Application to Register an Operation Breeding Appendix-I Animal Species for Commercial Purposes: Gyrfalcon (*Falco rusticolus*), peregrine falcon (*Falco peregrinus*), and gyrfalcon-peregrine hybrids (*F. rusticolus x F. peregrinus*)

1. **Name and address of the owner and manager of the captive breeding operation:**

Hollister Longwings

Robert B. Hollister

1930 E. Arrow Creek Road

Ballantine, Montana 59006

2. **Date of establishment:** 1987

3. **Species bred:** Gyrfalcon (*Falco rusticolus*), peregrine falcon (*Falco peregrinus*), gyrfalcon-peregrine hybrids (*F. rusticolus x F. peregrinus*).

4. **Description of parental breeding stock:** All parental stock was bred in captivity in the United States between 1997 and 2007. The list of parental breeding stock is attached (Attachment 1). Current breeding stock consists of 5.4 *Falco rusticolus* and 2.3 *Falco peregrinus*. All parental stock was purchased, transferred to, or bred by the applicant. Each parent has a closed U.S. Fish and Wildlife Service (USFWS) leg band in accordance with the U.S. Migratory Bird Treaty Act (MBTA).

5. **Range State evidence that parental stock was obtained in accordance with the relevant national laws:** The ranges of the peregrine and gyrfalcon extend into the United States. *Falco peregrinus anatum* ranges from Canada to Northern Mexico. *Falco peregrinus pealei* is found along the coastal Pacific Northwest from Washington to western Alaska (White et al. 2002). The gyrfalcon (*Falco rusticolus*) is circumpolar in distribution.

The applicant has been licensed by the USFWS as a breeder of raptors since 1988 (license number: MB714610-0), as well as being licensed as a master falconer (license number: MB695833-0). The parental stock was acquired from other USFWS-licensed raptor breeders/falconers in the United States, or bred by the applicant himself. All parental specimens are captive bred in the United States. The applicant is compliant with the Migratory Bird Treaty Act (MBTA) and all other State and Federal Government regulations. The applicant has provided copies of the Migratory Bird Acquisition and Disposition Reports (USFWS Form 3-186A), which indicates legal acquisition of those specimens obtained from other breeders/falconers. The applicant has also provided a signed breeder's statement for the birds he bred, and copies of 3-186A's showing retention of these specimens for propagation purposes, as well as USFWS raptor propagation annual reports. Any specimen covered under a valid falconry permit can be transferred to a valid propagation permit at any time by submitting Form 3-186A to the appropriate USFWS Migratory Bird Permit Office, documenting such a transfer.

6. **Criteria for operations located in non-range States:** Not applicable.

7. **Current stock held in addition to parental breeding stock:**

All the birds listed in Attachment 1 are breeders or potential breeders.

8. **Information on the percentage of mortalities:** Mortalities are very few for the operation. For gyrfalcons, breeder mortality (young to middle age breeders) has been limited to 2.5% or lower per year (0% male, 2.5% female) of the operation over the last 8 years. Gyrfalcon chick mortalities were 1.0% a year of the operation over the last 5 years. For peregrine falcons, breeder mortality has been low and consistent with age. For young to middle age breeders, mortality has been approximately 1.0% or lower per year (10% male, 0% female) of the operation over the last 10 years. Peregrine falcon chick mortalities have also been low (less than 1.0% each year). Mortalities were due to a variety of causes (e.g., accidents, female aggression towards young breeder males, disease, and old age) and were spread across all age groups.

9. **Documentation that the species has been bred to second-generation offspring (F2) at the facility and a description of the method used:** In the United States, wild peregrine falcons have been prohibited from collection since 1972. Wild gyrfalcons can be collected, but only with specific authorization from the U.S. Fish and Wildlife Service and the appropriate State agency in the State where the bird would be collected. All of the breeding stock peregrines and gyrfalcons in the facility were acquired as at least F1 as indicated by the USFWS acquisition forms provided with the application.

All offspring produced in the last 20 years have been F2 or greater (Attachment 3 consists of a sample of pedigree charts of birds bred by the applicant). Breeding techniques are methods that have been commonly and successfully used by falcon breeders throughout the world. Breeding pairs copulate naturally although some birds are artificially inseminated. The techniques used are in compliance with U.S. regulations (U.S. Code of Federal Regulations, Chapter 50, Part 21). Mr. Hollister has been a U.S. licensed falcon propagator since 1988 and has been very successful with using these standard techniques.

10. **If the operation has only bred the species to the first generation, documentation showing that the husbandry methods used are the same as, or similar to, those that have resulted in second-generation offspring elsewhere:** Not applicable.

11. **Past, current, and expected annual production of offspring:** The applicants operation has produced 38 gyrfalcons, 71 peregrine falcons, and 54 gyr-peregrine hybrid offspring between 1998 and 2008 (Attachment 2). The applicant currently has 2 female gyrfalcons and 3 female peregrines that are proven breeders. The applicant expects to produce approximately 10-20 gyrfalcons, 8 peregrine falcons, and 1-6 gyrfalcon-peregrine hybrids annually. There have been no unusual fluctuations in production through the years at this facility.

12. **Anticipated need for, and source of, additional specimens to augment breeding stock to avoid deleterious inbreeding:** This program has made great efforts to purchase a widely diverse genetic pool of unrelated falcons to avoid any inbreeding. If birds are needed to avoid deleterious inbreeding in the future, the applicant may trade or purchase other captive-bred birds or semen. Breeding records are maintained to ensure outcrossing of related birds. As a result, fecundity remains high and there have been no obvious genetic abnormalities.

13. **Type of product exported:** Live birds.

14. **Description of marking methods:** Each specimen is banded with a seamless aluminum numbered leg band issued by USFWS. Leg band numbers are unique for each bird. This information is recorded for parents and offspring to facilitate husbandry decisions.

15. **Description of inspection and monitoring procedures to be used by the CITES Management Authority:** The applicant will apply to the U.S. CITES Management Authority for all export permits for progeny produced at the facility. He will also submit an annual report listing the total number of birds at the facility, number of offspring produced, mortalities, and other acquisition or dispositions of the birds. This will allow the U.S. Management Authority to monitor activities in the breeding facility. In addition, the applicant may receive unannounced visits from USFWS personnel (e.g., Division of Law Enforcement, Division of Management Authority, Division of Scientific Authority, Office of Migratory Birds) who will report their findings to the CITES Management Authority.

16. **Description of housing facilities:** The breeding operation consists of a main barn, imprint barn; gyrfalcon barn; weathering area; training barn with shop, office, and laboratory; and pigeon breeding loft. The main barn which is 50 by 32 by 15 ft. high, is made of steel and contains two large flight pens (24 ft. long), two imprint chambers 12 by 10 by 14 ft. high, and five breeding chambers 16 by 10 by 14 ft. high. The imprint barn has two chambers 10 by 12 by 10 ft. high and the gyrfalcon barn has two chambers 16 by 10 by 12 ft. high. The weathering area is wood and wire enclosed for tethered falcons (32 by 24 by 8 ft. high) and is surrounded by wire that prevents predator access. Each chamber has a wire-covered open ceiling area and/or skylights. All falcon chambers are locked, as are the indoor access hallways. In the event of a bird escaping from a room, it would be trapped in the interior hallway. The wire ceiling allows fresh air to circulate as well as provides natural sunlight. All birds are free flighted.

The facility has a lab room 10 by 10 ft. which houses three incubators (modified Roll X), hatchers (one modified Roll X), warm water brooders, microscope, record file, AI, breeding and medical supplies. The shop contains storage for food, mainly coturnix quail. The main supplier is Mitchell's Quail, Watertown, South Dakota. These quail are bred specifically for falcon food and contain a specially formulated diet rich in Vitamin E, Vitamin K and other important raptor nutrients. A second supplier of coturnix quail is Northwest Game Birds, Kennawick, Washington, who also feed their birds a specialized diet. To augment this diet, falcons are also fed 6 week old chickens, which are bought from local chicken suppliers as baby cockerels, and raised on the facility. Other food consists of fresh, frozen 6 week old

chickens purchased from local breeders, bred specifically for falcons. Occasionally, pigeons raised in a pigeon loft (12 by 24 by 8 ft. high) on location, are used as an additional food source for the peregrines.

17. **Strategies used by the breeding operation to contribute towards the conservation status of wild populations of this species:** The applicant began breeding peregrine falcons for release into the wild as part of a conservation effort to increase population levels in the United States. The applicant has sold falcons all over the world for the sport of falconry, breeding, and education. The applicant also conducts surveys for peregrine falcons in Montana and has taken and shown many falcons at local schools and county functions to further educate people about the survival and conservation of these species. This breeding program will also reduce reliance on wild populations for falconry and breeding purposes. Therefore, the operation will make a meaningful contribution according to the conservation needs of these species.

18. **Assurance that the operation is humane:** All falcons are kept in rooms large enough to allow them to fly short distances. The facility also includes enough space for all fledglings to learn flight skills and achieve good physical condition. The facilities are well ventilated and contain a sprinkler system. All birds have access to natural sunlight and water for bathing and drinking. There is little human interaction with paired falcons except for routine maintenance and veterinary procedures. A veterinary facility and/or raptor rehabilitation facilities are available nearby. Therefore, the operation will be conducted in a humane manner.

References

USFWS (United States Fish and Wildlife Service). 1999. Endangered and threatened wildlife and plants; final rule to remove the American peregrine falcon from the Federal list of endangered and threatened wildlife, and to remove the similarity of appearance provision for free-flying peregrines in the conterminous United States; final rule. *Federal Register* 64(164):46542-46558.

White, C. M., N. J. Clum, T. J. Cade, and W. Grainger Hunt. 2002. Peregrine falcon. The Birds of North America No. 660 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA

Attachment 1. Current Parental Stock

Falco peregrinus – Founder Stock bred by another Breeder

USFWS Band Number	Hatch Year	Sex
RW095980	2006	F
RX083602	2002	F
RV085875	2005	M

Falco peregrinus – Founder Stock bred by Applicant

USFWS Band Number	Hatch Year	Sex
RO032973	1997	F
RW090404	1998	M

Falco rusticolus – Founder Stock bred by another Breeder

USFWS Band Number	Hatch Year	Sex
RX082301	1999	F
RX082427	2000	F
RX082435	2000	M
RX082328	2000	M

Falco rusticolus – Founder Stock bred by Applicant

USFWS Band Number	Hatch Year	Sex
RX084311	2007	F
RX084473	2005	F
RX084474	2005	M
RX084466	2004	M
RX084309	2007	M

Attachment 2. Annual Production of Offspring

Production by Species and Sex, Hollister Longwings

1997-2008

Year	Peregrines Females	Peregrines Males	Gyrfalcons Females	Gyrfalcons Males	Hybrids Females	Hybrids Males	Total
2008	1	5	4	4	1	2	17
2007	7	1	4	7	1	0	20
2006	7	5	5	4	1	0	22
2005	4	1	4	1	0	0	11
2004	0	2	0	2	0	0	4
2003	3	4	2	1	2	4	16
2002	8	2	too young to breed		5	1	16
2001	4	4	3	3			14
2000	0	0	6	2			8
1999	1	2	6	4			13
1998	5	1	7	2			15
1997	3	1	2	2			8
Total	43	28	19	19	34	20	163

Note: For # of females producing each year see breeders listed on annual reports.

Attachment 3. Breeding Pedigrees

See attached pages for sample copies of pedigrees and document of breeding to the F2 generation or beyond.