripe." This is a broad dark mark extending downward from the crown across the eye. Many species of falcons have this mark, but on none of them is it so well developed and as clearly marked as on the Peregrine.

11. True or false: The skin and scale areas of adult Prairie Falcons and Peregrine Falcons differ from those of immature individuals.

Ans. True.

The easiest and most reliable method of identifying a first year Prairie Falcon is by examining the skin and scale areas. As with other large falcons, the feet, cere, and eyelids of the first year birds are blue; on the adults, yellow. In most of the Northeastern American Peregrine subspecies there is a tendency for the plumage of the first year birds to be colored in shades of rich reddish brown. Adults are blue-gray above with lightness on the rump, cross-banded with darker grey. Their upper breasts are often pure white fading into salmon below.

12. True or false: The Peregrine Falcon has a tail relatively longer than that of a Prairie Falcon and Gyrfalcon.

Ans. False

The Peregrine Falcon's tail is proportionally shorter than that of the Prairie Falcon or Gyrfalcon.

13. The incubation period for Peregrine Falcon eggs is...

- a. 21 days
- b. 24 days
- c. 33 to 34 days
- d. 40 to 45 days

Ans. c

Peregrine Falcons take 33 to 34 days to hatch. Technological advances allowing for direct, non-invasive surveillance and the widespread establishment of breeding projects have resulted in more accurate data relating to hatching times. In many older books on birds of prey, the stated incubation periods are incorrect.

14. The large dark Peregrine Falcon that dwells in the Pacific Northwest from Washington State to British Columbia, Southeastern Alaska and the Aleutians is known as...

- a. American Peregrine (*Falco peregrinus anatum*)
- b. Peale's Peregrine (*Falco peregrinus pealei*)
- c. Tundra Peregrine (*Falco peregrinus tundrius*)
- d. European Peregrine (*Falco peregrinus peregrinus*)

Ans. b

Peale's Peregrine Falcons are a strictly maritime subspecies dwelling along the Pacific Northwest coast from Washington State to Alaska.

15. What does Assateague mean to the North American falconer?
- a. a piece of fine silk used in classic falconry to "seal" the eyes of newly captured birds
  - b. an iron deficiency which first shows up in the mutes of anemic birds
  - c. a major concentration point on the eastern migration route of the Tundra Peregrine
  - d. the Crow Indian name for a young Prairie falcon

Ans. c

Around 1935, certain Virginia, Pennsylvania and Maryland falconers discovered migrating Tundra Peregrines where they touched down on the Virginia and Maryland Barrier Islands. For years these islands (including Assateague) furnished a large portion of the wild caught peregrines taken in North America. Young Peregrines migrate from the arctic to South America, as far south as Tierra del Fuego.

16. A Peregrine Falcon is best known for . . .
- a. short bursts of speed
  - b. waiting-on flights
  - c. long pursuits lasting miles
  - d. crashing into heavy brush from treetops

Ans. b

17. A Prairie Falcon is best described as...
- a. smaller than a Merlin
  - b. delicate and sensitive to cold
  - c. migratory coastal falcon
  - d. difficult to man

Ans. d

18. Large falcons are known to capture their prey by . . .

- a. binding
- b. striking
- c. intermewed
- d. a. and b. above

Ans. d

19. Cooper's hawks are best suited for hunting . . .

- a. duck
- b. quail
- c. jackrabbit
- d. pheasant

Ans. b

20. Parabuteos utilized for falconry in North America . . .

- a. are best suited for hunting arctic hare
- b. may be hunted in groups
- c. are avoided because they are difficult to man
- d. none of the above

Ans. b

21. Male sharp-shinned hawks are well -suited for hunting . . .

- a. quail
- b. English sparrows
- c. rabbits
- d. pheasant

Ans. b

22. The bird most commonly used by falconers during the sixteenth century was . .
- a. Red-tailed hawk
  - b. Harris' hawk
  - c. Cooper's hawk
  - d. Peregrine falcon

Ans. d

23. A wild haggard falcon . . .
- a. represents wild breeding stock
  - b. is considered more difficult to train than passagers
  - c. is unsafe to handle
  - d. a. and b. above

Ans. d

24. A ferruginous hawk . . .
- a. tends to be larger than a Red-tailed Hawked hawk
  - b. will not defend its nest
  - c. is a Parabuteo
  - d. a. and b. above

Ans. a

25. Which raptor does not fit with the others?

- a. Jack
- b. Jerkin
- c. Musket
- d. Tiercel

Ans. c

26. Which raptor is least likely to build its' own nest?

- a. Musket
- b. Red-tailed Hawk
- c. Jack
- d. Marsh hawk

Ans. c

27. Which raptor is least likely to nest on a cliff?

- a. Jerkin
- b. Golden eagle
- c. Prairie falcon
- d. Jack

Ans. d

28. A young peregrine falcon is most likely to fledge from its eyrie at . . .

- a. six to seven weeks of age
- b. two to three months of age
- c. twelve to fourteen weeks of age
- d. none of the above

Ans. a

29. A goshawk nest is most likely to be encountered . . .

- a. in suburban woodlots
- b. in the edge of a woodlot near open meadows
- c. in a coniferous forest
- d. on cliffs

Ans. c

30. Which raptor is most likely to travel the longest distance during its migration?

- a. Merlin
- b. Prairie falcon
- c. Goshawk
- d. Gyrfalcon

Ans. a

31. A black, raven-sized raptor with a white band at the base of the tail and chestnut colored upper shoulders best describes a . . .

- a. Cooper's hawk
- b. Red-shouldered hawk
- c. Harris's hawk
- d. Broad-winged hawk

Ans. c

## Hunting and Training Techniques

1. Which of the following is true?
  - a. a haggard hawk was once an eyas
  - b. an eyass hawk was once a haggard
  - c. a passage bird was once an eyass
  - d. a. and c. above are both true

Ans. d

2. When a falconer is attempting to call their bird, a visitor should . . .
  - a. stay back and be still
  - b. not get between the falconer and the bird
  - c. walk toward the bird
  - d. a. and b. above

Ans. d

3. Drinking water is also known as . . .
  - a. yarak
  - b. bowsing
  - c. warbling
  - d. carrying

Ans. b

4. Manning your newly-caught Red-tailed Hawk is best accomplished . . .
- a. outdoors from day one
  - b. by starving weight off quickly
  - c. using food to encourage a response
  - d. by feeding a full crop daily

Ans. c

5. The benefits of hunting your bird frequently include . . .
- a. providing a good diet of wild caught game
  - b. providing excellent exercise for your bird
  - c. strengthening the bond between you and your bird
  - d. all of the above

Ans. d

6. Once your freshly caught Red-tailed Hawk tires of bating off the fist and sits quietly, your next goal should be to . . .
- a. enter it on wild game
  - b. lure fly it
  - c. get it to feed off the fist
  - d. tie it to your block perch

Ans. c

7. Hacking a bird refers to . . .
- a. introducing it to game
  - b. releasing a passage to fly free
  - c. allowing a young bird to mature in a chamber
  - d. none of the above

Ans. d

8. A bird that is keen could also be said to be . . .
- a. hungry
  - b. sharp-set
  - c. ready to kill
  - d. all of the above

Ans. d

9. Your new Red-tailed Hawk appears too tame after just one day out of the trap. You should . . .
- a. frighten the bird to get it back on course
  - b. call your sponsor and follow their instructions
  - c. take it hunting
  - d. release it and trap a new bird

Ans. b

10. Use of a lure may be desired when . . .
- a. a bird is being trained
  - b. when an immediate recall of your bird is necessary
  - c. when recalling your bird from a great distance
  - d. all of the above

Ans. d

11. Your Red-tailed Hawk appears too keen prior to hunting. You should . . .
- a. give it rangle
  - b. use a halsband while hunting
  - c. tame-hack it
  - d. none of the above

Ans. d

12. Your Red-tailed Hawk is well manned and flying to the fist on a creance. When do you feel comfortable flying it free?
- a. when it quickly comes 10 feet to the fist
  - b. when it quickly comes 10 feet to the lure
  - c. when it quickly comes 50 feet to the lure
  - d. when it quickly comes 50 yards to the fist

Ans. d

13. You know an American Kestrel tends to carry. To help prevent this you should . . .
- a. use a lightweight lure
  - b. only fly it when it is in yarak
  - c. use a weighted lure line
  - d. use a halsband while flying

Ans. c

14. Training a peregrine falcon to take a pitch may be accomplished by . . .
- a. training with homing pigeons
  - b. training with a kite
  - c. flying ground quarry
  - d. a. and b. above

Ans. d

15. Flying your hawk in April may be risky because . . .
- a. they are more likely to get electrocuted
  - b. migratory urges may resurface
  - c. they are more likely to warble
  - d. the game is harder to catch

Ans. b

16. The first time you fly you Red-tailed Hawk free he refuses to come down from a tree. You are forced to leave him out for the night. Your next step should be to . . .
- a. arrive before dawn the next morning and try to recover him
  - b. set up a bow net to the south and try to re-trap him on his migration
  - c. call your sponsor and ask for advice
  - d. a. and c. above are correct

Ans. d

17. Your lost passage Red-tailed Hawk is likely to . . .
- a. look for new people to hunt with
  - b. return to your mews
  - c. revert back to the wild in short order
  - d. starve if you don't recover it quickly

Ans. c

18. Which of the following statements is true regarding lure-flying?
- a. it is a ancient practice that has no place in modern falconry
  - b. it is a useful tool for conditioning any hawk
  - c. it is a useful tool for conditioning any falcon
  - d. it is likely to make your Red-tailed Hawk fist bound

Ans. c

19. The best description of an operant conditioning technique is . . .
- a. pinching your birds toe after not jumping to the fist
  - b. jump ups to the fist with a varying reward
  - c. withholding food after not jumping to the fist
  - d. none of the above

Ans. b

20. Your objective when training your hawk is . . .

- a. to make it as tame as possible
- b. train it to accept you as its owner and master
- c. show it affection so that it will like you
- d. none of the above

Ans. a

21. After hunting your Red-tailed Hawk for a season you decide to keep her through the molt. Your goal should be . . .

- a. to keep her sharp-set through the molt
- b. enseat her through the molt
- c. add about twenty percent to her flying weight
- d. feed her as much as she can eat each day

Ans. c

22. Which type of raptor starts molting its outermost primary first and then proceeds in sequence to the innermost primary?

- a. falcons
- b. buteos
- c. accipiters
- d. none of the above

Ans. d

23. When training your first Red-tailed Hawk, your objective with hooding should be . . .

- a. be patient, calm, relaxed and give it a good try
- b. only use the giant hood
- c. resign yourself to having a hood-shy bird
- d. a. and c. above

Ans. a

24. Acceptable quarry for a new hawk may include...

- a. squirrel
- b. rabbit
- c. quail
- d. all of the above

Ans. d

25. When looking for a duck flight for your new bird you would ideally . . .

- a. fly larger water to encourage a good pitch
- b. fly a single or small group of ducks
- c. encourage your bird to take a duck off the surface of the water
- d. none of the above

Ans. b

26. Your Red-tailed Hawk will have more success hunting if . . .

- a. it is hunting from trees or poles
- b. you carry it on an elevated T perch
- c. you hunt it from the fist
- d. a. and b. above

Ans. d

27. The raptor most likely to capture prey in a ringing flight style is . . .

- a. Goshawk
- b. Merlin
- c. American Kestrel
- d. Red-tailed Hawk

Ans. b

28. Use of a live-lure is necessary . .
- a. whenever hunting a goshawk
  - b. whenever hunting a Red-tailed Hawk
  - c. never
  - d. only in an emergency

Ans. d

29. The benefit of using a lure with any bird includes . .
- a. they encourage your bird to tail-chase
  - b. they carry no diseases your bird can catch
  - c. there is no benefit
  - d. none of the above

Ans. d

30. Male Red-tailed Hawks are preferred over females because . . .
- a. females are too clumsy to take squirrels
  - b. males are more agile and take jack rabbits easier
  - c. males are easier to man
  - d. none of the above

Ans. d

31. Making in to your Red-tailed Hawk on her first kill should be . .
- a. done deliberately and cautiously
  - b. avoided until she has eaten her fill
  - c. done quickly so you can take the quarry from her and resume hunting
  - d. left to your sponsor

Ans. a

32. Your kestrel is best suited to hunt . . .

- a. Quail
- b. Starlings
- c. English sparrows
- d. b. and c. above

Ans. d

33. The best way to catch a starling with your American Kestrel is. . .

- a. from a high waiting on pitch
- b. in a ringing flight
- c. from close range while they are bathing
- d. not possible

Ans. c

34. Jack rabbits make for difficult quarry because . . .

- a. they seek thick cover
- b. they are fast and good at dodging
- c. they are big for a Red-tailed Hawk
- d. none of the above

Ans. b

35. Cooper's hawks are most commonly hunted . . .

- a. from power poles
- b. from a commanding pitch
- c. from the fist
- d. none of the above

Ans. c

36. Hunting upland game with a goshawk is aided by . . .

- a. a good pointing dog
- b. a good flushing dog
- c. a large group of people beating the brush
- d. a. and b. above

Ans. d

37. Bagged quarry is . . .

- a. necessary to get your new Red-tailed Hawk killing wild game
- b. used extensively to train a long wing
- c. necessary to teach an eyass how to kill
- d. none of the above

Ans. d

38. Entering your new bird is best described as . . .

- a. serving pigeons to your long wing
- b. giving your bird an easy chance to chase a new quarry
- c. an ancient practice now deemed unnecessary
- d. none of the above

Ans. b

39. A slip is best described as . . .

- a. a chance at quarry
- b. release of a short wing after quarry
- c. the flight of a short wing after quarry
- d. all of the above

Ans. d

40. After a falcon strikes its quarry it is likely to . . .

- a. rake away
- b. throw-up
- c. cast
- d. stoop

Ans. b

41. Female American Kestrels are preferred over males because they . . .

- a. train easier
- b. handle English Sparrows better
- c. hunt better
- d. none of the above

Ans. d

42. A pheasant is most likely taken by a goshawk . . .

- a. on the first flush
- b. in the morning
- c. on a reflush
- d. after sunset

ans. c

43. When walking with a falconer carrying an unhooded hawk, a person should always walk...
- a. in front of the falconer
  - b. behind the falconer
  - c. to the right of a right-handed falconer
  - d. to the right of a left-handed falconer

Ans. c

Hawks are quick to sense a stranger and may become uneasy with unfamiliar people behind them. The person accompanying the falconer should therefore always walk on the side opposite the hand on which the hawk is perched. Right-handed falconers traditionally carry their birds on their left hand, so the person should walk on the right. After a few trips falconry birds usually become accustomed to the presence of other people in the field.

44. True or false: Some falconers prefer to man wild raptors outdoors to avoid overheating.

Ans. True

It is always easier to man a freshly captured hawk inside before exposing it to the noise and distractions of the outside world. The initial manning of raptors should generally take place outside or in an outbuilding where it is cool, or even cold, lest they overheat. The birds may expend a lot of energy bating and may be nervous. If at anytime during the handling, the bird shows an uncontrollable jerking or twitching of its shoulder or wings, it should be immediately placed in a cool dark room and left strictly alone to cool off and recover its composure. Accipiters are particularly prone to apoplectic fits.

45. True or false: A hungry raptor can be trained more quickly than one that is not hungry.

Ans. True

When hungry, a hawk will respond significantly faster than when it is well-fed. Its attention must be focused through the medium of daily feeding. It is during this period that the falconer will make most of his or her progress. Never starve your bird, but get it on the wing quickly so that it can attain its full potential. Use a scale daily and keep a log to monitor patterns.

46. True or false: Falconers prefer their birds to be "sharp-set" before they enter the field to hunt.

Ans. True

"Sharp-set" means hungry, keen, and sharp. It indicates an alert state, a readiness to kill.

47. Raptors are most effectively trained...

- a. by a system of punishment (causing fright or pain without injury)
- b. by a system of rewards (providing food for good process)
- c. by a system of rewards and punishment
- d. none of these, raptors do not respond to either

Ans. b

Hawks and falcons are not social animals, so the system of reward and punishment will not work. They react favorably only to a system based entirely on rewards. With force, punishment, or the threat of force, the non-social animal can react in only two ways; they can try to escape or fight back.

48. True or false: Hawks should not be made too tame, but should be encouraged to retain their wild nature.

Ans. False

Tameness is a point of refinement in the art of falconry, and should be encouraged at all times. The more well-mannered a hawk becomes and the more confidence and trust she has in the trainer, the better will be her attitude, and ultimately her success at later game flights.

49. A passager or passage hawk is...

- a. any raptor taken on migration
- b. a raptor taken on its first migration
- c. any intermewed raptor
- d. none of the above

Ans. b

A passager is a raptor captured on its first southward migration, hence a bird in the immature plumage and therefore of known age. First-year birds captured in non-migratory situations are also called passagers.

50. True or false: Due to their greater hunting experience, passagers are more proficient than haggards.

Ans. False

A passage bird, being an immature first year bird, has less hunting experience than does a haggard which is an wild adult raptor. Haggards are generally more proficient than passage birds but are also generally less trainable. It is illegal and unethical to remove adult raptors from the wild for falconry purposes.

51. True or false: A five year-old bird can never be accurately described as an eyas.

Ans. False.

An eyas is a trained raptor of any age or species that was originally obtained as a nestling. The word is also applied to describe the young of raptors while they are still in the nest.

52. Hacking is a process whereby...

- a. young accipiters or Red-tailed Hawks are allowed to get fully summed in a large chamber
- b. young raptors are allowed full flight freedom till they begin to kill for themselves
- c. haggards and passage birds are quickly manned
- d. none of the above

Ans. b

Wild "hacking" gives eyases exercise and training that mimics the experience in flying that they would get in the wild.

53. The chief advantage of "tame-hack" is...
- a. flight experience at critical development stages
  - b. provides critical hunting experience
  - c. sibling play experience
  - d. all of the above

Ans. d

"Tame hack" gives early free experience to fledgling falcons in close association with their trainer. The falconer allows fledgling falcons to fly free for a few hours each day from a portable perch in a "hack field" The birds fly with telemetry and are recovered each night. During the process, the falconer begins to serve quarry to the birds as they frolic and exercise in the manner of wild parents raising their young. In addition to exercise and the advantages listed above, the tame hack experiences, which American falconers developed during the 1970s, gives young birds some of the learning experiences that would occur at their stage of development if they were in the wild. Tame hack has the advantage over wild hack that the falconer is always close by to protect their birds from eagles, owls, wild raptors, cars, hunters, and power lines.

54. True or false: It is advisable to take an eyas Red-tailed Hawk for falconry purposes.

Ans. False

Imprinting is transference of identity where the bird begins to think that it is a person or that people are hawks, and specifically the person handling it may be viewed as a parent. These birds develop an aggression and a lack of respect that keeps wild-caught birds from attacking human beings. Carried to its extreme in an intermewed bird, this aggression is married to the normal territorial defense reactions adult birds assume. Imprinted Red-tailed Hawks in particular have been known to attack and seriously injure their keepers, and more often, members of the hunting party or strangers who happen to be in the field. Besides rendering the bird extremely dangerous, it also makes it impossible to hack the bird back into the wild. Imprinting of buteos is to be avoided at all costs.

55. True or false: A good rule for avoiding "screaming" is to "take the hawk to food, not the food to the hawk."

Ans. True

With an eyas, the bird should be handled every day but never let it associate you with food. Remove the bird from its box before placing the lure with its meat attached. Return the eyas to its box and leave before it finds the lure. Never let the bird see you with food or the lure in your hand until at least after it is hard penned for a week or two. Even if you are diligent about this, the eyas may still imprint to you, but may not develop into a consistent screamer. If you are raising a single eyas, put an 8"x10" mirror in the nest box with it to keep it company, and hopefully the eyas will imprint on its own image.

56. One method of breaking a bird of the bad habit of snatching food from the fist and bating with it is to...

- a. feed the bird rangle
- b. feed the bird tidbits from the fist
- c. use a haliband to restrain the bird from bating
- d. conceal small amounts of Tabasco sauce or other foul tasting food in the carcass of a day old chick and allow the bird to bate with it

Ans. b

This bad habit reflects poor early training. To remedy it, the falconer should permit their bird to eat only off the fist. Feed tidbits from the fist and never allow the hawk to have large portions. If the bird is offered only very small portions, she will eventually become discouraged from grabbing them and flying off. The use of tiring is also therapeutic.

57. During early training, "carrying" can be discouraged by...

- a. holding or securing the lure
- b. using a brail
- c. forcibly removing food from the raptor
- d. quickly making in to a raptor on its kill

Ans. a

Young hawks will often grab the lure and try to fly off with it. The falconer can avert this vice (before it happens) by firmly holding the lure or fastening the lure cord to a stationary object. Carrying should be discouraged.

58. True or false. It is desirable that your falcon "binds" after striking quarry.

Ans. True.

To bind is to seize the quarry with the feet and hold it either in the air or on the ground.

59. Your falcon is most likely to "throw-up"...

- a. following a meal of rancid meat
- b. following a stoop, particularly after the quarry successfully dodges it
- c. while sitting on a perch
- d. while taking a bath

Ans. b

In the falconer's vernacular, "throw up" means to rise steeply on outstretched wings particularly after a stoop. The phrase "cast gorge" is used to describe the act of vomiting the content of stomach or crop.

60. True or false: Yarak is utterly a function of a bird's hunger.

Ans. False

"Yarak" is an East Indian word that describes a savage state unique to certain birds of prey, which has no synonym in the English language. It describes an extreme readiness to kill. A bird in yarak adopts a certain unique posture that makes it appear especially dangerous. Some birds in yarak will attack anything, including cattle, dogs, and their trainers, but especially game. Yarak is partially, but not entirely linked to hunger. Birds that are put on a regular feeding schedule will, after a time, to come into yarak well before feeding time. Some birds go into yarak after missing a flight at quarry. Falcons and owls almost never go into yarak.

61. The development of hunting skills in all proficient hunting hawks is based upon...
- a. sentimental attachment and obedience to the falconer
  - b. the development and encouragement of their inherent instinct for hunting
  - c. hunger
  - d. the falconer's mastery of the hawk's inherent savagery called "Yarak"

Ans. b

The development in birds of prey (and all predators) of the desire and will to hunt and kill certain species in excess of their own needs is linked to the care of their young. In succoring their nestlings, parents kill for reasons independent of their own hunger. The best falconry birds will hunt their own normal prey when they are high above their flying weight and not in a state of yarak.

62. True or false: It is desirable that your bird "crab" after striking a quarry.

Ans. False

"Crabbing" is a clash or fight between falcons or hawks. Sometimes it happens in the air, sometimes on the ground over captured quarry.

63. The word "strike" used by a falconer means...
- a. the instant of contact between a hunting raptor and either quarry or lure
  - b. loosening the braces or removing the hood
  - c. both a and b
  - d. neither a nor b

Ans. c

"Strike" has several meanings. It is used to describe the moment of impact. "Striking the braces" is the act of loosening the braces of a hood. "Striking the hood" is the act of removing the hood from the hawk or falcon.

64. The phrase "rake away" is used to mean...
- a. to abandon the flight and careen away
  - b. a falcon flying low to the ground
  - c. the cutting down of a swift flying quarry by a slashing strike-and-pass by the Goshawk
  - d. none of the above

Ans. a

"Rake away" is used to describe a flight at quarry or to the falconer that is aborted. The bird flies toward an intended target and then suddenly changes course away from that target.

65. A good reason to stop flying your bird before the start of spring is...
- a. frequency of soaring weather
  - b. resurgence of latent migration urges
  - c. influx of many migrating passerine birds
  - d. all of the above

Ans. d

Spring is a dangerous season to fly any bird. Leaves reappear on the trees. The molt begins in April (but will be delayed if the falconer keeps their bird sharp-set) and hormonal changes urge the bird to migrate or seek a mate and the whole atmosphere turns over. The warmer lower air bursts upward expanding and accelerating as it goes and carries your bird with it. A bird caught in this updraft will seldom return. An additional hazard associated with spring is the temptation to chase recently arriving passerine birds, which were absent all winter.

66. The best reason not to fly your birds during the molt is because...
- a. a hawk may break a blood feather
  - b. it is too hard to see quarry when the leaves are on the trees
  - c. feather growth is energy-demanding and the birds must be fed more
  - d. all of the above

Ans. d

While wild birds must continue to fly and hunt during the molt, it is generally recommended that falconry birds kept during the molt be kept in high condition in a stress-free environment in order to promote feather growth and development, which has a direct impact on the bird's flight capabilities. Breakage of soft in-the-blood feathers could impact the bird's health and feather condition. A high condition would negatively impact the falconer's ability to control and recall a free-flying bird. Birds generally lose weight more slowly in warm weather, making weight management more challenging. Finally, it is harder to see birds when trees are in full foliage.

67. True or false: "Intermewed" described a medieval practice now considered archaic by North American falconers.

Ans. False

Intermewed simply describes a bird that has been kept a full year. Literally it means "interval in the mews" referring to the summer period of inactivity in the mews during which time a hawk molts. Hence, an intermewed hawk is a hawk that has been molted in captivity.

68. It is most useful to "enter" your bird...
- a. when it is unfamiliar with the surrounding landscape
  - b. when it is unfamiliar with a particular quarry that you wish to hunt
  - c. before it is registering at a falconry meet
  - d. before transportation it in an unfamiliar container

Ans. b

"Entering" a falconry bird on a particular prey species is the practice of introducing it to a quarry it has not interacted with before. Usually the falconer attempts to create a situation that maximizes the bird's opportunity for success and, if the bird is successful in taking the game, allows the bird to feed up on it. The hope is to create a good association in the hawk's mind and establish a "search image" of the intended quarry.

69. True or false: The scream of an eyas hawk frightens game from the field and forest.

Ans. False

There is no evidence that quarry hunted by hawks of any kind associate the sounds made by the hawk with the hawk itself. To a duck or pheasant or rabbit, the cries of a Goshawk, Harris's Hawk or Red-tailed Hawk appear to be no more disturbing than the sound of a passing aircraft. The sound, however, is extremely irritating to humans.

70. True or false: A cock pheasant is easier for most birds to catch on the fly than a hen pheasant but is more troublesome in a rough-and-tumble on the ground.

Ans. True

The cock pheasant is slower than the smaller hen and probably easier for the raptor to follow. However, on the ground it is tougher and will often kick the raptor off and offer to do battle with its spurs in the manner of a fighting cock.

71. True or false: A pheasant takes cover after being chased by your hawk for several hundred yards. The hawk is in a perch above the cover. If you flush the pheasant again, the hawk is likely to take it in the air.

Ans. True

Adult pheasants are seldom taken on their first rise and usually pull away from a Goshawk, Harris's Hawk or Red-tailed Hawk. A Harris's Hawk or Goshawk will usually begin gaining on the pheasant if they persist. If the pheasant takes cover again, make every effort to force the pheasant into the air. A pheasant can be flown once and win - twice and it loses almost every time. A Harris's Hawk will learn this lesson very quickly.

72. A falcon at high altitude is more likely to take...

- a. a female mallard that breaks from the flock in a steep climb over land
- b. a female mallard that breaks from the flock and drops low over a lake
- c. a cock pheasant that remains on the ground and offers to fight
- d. a homing pigeon flying in a small tight flock

Ans. a

There are no hard and fast rules about which individual game species a raptor will take, however, falcons tend to attack individuals that break from the flock. (b) is incorrect because falcons are normally reluctant to take waterfowl over large bodies of water. (c) is wrong because aggressive behavior by quarry toward the falcon will often discourage the predator. (d) is wrong because it is more difficult than it is commonly thought for a falcon to take a pigeon. It is even more difficult when an individual pigeon is flying in a flock. There are a few wild hawks that under normal circumstances can take a full-flighted pigeon. A good homer will not out-fly, but can out-dodge the best falcon. Pigeons and doves, as well as shore birds will often deliberately take to the air ahead of a low-level attack by a falcon and contest the mastery of the air with the raptor.

73. True or false: A pursued duck is as loathe to fly into trees or brush as a falcon.

Ans. True

Trees and cover do not have as much effect on waterfowl flights. As a rule, ducks never attempt to enter cover or hide unless hit or forced out of the air by a near miss. Once down and trying to hide, ducks are good at it and are very difficult to find.

74. The live-lure should...

- a. never be used
- b. only be used in an emergency
- c. be used whenever the raptor fails to take quarry
- d. be used when no wild quarry can be produced

Ans. b

The purpose of a live lure is to get the falcon or hawk out of a dangerous situation or to retrieve a bird that is almost certain to become lost (e.g. a wild-caught hawk or falcon gets out of control and ignores a dead lure). It should be used only in emergencies. Repeated or careless use will ruin a game hawk.

## **Care and Maintenance**

1. A pellet or casting found under your birds perch in the morning is. . .
  - a. the first sign of frounce
  - b. a normal bowel movement
  - c. a foul smelling bacterial infection
  - d. the indigestible portion of the raptor's last meal

Ans. d

2. A bath pan is not necessary for your bird because. . .
  - a. they don't like to bathe
  - b. they don't drink water
  - c. they cause sour crop
  - d. none of the above

Ans. d

3. Fed equal amounts of the following, a raptor is likely to gain the most weight from. . .
  - a. duck
  - b. chicken neck
  - c. washed meat
  - d. rabbit

Ans. a

4. A mews should provide all of the following. . .
  - a. protection from predators
  - b. protection from the elements
  - c. good ventilation
  - d. all of the above

Ans. d

5. Your new Red-tailed Hawk bends some feathers while hunting. Unsure what to do, you should. . .
- a. cut them off at the bend and imp in new feathers
  - b. call your sponsor and ask for advice
  - c. soak them in leather softening oil
  - d. pluck the feathers

Ans. b

6. The apprentice falconer should best judge his raptor's condition daily by. . .
- a. checking feather condition
  - b. weighing
  - c. feeling the keel
  - d. checking for yarak

Ans. b

7. The gram scale can be used to weigh. . .
- a. American Kestrels
  - b. Peregrine falcons
  - c. Gyrfalcons
  - d. all of the above

Ans. d

8. During the hunting season your new Red-tailed Hawk should be weighed. . .
- a. once a week
  - b. whenever you go hawking
  - c. once a day
  - d. when they seem fat

Ans. c

9. Fret marks on the feathers of a new bird is the result of. . .
- a. arrested feather development
  - b. stress
  - c. both a. and b.
  - d. none of the above

Ans. c

10. A passage hawk is most likely to break tail feathers if. . .
- a. you use a tail saver
  - b. you hunt quail
  - c. you keep it on an improper perch
  - d. you allow it to mantle

Ans. c

11. The white chalky substance in a hawk's mite is. . .
- a. the urates from the kidneys
  - b. the feces from the digestive tract
  - c. abnormal and cause for concern
  - d. undigested food

Ans. a

12. A falcon is most commonly kept on a. . .
- a. screen perch
  - b. ring perch
  - c. block perch
  - d. bow perch

Ans. c

13. A pigeon wing makes a good tiring. They can be used to. . .
- a. keep a birds beak trim
  - b. aid in manning a bird
  - c. provide a nutritious meal
  - d. a. and b. above

Ans. d

14. A bird's flight weight. . .
- a. stays constant at all times
  - b. may vary based on temperature
  - c. is best maintained with a diet of washed meat
  - d. a. and c. above

Ans. b

15. Protecting a bird from direct sunlight during the heat of summer. . .
- a. is not necessary as they are desert birds
  - b. is the best way to get them vitamin D
  - c. is necessary as they can overheat
  - d. a. and b. above

Ans. c

16. A bird that feaks after eating is. . .
- a. generally content and healthy
  - b. cleaning its beak
  - c. not well and you should consult your sponsor
  - d. a. and b. above

Ans. d

17. Imping your new passage Red-tailed Hawk requires. . .

- a. the aid of your sponsor
- b. glue
- c. an imping peg
- d. all of the above

Ans. d

18. Coping your Red-tailed Hawk for the first time requires. . .

- a. glue
- b. the aid of your sponsor
- c. a coping peg
- d. all of the above

Ans. b

19. A giant hood for a passage hawk . . .

- a. is an ancient piece of equipment that has proved to be unnecessary
- b. is useful only during manning
- c. may be useful for the entire season
- d. prevents the need for sealing

Ans. c

20. A lure can be. . .

- a. a dead pigeon
- b. sewn leather with meat attached
- c. a bundle of wings attached together
- d. any of the above

Ans. d

21. When lure flying an American Kestrel, your lure should be . . .
- a. lightweight
  - b. heavily weighted to prevent your bird from carrying
  - c. heavily weighted to encourage hard hitting
  - d. none of the above

Ans. a

22. A creance is best. . .
- a. used in open spaces
  - b. used in thick cover
  - c. attached to the birds wing
  - d. thin and breakable

Ans. a

23. Bells are best attached to. . .
- a. the legs
  - b. the tail
  - c. around the neck
  - d. any of the above may apply

Ans. d

24. A bewit is used to attach. . .
- a. bells around the neck
  - b. bells to the tarsi
  - c. jesses to the tarsi
  - d. a swivel to the jesses

Ans. b

25. Which of the following is not necessary for a newly trapped bird?

- a. a glove
- b. a swivel
- c. a transmitter
- d. a leash

Ans. c

26. Using too thin of an Aylmeri bracelet may cause. . .

- a. excessive bating
- b. damage to the tarsi
- c. damage to the cere
- d. a hanging alula

Ans. b

27. Using field jesses while hunting your hawk is advisable because. . .

- a. they prevent your bird from getting entangled in trees
- b. they prevent your bird from leaving the fist when startled
- c. they prevent frounce
- d. a. and b. above

Ans. d

28. A leash may . . .

- a. be made of strong well-oiled leather
- b. be made of strong supple nylon
- c. be directly attached to the tarsi
- d. a. and b. above

Ans. d

29. The preferred swivel is. . .

- a. the snap type
- b. the French clip type
- c. strong ball bearing type
- d. none of the above

Ans. c

30. The most effective trap for obtaining your first Red-tailed Hawk is. . .

- a. the dho-gazza
- b. the phai-trap
- c. the bal-chatri
- d. the mist net

Ans. c

31. When trapping your first hawk, you should. . .

- a. trap alone to learn the ropes
- b. scout an area prior to beginning
- c. be supervised by your sponsor
- d. b. and c. are advisable

Ans. d

32. Which of the following is true?

- a. Dutch hoods are easily made without the aid of a block
- b. Anglo hoods are easily made without the aid of a block
- c. Arab hoods have no place in North American falconry
- d. a. and c. are both true

Ans. b

33. A giant hood is . . .
- a. a box for carrying a hawk
  - b. good for a hood-shy hawk
  - c. large leather hood used for eagles
  - d. a. and b. are correct

Ans. d

34. The best perch for tethering a Red-tailed Hawk outdoors is . . .
- a. a screen perch
  - b. a block perch
  - c. a ring perch
  - d. none of the above

Ans. c

35. A block perch is best suited for which raptor?
- a. Goshawk
  - b. Red-tailed Hawk
  - c. Falcon
  - d. Red-shouldered Hawk

Ans. c

36. A cadge is used to . . .
- a. restrain a bird
  - b. secure a hawk during training exercises
  - c. give direction to a transmitter signal
  - d. transport a bird to the field

Ans. d

37. Radio telemetry allows the falconer to . . .

- a. fly a bird without bells
- b. fly a fat bird without concern
- c. help locate a lost bird
- d. fly in more risky environments

Ans. c

38. Braces are used to . . .

- a. restrain a bating bird
- b. strike a hood
- c. enream a hawk
- d. enter a hawk

Ans. b

39. Bells are best used. . .

- a. while hunting
- b. while weathering
- c. while trapping
- d. a. and b. above

Ans. d

40. A(The) mark(s) of a good falconer is(are)...
- a. the ability of his or her bird to consistently take wild game
  - b. the amount of resources he or she spends on the birds
  - c. the condition of the birds he or she keeps
  - d. both a and c

Ans. d

The good health and physical condition of the bird in his or her charge, and the ability to hone a bird's hunting skills are the primary aims and accomplishments of a falconer. To keep a falcon or hawk in perfect condition is not an easy task; a beat-up crippled game hawk is useless and reflects poorly on the falconer.

41. The most important factors in maintaining a healthy raptor of any species is...
- a. daily flying
  - b. balanced diet
  - c. regular access to fresh water for drinking or bathing
  - d. all of the above

Ans. d

Daily flying is an especially important variable. Some hawks may appear to exercise by wing flapping or bating at the perch. But there is no substitute for vigorous flying. Some hawks appear to lose their health very quickly when not flown regularly.

42. Direct sun in hot weather (over 90 degrees F) for an extended period...
- a. does not affect desert raptors
  - b. is enjoyed by all raptors
  - c. can be fatal to any species
  - d. will bother only arctic species

Ans. c

Heat alone can kill Goshawks. Peregrines suffer more from excessive dryness in the air. Direct sun can be fatal to any raptor in hot weather. The desert falcons are more resistant, but even these birds cannot take prolonged exposure when the temperature is above 90 degrees. Wild hawks such as Harris's Hawks and falcons living in hot climates spend much of their time high aloft soaring in the cooling air of the thermals.

43. A raptor at hack should be taken up...
- a. when it starts hunting
  - b. just before midnight
  - c. at least two weeks before the Autumnal Equinox
  - d. after two weeks of complete freedom

Ans. a

The purpose of the hack is to permit full development of the lungs and muscles of young hawks. Another advantage is that hacked birds generally don't become screamers. During this time they are dependent on man for food alone, and when they indicate an ability or desire to start "self-hunting" they must be caught up and the training started.

44. Falconers generally prefer that falcons take the lure...
- a. from a steep dive flying downwind
  - b. from a steep dive flying upwind
  - c. on a low raking approach downwind
  - d. on a low raking approach upwind

Ans. a

The tendency of any young falcon is always to make a circle so as to approach the lure flying into the wind and from a rather low raking approach. The trainer wants a bird to learn to rake the lure from a steep diving approach flying downwind. It follows that any time your falcon climbs steeply into the wind after a miss that if you can get it to try for the lure immediately after it turns downwind, the bird should then be permitted to hit it.

45. You are lure flying a falcon and it strikes the lure firmly on the first stoop of the day. You should...
- a. continue swinging the lure and ignore the hit
  - b. give the bird the lure and feed it a reward
  - c. give the bird the lure but withhold the reward
  - d. none of the above

Ans. b

You must always play fair with your hawk. As the falcon improves, it will more and more frequently take, or at least hit, the lure on passes where it was your intention that it miss. Following any solid hit, the lure should be dropped to the ground and the falcon permitted to come in on it.

46. True or False: Beef heart and chicken necks or backs from the grocery provide a safe, balanced and healthy diet for your bird.

Ans. False

Beef heart promotes calcium/phosphorous imbalance and chicken necks and backs are too fatty and the bones pose a physical danger. A chicken neck or backbone swallowed whole can lodge between the crop and the rest of the digestive system and kill the hawk before the source of the problem can be discovered. Whole animal diets of 4 week old cockerels, Coturnix quail, mice or rats are the best and easiest food to provide. Your bird will do best if you rotate these items or vary the diet. You should warm all cold food in warm water when possible. Use of vitamin and mineral supplements formulated for raptors is recommended.

47. True or False: As a general rule, the dark-colored meats are of higher caloric value for raptors than the white meats.

Ans. True.

Dark "richer" meats are much more energy dense than white meats and will hold a bird's weight longer. The meat of ducks or large mammals is heavier and must be fed in lesser amounts than the meat of chicken or upland game birds. Beef-heart is much like pigeon in appearance and food value, but it is not recommended because it promotes a calcium/phosphorous imbalance. Many falconers refuse to feed their birds pigeon meat because of the danger of avian herpes, frounce and other diseases.

48. A raptor maintains its weight on 2 ounces of whole pigeon per day. If fed 2 ounces of rabbit per day, a falconer would expect the raptor to...

- a. gain weight
- b. maintain the same weight
- c. lose weight
- d. some would lose while others would gain

Ans. c

Falconers must be aware how different foods impact their birds. Pigeon is a relatively rich food and cannot be fed in nearly the quantity that is necessary when feeding the pale meat of rabbit, young domestic chickens, or even pheasants.

While pigeons are common prey for certain raptors in the wild, the falconer should beware of feeding pigeons to his or her hawk. Even healthy looking pigeons may have herpes, which is fatal to raptors.

49. Captive raptors require more food energy per day...

- a. in cold weather
- b. during the molt
- c. when being flown hard
- d. all of these

Ans. d

All of these factors and many others increase the energy requirements for raptors.

50. A good "tiring" would be...

- a. chicken breast
- b. day-old chick
- c. beef heart
- d. game bird wing

Ans. d

A game bird wing with very little meat attached makes an ideal tiring. Tiring is any tough part of a quarry - consisting mostly of feathers, sinew, or fur - which is given to a bird to tear and work upon, rather than to provide nourishment. Its purpose is to exercise the bird's back and neck muscles, keep its beak in good trim, and keep it from getting bored.

51. Most raptors drink water...

- a. never
- b. only when sick
- c. regularly in large amounts
- d. every day or two in small amounts

Ans. d

A bath should always be provided. Many birds prefer a fine spray of water from a garden sprinkler or other device. A change in a raptor's drinking habits can be an indicator of deteriorating health.

52. Hawks should have drinking water provided for them...

- a. once a week
- b. twice a week
- c. every day
- d. only during very hot weather

Ans. c

Fresh water should be made available to hawks every day. Most species enjoy drinking, especially after a meal. If water is available for drinking or bathing, they will be more content and healthier.

53. Aside from daily clean-up, the mews should be thoroughly cleaned...

- a. once a year
- b. twice each year
- c. four times each year
- d. as needed

Ans. d

Although sanitation is more important to humans than hawks, a clean dry hawk house (or "mews") with dry litter regularly changed, clean perches, regular exercise, and fresh nourishing food are the best prophylactic measures to prevent disease. The hawk house must be kept clean, and routinely cleared of castings, feathers and debris. A deeper, more thorough cleaning must be conducted as needed.

54. If a raptor is to be free-lofted in the mews, the windows should be protected with...

- a. heavy gauge welded wire
- b. insect screen reinforced with poultry netting
- c. horizontal rods
- d. vertical round rods

Ans. d

The best arrangement is for the windows to be covered by vertical bars placed about two inches apart with no spaces or cross-bars. On horizontal bars, birds will attempt to land and hang there with their wings flapping and tail jammed down as a prop. This leads to extensive feather breakage. Windows on a hawk house should not be screened in such a manner that the raptor can touch the screen. Some falconers attach screening outside of the vertical bars (about 4 inches away) to keep out insects and other pests.

55. A bent feather should be...
- a. cut off at the bend and a new one impied in
  - b. pulled out
  - c. immersed in hot water
  - d. treated with neatsfoot oil

Ans. c

Bent feathers or feathers with the web twisted should be dipped in hot (not boiling) water. They will straighten out immediately.

56. "Shock marks" on the tail of an eyas hawk are most likely the result of...
- a. a period of time when the parents failed to provide adequate food for the youngster before it was taken from the nest
  - b. the stress of being taken from the nest
  - c. external parasites
  - d. all of the above

Ans. d

The tail streaks that falconers of old called "hunger streaks" or "hunger traces" are probably more accurately called "stress marks" or "shock marks." They indicate a point in feather development at which the bird was under sufficient stress that normal growth was temporarily halted. Prolonged hunger can certainly cause these same marks, but they are universally the mark of an eyas hawk unless it was taken as a downy. They often appear on an eyas' tail at the point of feather growth that the bird was taken from the nest. These marks sometimes result from the work of feather mites when birds have no stress and ever present food.

57. True or False: Newly caught Accipiters tend to break feathers more frequently than most hawks.

Ans. True.

Accipiters are much worse at damaging their plumage than are falcons, Red-tailed Hawked Hawks, or Harris's Hawks. A newly caught Cooper's Hawk or Goshawk will very quickly break all of its tail feathers unless its tail is enclosed in a paper or plastic sheath and taped in place until the hawk tames down.

58. If a remige (primary or secondary wing feather) is broken, it is best to...
- repair the feather by imping
  - wait until natural molting occurs
  - pluck out the feather stump to stimulate growth of a replacement feather
  - leave it alone - do nothing

Ans. a

If the feather is plucked, there is a possibility that the regenerative feather follicle lining will be pulled out. If this happens, a feather will never grow again from this follicle. The bird will be partially crippled and will forever have a gap in its wing.

59. True or false: A feather broken on the final day of hunting season should be repaired at once.

Ans. True

Even just before or during the molt, broken feathers should be repaired. This is just as important during the molt as any other time. The sequence of molt of the long feathers is always such that, except for the outermost primaries and tail feathers, the new feather always comes down between two that are fully grown, or nearly so. Any old feather that is broken thus becomes a peril to the new feather because it does not provide support and protection to it as it grows. Should the new feather be broken while still soft ("in the blood"), then the next feathers become increasingly exposed to damage. The next season could be ruined.

60. True or false: the ideal imping plug is a metal needle.

Ans. False

Though metal is the traditional material, it is too stiff for the flexible shaft of the feather, and it may break along invisible faults. Better imping needles are made from bamboo or even barroom swizzle-sticks, which are not brittle. The best material is a piece of flexible feather shaft.

61. In cross-section, an imping needle should ideally be...

- a. round
- b. square
- c. flat
- d. triangular

Ans. d

Triangular, because this allows the needle to be inserted into the feather without splitting the shaft, yet it will prevent the feather from rotating. However, a flexible feather shaft glued inside the shaft is best.

62. The best way for a beginner to judge a raptor's condition is by daily...

- a. visual inspection of how the bird holds its feathers
- b. weighing the bird
- c. feeling its keel
- d. checking the brightness of its eyes

Ans. b

All of these are important ways to check a raptor's condition. Weighing the bird, however, is the most objective and reliable.

63. The novice falconer should weigh his or her bird...

- a. once each day
- b. once every other day
- c. at least once a week
- d. whenever the bird fails to perform

Ans. a

A bird's weight and condition is affected by a number of variables, including the type of food, quality of food, weather (especially temperature), disease, season, barometric pressure, the amount of exercise, the species of hawk, and the individual's metabolism and ability to assimilate food. Before acquiring a bird, a falconer should obtain a 5 pound scale that weighs increments as low as a half ounce (preferably grams) and equip it with a perch. A scale is absolutely essential. Daily weighing during the flying season is mandatory.

64. The basic requirements for maintaining a captive raptor are a...

- a. perch, bath, hood, and scales
- b. hood, food supply, lure, and scales
- c. perch, food supply, scales, and bath
- d. food supply, lure, hood, and bath

Ans. c

These requirements are basic. Before you get a bird you will also need these essentials: (1) a gauntlet (2) jesses, preferably with Aylmeri bracelets, (3) three figure 8 swivels, (4) indoor facilities, (5) several hoods of various sizes, (6) a fenced weathering area, (7) three leashes. Falconers traditionally used leather leashes, but a braided nylon rope (1/4") makes a far better leash than leather. If you learn to tie it properly, it will last forever, but to make it safe, you must know how to tie it correctly.

65. Of the following, probably the most effective method of trapping large non-migratory raptor species is the...

- a. dho-gazza
- b. dig-in
- c. bow net
- d. pigeon harness (noosed pigeon)

Ans. d

The pigeon harness allows the falconer to approach hunting hawks wherever they may be perched alongside a road. Most hawks do not seem to fear the approach of a vehicle so long as it maintains speed and does not stop. The sight of a handicapped pigeon from a moving automobile seems to trigger a desire to kill in many raptors. Make sure you have the landowner's permission and/or department of transportation authorization, where appropriate. In some states (New York among them), tossing a harnessed pigeon from a moving vehicle is restricted by law. The Swedish Goshawk trap, which is not listed above, is also a safe and effective method of trapping large raptors year-round.

66. The mist net is also known as the...

- a. bal-chatri
- b. dho-gazza
- c. phai-trap
- d. none of the above

Ans. d

Mist nets were originally made with human hair and used to trap small birds in Japan and China. It is similar in appearance to the dho-gazza, which was used in Asia Minor and later in Arabia and India where the name originated. However, the concept of the dho-gazza, which uses a smaller, heavier net like a gill net to funnel and trap the birds, is very different from the mist net, which uses fine strands and bulky pockets to entangle the raptor. The phai-trap used in India consists of a circle of relatively large nooses around a bait pigeon or other live lure.

67. The most effective trap for small hawks outside of the migration is...

- a. the bal-chatri
- b. the phai-trap
- c. the bow-net
- d. the harnessed pigeon

Ans. a

The bal-chatri is a small wire cage covered with monofilament nooses. There are many proven shapes, including a small round one used specifically for American Kestrels, which are commonly baited with mice or small birds. Larger bal-chattris baited with pigeons are effective for catching Goshawks, Cooper's Hawks, and Red-tailed Hawks.

68. H.J. Slijper's "canon" is...

- a. a modified Dutch bow net
- b. a geometrical formula for fitting Indian hoods
- c. a special bewit adapted for fastening a tail bell
- d. a method of casting a small accipiter at quarry

Ans. b

H.J. Slijper's "canon" is a geometrical formula based on head measurements, which can be used to develop a hood pattern to fit any bird well with a glued, seamless hood.

69. True or false: When making their own hood, most North American falconers prefer the Dutch to the Indian pattern.

Ans. False

The Dutch hood is made over a form (hood block) and is slow and difficult to complete. The Indian hood is more popular with Northern American falconers because it is lighter and easier to make and fit (especially around the sensitive mouth and nostrils). The advantage of the Dutch hood, other than looks, is its stiff, solid construction which makes it simpler to get on a bird that is difficult to hood. Due to the availability of light-construction, high-quality Dutch hoods made by talented leatherworkers within the North American falconry community, Dutch hoods have recently become more commonly made and used by North American falconers.

70. True or false: An austringer should always change slitted jesses before flying his or her bird.

Ans. True.

Always use slitless field jesses when flying the hawk loose. Make them long enough for ease of handling in the field and punch a tiny hole in the end to store conveniently on a saddle pin sewn to a hawking bag, coat, or vest. Vegetable bark tanned kangaroo hide is the best choice for jesses and Aylmeri bracelets. Falconers using an Arab jess system that depends on tied, slitless jesses may not need to change jesses.

71. Jess bracelets that are too narrow are dangerous because...

- a. they may catch in briars when the hawk is flown
- b. they do not enable a quick release when the hawk is cast off
- c. they may slip over the block when the hawk weathers
- d. they may cause leg sores

Ans. d

A bird's tarsus should be regularly examined for calluses or sores. An additional danger of narrow jess bracelets is their tendency to slip around a toe in a simple half-hitch knot and cut off circulation.

72. True or false: The Aylmeri jess is safer for the bird than the traditional jess.

Ans. True.

The Aylmeri has a bracelet and removable swivel strap, whereas the conventional jess has the swivel strap permanently attached to the leg. If the bird twists the jess, the Aylmeri is less likely to constrict against the tarsi. If the bird escapes, it is likely to pick out and discard the leather jess thongs and be left with the innocuous bracelets.

73. True or false: Goshawks need longer field jesses than falcons.

Ans. True.

The principle reason for this is that a Goshawk is held on the fist when hunting whereas a falcon is released the moment it is unhooded. Most falcons are flown with no jesses - only the bracelets and a radio transmitter.

74. True or false: The common dog-leash snap-swivel is a reliable and convenient swivel for attaching the jesses of a hawk to its leash.

Ans. False

This swivel is unreliable because the jesses work out of the clip easily. The snap swivel is dangerous because it is so heavy that it will certainly ruin the bird's plumage. The best swivels are custom-made figure 8's, or heavy-duty fishing swivels such as the kind manufactured by Sampo.

75. The best perch for preventing feather damage in Accipiters is a...

- a. ring perch
- b. tail-saver perch
- c. bow perch
- d. screen perch

Ans. b

The bow perch prevents the tangling and hang-ups that plague ring perches, but the tail saver perch developed by Heinz Meng is best for saving the long tail feathers of the hyperactive Accipiters.

76. The block perch is used for falcons; the ring perch used for accipiters. This rationale is based on...

- a. health
- b. comfort
- c. tradition
- d. all of the above

Ans. d

The perches were designed to accommodate the foot shape and confirmation and the natural perches generally preferred by the birds. This is thought to enhance the health of the bird's feet. A Goshawk probably wouldn't be comfortable on a block, and although a ring perch may not be uncomfortable for a falcon, most falconers remain consistent with tradition and keep falcons on a block perch.

77. The minimum width of a falcon perch across the top is...

- a. 4 inches
- b. 6 inches
- c. 12 inches
- d. Determined by the size of the leg and the length of the jesses

Ans. d

For most large falcons, the typical width is about 8 inches. The block should be circular in cross-section and wide enough to prevent the jesses from slipping one on each side. Failure to prevent the jesses from so slipping around the block risks significant feather damage and injury to the bird. Using comparatively short jesses is recommended, though jesses should be long enough to still permit the bird to be able to walk on the perch.

78. A "creance" is...

- a. a strong line used to control a raptor during early training
- b. a disease of the mouth and throat of raptors
- c. a watery, foul-smelling mite
- d. a soft leather thong used to bind one wing to prevent bating

Ans. a

The disease referred to in (b) is frounce. The thong referred to in (d) is a brail which is rarely if ever used by modern falconers.

79. True or false: One end of the creance should be attached to a light stick or weight, the other end to a bird's swivel.

Ans. False

Do not tie the creance to the swivel. Remove the swivel and replace the mew or perch jesses with slitless field jesses. The creance should pass through the small holes punched in the end of the field jesses and be tied with a falconer's knot. This way, if an accident happens, and the bird escapes, it will not get hung up somewhere and die. Caution: a tough field jess must be used, because the strain on the leather is great when the hawk tries to rake away and fly off.

80. The best anchor for a creance among the following is...

- a. a pair of old sneakers
- b. a goal post when flying on the practice field
- c. a tree
- d. an automobile

Ans. a

The trainer should use a strong line and attach the free end to a light object, weighing a pound or two, which can bounce along the long line, bringing the bird quickly but gently to the ground. If the line is attached to something solid, it could snap, allowing the bird to fly off and potentially to die miserably of exposure, starvation or predation, hanging by its feet.

81. In the field, it is important to have the following falconry equipment...

- a. bells
- b. lure
- c. jesses
- d. all of the above

Ans. d

The lure is the one truly indispensable piece of field equipment. Without a lure, the falconer appears no different to the bird than any other person. An escaped or reticent bird can be taken with ease when a lure is available.

82. True or false: A lure with a weight attached is almost always preferred to a one-piece lure.

Ans. True.

A swinging weight always brings a bird to the ground faster. A one pound padded weight swinging on a 4- to 10-foot line will bring a big female Goshawk to earth in 50 yards or so, and once down she cannot get going again. The same bird can easily carry a 26 ounce one-piece lure for an almost unlimited distance and reflush with it, time after time, when approached. It is important that the weight is well padded; otherwise it may bounce as the hawk carries the lure close to the ground and strike the hawk, causing injury. A naked lead fishing weight is extremely dangerous.

83. True or false: Tough stringy meat should be used to garnish a lure.

Ans. True

Tying tough, stringy meat to lures is best because it stays there and cannot be eaten quickly. Chicken heads are ideal; a snap hook can be clipped through the nostril and lower mandible and the neck further secured by a leather thong. Day old chicks are more commonly used and can be secured by a leather thong.

84. Bells are most needed...

- a. when your bird is on the perch in the yard
- b. to keep track of your bird in the trees or sky without watching her too closely
- c. when the bird is down with quarry
- d. all of the above

Ans. d

Even belled birds can be difficult to find when they are down on quarry, accipiters even more so than buteos or falcons. A falcon and most Red-tailed Hawked Hawks will stay out in the open though they will mantle their quarry. Accipiters have a habit of dragging a quarry into the nearest thicket and hiding themselves under overhanging grass and brush. At such times, they will almost allow themselves to be stepped on. For this reason, many people prefer using a tail bell on accipiters, because it is more likely to ring. Also, bells alert strangers that the hawk is a trained bird.

85. True or false: Ideally when a pair of hawk bells is selected, both bells should produce identical tones.

Ans. False

Bells with two different metals and two different tones yield a more dissonant sound which can be heard from farther away.

86. True or false: When a plastic electric cable-tie is used as bewit, it should be fastened around the tarsus.

Ans. False

A bewit is a small leather strip used to secure a bell to a hawk's leg. The bewit is fastened around the tarsus (the lower leg) above the jess. Modern falconers often substitute a plastic fastener or zip tie. This should be attached to the Aylmeri jess, not the leg. It is less flexible than leather and very strong; if caught on a branch or bark it could potentially break the hawk's leg.

87. A "Yagi" is...
- a. an Indian hood made of dog skin
  - b. a Pakistani glove without finger sleeves
  - c. a hand-held telemetry antenna
  - d. a juvenile Saker Falcon

Ans. c

A Yagi is a sensitive hand-held telemetry antenna consisting of three or more elements mounted at right angles to a central boom. Reception range is usually 1/4 to 1 mile if both bird and falconer are on the ground and 10 miles or more when used from an aircraft.

88. True or false: Under field conditions, tuning to the weak response on a telemetry unit is something the falconer should recognize.

Ans. True.

As you tune your telemetry receiver, you will notice that the signal comes in at two settings on the dial. Normally you will use the strongest setting for maximum sensitivity. The weak side setting is occasionally useful for close-in work when the signal is too strong. Observe how the pitch of the beeper changes as you turn the dial. This allows you to tell whether you are on the main response or the weak response. Some receivers have multiple settings for close, medium, and long-distance, which make it easier to figure out how close the target is. Whatever the style, make sure you understand and have practiced how to use your telemetry gear before you use it under live field conditions.

89. True or false. Frigid temperatures are likely to alter both the dial settings and the transmitter signal on a telemetry unit.

Ans. True.

Each unit will behave slightly differently when subjected to cold weather. The recommended way to test your unit is to turn on the receiver and put the batteries in the transmitter in the household freezer. Observe how much it drifts as it cools. Remove the transmitter and let it stabilize at room temperature. Now place the receiver in the freezer and see how far the dial setting changes after it has been allowed to stabilize at cold temperature. Record the results for future reference. Now you have some idea of what your gear will do if you tune-up in a warm car and fly in a snow-covered field.

90. A hack-board is likely to be used with a(n)...

- a. eyas
- b. passage bird
- c. haggard
- d. vulture

Ans. a

A hack-board is the platform to which food is secured when birds are being kept at hack. Hack is the state of complete liberty, which may be given to eyases during the first few weeks after they can fly.

91. A halsband would be most useful when...

- a. hunting with a Golden Eagle on horseback
- b. hunting with a cast of Gyrfalcons
- c. hunting with a dog and Goshawk from the first
- d. hunting with a ferret and Red-tailed Hawk from a tree

Ans. c

A halsband is an East Indian device. It consists of a cord hung loosely across the upper back of an accipiter ahead of the wings, used for launching a bird for a very quick start on quarry. In order to launch the bird, you must know where the quarry is, so it's best to have a dog. The use of halsbands are not consistent with either the size or hunting style of Golden Eagles or Gyrfalcons. It is illegal to hunt with ferrets in New York.

## Health

1. Electrocution is often a preventable death in raptors. To help prevent electrocution a falconer should. . .
  - a. avoid flying near single phase transmission lines with ground wires attached to the top wire
  - b. avoid flying around transformers with un-insulated pig-tail wires
  - c. not release their bird if unsure of the danger
  - d. all of the above

Ans. d

2. Aspergillosis affects the. . .
  - a. digestive system
  - b. nervous system
  - c. respiratory system
  - d. plumage

Ans. c

3. Internal parasites affect the. . .
  - a. digestive system
  - b. nervous system
  - c. respiratory system
  - d. plumage

Ans. a

4. Frounce affects the. . .
  - a. digestive system
  - b. nervous system
  - c. respiratory system
  - d. plumage

Ans. a

5. The bird most likely to suffer from fits is . . .
- a. a Peregrine Falcon
  - b. a Red-tailed Hawk
  - c. a Sharp-shinned Hawk
  - d. a Merlin

Ans. c

6. Aspergillosis is seen in . . .
- a. Red-tailed Hawks
  - b. Gyrfalcons
  - c. Goshawks
  - d. Any of the above

Ans. d

7. The most common disease your bird could acquire from a wild mourning dove is . . .
- a. aspergillosis
  - b. coccidiosis
  - c. frounce
  - d. pneumonia

Ans. c

8. Bumble foot may be caused by . . .
- a. poor diet and husbandry
  - b. poorly designed perches
  - c. daily hunting
  - d. a. and b. above

Ans. d

9. Your bird is at the low end of its flying weight, so you feed him a large meal. The next day he still has a crop and foul smelling breath. You recognize this as sour crop. Your first treatment should be . . .
- a. extract the contents of the crop
  - b. contact your avian veterinarian immediately and inform your sponsor
  - c. administer IV antibiotics
  - d. Ancobon

Ans. b

10. Your bird feaks after eating and warbles on its perch. You notice that he tends to stand on one leg. These behaviors tend to indicate . . .
- a. frounce
  - b. sour crop
  - c. a content healthy bird
  - d. apoplexy

Ans. c

11. Your bird exhibits gradual weight loss, poor appetite, and lethargy. His mutes appear normal and his mouth, throat and feet appear normal. Your bird most likely suffers from . . .
- a. lead poisoning
  - b. frounce
  - c. parasites
  - d. any of the above

Ans. d

12. While raising your first eyas you notice it has developed bent legs. He then starts "stargazing". You could have prevented this problem by . . .
- a. feeding him a diet of whole birds or small mammals
  - b. supplementing his diet with vitamin D3, calcium, and phosphorus
  - c. feeding him more chicken
  - d. a. and b. above

Ans. d

13. Your bird suffers a broken leg while crashing into thick cover. The small town you live in has no veterinarian with any experience in raptor medicine. The best way to prevent this scenario is . . .
- a. not ever hunt your bird
  - b. only lure fly your bird
  - c. locate a raptor veterinarian prior to obtaining a bird
  - d. hunt only where there is no cover

Ans. c

14. An American Kestrel is most likely to die from . . .
- a. frounce
  - b. aspergillosis
  - c. poor weight control
  - d. sour crop

Ans. c

15. Your new passage bird has lice crawling on its feathers. You should . . .
- a. administer intravenous Ivermectin
  - b. release the bird as it is not likely to survive
  - c. transport the bird to the nearest raptor veterinarian for extensive therapy
  - d. treat the bird with two percent Sevin dust

Ans. d

16. Your bird mutes on your kitchen floor. You notice a white object moving in the mute. You should . . .
- a. take the bird to the vet for a fecal float
  - b. take the bird to the vet to get suitable treatment for internal parasites
  - c. call your sponsor and ask for advice
  - d. any of the above apply

Ans. d

17. A diet of freshly trapped wild pigeon carries with it the risk of . . .

- a. frounce
- b. aspergillosis
- c. avian herpes virus
- d. both a. and c

Ans. d

18. Cheesy plaques in the mouth, weight loss, and flicking food are signs of. . .

- a. coccidiosis
- b. frounce
- c. aspergillosis
- d. apoplexy

Ans. b

19. While flying your bird a wild raptor comes in and crabs with your bird. When you retrieve your bird you notice blood on its thigh. You should . . .

- a. give Pedialyte and apply a bandage to the leg
- b. apply a topical antibiotic and take your bird to a vet for further evaluation
- c. do a fecal float
- d. administer Piperazine

Ans. b

20. A green mite may be indicative of . . .

- a. a healthy bird that has not eaten for 36 hours
- b. aspergillosis
- c. coccidiosis
- d. a. and b. above

Ans. d

21. A good way to judge a raptor's condition and health is...

- a. to maintain daily weight records
- b. examine the bird's mutes
- c. note alertness of the bird
- d. all of the above

Ans. d

The falconer should be vigilant for any change in his or her bird's condition or the color and texture of the bird's mute. The castings should also be regularly examined. The best signs and symptoms of a sick hawk are (1) weight loss, (2) a "puffy" look around the eyes and listlessness, (3) disgorging of food from the crop and discolored mutes, (4) tearing at food, but flicking it away, and (4) ropey saliva and fetid castings.

22. A diet made up of exclusively of freshly killed rodents would be...

- a. excellent for Red-tailed Hawks, Red-shouldered Hawks and American Kestrels
- b. poor for any raptor since it lacks feathers
- c. any diet that is "exclusive" is not optimal
- d. would cause serious constipation problems

Ans. a

This approximates their wild diets and contains all the vitamins, nutrients, and roughage they require. A varied diet is optimal. Alternating between mice and rats is best because of greater muscle mass in rats and smaller, more digestible bones in mice. Previously frozen and stored food should be supplemented with vitamins.

23. True or false: It is best to feed your bird whole prey with intestines intact because intestines are a rich source of vitamins.

Ans. False

Removing the gastro-intestinal tract ("GIT") will reduce the chances of clostridium infection and will keep your enclosure cleaner and free of maggots. Quail should also be gutted, but it is not necessary to remove the intestines of day-old chicks. Heart, liver, and lungs should be fed.

24. True or false. In a pinch, it is okay to give hamburger to your raptor to hold them over until a proper meal is available.

Ans. False

Never feed hamburger or meat without bone to raptors. The calcium/phosphorus ratio of hamburger is 1:20. The appropriate ratio is 2:1. It only takes one meal of hamburger to create metabolism changes and multiple meals could prove fatal.

25. True or false: A hawk with ice on its feathers should be taken into a warm place until dried off.

Ans. True

A raptor's need for water in winter can be almost the same as in summer. Some birds will continue to take a daily bath. In subfreezing temperatures, the feathers may ice up after bathing. The bird should be taken inside and dried off. A hair dryer is very useful.

26. True or false. Hypothermia is a below-normal body temperature.

Ans. True

The core body temperature of birds is usually between 102-105 degrees Fahrenheit. A bird's health is compromised if it falls below the normal range for any period of time.

27. True or false: As a general rule, the smaller the species of raptor kept for falconry, the easier it is to maintain and keep in proper health.

Ans. False

Not only are the large species generally easier to train, they are the easiest to keep healthy. The smaller species, especially the Cooper's Hawk, the Sharp-shinned Hawk, and the American Kestrel, perform better when keen or sharp-set, but are much more difficult to keep at a fixed flying weight than, for instance, the Peregrine, Goshawk, Gyrfalcon, Red-tailed Hawk or Harris's Hawk.

28. The morning after a bird is captured, a mass is found under her perch. It is rounded on one end, tapered on the other and is gray and covered with mucous. It appears to be composed of fur, feathers and chips of bone. It is...
- a. a normal bowel movement
  - b. a "mute"
  - c. a pellet of prey remains normally regurgitated daily by a raptor
  - d. a pellet of prey remains passed in the feces daily by a raptor

Ans. c

A pellet (traditionally called a "casting") is the indigestible portion of a raptor's meal, formed into a compact mass and disgorged through its mouth. The pellets are often regurgitated before the raptor eats its next meal. It takes 6-8 hours between the time the prey is eaten and when the bird casts up the pellet. For falconry birds held in captivity that are fed once per day, that time period will be longer (the pellet is typically cast the next day).

29. A creamy-white mute with a small black center is a good indicator of...
- a. Trichomonas
  - b. Capillaria
  - c. Coccidia
  - d. a healthy raptor

Ans. d

This is ideally how the mute should look. Mutes are the combined excrement of the digestive tract and the kidneys. The urates are pure white and, together with some clear watery material (urine), make up the bulk of the mutes. The fecal wastes are small, well-defined ovoid brown bodies - from large hawks they are about one centimeter long. Choices a, b and c are various types of parasites that interfere with a bird's ability to eat and/or digest food, which can be lethal if not properly treated. These parasites are not typically visible in the mutes.

30. True or False: The cloaca is the posterior chamber in a bird through which a mute passes.

Ans. True

The cloaca is the internal chamber into which the excretory, digestive and reproduction tracts pass. It is important to be sure that the vent, or external opening of the chamber analogous to an anus in mammals, is checked regularly and is clean and free of fecal material.

31. A small greenish mite from a bird that seems otherwise healthy is indicative of...
- a. trichomonas
  - b. coccidiosis
  - c. an empty gastro-intestinal tract (GIT)
  - d. roundworm infestation

Ans. c

With food in the crop and GIT, the mites will be frequent and large. As the digestive tract is emptied, mites become fewer and smaller. Green mites indicate incomplete utilization of the bird's bile, which is produced in the liver and released into the GIT. Once the GIT is empty, the fecal part of the feces will be minimal, and the liquid portion will be tinged by dark green bile.

32. Washed meat is used to...
- a. give a hawk a quick energy burst
  - b. cure diarrhea
  - c. provide vitamins and minerals
  - d. lower a raptor's weight

Ans. d

The method of saturating the bird's food with cold water (soaking the meat) is used to decrease a bird's body weight or to increase hydration. The method of soaking the meat for a long period of time and wringing it out renders the meat almost completely devoid of nutritional value. Feeding the hawk such "washed meat" will keep its GIT functioning while allowing the bird to lose weight as it metabolizes its own body's nutritional reserves.

33. Hawks should not be exposed to extended rains because...
- a. the jesses will become weak and tear
  - b. feather coloring will fade
  - c. it may chill and lower resistance to several diseases
  - d. a fungus infection of the feet frequently occurs

Ans. c

A hawk may be left out in a light rain but should be removed to shelter if its feathers become soaked. The bird should always have access to both shelter and to the external environment.

34. While coping the beak or talons of a raptor, a bit too much is cut away and bleeding results. Which of the following is true?
- a. the bird is in great pain
  - b. the bird will bleed to death
  - c. a tourniquet should be put around the beak or toe
  - d. usually no treatment is necessary because the bleeding will stop

Ans. d

Occasionally the vein inside the talon or beak is cut. Bleeding normally stops after a few minutes due to clotting. A styptic powder or gel along with pressure can be applied to hasten clotting. Be conservative and cautious when coping to avoid cutting the vein.

35. A bird should be coped when...
- a. the beak grows too long
  - b. the talons grow too long
  - c. both a and b
  - d. a but not b

Ans. c

Coping is cutting back or shortening either the beak or the talons. Though occasionally requiring trimming, talons typically wear through normal activity. A bird's beak, however, may need the falconer's attention to prevent overgrowth, discomfort and even malocclusion (misalignment of the upper and lower mandibles).

36. Your bird shows signs of decreased tolerance to exercise and exhibits heavy breathing after a short flight. There may even be a change in voice. These may represent signs of...
- a. coccidiosis
  - b. trichomonas infection
  - c. aspergillosis
  - d. seizure

Ans. c

Aspergillosis is a fungal infection that affects primarily the respiratory system. It is usually associated with a decrease in immune function. Granulomas (masses) form as the body attempts to wall off infection. Other organs such as the brain, the kidneys and bones may become infected.

37. Which of the following statements are true?

- a. treatment of aspergillosis is 100% effective
- b. treatment of aspergillosis by using a single antifungal drug is recommended
- c. aspergillosis is rarely fatal despite treatment
- d. treatment of aspergillosis is very difficult and preventive measures against infection are essential.

Ans: d

Stressed birds (training, following a change in management techniques, first year birds), and birds undergoing long-term treatment with antibiotics or with steroids are more susceptible to developing aspergillosis. Treatment is complicated, must include supportive care and may require a combination of antifungal drugs. Despite proper treatment, the condition is often fatal. Prevention is key and should combine a clean environment, decreased stress and optimization of the health of the bird. The problem can be reduced by using substances in the mews that do not support the growth of mold. Avoid hay, straw and dampness in general.

The fungus is found in the environment, especially in organic matter and in damp surroundings. Some species such as goshawks and gyrfalcons are particularly susceptible to aspergillosis (often referred to as "asper"). Birds of any age are at risk of developing the disease. Early clinical signs are often subtle and by the time they are recognized, the disease is advanced. Infection in the brain and the kidneys (via compression of nerves) can lead to neurological signs. Aspergillosis is not transmissible from one bird to another.

38. True or false: Fungal infections are often associated with other medical problems.

Ans. True

Other diseases may complicate infections with aspergillosis. Decreased immune function may promote increased parasite load, secondary bacterial infections, and dehydration may lead to gout. Appropriate diagnosis by a veterinarian will help design the most appropriate treatment plan.

39. Your bird becomes suddenly more tame and well-mannered, even at times when it would be expected to act wild. It refuses to eat well. It is reluctant to physically exert itself. Its breathing is weak and causes heavy breathing and general exhaustion. It has an extreme thirst and tends to bend forward due to a painful abdomen. It eats less and less and finally ends up picking at the food and flicking it away. It most likely suffers from...
- a. coccidiosis
  - b. frounce
  - c. aspergillosis
  - d. cramp

Ans. c.

With aspergillosis, the end comes very quickly - usually within a week, sometimes only two days. The bird will lose all interest in food, but will exhibit extreme thirst. Weight loss is dramatic, amounting to as much as half the bird's normal weight. Weight loss seems to be mostly due to rapid dehydration. The bird sits on the perch with all of its feathers loose, and then falls off the perch and dies. Post mortem will show her body cavity and air sacs filled with moldy grey dust.

40. The most lethal disease likely to occur in birds of prey is...
- a. aspergillosis
  - b. bumblefoot
  - c. coccidiosis
  - d. miasis

Ans. a

Aspergillosis. The fungus that causes it, *Aspergillus fumigatus*, attacks the respiratory system and is usually lethal. The great problem with treating it is that by the time the first clear symptoms appear, the disease is already deeply established and the bird almost certainly doomed.

41. The best weapon against aspergillosis is...

- a. Ancobon
- b. Amphotericin B (Fogging)
- c. Amphotericin B (Oral)
- d. prevention

Ans. d

Both Ancobon and amphotericin B have shown occasional limited success in treating aspergillosis but prevention of aspergillosis is the only successful method of control. The fungus that causes the disease is not strictly a disease organism. It is extremely widespread. The spores can be almost anywhere. The problem can be reduced by using substances in the mews that do not become moldy. Pea gravel and artificial surfaces such as Astroturf are excellent. Avoid hay, straw and dampness. Stress may also predispose a bird to this disease.

42. Aspergillosis is most frequently seen in...

- a. Peregrine and Prairie Falcons
- b. Red-tailed and Harris's Hawks
- c. Goshawks and Gyrfalcons
- d. Cooper's and Sharp-shinned Hawks

Ans. c

Birds from arctic and subarctic regions seem more susceptible to the disease than those from more southern latitudes.

43. Birds that have some symptoms of aspergillosis should also be treated for...

- a. coccidiosis
- b. frounce
- c. pneumonia
- d. tapeworm

Ans. c

Pneumonia should also be considered in birds that have symptoms of aspergillosis. Treatment is accomplished with antibiotics, stress reduction, good food and quiet. Birds with pneumonia tend to eat well up to their death, unlike those with aspergillosis.

44. Coccidiosis is the disease caused by...
- a. protozoa parasites affecting the lining of the gastrointestinal tract
  - b. bacteria found in the water
  - c. viruses transmitted from humans to birds
  - d. toxins found in fish

Ans. a

Protozoa include Coccidia, which are unicellular parasites that can invade the cells lining the gastrointestinal tract of birds, their kidneys and liver. The resulting inflammation and destruction of these cells can lead to diarrhea and the presence of blood in the stools, weakness and renal problems.

45. Coccidia are transmitted...
- a. by direct contact with an infected bird
  - b. through the ingestion of droppings of a sick bird
  - c. through ingestion of contaminated soil
  - d. all of the above

Ans. d

Coccidia are highly infectious and if the condition is left untreated, may be fatal. Young birds are more susceptible to disease than adults. Transmission is through direct contact, ingestion of infected mites or soil. The parasite forms thick walled eggs (oocysts) which are resistant in the environment and remain infective in the soil. When raptors are kept in poor hygiene conditions and closely confined on shelf perches that collect feces, there is a buildup of bacteria and parasites which will increase the likelihood of infection.

46. True or false: As with any disease, treatment for coccidiosis should be entrusted to the recommendations of a veterinarian.

Ans. True

Treatment initiated early during the first stage of the disease (before the mites turn black) is most effective. Additional supportive care may become necessary. Every effort should be made to maintain hydration and body weight, and to prevent secondary infections.

47. Flecks of red appear in your bird's mutes. A few days later, the mutes turn watery and black; the castings are slimy, dark brown and foul smelling. The hawk does not otherwise appear very ill. The most likely diagnosis is...
- a. coccidiosis
  - b. frounce
  - c. aspergillosis
  - d. pneumonia

Ans. a

Generally, the actions and behavior of the hawk will not change much during the first stages of the illness. About a week later, however, the bird's appetite may fail quite suddenly. The bird casts up anything it might have eaten and becomes very thirsty. Otherwise it sits fluffed and listless with half closed eyes, then falls off the perch, stiffens and dies.

48. Upon opening the mouth of your bird, you note a cheesy cream-yellow growth. This can be located at the corners ("gape") of the mouth, around the tongue, and on the roof of the mouth. Appetite is decreased, the bird is having difficulty feeding, and the fecal part of the mutes is decreased. An important disease to rule out is...
- a. tapeworm infection
  - b. trichomonas infection
  - c. aspergillosis
  - d. coccidiosis

Ans. b

Trichomonas is a protozoan parasite of the digestive tract that often causes plaques and obstruction in the mouth and the crop. In raptors, the disease is called frounce (and canker in pigeons). It is often seen in American kestrels, Barn Owls, Barred Owls, Cooper's Hawks, Eastern Screech Owls, Golden Eagles, and Peregrine Falcons. An early symptom of the disease is a bird that is attempting to eat but spits out the pieces of food. An inflamed lining of the mouth and the presence of excessive mucus are early clinical findings. Lesions may not be present so confirmation of the diagnosis by a veterinarian is important.

49. A raptor can become infected with trichomonas by...
- eating an infected pigeon
  - standing on poorly constructed perches
  - ingesting flat flies
  - being bitten by an infected mosquito

Ans. a

Feral pigeons, doves, European Starlings and House Sparrows are known to carry trichomonas. Recommendations to reduce transmission of the disease include removing the head and crop of all pigeons before feeding and to freeze these birds prior to feeding them to a raptor. However if not done properly, these measures may not be sufficient to prevent infection. Note: Pigeons may also carry pigeon herpes virus which is impossible to detect and can cause fatal infections in raptors.

50. True or false: Infections with trichomonas are self-limiting and raptors recover on their own a few days after clinical signs appear.

Ans. False

Infection with trichomonas can become fatal if left untreated and the raptor often dies a week to 10 days after the presence of the oral masses is detected. The mouth becomes overgrown with hard plaques, breathing becomes difficult, feeding impossible. The bird may die of strangulation or starvation. The incubation period, that is the time between actual infection and the first symptoms, appears to be no more than 10 days.

51. Untreated, frounce is usually fatal within \_\_\_\_\_ day(s) of the time the symptoms appear.
- one
  - two
  - ten
  - thirty

Ans. c

Virulent frounce usually runs a fatal course in a week to ten days from the time the first symptoms appear. The mouth becomes overgrown with hard plaques, breathing becomes difficult, feeding impossible. The bird dies of strangulation or starvation. The incubation period, that is the time between actual infection and the first symptoms, appears to be no more than ten days.

52. The most practical weapon against frounce is...

- a. Enheptin
- b. Thiamine
- c. Emtryl
- d. Ivermectin

Ans. c

The disease is common so prevention is essential. Feed food animals from only trusted sources - in some places 80% of feral pigeons are infected. Close monitoring of the raptor and early intervention are essential. Thiamine (Vitamin B1) and Ivermectin are not effective against this parasite. Freezing of prey for three days prior to feeding may help kill parasites. Enheptin was generally used until it was discovered that Emtryl (or another drug called Flagyl) was safer and equally effective.

53. True or false: In birds, West Nile Virus ("WNV") is acquired following bite from an infected mosquito.

Ans. True

Transmission of WNV is mostly through the bite of infected mosquitoes. There are concerns that hippoboscids and other ectoparasites may also transmit the virus. Infected birds shed virus in oral secretions, nitrogenous waste from the kidneys and feces. Ingestion of infected prey or ectoparasites are other suspected sources of transmission.

54. West Nile Virus infection in raptors causes...

- a. weakness, seizures, anemia and blindness
- b. bone infections and fracture
- c. cancer of the liver
- d. no clinical signs in raptors as they are resistant to the virus.

Ans. a

WNV infection in most raptors results in severe infection of many organs including the brain, heart, kidneys, intestines, feather follicles, and eyes. If left untreated this disease is rapidly fatal. Recovery from infection is possible and can occur spontaneously or following aggressive supportive care.

55. Your bird develops a small bruise or corn on the bottom of the foot. It then progresses to a small localized swelling. It is warm and reddened in appearance. The condition becomes extremely painful to the bird, which begins to lie down frequently to take pressure off the ball of its foot. The most appropriate diagnosis is...
- frounce
  - miasis
  - bumblefoot
  - aspergillosis

Ans. c

Bumblefoot is any type of inflammatory condition of the foot, which can quickly progress into an infection. As the disease progresses, the swelling increases in size and the entire foot may become quite warm to the touch. The warmth is caused by inflammation as the body attempts to fight off the infection. The swelling can extend down the length of the toes and up the leg. The skin begins to ulcerate on the ball of the foot. The arch scabs and the scab increases in size as the whole foot becomes puffy. The latter stages can result in death.

56. True or false: Bumblefoot (pododermatitis) is easily treated and is of no big concern to falconers.

Ans. False

Bumblefoot occurs in stages. The quicker it is noticed, the better the chances of recovery. Severe cases of bumblefoot can be fatal. Stage one: There is a thinning of the skin on the bottom of the foot. Stage two: The skin becomes pink and there is a loss of scales. Stage three: A sore appears in the center of the irritation. Stage four: The foot begins to swell. Stage five: The infection has gone into the bone, and bone loss may result. The prognosis is grave at this stage. All stages require intervention. Stages three and above require veterinary care.

57. Foot swelling in trained falcons is more often than not linked to...
- high humidity
  - manufacturing of perches of unnatural materials
  - direct wind in cold weather
  - a diet of lean beef and/or general poor husbandry

Ans. d

In a high percentage of cases the problem of food swelling is linked to the classic diet of lean beef, an unacceptable substitute for the rich diet these birds normally enjoy in the wild state. A bird whose health, diet, weight, and living conditions are well managed is much less likely to suffer this ailment. Padded perches covered by all weather rug or flexible nonabrasive Astroturf are a must.

58. Bumblefoot is caused by...

- a. any injury to the sole of the foot
- b. standing in irritating substances such as excrement or commercial cleaners that have not been properly rinsed from a block or perch
- c. dietary deficiencies of vitamin A
- d. all of the above

Ans. d

The bumble infection enters the foot through the skin when the epithelium becomes damaged. The epithelium may be damaged by any of the factors listed above, as well as bird obesity, bruising, heavy impact, abrasion, or polishing of the foot against a smooth surface (such as a perch), sluggish blood circulation, and self trauma (such as biting of the feet). Vitamin A deficiency generally results from a diet of lean beef.

59. The best way to prevent bumblefoot is to...

- a. keep a clean perch, a short leash, and a padded perch surface
- b. feed the bird an appropriately nutritious diet
- c. cope the talons to keep an appropriate length and sharpness
- d. all of the above

Ans. d

A short leash prevents rough bating. A good perch padding to use is rope wrapping or a brand of Astroturf that is not so stiff as to cut or scratch a bird's foot. Avoid too much padding because this will turn the toes upward and aggravate the cause of bumblefoot. A chemical that predisposes a bird to bumblefoot is ammonia, which is present in most industrial cleaners and in mutes. Perching areas should be cleaned and rinsed regularly. Feeding the bird an appropriately nutritious diet will help it resist infection and disease. Blunting the tips of the talons is one way to prevent self trauma but should only be used in cases of chronic bumblefoot; dulling the talons, particularly the hallux, will interfere with the bird's ability to hold and kill game and this method should generally be avoided by falconers. Flying the bird regularly improves improve circulation and is essential to the bird's overall health.

60. True or false: Frequent physical examinations are a good preventative for bumblefoot.

Ans. True:

Raptor feet should be checked every time the bird is handled and the bird must be examined regularly when the bird is not being flown. Detecting bumblefoot early is key to its successful treatment.

61. True or false: Clinical signs of sour crop include a bird that appears dull, with its feathers puffed out, and a crop that is still distended from the previous day's feeding. The food in the crop has a sour smell and may have been regurgitated, and the bird has no appetite.

Ans: True.

If a bird's digestive system shuts down, food will sit in the crop for 24 hours or more. This allows bacteria to flourish and the food develops a sour smell. A bird showing signs of sour crop must receive medical attention. The old food must be removed with forceps and the bird's crop will need to be lavaged - therapeutically washed out by a veterinarian. The bird must then be treated with appropriate medications.

62. Sour crop can be caused by...

- a. ingestion by the bird of poor quality, stale or rotten meat
- b. a parasitic infection such as a. candidiasis and trichomoniasis and the associated inflammatory changes in the digestive tract
- c. ingestion of toxic substances such as petroleum products
- d. all of the above

Ans. d

"Sour crop" may lead to an ulceration of the mucosa of the crop due to a wide range of possible causes. Although many different organisms normally inhabit the digestive tract of birds (e.g. parasitic worms, protozoa, yeast and bacteria), it is usually imbalances in the bacterial populations that result in toxic digestive problems. This can result from any of the above-described incidents. Sour crop can be fatal.

63. True or False: "Sour crop" can be easily diagnosed and treated by the falconer.

Ans. False

There are many causes of "sour crop" that may lead to "crop stasis", ranging from bacterial, fungal or parasitic infections to impaction due to a physical obstruction or bad food. There is no "magic pill" to resolve this condition and veterinary services are required for treatment.

64. During the initial handling of a fresh-trapped Sharp-shinned Hawk, the bird shows an uncontrolled jerking or twitching of the shoulders and wings. A likely cause of this condition is...
- a. aspergillosis
  - b. frounce
  - c. stress
  - d. coccidiosis

Ans. c

The bird should immediately be placed in a dark, quiet, and cool place. Decreased handling is essential but close monitoring is important. If more than a few moments pass, the bird will go into a succession of violent spasms, and, if untreated, will live for only a few hours. The condition is associated with stress in small accipiters.

65. The species of bird most susceptible to stress-related seizures is the...
- a. American Kestrel
  - b. Cooper's Hawk
  - c. Merlin
  - d. Northern Goshawk

Ans. b

Cooper's and Sharp-shinned Hawks are quite susceptible to these attacks. Goshawks are less likely to suffer them, though they are certainly not immune. Affected birds can die within minutes unless the onset of the condition is recognized and addressed immediately.

66. The recommended treatment for stress induced seizures is...
- a. dewormer
  - b. antibiotics
  - c. antifungal drugs
  - d. isolation of the bird in a quiet environment and administration of sugar water if necessary

Ans. d

The bird should be immediately isolated in a dark, quiet and cool place. Drops of dilute sugar water (or Gatorade) can be placed in the beak. Initially, the sugar will be absorbed through the mucosa of the mouth. It is essential to make sure that the bird is able to swallow before giving any more liquids. If the bird is unable to swallow, the water can be aspirated and the bird will develop pneumonia. Do NOT use flat Cola as it contains levels of caffeine that are toxic to birds. If the bird is calm and swallowing, three or four eye droppers full can be given every two hour intervals. Without this combination of interventions, the bird will stiffen and may die. This condition principally affects small accipiters.

67. A newly captured merlin is repeatedly biting at its legs. One cause for this behavior is...
- a. maladaptation to captive environment
  - b. a perch that is too narrow
  - c. a water bowl that is too shallow
  - d. a natural behavior for this species

Ans: a

Occasionally, a raptor captured from the wild fails to adapt to captive conditions and starts to self-mutilate. Over-preening, feather plucking or biting at legs has been reported. If environmental conditions are adequate, this problem is rarely observed. If need be, the bird should be fed and released back to the wild.

68. A diet of meat only in a young and growing bird will rapidly lead to...
- a. infection of the intestinal tract
  - b. improper calcification of bones and fractures
  - c. infection of the liver
  - d. renal failure

Ans. b

A diet of meat alone is very high in phosphorus and proportionally low in calcium. Feeding a diet of meat exclusively will compromise the normal development of the animal's bones; the deficiency in calcium and excess in phosphorus will prevent the normal hardening of the bones and the bones will start to bend. Within a few days of this deficient diet, rapidly growing raptors will develop weakness and severe bone lesions. This condition also called metabolic bone disease is very painful. In adults, feeding a diet of meat exclusively will also lead to a calcium deficiency which will be manifested by weakness and seizures.

69. In a downy eyas, clinical signs of metabolic bone disease include...
- a. inability to sit up and lying on its breast
  - b. high pitch vocalization and frequent uncomfortable chattering, weakness
  - c. inability walk so will crawl to move from one place to another
  - d. all of the above

Ans. c

About the third day after the pain calls begin, the arching of the bones caused by muscle spasms can be seen in the long bones of the legs, more rarely in the wings as well. Death usually occurs on the fourth or fifth day after the first symptoms appear. Early correction of the diet is essential to prevent permanent bone damage.

70. Metabolic bone disease is most commonly observed in...

- a. intermewed raptors
- b. passage falcons
- c. Red-tailed hawks
- d. downies taken into captivity

Ans. d

Metabolic bone disease is a primary cause of death in eyases of any species taken in the downy stages and even occasionally in large downies that are not fed an appropriate diet. Eyases not given bone in the diet are especially vulnerable because of their rapid growth and the high calcium demand for new bone formation. In younger birds, hypothermia is an important problem and great care must be taken to keep the temperature warm at all times and at all costs.

71. Prevention of metabolic bone disease can be achieved by...

- a. feeding small bones as soon as the young bird is able to assimilate them
- b. supplementing the diet with fresh veal liver
- c. adding tuna to the diet of chicks
- d. adding feathers to the diet birds younger than 10 days of age

Ans. a

Metabolic bone disease is the result of a calcium/ phosphorus/ vitamin D imbalance from a poorly designed diet. The falconer should remove the head, crop, viscera and feathers of prey and grind up the rest, bones and all, in a meat grinder or Waring blender, then feed the formula to the chicks. Birds older than three-days should receive finely chopped bone in the small mammals or the birds they are fed. Castings should not be fed until after the fourth week. A light sprinkling of calcium only (no phosphorus) powder on the food given to downies or egg-laying hawks helps but is not sufficient to prevent the condition.

72. If stargazing is caused by a dietary deficiency, the recommended treatment is...
- a. vitamin A supplementation
  - b. vitamin C supplementation
  - c. phosphorous supplementation
  - d. vitamin B1 supplementation

Ans. d

A bird with "stargazing syndrome" has inflammation of the brain and will stand with its head upward or backward over its shoulders. A similar condition can be seen in birds with severe head trauma. Deficiency in vitamin B1 can cause lesions in the brain leading to stargazing behavior. Rapid treatment can be curative.

73. The preferred treatment for "stargazing syndrome" is...
- a. sunlight and vitamin D3
  - b. calcium supplement
  - c. phosphorous supplement
  - d. Vionate

Ans. a

A bird with "stargazing syndrome" has inflammation of the brain and will stand with its head upward or backward over its shoulders. The most common cause in raptors appears to be a vitamin D3 deficiency. Birds cannot absorb vitamin D2, which is the form most commonly found in vitamin capsules intended for human beings. Vitamin D3 is found in cod liver oil and in vitamin drops intended for birds. The normal source in raptors is the Sun's ultra-violet irradiation of the oil on the feathers, which converts some of it into vitamin D3. Hence, putting the birds outside in the sunlight is a cure. Most other vitamin deficiencies can be avoided by feeding whole bodies of small birds and mammals or by giving a multi-vitamin powder occasionally on the meat.

74. True or False. A raptor with a broken leg or wing should be killed in a humane manner since these bones cannot be set or casted with any degree of success.

Ans. False

Trauma, gunshot injuries, entanglement may result in bone fracture and significant tissue damage. Immediate veterinary must be sought out to limit the damage caused by the bone fragments and control infection. Immediate and proper alignment of broken bones, combined with appropriate antibiotic therapy and pain management have optimized the recovery of birds with fractured bones. Surgery, when indicated, hastens recovery and allows for a faster return to function.

75. Lead toxicity due to ingestion of lead shot in food items...

- a. does not occur in raptors as they are resistant to lead toxicity
- b. occurs only in owls which do not have crop
- c. is cured easily with administration of antibiotics and supportive care
- d. requires immediate veterinary care which will include binding of the lead and supportive care

Ans. d

Neurological signs are commonly seen in all raptors following ingestion of lead pellets; the signs can range from weakness to seizures and often include paralysis of the gastrointestinal tract. Lead toxicity can result in permanent and fatal damage to the brain, kidneys and pancreas. Death will result if treatment is delayed. Aggressive chelating therapy (use of binding agents to neutralize and get rid of lead), supportive care and monitoring of blood parameters (for anemia, liver and renal functions) and of blood lead levels, as well as radiographs (to monitor for the presence and expulsion of gunshots) are essential for the recovery of the animal.

76. Improper use of drugs and hormones to stimulate molt can...

- a. be fatal
- b. result in poor quality feathers
- c. result in aberrant feather size and pigmentation
- d. all of the above

Ans. d

Hormonal manipulations to induce molt can be fatal and are discouraged. This includes the use of thyroid hormone and progesterone.

77. The proper method for transporting a wild caught raptor is...
- a. upside down hanging by its back leg
  - b. in a dark padded box, ideally with a hood covering the head
  - c. in a an uncovered wire cage
  - d. tightly wrapped in tape

Ans. b

Raptors are not physiologically adapted to stay upside down for any period of time; strain to the joints and muscles may occur during struggle and restraint. Uncovered and wire cages will result in excessive exposure and self-inflicted injuries while the bird attempts to escape. Tape will result in damage to feathers and may severely compromise breathing. The carrier should be well ventilated, large enough so the bird does not touch any part of the crate when its wings are closed, that it can make positional adjustments, and has sufficient head and tail clearance. Padding the inside of the carrier is highly recommended.

78. You notice your downy eyas is unable to sit up. It feeds greedily enough but sprawls on its breast. It makes repeated attempts to sit upright and begins to voice its discomfort by an irritable, high-pitched chittering. As the disorder progresses, the, bird becomes extremely restless shifting about in an awkward crawl, chattering continuously. The best diagnosis is...
- a. coccidiosis
  - b. cramp
  - c. frounce
  - d. aspergillosis

Ans. b

About the third day after the pain calls begin, the arching of the bones caused by muscle spasms can be seen in the long bones of the legs, more rarely in the wings as well. Death usually occurs on the fourth or fifth day after the first symptoms appear.

79. Cramp is a disease most commonly found in...

- a. intermewed raptors
- b. passage falcons
- c. Red-tailed Hawks
- d. downies taken into captivity

Ans. d

Cramp or rickets is a primary cause of death in eyases of any species taken in the downy stages and even occasionally in large downies. The younger the bird, the greater the care that must be taken to keep it warm at all times and at all costs. The disease can be avoided by assuring that young, older than three-days, receive finely chopped bone in the small mammals or the birds they are fed. Castings should not be fed until after the fourth week. A light sprinkling of calcium phosphorous powder on the food given to downies or egg-laying hawks is probably a good idea.

80. A major cause of cramp is...

- a. roundworms
- b. vitamin B deficiency
- c. a flagellate protozoan called *Trichomena gallinae*
- d. calcium deficiency caused by feeding lean beef

Ans. d

Cramp is now known to result from a calcium and/or phosphorous deficiency in the young bird's diet. Hawks and falcons fed only lean meat acquire the syndrome because lean meat has very little calcium. There is no cure but bone material in the diet is a preventive. Eyases not given bone in the diet are especially vulnerable because of the high calcium demand for new bone. The whole bodies of small animals are an ideal source of bone in a raptors diet. The falconer should remove the head, crop, viscera, and feathers, then grind up the rest, bones and all, in a meat grinder or Waring blender, and feed the mush to the downy youngsters.

81. Internal parasites...
- a. are common in captive raptors
  - b. are usually easily treated
  - c. can cause death or debilitation
  - d. all of the above

Ans. d

Parasites are common in healthy wild birds, but are more prevalent and are of greater concern in debilitated birds. A raptor's immune system is often compromised if the bird is stressed, sick or injured. This can lead to an increase in parasitism. Checking for internal parasites will improve the health status of the captive bird. New drugs have made treatment of internal parasites so easy that most birds are now treated prophylactically. Piperazine and Ivermectin are effective for treating almost all known parasites. Prophylactic treatment is recommended.

82. True or false. Intestinal parasites can be treated using one "all-around" anti-parasitic such as Ivermectin.

Ans. False.

There are many types of internal parasites that require specific medications for treatment. Parasites such as nematodes (round worms), cestodes (tapeworms) and protozoans (coccidia, giardia) all require different drugs for treatment.

83. A good treatment for roundworms in a raptor's digestive tract is...
- a. Tetracycline
  - b. Enheptin
  - c. Piperazine. Fenbendazole (Panacur)
  - d. Furacin

Ans. c

A number of species of roundworm (Nematodes) are found in hawks. The most common, ascarid worms, live free in the intestinal tract and absorb nutrients from the host's food, they cause no harm unless they are present in very large numbers, in which case they can physically block the intestine or cause loss of weight when the hawk is already in poor condition. Roundworm eggs are found (microscopically) in the mutes of raptors. When food is dropped on the hawk house floor, and fed to another raptor, the infection spreads. A veterinarian should be consulted to determine the dosage appropriate for the size and weight of the bird being treated.

84. Parasites visible in mutes without a microscope may include...

- a. capillaria
- b. roundworm
- c. tapeworm
- d. both b and c

Ans. d

Tapeworms are common in hawks. They are not responsible for disease unless they are present in very large numbers, and even then, they usually only result in a loss of weight or condition. Their segments (proglottids) are readily seen in the mutes and hence most falconers feel obliged to treat them.

85. The preferred treatment for tapeworm infestation is...

- a. Ancoban
- b. Enheptin
- c. Vitamin C
- d. Praziquantel

Ans. d

Cestodes (tapeworms) are segmented flat worms which are usually low in prevalence and low in pathogenicity, but in high number they can cause intestinal obstruction in high numbers. Rodents are the intermediate host of the tapeworm and small rice-like segments can sometimes be seen in the bird's droppings. Treatment is Praziquantel, a drug that expels cestodes from the intestine.

When a hawk's mutes become watery and there is no increase or loss in appetite, an infestation of roundworm is the likely culprit. Tapeworm segments can also sometimes be seen in the bird's mutes. Fortunately, tapeworms can be effectively controlled with proper veterinary care.

86. True or false. Bird lice can kill a healthy raptor.

Ans. False

Avian lice are usually not a parasite of serious concern. Healthy birds are able to groom off the lice and can resist an over abundance. Ill birds can become infested. Most lice feed on feathers and skin debris but some lice feed on quills and may chew into the skin. Treatment is usually through dustings or sprays. Ivermectin may also be used.

87. As soon as possible after taking a nestling raptor, its ears should be inspected for...
- a. hearing ability
  - b. maggots
  - c. feather growth in that area
  - d. castings

Ans. b

All eyes should be inspected for maggots (miasis) in the ears. The parasite is especially common in Cooper's Hawks in the southern part of their range, caused by the screw-worm fly. It is also common in young Red-tailed Hawks.

88. The best treatment for maggots (miasis) is...
- a. saline in the ears
  - b. Furacin
  - c. Vionate
  - d. Piperazine

Ans. a

While occasionally fatal to naturally-raised young, maggots are easily cleared from the ears of young hawks taken by a falconer. A few drops of saline will cause them to forsake the ear cavity and they can be readily removed and destroyed. The ear canal can be filled with saline solution and the maggots will float to the surface. Use forceps to carefully pick them out.

89. True or false: Hippoboscids are dangerous to hawks.

Ans. True

Hippoboscids are blood sucking parasites. Large numbers can create anemia and they are known to transmit haemoproteus (intracellular parasites that infect the red blood cells) and West Nile Virus. Birds with Hippoboscids should be treated immediately.

## **Rules and Regulations**

1. True or false: Suspension or revocation of a falconry permit is the responsibility of the State, tribe, or territory.

Ans. True

2. True or false: As an apprentice you may have any number of State, tribal, or territorial falconry permits and you may possess the number of raptors allowed by those permits.

Ans. False

3. True or false: A raptor bred in captivity must be banded with a seamless, non-reusable metal band.

Ans. True

4. True or false: Without exception, your sponsor is responsible for the health, maintenance and security of raptors you possess under your permit.

Ans. False

5. You must have raptor housing facilities approved before you may obtain a bird to use in falconry.

Ans. True

6. You must have jesses or the materials and equipment to make them, leash and swivel, bath container, and appropriate scales or balances for weighing raptor(s) you possess.

Ans. True

7. If you capture a bird you are not allowed to possess, you...
- a. may give the bird to another falconer who is allowed to possess it
  - b. must release it immediately
  - c. may request a written exception
  - d. must immediately report the capture to the USFWS office near you

Ans. b

8. You may recapture a falconry bird you have lost...
- a. within one week
  - b. within one month
  - c. at any time
  - d. you are not allowed to recapture a falconry bird at any time

Ans. c

9. True or false: If you are an Apprentice falconer, you may not take a nestling from the wild.

Ans. True

10. True or false: When flown free, a hybrid raptor must have at least two attached radio transmitters to help you to locate the bird.

Ans. True

11. True or false: You may release any falconry bird back to the wild and are not required to follow State or territorial and Federal laws and regulations before the release.

Ans. False

12. True or false: Raptors removed from the wild for falconry are always considered "wild" raptors.

Ans. True

13. If you are an Apprentice falconer, you may use a bird you possess in conservation education programs presented in public venues...
- a. only to a civic group by invitation of the organizers
  - b. only to a group of other falconers
  - c. only under the supervision of a General or Master falconer
  - d. only with the permission of your sponsor

Ans. c

14. True or false: You may use falconry raptors to make movies, commercials, or in other commercial ventures.

Ans. False

15. True or false: You may receive feathers for imping from other permitted falconers, wildlife rehabilitators, or propagators in the United States, and you may give feathers to them.

Ans. True

16. True or false: Your falconry permit does not authorize you to capture or release raptors or practice falconry on public lands if it is prohibited on those lands, or on private property, without permission from the landowner or custodian.

Ans. True

17. As an Apprentice falconer you may possess a bird that is imprinted on humans...
- a. if it is a Red-tailed Hawk hawk
  - b. with your sponsors approval
  - c. if it is given to you by a rehabilitator
  - d. none of the above

Ans. d

18. True or false: You may substitute any falconry school program or education to shorten the period of 2 years at the Apprentice level.

Ans. False

19. True or false: You must be at least 21 years of age before you can qualify as a General Falconer.

Ans. False

20. True or false: You must have your permit(s) or legible copies of them in your immediate possession if you are not at the location of your falconry facilities and you are trapping, transporting, working with, or flying your falconry raptor(s).

Ans. True

21. A General falconer decides to breed two (2) of the raptors he/she legally possesses under his/her NYS Falconry License. This is...

- a. of no concern or interest to State DEC authorities
- b. legal, since the birds are possessed under a State falconry license
- c. illegal to do pursuant to a State falconry license
- d. a waste of time, since falconry birds will not breed in captivity

Ans. c

A NYS falconry license does not authorize raptor propagation. The falconer must obtain a State license that authorizes raptor propagation and if held for more than 8 months for propagation, a Federal Propagation Permit.

22. Assuming a NYS Apprentice falconer has been licensed for at least 2 years; what is the youngest age he or she can be considered for upgrade to a General falconer?

- a. 16 years old
- b. 18 years old
- c. 20 years old
- d. 21 years old

Ans. b

New York State Falconry Regulations state that an Apprentice falconer must be at least 18 years old to be eligible for an upgrade to a General falconer.

23. A NYS Apprentice falconer may, under the supervision of his or her sponsor, capture from the wild one of the following species:
- a. a passage Red-shouldered Hawk
  - b. an eyas American Kestrel
  - c. a passage Red-tailed Hawk
  - d. all of the above

Ans. c

New York State Falconry Regulations prohibit the taking or possession of eyas raptors by Apprentice falconers. Apprentice falconers may only take or possess passage Red-tailed Hawks or American Kestrels.

24. To be eligible for a New York State Apprentice Falconry License, an applicant must be...
- a. at least 14 years old
  - b. at least 16 years old
  - c. at least 18 years old
  - d. none of the above

Ans. a

In accordance with the New York State Falconry Regulations, one of the criteria to be eligible for a New York State Apprentice Falconry License is that you be at least 14 years old.

25. According to Article 11, Title 10, Section 11-1005, of the New York State Environmental Conservation Law, how many members may be appointed to the Commissioner of Environmental Conservation Falconry Advisory Board?
- a. not less than three (3)
  - b. not less than four (4)
  - c. not less than five (5)
  - d. not less than nine (9)

Ans. c

The Falconry Advisory Board advises the Commissioner of the New York State Department of Environmental Conservation on the qualifications of applicants for a falconry license, reviewing and screening applications for a falconry license, recommending the species and number of raptors possessed and taken from the wild and recommending falconry hunting seasons and regulations for various game species.

26. If a falconer's bird accidentally kills an animal that is outside of the legal season, or of the wrong species or sex, the falconer shall...
- immediately bury the dead animal
  - take the dead animal into possession to feed to the raptor at a later date
  - leave the dead animal where it lies and/or allow his/her raptor to feed upon the kill
  - report the accidental kill to an Environmental Conservation Officer

Ans. c

New York State Falconry Regulations allow the falconer to leave the dead wildlife where it lies or let his/her raptor feed upon the wildlife prior to leaving the site of the kill.

27. Select the answer that includes those requirements that apply: Qualifications for an Apprentice falconer to be eligible for upgrade to become a General falconer include...
- 1) the Apprentice must be at least 18 years old and have practiced falconry with wild raptors for at least two (2) years.
  - 2) the Apprentice must have possessed and hunted wild raptors for at least four (4) months of each year.
  - 3) the Apprentice must provide a written summary to the department of their experience maintaining falconry raptors, including what species they held and how long each bird was possessed.
  - 4) The Apprentice must provide written recommendation for advancement by his/her sponsor and at least one other NYS licensed general or master falconer who has evaluated the candidate's level of proficiency in the sport of falconry in the field.
- numbers 1, 2 and 3
  - numbers 1, 2, 3 and 4
  - numbers 1, 2, and 4
  - numbers 1, 3, and 4

Ans. b

New York State Falconry Regulations requires that an Apprentice falconer be at least 18 years old; have practiced falconry for at least two (2) years with wild raptors and maintained, trained, flown and hunted these birds for at least four (4) months of each year; provide a written summary documenting their experience maintaining their raptors including what species they held and how long each species was possessed and provide a letter from their sponsor and one other general or master falconer recommending them for advancement.

28. One qualification that a falconer must follow after taking a nestling raptor is to install metal flashing at the base of the tree in which the nest is located. Such flashing must...
- a. be at least two feet wide and completely wrapped around the tree
  - b. be at least four feet from the ground
  - c. be painted to match the color of the tree
  - d. all of the above

Ans. d

New York State Falconry Regulations require a falconer to take preventive measures to protect the remaining nestlings in the nest. This includes installing metal flashing which is at least 2 feet wide, wrapped completely around the tree, painted the same color as the tree and is at least 4 feet from the ground. This flashing must be removed after the remaining nestlings have fledged.

29. First year passage birds may only be captured from...
- a. September 1 through December 31
  - b. September 1 through January 15
  - c. September 1 through January 31
  - d. September 1 through March 31

Ans. c

New York State Falconry Regulations allow the capture of first-year passage birds from September 1 through January 31, inclusive.

30. While present at the capture of a first-year passage Red-tailed Hawk by another falconer, you as a licensed NYS falconer may take possession of the bird at the capture site if...
- a. the falconer who captured the bird reports the take and then transfers the hawk to you
  - b. the falconer gives the bird to you and you report the take
  - c. the falconer who captured the bird reports the take and waits three months before transferring the bird to you
  - d. none of the above

Ans. b

New York State Falconry Regulations provide for the acquisition of a bird, taken by another falconer, to a licensed falconer at the capture site. The falconer receiving the bird from the person who captured the bird is responsible for reporting the take and the bird counts as one of the two (2) raptors the falconer receiving the bird is allowed to capture in that year.

31. True or false: General Falconers may not possess more than three (3) raptors and may not obtain or take more than two (2) replacement raptors during any calendar year.

Ans. True

New York State Falconry Regulations allow General falconers to possess up to three (3) raptors at any one time and the replacement of up to two (2) raptors during any calendar year.

32. True or false: Captive-bred progeny of lawfully acquired raptors may be bought, sold, bartered and offered for sale or barter under a falconry license.

Ans. True

New York State Falconry Regulations allow for the buying, selling and trading of legally held captive-bred raptors under a falconry license.

33. True or false: The Lacey Act pertains to illegal interstate traffic of wildlife.

Ans. True

Under the Lacey Act it is a violation of Federal Law to import, export, transport, sell, receive, acquire, or purchase in interstate or foreign commerce any wildlife that was taken, transported, possessed, or sold in violation of any State or Foreign law.

34. True or false: Individuals licensed as Master falconers in New York State may possess a Northern Harrier for falconry.

Ans. False

The Northern Harrier or Northern Harrier (*Circus cyaneus*) is listed as a threatened species in New York State and may not be possessed for falconry pursuant to 6 NYCRR Part 173.1

35. True or false: While hunting game with a falcon in New York State, a falconer must observe the same hunting hours as those prescribed for the licensed small game gun hunter.

Ans. True

A falconer must possess a small game hunting license in addition to their falconry license and comply with all the provisions of the Environmental Conservation Law and regulations governing the hunting of small game.

36. True or false: The holder of a New York State Falconry license and a valid small game hunting license is not required to have a Federal "Duck Stamp" to legally hunt waterfowl with a raptor.

Ans. False

A falconer who hunts migratory waterfowl must possess a Federal "Duck Stamp", in addition to their falconry license and New York State small game hunting license to legally comply with all provisions of State and Federal law.

37. True or false: An annual falconry report is only required when a falconer's activities have included hunting.

Ans. False

All licensed falconers must file an annual report regardless of whether they hunted during the previous hunting season. This report is due by December 31st of each year.

38. True or false: Blue jays, Robins and Field sparrows may be hunted with a raptor.

Ans. False

Most passerines are protected from any type of hunting. The House or English Sparrow, Starling, wild Pigeon and Monk parakeet are not protected species in New York.

39. True or false: Apprentice falconers may not capture, but may possess, nestling raptors.

Ans. False

Apprentice falconers may only possess a first-year passage Red-tailed hawk or American Kestrel taken from the wild.

40. True or false: In New York State, nestling raptors may only be captured on Fridays, Saturdays and Sundays from April 15th through July 15th.

Ans. False

Pursuant to 6 NYCRR Part 173.3 nestling raptors may be captured from May 1 through July 31, inclusive, except that nestling Great Horned Owls (*Bubo virginianus*) may be captured from February 1 through July 31, inclusive (due to their earlier hatching period).

41. True or false: Licensed falconers in New York State must obtain a signed and written capture authorization form prior to capturing raptors from the wild.

Ans. False

In New York, a falconer must only have their valid state falconry license and permission of the land-owner prior to capturing any raptor from the wild.

42. True or false: General and Master falconers may remove only one nestling raptor from any one nest.

Ans. True

A falconer may capture only one nestling raptor from any one nest. Furthermore, a nestling may not be captured from the nest unless there is a least one other nestling remaining in the nest.

43. True or false: A New York State falconry license expires on December 31st of the year it was issued.

Ans. False

New York falconry licenses expire every fifth year following issuance.

44. True or false. An Apprentice falconer must be under the direct supervision of their sponsor only on the first occasion when they hunt with their raptor.

Ans. False

An Apprentice must be under the direct supervision of his or her sponsor on at least the first two occasions when hunting with their raptor. However, the sponsor may decide that additional supervised hunts are necessary to develop or ascertain the apprentice's competence.

45. True or false: Captive-bred progeny of lawfully acquired raptors may be bought, sold, bartered and offered for sale under a falconry license.

Ans. True

In New York, lawfully acquired captive-bred raptors may be sold or bartered to individuals who possess the appropriate licenses.

46. True or false: Adult Red-tailed Hawks may be captured for use in falconry under a Master falconry license.

Ans. False

Only passage raptors may be taken for falconry under *any* class of falconry license. A falconer who captures a raptor in adult plumage must immediately release that raptor at the capture site.

47. True or false: No falconer shall capture first-year passage birds after January 1st.

Ans. False

First-year passage birds may be captured from September 1st through January 31st, inclusive.

48. True or false: Application for or renewal of a falconry license must be made on forms provided by the department.

Ans. True

Pursuant to ECL 11-1003 and 6 NYCRR Part 173.2 the New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources shall provide the forms necessary to apply for or renew a New York State resident falconry license.

49. True or false: A falconer must report the death, escape, or permanent release of any raptor held under their falconry license.

Ans. True

A falconer must either enter the required information within ten (10) days in the U. S. Fish and Wildlife Service (USFWS) electronic database at <http://permits.fws.gov/186A> or submit a paper federal form 186A to the department.

50. True or false: New York State licensed Apprentice falconers may not possess more than one raptor at any one time and may not obtain more than one raptor for replacement during any calendar year.

Ans. True

Apprentice falconers may only possess either one passage Red-tailed Hawk or one passage American Kestrel, taken from the wild during any calendar year. If their bird escapes, dies or is permanently released, Apprentice falconers may take only one replacement bird during that same calendar year.

51. Falconers are bound by the ethics of the sport, by New York State Falconry Regulations and by tradition to
- a. Never tell the location of an eyrie to anyone other than a fellow falconer
  - b. Never talk to the press without the permission of the North American Falconers Association
  - c. Always give a trained bird to a novice falconer when they are done with it
  - d. Always leave at least one young in any eyrie

Ans. d

Leaving at least one young in the nest allows the adult birds to complete their normal annual breeding cycle successfully, which establishes a biological tie to the nest-site and insures their return the following year.

## **Appendix**

### **6 NYCRR Parts 173.1 – 173.10**

#### 173.1. Definitions:

As used in this Part, the following terms shall mean:

"*Abatement*" means the use of trained raptors to scare, herd, flush, haze and pursue (and in some cases to take) depredating migratory birds or other wildlife where allowed, to mitigate depredation problems, including threats to human health or safety.

"*Capture*" means the act of taking or attempting to take a raptor alive from the wild.

"*Conservation education*" means display of legally held raptors in educational programs presented in public venues which provide information about the biology, ecological roles, and conservation needs of raptors and other migratory birds.

"*Department*" means the Department of Environmental Conservation.

"*Environmental Conservation Law*" means Chapter 43-B of the Consolidated Laws of New York.

"*Falconer*" means a person who possesses a valid Apprentice, General or Master Falconry license.

"*Falconry*" means the sport of hunting by the use of trained raptors, and includes the training, feeding, and handling of such birds and their recapture after being released for hunting or training. Falconry does not include the propagation of raptors.

"*First year passage bird*" means a raptor less than one year old which is neither a nestling nor in adult plumage.

"*Hacking*" (hack) means the temporary release of a raptor held for falconry to the wild so that it may adjust to the wild at an appropriate time of year and appropriate location. Hacking may be used to prepare the raptor to become an independent hunter for either release to the wild or recapture for further training for use in falconry.

"*Hybrid*" means offspring of birds listed as two or more distinct species.

"*Imping*" means repair of feathers on live birds by replacing a damaged feather with a molted feather.

"*Nestling*" means a young raptor which is still in the nest and is not yet capable of flying.

"*Native*" means any species which spends some portion of its life cycle within New York State, has occurred in New York State on a regular basis for many years, and was not the result of intentional or accidental introduction.

"*Raptors*" means all species and hybrids defined in section 11-1001 of the New York State Environmental Conservation Law.

"*Sponsor*" means a person who possesses a valid General or Master Falconry license and who agrees with the department, in writing, to be responsible for individually instructing and training an Apprentice falconer under his/her direct supervision in the fundamentals of falconry. A sponsor must work directly with his or her Apprentice to determine if the Apprentice is eligible to advance to the General license or if the Apprentice license should be terminated by the department upon expiration. A sponsor must provide written recommendations concerning his or her Apprentice to the department upon request.

#### 173.2. Falconry license:

(a) A New York State resident must possess a valid Apprentice, General or Master Falconry license issued pursuant to this part, to obtain, buy, sell, barter, possess and train raptors for falconry or to engage in falconry.

(b) A nonresident of New York State may engage in falconry in New York State without a New York State Falconry license provided he or she meets all the following requirements:

(1) possesses a valid New York State nonresident license authorizing the hunting of small game;

(2) possesses written proof that he or she is legally authorized to engage in falconry in the State or province where he or she resides;

(3) possesses written proof that he or she legally possesses the raptor(s) to be used for falconry in New York State.

(c) Application for, or renewal of, a falconry license must be made on forms provided by the department. All falconry licenses shall expire on December 31 every fifth year following issuance. The fee for a falconry license is forty dollars.

- (d) A person must meet all of the following requirements to be issued a falconry license:
- (1) receive a score of eighty percent or higher on a written examination administered by the department to test the applicant's knowledge of falconry and related matters; and
  - (2) possess equipment and facilities for housing raptors that meet or exceed the standards for care of raptors listed in section 173.6 of this Part; and
  - (3) possess a valid New York State hunting license authorizing the hunting of small game.

(e) The department issues three types of falconry licenses:

(1) Apprentice Falconry license. Apprentice falconers must:

- (i) be at least 14 years old; and
- (ii) if under 18 years of age, have a parent or legal guardian sign their application; and
- (iii) have a sponsor who is a licensed General or Master falconer in New York who has at least two years of experience in the practice of falconry as a licensed General falconer; and
- (iv) be under the direct supervision of his or her sponsor on at least the first two occasions when the Apprentice hunts with a raptor; and
- (v) comply with requests by his or her sponsor to ensure adequate training and to provide for the care of the raptors.

(2) Apprentice falconers may not:

- (i) possess more than one raptor and may not obtain more than one raptor for replacement during any calendar year; or
- (ii) capture or possess nestling raptors.

(3) Apprentice falconers may:

- (i) only possess an American Kestrel (*Falco sparverius*) or a Red-tailed Hawk (*Buteo jamaicensis*) taken from the wild; and
- (ii) capture raptors listed in subparagraph (i) of this paragraph only under the direct supervision of their sponsor.

(4) General Falconry license. General falconers must:

- (i) be at least 18 years old; and
- (ii) have practiced falconry with wild raptor(s) at the Apprentice falconer level or the equivalent for at least two years including maintaining, training, flying and hunting the raptor(s) for at least 4 months in each year; and

(iii) provide a written summary to the department documenting their experience maintaining falconry raptors including a summary of what species they held as an Apprentice falconer and how long each bird was possessed; and

(iv) provide written recommendation for advancement to the General Falconry license by his or her sponsor and at least one other New York State General or Master falconer who has evaluated the Apprentice in the field to ascertain the candidate's level of proficiency in the sport of falconry and the skill and ability in the care of raptors commensurate with the activities and responsibilities of a General falconer.

(5) General falconers may not:

(i) possess more than three raptors and may not obtain or take more than two replacement raptors during any calendar year; or

(ii) sponsor more than three Apprentice falconers at any one time; or

(iii) sponsor an Apprentice falconer unless the General falconer has at least two years of experience in the practice of falconry as a licensed General falconer.

(6) Master Falconry license. Master falconers must:

(i) have at least five years of experience in the practice of falconry as a licensed General falconer or the equivalent; and

(ii) have possessed a raptor for at least 3 years of the time specified in subparagraph (i) of this paragraph; and

(iii) provide written recommendations for advancement to the Master license from three Master falconers who have evaluated the General falconer in the field to ascertain the candidate's level of proficiency in the sport of falconry and the skill and ability in the care of raptors commensurate with the activities and responsibilities of a Master falconer; and

(iv) be approved, in writing, for advancement to the Master license by the Falconry Advisory Board.

(7) Master falconers may not:

(i) possess more than thirteen raptors at any one time during the calendar year not to exceed more than five raptors taken from the wild; or

(ii) possess more than three of the following species: white-tailed eagle (*Haliaeetus albicilla*) or Steller's sea eagle (*Haliaeetus pelagicus*) at any one time during the calendar year, however, you may possess a white-tailed eagle or Steller's sea eagle only if you meet the qualifications set forth under paragraph 9 of this section. A white-tailed eagle or Steller's sea-eagle will count as one of the raptors you are allowed to possess; or

(iii) take more than two raptors from the wild as replacements during a calendar year; or

(iv) sponsor more than three Apprentice falconers at any one time.

(8) Master falconers may obtain any number of captive bred raptors as replacements during the calendar year; however, the falconer must train them in the pursuit of wild game and use them in hunting.

(9) Master falconers may possess white-tailed eagles or Steller's sea eagles provided he or she:

(i) submits a written account of their experience to the department in handling large raptors, including information about the species they have handled and the type and duration of the activity in which they gained the experience; and

(ii) submits two letters of reference from individuals with experience handling or flying large raptors such as eagles, ferruginous hawks (*Buteo regalis*), goshawks (*Accipiter gentilis*), or great horned owls (*Bubo virginianus*); and

(iii) receives approval, in writing, from the Falconry Advisory Board following review and approval of the documentation required in subparagraphs (i) and (ii) above.

(f) The department may add conditions to any falconry license to effect the purposes of Title 10 of Article 11 of the Environmental Conservation Law.

(g) The department may seize and place raptor(s) held pursuant to a falconry license if the falconer:

(1) fails to provide proper care for the raptors in his or her possession that jeopardizes the health or welfare of the bird; or

(2) allows raptor(s) in his or her possession to become a public nuisance; or

(3) no longer possesses a valid falconry license; or

(4) fails to comply with the terms or conditions of the falconry license; or

(5) fails to comply with the license renewal procedures provided in subdivision (c) of this section; or

(6) takes, acquires or possesses raptors exceeding the limits of their license class provided in subdivision (e) of this section.

(h) The department may deny or refuse to renew a falconry license to any individual who within the three years prior to application for a falconry license or renewal of a falconry license has been convicted of or settled by civil compromise any violation of any provision of the Environmental Conservation Law or regulation of the department.

(i) All falconers must submit an annual falconry report to the department by December 31 of each year, on forms provided by the department. This report must state, for the preceding year, the band number(s) of the species (if applicable), species, sex, age and the dates of acquisition,

where or from whom these raptors were acquired, and any other information requested on the forms.

(j) A falconer whose license has lapsed for fewer than 5 years may have their license reinstated at the level it was previously held provided the falconer can provide proof of certification at that level.

(k) A falconer whose license has lapsed for 5 years or longer may have their license reinstated at the level it was previously held provided the falconer completes the steps outlined in subdivision (d) of this section.

173.3. Acquisition of raptors:

(a) Raptors which have been captured from the wild may not be bought, sold, bartered or offered for sale or barter under a falconry license.

(b) Captive bred progeny of lawfully acquired raptors may be bought, sold, bartered, and offered for sale or barter under a falconry license.

(c) A falconer may obtain a raptor from a person outside New York State by any method which is legal where that person resides.

(d) Raptors may not be captured from the wild by any method that is injurious to the bird.

(e) Nestling raptors may only be captured from May 1 through July 31 inclusive, except that nestling great horned owls (*Bubo virginianus*) may be captured from February 1 through July 31 inclusive.

(f) A falconer may capture only one nestling raptor from any one nest. A nestling may not be captured from its nest unless there is at least one other nestling remaining in the nest.

(g) A falconer who captures a nestling raptor must, at the time of capture, install metal flashing at the base of the tree in which the nest is located. Such flashing must be at least two feet wide, must be wrapped completely around the tree, must be at least four feet from the ground, and must be painted to match the color of the tree trunk. The flashing must be removed after the remaining nestlings have left the nest.

(h) First year passage birds may only be captured from September 1 through January 31 inclusive.

(i) A falconer who captures a raptor in adult plumage must immediately release that raptor at the site of capture.

(j) A falconer must immediately release a raptor that is caught unintentionally or which the falconer is not authorized to possess.

(k) A falconer must have his or her valid falconry license on their person when capturing raptors.

(l) A falconer must obtain permission from a landowner before he or she captures a raptor on private land. Permission must be obtained from the administering agency before capturing a raptor on public land.

(m) A falconer, who will be receiving a wild caught raptor, who is present at the capture site where the raptor is taken from the wild is considered the person who removes the bird from the wild even if another individual captures the bird. The falconer receiving the bird from the person who captured the bird is responsible for reporting the take of the bird as outlined in subdivision 173.7(a) of this Part and the bird will count as one of the raptors the falconer receiving the bird is allowed to capture in that year.

(n) A falconer, who will be receiving a wild caught raptor, who is not at the capture site where a raptor is taken from the wild is not considered the person who removes the bird from the wild. The person who captures the bird from the wild must be a General or Master falconer and is responsible for reporting the take of the bird as outlined in subdivision 173.7(a) of this Part. The bird will count as one of the raptors the person who captured the bird from the wild is allowed to take in that year. If the falconer who took the raptor from the wild later transfers the bird to another falconer; both must report the transaction as outlined in section 173.7 of this Part.

(o) A falconer who has a long term or permanent physical impairment that prevents him or her from attending the capture of a raptor from the wild may have another licensed General or Master falconer capture the bird for them. The falconer who is unable to attend the capture is responsible for reporting the take of the bird as outlined in subdivision 173.7(a) of this Part and the bird will count as one of the birds he or she is allowed to take from the wild that year.

(p) A falconer who captures a raptor that is injured due to falconer trapping efforts may either:

(1) place the bird on their falconry permit then he or she must report the take as outlined in subdivision 173.7(a) of this Part and the bird will count as one of the raptors the falconer is allowed to take in that year; or

(2) directly transfer the bird to a veterinarian or licensed wildlife rehabilitator and the bird will not count against the falconer's allowed take or the number of raptors the falconer may possess. In either case, the falconer is responsible for the costs of care and rehabilitation of the bird.

(q) The department may authorize the donation of a raptor to a falconer.

(r) A General or Master falconer may obtain a first year raptor of a species that he or she is authorized to possess directly from a licensed wildlife rehabilitator. A raptor acquired from a rehabilitator will count as one of the birds the falconer is allowed to take from the wild that year.

#### 173.4. Possession of raptors:

The department may prohibit the possession of certain raptors for falconry when such possession would present a threat to the species or to the sport of falconry.

#### 173.5. Hunting with raptors:

(a) Any person who hunts with a raptor must possess a valid falconry license and a valid license authorizing the hunting of small game. These licenses must be carried by the falconer when hunting.

(b) A falconer hunting with a raptor must comply with all the provisions of the Environmental Conservation Law and regulations governing the hunting of small game.

(1) A falconer whose raptor kills wildlife that is out of season or of the wrong species or sex shall leave the dead wildlife where it lies, except that the raptor may feed upon the wildlife prior to leaving the site of the kill.

(c) A falconer may hunt domestic game birds with raptors on a shooting preserve licensed pursuant to Section 11-1903 of the Environmental Conservation Law.

(d) A falconer hunting with raptors on a shooting preserve must comply with all applicable provisions of the Environmental Conservation Law relating to the hunting of small game and the hunting of domestic game birds pursuant to Section 11-1903 of the Environmental Conservation Law.

(e) All hybrid raptors must have at least two radio transmitters attached to them when free flown.

#### 173.6. Care of raptors:

(a) Each falconer must provide care for raptors in his or her possession. Such care must include at a minimum all of the following:

(1) Indoor facilities (mews) will include:

(i) inside dimensions not less than eight (8) feet in each direction. In no case shall small wire bird cages sold in pet stores for smaller birds be used to house raptors;

(ii) interior surfaces containing no beams, ledges, or other protrusions on which the raptors might injure themselves, unless raptors are to be maintained tethered;

(iii) at least one window, with vertical bars or rods on the inside, spaced narrower than the width of the bird's body, on the south or east portion of the mews, of sufficient size to pass sunlight and ventilation sufficient to maintain the raptors in good health. The outside of the windows should be covered with a screen or 1/4" or 1/2" hardware cloth (wire) to prevent entrance of rats or weasels;

(iv) at least one door to permit easy access and cleaning of facilities. If such door opens directly to the out-of-doors, it shall have a shield or another door on the inside to prevent escape of the raptor, and shall be key-locked and have a spring or hook on the inside to keep it closed;

(v) floor surface which shall permit easy cleaning and shall be well drained;

(vi) a perch, of such size, strength, and construction as to permit the raptors to grip and hold it with their talons safely and in a manner in keeping with the birds' perching habits in the wild; and

(vii) a pan of clean water for each raptor.

(2) Outdoor facilities will include:

(i) sufficient space to allow tethered raptors to bate (attempt flight) without striking wings on the sides or top of the facility; and

(ii) sides and top of facility enclosed with material suitable to exclude predators.

(3) Environmental protection will include:

(i) maintenance of facility temperature within healthful range;

(ii) shielding from high wind and winter storms;

(iii) protection from avian and ground predators; and

(iv) prevention of disturbances which would likely cause injury.

(4) Equipment will include:

(i) a pair of Aylmeri (style) jesses (or similar type). An Aylmeri jess consists of an anklet, grommet, and a removable strap for attaching the anklet and grommet to the swivel;

(ii) a swivel which is strong enough that the raptor cannot break it, but not so large as to weigh the bird down or injure it;

(iii) a leash of quality leather or synthetic material;

(iv) a bath container, two (2) to six (6) inches deep and wider than the length of the raptor, for drinking and bathing, for each raptor;

(v) an outdoor perch, for each raptor, of such size, strength, and construction as to permit the raptor to grip and hold it with its talons safely and in a manner in keeping with the birds perching habits in the wild; and

(vi) a reliable weighting scale or balance graduated in increments of not more than one half (1/2) ounce (15 grams).

(5) Care will include:

(i) provision at all times of conditions sufficient for maximum health, comfort, safety, and security of the raptor;

(ii) removal of waste and other debris as well as soiled floor covering material as necessary to comply with subparagraph (i) of this paragraph; and

(iii) maintenance of the raptor facilities and equipment in a state of complete repair at all times.

(b) A falconer may designate in writing another person to care for the falconer's raptor(s) in the event that the falconer is absent or in an emergency. If the period of care will exceed 30 days, the falconer must notify and obtain the department's prior approval and inform the department in writing of where the bird is to be held, who is to care for it, and approximately how many days it is to be in the care of the second person.

(c) A falconer may house their raptor(s) on property owned by another where the falconer resides, or at a different location.

(1) Regardless of location, the facilities must meet the standards of this section.

(2) The falconer must submit a signed and dated statement showing that the falconer or the property owner agrees that the falconry facilities, equipment, and raptors may be inspected without advance notice by the department at any reasonable time of day. Inspections must be in the presence of the licensee.

#### 173.7. Disposition of raptors:

(a) A falconer who takes, acquires, transfers, rebands, or microchips a raptor; has a raptor stolen; permanently releases a raptor to the wild; loses a raptor to the wild and does not recover the bird within 30 days; or if a bird they possess dies; must enter the required information within ten (10) days in the United States Fish and Wildlife Service (USFWS) electronic database at <http://permits.fws.gov/186A> or submit a paper federal form 3-186A to the department.

(b) A falconer must notify the USFWS and the department within 10 days of the theft of any raptor.

(c) A falconer must keep copies of all electronic database submissions documenting take, transfer, loss, release, rebanding or microchipping of each falconry raptor until five years after the transfer, loss or death of the raptor.

(d) A falconer may sell, purchase or barter, or offer to sell, purchase or barter captive bred raptors marked with seamless bands to other individuals who are licensed to possess the birds.

(e) A falconer may not sell, purchase, trade, or barter, or offer to sell, purchase, trade, or barter wild raptors. Wild raptors may only be transferred to individuals who are licensed to possess the birds.

(f) A falconer may transfer a wild caught raptor to a propagation license only after the bird has been used in falconry for at least 2 years (only one year for sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*A. cooperii*), merlin (*Falco columbarius*) or American kestrel (*F. sparverius*)). The falconer must report the transfer of the bird as outlined in subdivision 173.7(a) of this Part and provide a copy of the 3-186A form documenting acquisition of the bird by the propagator to the federal migratory bird permit office that administers the propagation permit.

(g) A falconer may transfer a wild caught raptor to an individual licensed to possess the raptor in less than two years if the bird has been injured and a veterinarian has determined that the bird can no longer be flown for falconry. When transferring the bird, the falconer must provide a written statement from the veterinarian attesting to the nature of the injury and that the bird is not useable in falconry along with a copy of the 3-186A form documenting acquisition of the bird to the federal migratory bird permits office that administers the other permit.

(h) A falconer may use a raptor held under a falconry license for captive propagation purposes without transferring the bird from their falconry license provided:

- (1) the falconer has a USFWS license authorizing the propagation of the raptor and;
- (2) the bird is used for fewer than 8 months in a year and fewer than 8 consecutive months in captive propagation.

(i) All raptors permanently transferred to a propagation license must be banded with a permanent, non-reusable, numbered band issued by the USFWS.

(j) A General or Master falconer may use raptors held under their falconry license for conservation education and falconry education programs without transferring the bird(s) to an education license provided:

- (1) the bird(s) are used primarily for falconry;
- (2) the programs address falconry and conservation education;

(3) the programs are not conducted for profit, however, a falconer may charge a fee for presentation of a conservation education program provided that the fee does not exceed the amount required to recoup the cost of presenting the program.

(k) An Apprentice falconer may present conservation education programs using the raptor held under their falconry license only under the direct supervision of a General or Master falconer.

(l) A General or Master falconer may assist a licensed wildlife rehabilitator to condition and/or evaluate raptors in preparation for release to the wild. The falconer may keep the bird they are helping to rehabilitate at the falconer's facilities provided:

(1) the rehabilitator provides the falconer with a written letter that identifies the bird and explains that the falconer is assisting in its rehabilitation;

(2) the falconer returns any such bird that cannot be permanently released to the rehabilitator;

(3) the falconer, upon coordination with the rehabilitator, releases the bird to the wild or returns it to the rehabilitator.

(m) A General or Master falconer who is assisting a rehabilitator to condition raptors does not have to add the bird to their falconry license; the bird will remain under the permit of the rehabilitator.

(n) A falconer may not permanently release a raptor to the wild that is not native to New York State or is a hybrid of any kind.

(o) A General or Master falconer may permanently release a raptor to the wild that is native to New York State and is captive bred provided:

(1) the falconer receives written permission from the department;

(2) the raptor must be hacked to the wild;

(3) the raptor is not hacked near a nesting area of a State or Federally listed threatened or endangered bird species or in any other location where the raptor is likely to harm a State or Federally listed threatened or endangered animal species that might be disturbed or taken by a falconry raptor being hacked;

(4) a raptor being hacked to the wild will count against the number of raptors the falconer may possess.

(p) A falconer must remove a raptor's falconry leg band (if present) prior to permanently releasing a raptor to the wild. The falconer must report release of the bird as outlined in subdivision 173.7(a) of this Part.

(q) Feathers that are molted, or feathers from birds held in captivity that die, may not be retained or exchanged except for imping purposes as long as the falconer holds a valid license.

#### 173.8. Marking of raptors:

(a) All raptors bred in captivity must be banded with a seamless metal band or have an implanted International Organization for Standardization (ISO) compliant (134.2 kHz) microchip.

(b) If a band must be removed from a captive bred raptor or if the band is lost, the falconer must, within ten days from the day he or she removes the seamless band or note the loss of the band, report it and either request a replacement USFWS non-reusable leg band from the department to replace the lost or removed band, or implant an ISO compliant (134.2 kHz) microchip in the bird.

(c) Any peregrine falcon (*Falco peregrinus*), gyrfalcon (*F. rusticolus*), goshawk (*Accipiter gentilis*) or Harris' hawk (*Parabuteo unicinctus*), except a captive bred raptor lawfully marked by a numbered, seamless band, must be banded with a permanent, non-reusable, numbered USFWS leg band or have an implanted ISO compliant (134.2 kHz) microchip.

(d) If a band must be removed from a wild raptor, the falconer must, within five days from the day the band is removed or loss is noted, report it and either request a replacement USFWS non-reusable leg band from the department to replace the lost or removed band, or implant an ISO compliant (134.2 kHz) microchip in the bird.

(e) Upon rebanding or microchipping a raptor the falconer must immediately enter the required information in the USFWS electronic database at <http://permits.fws.gov/186A> or submit a paper Federal form 3-186A to the department.

#### 173.9. Abatement:

(a) A Master falconer may use raptors held under the authority of his/her falconry license for abatement activities provide:

(1) the falconer possesses a valid USFWS permit authorizing the use of raptors for abatement activities;

(2) the species of raptor(s) to be used for abatement activities are authorized under the falconer's USFWS permit;

(3) the falconer submits a copy of their USFWS permit authorizing the use of raptors for abatement activities to the department prior to conducting abatement activities;

(4) the falconer maintains accurate records of abatement operations on a calendar-year basis.

(b) Only captive-bred raptors banded with a seamless, numbered band issued by the USFWS may be used for abatement activities.

(c) Wild caught raptors may not be used for abatement activities.

(d) Raptors flown for abatement activities shall not be used to scare, herd, flush or haze species listed as endangered or threatened unless such scaring, herding, flushing or hazing is authorized under a separate license issued by the department.

(e) Migratory birds may not be killed, captured or injured during the course of abatement activities unless such killing, capturing or injuring is authorized by a USFWS Migratory Bird Depredation permit in which the falconer is identified as a subpermittee or under a Federal Depredation Order.

173.10. Exception:

The provisions of this Part do not apply to a person who is licensed to possess a raptor for scientific, exhibition or propagation purposes issued pursuant to Section 11-0515 of the Environmental Conservation Law.