



**A RECOVERY PLAN AND STRATEGY
FOR THE PEREGRINE FALCON
IN
MANITOBA**

**A PARKLAND MEWS - MANITOBA CONSERVATION
PARTNERSHIP PROJECT**

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Part 1: A Recovery Plan for the Peregrine Falcon in Manitoba

1. Disclaimer

The Executive Director of Parkland Mews, in consultation with others, has prepared this Recovery Plan and Recovery Strategy for the Peregrine Falcon (*Falco peregrinus*) in Manitoba. The plan and strategy does not necessarily reflect the formal positions of all those who reviewed the document, or officials within the Manitoba Department of Conservation.

While the Peregrine Falcon is currently the subject of a recovery process at the national level, this plan is written specifically for the province of Manitoba as it pertains to the Endangered Species Legislation. The contents of the document remain for strict use by Parkland Mews and Manitoba Conservation.

2. Introduction

In 2003, the national status of the anatum Peregrine was reassessed by COSEWIC and remained “Threatened”, a less critical ranking than “Endangered”. While this is encouraging, the current status of *Falco peregrinus* is presently Endangered under Manitoba’s Endangered Species Act. Accordingly a provincial recovery plan and strategy is needed to assist the species in Manitoba.

The concept that may best describe the Manitoba recovery action proposed herein relies heavily on the falconry aspect known as hack. It could be described as a form of ‘falconry furlough’. Trained falcons are maintained in a state of protective liberty as much as is humanly possible to do so. The birds are free flying during the day, and as a result of special training take refuge in a protective roost at night where they are kept safe from predators. This concept allows us to work in a manner that is a little closer to nature, and yet offers enough protection to achieve the desired result.

The author began experimenting with this concept in 1987 with New Zealand Falcons (appendix 1). The birds were maintained for long periods throughout the year in a free flying state after they had been habituated to a modified structure that served as a roost/nest site. The different pairs of falcons used in this research would roost in the structure or a nearby tree each evening and for the most part not only catch their own food but also defend the immediate roost area. Indeed it was possible to be away from the property for two or three days at a time and come back and find the birds still in residence.

Further experimentation lead to the establishment of a nesting pair on a vineyard where they served as a form of natural control against bird pest species damaging the grapes. The same pair of New Zealand Falcons went on to lay eggs and incubate them although the eggs turned out to be infertile. The work that began in 1987 continued until 1993 and during this time the falcons remained responsive to either calling to the glove, the lure or to tossed food. The birds also displayed strong attachment to their roost each evening and were easily secured inside when it was deemed appropriate (R. Wheeldon. unpublished data).

It is hoped that the concept of breeding at hack will make some small but important contribution to the ongoing recovery efforts on behalf of the Peregrine in Manitoba and elsewhere.

3. Acknowledgements

Paddy Thompson, Saskatoon, Saskatchewan, reviewed earlier drafts of this document and provided much needed focus to the plan. His instruction and comments were much appreciated. Another willing advisor to the formation of the plan was Phil Trefry from Tofield, Alberta. Both Paddy and Phil have vast experience in the breeding and hunting of falcons and a long history with the Peregrine recovery process in Canada. Phil was instrumental in supplying Parkland Mews with pure Anatum stock for the future breeding and release program in this province.

Mr. Gord Graham, legislative specialist with Manitoba Conservation, spent valuable time detailing and reviewing the legal aspect of the Manitoba Endangered Species Act. I would also like to thank Dr. Jim Duncan, Protected Ecosystems and Wildlife Branch, for his unstinting support for this project and his commitment to Peregrine Falcon recovery in Manitoba.

4. Description

The Peregrine is a crow-sized falcon with long pointed wings, and appears dark when flying.



Figure 1.
Adult Peregrine
Falcon in Flight

Photo
Robert Wheeldon

5. Life History

When describing the life history of the Peregrine in Manitoba it is impossible to do so without giving cognizance to man-made introductions from captive breeding sources. Peregrines, either captive bred or wild, have been observed during the year in Manitoba from April until November 11 (R. & N. Wheeldon. pers. obs.). The longest migratory record for a Peregrine released from Manitoba is that of a hatched female in 1989. The bird was sighted again a few months later on the 13th October at Vera Cruz, Mexico.

Generally considered as mature adults after the age of two years, the Peregrine Falcon displays strong site attachment to its natal origins. There is increasing evidence of captive bred birds returning to the latitude of their first release when setting up a territory, (P. Trefry pers.comm.). In the wild, Peregrines are regarded typically as cliff nesters, with few notable exceptions. The males are believed to arrive at the prospective nesting area first and establish a territory, which is strongly defended. (Cade 1960). With the arrival of the female, a ritualized and elaborate courtship ensues before the female takes up station on the cliff, leaving the male to hunt for the pair's needs.

The nest takes the form of a scrape or shallow depression and may contain up to four mottled reddish brown eggs. If egg failure occurs early in the season a second attempt particularly in the southern climes may result. April, May and June are the prime egg laying months for Peregrines in Manitoba. The female does most of the incubation for a period lasting up to 33 days, although the male assists during daylight hours. Two or three young can be expected under normal conditions from a healthy pair of Peregrines. Young Peregrines take about five to six weeks to fledge; the females are somewhat slower at developing than males due to their larger size. During their first year young Peregrine Falcons can suffer a mortality rate as high as 75%, (Enderson 1969).

Peregrine Falcons are superb aerial predators taking prey items ranging from sparrow size to that of large ducks. Their great speed (up to 20% of their total body weight can be flight muscle), keen eyesight and long toes are all features that assist them when hunting quarry. Prey remains taken from different eyries in Manitoba indicate a mixture of waterfowl, shore birds and passerines. In one study, Rock Dove accounted for up to 30% of the known diet (Berger and Chranowski 1992). In another Manitoba study by Robert Buck (1995), it appears there was a shift in diet from smaller passerines in the pre-nesting stage to larger waterfowl during the fledgling stage.

Sexual dimorphism in Peregrines can influence the falcon's diet during nesting season (Ratcliffe 1993). The smaller male provides food for the incubating female and maintains the role of provider for the female and offspring during the first few weeks after hatching occurs. When the chicks require less brooding by the female she too can assist with hunting and because of her larger size is able to tackle heavier prey. The contribution by the female helps satiate the growing demands of young chicks when, at this stage their body weight may even surpass their adult counterparts.

6. Distribution

Peregrines may be absent from Manitoba for five months. Most birds sighted between April and November are believed to be migrating beyond Manitoba's borders. The greatest numbers of Peregrines seen in the province are at a few well-known bird watching locations, and these sightings coincide with the spring migration. Consistent with human population densities, the majority of sightings have been in the southern parts of the province. Most summer records are available after 1981 when recovery efforts for the species began in Manitoba and elsewhere. These largely reflect the activities associated with the province's Peregrine urban release program and similar programs elsewhere (Tordoff et al. 2002).

7. Population Size, Trends and Productivity

According to the available literature, Peregrines in Manitoba were noted to be rare or transient prior to the population crash associated with pesticide contamination in the 1960's. A more detailed picture emerges post 1981 as a result of a release initiative involving captive bred falcons. By 1995, four pairs established territories in urban settings in southern Manitoba. The summer census for that year revealed eight adults and six juveniles. While two of four eyries supported adults and young in 1995, three of the eyries were successful in 1996 and 1997.

Over a two-decade period, 161 young Peregrines dispersed from Manitoba eyries with a ratio of 84 males to 77 females (Manitoba Conservation, Unpubl. Data). A review of the most productive locations (Raddisson Hotel, [formerly Delta] Winnipeg, and the McKenzie Seeds building in Brandon) show that in the period 1989 to 2001 a total of 60 fledged young over 13 years, 33 from Delta and 27 from McKenzie. The McKenzie site did not start producing until 1993, four years after Delta and it had a higher annual productivity than Delta. The mean number of wild produced young (excluding fostered birds) for Delta was 2.38 nestlings per year, and for the McKenzie Seeds eyrie the mean were 3.0 nestlings per year. No estimates are available for Manitoba regarding effective reproduction for population growth per territorial pair. For other locations it was between 1.5 and 2.0 fledged young. (Court 1994, Stepnisky 1999) Manitoba produced Peregrines have nested in other prairie provinces as well as in the U.S.A. These successes demonstrate Manitoba has and can contribute to national and international recovery efforts. Despite the number of young produced since 1989, actual breeding pairs within the province have dropped to **no known breeding pairs in 2003.**

	Males	Females	Total
Known number of hacked, fostered or wild produced	84	77	161
Number injured/died before first migration	7	16	23
Number believed began first migration	77	61	138
Number completed first round migrations	7	5	12

Table 1 | Number of juvenile Peregrines in Manitoba, 1981-2001 (Manitoba Conservation, unpubl. Data).

8. Plan Intent

Following recommendations detailed in the Canadian Anatum Peregrine Falcon Recovery Plan (Erickson et al. 1988) the intent of the Manitoba plan is to accomplish two goals. The first is to develop a made-in-Manitoba solution for sustaining nesting pairs of Peregrine Falcons in the province so as to conserve this rare species. As a consequence of the first goal the second goal is to achieve a change in status from “Endangered” under the Endangered Species Act to “Protected” under the Wildlife Act.

9. The Plan as a Process

The plan is essentially a three-phase process involving formulation of approach on known history and current data, development of new concepts and finally, critical review of each step with a view to quality improvement. It is anticipated there will be modifications to the plan over time as the analyses and investigative aspects of the plan occur.

10. The Plan and Strategy Summary

The following plan and strategy are intended to complement the ongoing monitoring effort of urban sites as recommended by the national Anatum Peregrine Falcon Recovery Plan.

The Challenge: To establish Peregrine Falcons in a human altered landscape in southern Manitoba.

The investigative basis for the plan combined with the problem solving and development strategy is centred on the concept of hacking, a falconry release practice. By definition the term ‘hacking’ describes a period of time in the young falcons life when human contact is kept to a minimum, and food is provided while the birds gain some independence. The Manitoba plan calls for taking the concept of hacking beyond the release and monitoring stage to the point where Peregrines are bred at hack.

Two criteria have been identified for the Peregrines

- The adult pairs destined for release must show signs of being compatible as a starting point for breeding potential;
- The birds must be trained to develop survival skills as is humanly possible to provide them with under the circumstances.

Parkland Mews’ responsibility is to investigate and/or develop those methods that will enable the falcons to fulfill both criteria. Peregrines, like other wild living creatures, need the skills necessary for survival. They also need a place that will allow for successful reproduction and raising of offspring.

To have a Manitoba source of Peregrine Falcons for future release is critical to the recovery aspect of the plan.

Suitable breeding facilities, pure anatum Peregrine stock and the necessary expertise are basic to the programme's needs. Also a suitable hawk tower with a structure that will serve as an eyrie is equally essential. The first priority is to breed Peregrine Falcons in captivity in Manitoba. Once production of chicks has occurred, an emphasis on managing the birds for their future role on the tower then becomes the primary task. The following steps can be targeted for accomplishment.

Step 1. Establish a pair at a tower structure

Step 2. Establish a pair that nest on the tower structure

Step 3. Establish a pair, which produce young on the tower structure

Step 4. Establish sites where recruitment of breeding birds takes place and young are produced.

Step 5. Monitor migration behaviour of adults, including recruitment of other birds.

The development of each step in the recovery process must be evaluated for practical application. The progress toward change in status becomes apparent as the steps are achieved.

The "Hold and Release" option included on pages 41-42 of the Anatum Peregrine Falcon Recovery Plan (Erickson et al. 1988) provides a recommended alternative to other methods of reintroduction (see excerpt below).

Hold and Release

Holding birds for extended periods before release relies heavily on falconry techniques. The young falcons are held in captivity, trained to hunt, and kept over winter for release the following spring. This method may give the young a better chance of survival; band recovery data indicate that the majority of young falcons are lost in the wild during the first year. Holding and training them to hunt may increase their chances of survival in the wild. However, there are no data on the survival rate of birds released at one year of age, and it is not known whether they would have the same tendency to home to their release site as birds fledged in their first fall. Experimental work in Saskatchewan and Alberta has proven inconclusive, and more research is needed to determine the value of this technique.

The most promising application for this method appears to be in providing potential mates for lone birds that have returned to a suitable nesting territory. Breeding pairs would theoretically form, establish a territory, and return to the site the following year. Experimental work has been carried out by Dr.T.J.Cade in Baltimore and by the Alberta Fish and Wildlife Division. The results are inconclusive, but it appears that the technique has potential. The manpower requirement for holding and release is higher than for any other method in that it normally requires one person to train one, or at most two, birds for release. However, there are falconers in most regions, and some may be interested in holding and flying peregrines over winter prior to release. The feasibility of enlisting some of these people in holding and releasing birds experimentally should be explored.

A second method that has been proposed is the training of a pair of birds for potential release at a nest site. In this case the falconers would train a matched pair of birds and fly them selectively at a potential nest site. The birds would be flown at the site in the fall and again just as the breeding season was beginning with the hope that the birds would then establish a territory and nest at this particular location. As with the first method described above, this technique would require considerable time; the possibility of finding volunteers could be explored.

There is considerable room for additional research into better methods of reintroduction. We need methods that will get the largest number of birds successfully released into an area and enhance the establishment of new pairs. In so doing, we must strive to maximize the number of birds and minimize the time and personnel required.

Parkland Mews proposes to take the hold and release method one step further while at the same time addressing the concerns related to first year losses, and the availability of trained bonded adult pairs available for release at a nest site. Furthermore Parkland Mews is utilizing a system that should offer substantial protection against Great Horned Owls and other predators, a significant problem with the traditional hacking method.

11. Expected Outcome

There are concerns regarding this plan. Despite intensive recovery effort regarding the status of the *anatum* peregrines, they continue to be at risk in Manitoba. The lack of occupancy (despite a lengthy hack programme) by new pairs at sites where the falcons have nested over the last two decades is puzzling. The captive gene pool in Canada is diminishing with the closure of the Fort Wainwright and the Saskatchewan Cooperative Project. Coupled with the closure of the Canadian breeding projects there is also a downturn in the number of release projects in the continental Mid-west. Two of the three nesting females in Manitoba during the last two decades originated from the Mid-west. The level of sustained human commitment to a lengthy project of this kind must also be raised as a concern.

This plan intends to build a recovery action by means of carefully considered steps tested through the process of practical application. As each step is achieved the rate of success is increased. While the plan calls for the establishment of sustained nesting pairs before down listing is considered, it would only be speculative to suggest a number of intended pairs for Manitoba until such time as the various steps towards establishment have been satisfactorily demonstrated as being successful. However a steady source of falcons should be available through captive breeding including a reservoir of floaters held ready for release to augment the wild population if necessary.

12. Story Board Details

Story Board of Steps Toward Breeding Attempt at Tame Hack



Figure 2 | Expedition to bring young New Zealand Falcons into captivity.



Figure 3 | Care was taken to remove only a single chick from each nest site.



Figure 4 | Specially designed imprinting box used to shape the future behaviour of the young falcons.



Figure 5 | After evaluating for compatibility pairs were left to bond in the flight enclosure.



Figure 6 | After four years captive breeding becomes a reality.



Figure 7 | The touching eggs indicate incubating had commenced



Figure 8 | The use of 44-gallon plastic drums was intentional as a nest model.



Figure 9 | Placing the 'nest' in the future roost location.



Figure 10 | Habituating the birds to use the roost site. (Note the use of the lowered drawbridge).



Figure 11
The process is repeated. After determining compatibility the pair formation is allowed to develop.



Figure 12 | During the bonding process the birds were still maintained under falconry conditions.



Figure 13
The big test: Could a pair of falcons be transported to a new location hundreds of kilometers away and established as a breeding pair?



Figure 14
Taking up residence
on the vineyard.



Figure 15 | The female returns to the 'T' perch after defending against an intruder.



Figure 16 | Courtship feeding was induced by feeding the pair little and often.



Figure 17 | Food transfer at the nest preceded egg laying.



Figure 18 | The female takes a well-deserved rest while the male is incubating the eggs.



Figure 19 | This wild caught sparrow is stored as a cached item of food in a corner of the hayshed

All photos by Robert Wheeldon

Part 2: A Recovery Strategy for the Peregrine Falcon in Manitoba

13. Introduction

The Peregrine Falcon *Falco peregrinus* is a migratory bird of prey that inhabits the tundra, boreal forest, prairie, agricultural areas and urban settings in Manitoba.

Berger and Nero (1992) state the following: “The available evidence indicates historically, the Peregrine Falcon should be regarded as a rare but indigenous nesting species in Manitoba.”

14. Species Information

Scientific Name: *Falco peregrinus anatum*

Common Name: Peregrine Falcon.

Current Manitoba Status: Endangered.

Known Breeding Range in Manitoba: Southern Manitoba.

Rationale for Status: A sudden decline in the known breeding population.

15. Rate of Population Decline

The Manitoba Peregrine Falcon population declined from four breeding pairs in 1995 to no known breeding pairs in 2003. This represents a total decline of the known breeding population within eight years. The cause of recruitment failure is unknown despite a successful breeding and release programme for the mid-west continent during the period.

16. Potentially Limiting Intrinsic Factors

Early mortality is the single biggest limiting factor facing Peregrine Falcons in Manitoba. There are numerous causes that can be attributed to this early mortality such as starvation due to a lack of necessary hunting skills or sufficient prey. Peregrines do not normally nest until the age of two. During this time there are long annual migrations to and from their wintering grounds in Central and South America. First year mortality has been estimated as high as 75%. Of the 138 Peregrines documented leaving Manitoba, 12 were known to have completed the round trip. These figures represent both hacked and wild-bred birds over a time span of two decades. For this reason a large part of the strategy does target life history features such as juvenile mortality and migration as a conservation focus.

17. Threats

Great Horned owls and mammalian predators appear consistently in the literature regarding threats against Peregrine Falcons. An emerging threat to birds of prey is the West Nile Virus. What impact, if any, this poses for Peregrines is yet to be determined. However for Peregrines held in captivity the virus could prove to be problematic unless a vaccine can be developed in time. Climatic factors such as extreme cold at unseasonable times of the year may cause egg failure. Young dispersing from urban nest sites surrounded by agriculture areas with grain crops typical of southern Manitoba landscapes could be at risk. Peregrines on formative flying excursions may be prevented from opening its wings if landing in a field containing tall stem crops such as wheat or sunflowers. Vehicles, glass office blocks and overhead transmission wires are known to be causes of collision affecting young Peregrines. The current lack of birds needed for occupancy of previously active Manitoba sites implies a dependency on stock from the Parkland Mews facility. Should this facility close the project could be in jeopardy.

18. Recovery Potential and Rationale

Early records indicate that Peregrines should be regarded as a rare but indigenous nesting species within the province. An important question needs to be addressed when considering the recovery potential and rationale. What are the criteria that signal the Peregrine is a ‘recovered species’ in Manitoba? At the turn of the last century the known status of the Peregrine was that of either a transient, occasional winter visitant or occasional summer resident, and, furthermore it probably bred sparingly. If the intent is to regain the Peregrine’s former status then this has already been achieved

through two decades of urban release initiatives, albeit temporarily. While in some ways the continued nesting of at least one pair of Peregrines in the province since 1989 exceeds early nesting records there is a discernable downward trend in the number of productive sites to zero breeding birds indicate the need for further research.

Manitoba serves the national Peregrine Recovery agenda by continued monitoring of birds within the province, but its own conservation focus is directed toward developing the methodology for breeding pairs to be an available option outside of the captive situation. On the surface this may not appear difficult. However since 20 May 1887 when two Peregrine eggs were removed from an eyrie near Gladstone, Manitoba the southern landscape regions of the province has undergone vast change as a result of human settlement.

The Recovery Plan calls for the development of a process to provide the means of regaining what may be lost. The plan does not tie status to numbers but focuses rather on the need to develop a 'lifeboat' strategy that can be held as a safeguard for the species future. The various falconry related activities such as captive breeding, training and hacking found in the provincial falconry regulations coupled with the Hold and Release option identified in the National *anatum* Peregrine Falcon Plan provide both the rationale and the recovery potential to be ecologically and technically feasible.

19. Habitat Requirements

The model habitat requirements for the Manitoba Peregrine Recovery Strategy take into consideration both the biological needs of the birds and the management techniques for maintaining Peregrines in a state of protected liberty. For Peregrines to survive on a day-to-day basis food, water and shelter are the essential elements. In order for offspring to be produced a safe environment in which to raise young is an added essential. Other considerations such as exposure to lift when fledglings practice flying lessons and minimizing the risks of collisions (a notable cause of premature death in young Peregrines) as well as protection from Great Horned owls and mammalian predators are also key factors. Apart from the food, which is readily available from the Parkland Mews small animal production unit, all other aspects can be achieved by the strategic placement and design of a hack-breeding tower.

20. Recommended Scale for Recovery Action

The issues that confront the Peregrine in its known breeding range in the southern landscapes of the province are primarily a result of human activity. Peregrines are classified as "Endangered" in Manitoba and a recovery plan with a sustained strategy is needed. Urban nesting Peregrines, a phenomenon occurring in Manitoba since 1989 provide evidence for integrating a species-specific recovery into the various natural communities found in the southern landscape regions of the province.

21. Recovery Goal

The intent of the strategy is to complete the steps outlined in the Manitoba Peregrine Falcon Recovery Plan in order to reduce the need for a recovery effort.

22. Is Knowledge of Peregrines Adequate and is the Recovery Process Clearly Defined?

While there is a research component of the Recovery Strategy that requires discovery learning, the Peregrine is a much-studied species. Much of the data is from scientific study and much is from falconry literature. Additionally, there is the practical experience of those associated with the development of this document. The areas that require clarification are mainly those of an ethological nature related to aspects of imprinting, conditioning and management of trained birds in a state of protected liberty. It is believed the steps described in the Recovery Plan provide a clearly defined course for the accompanying strategy to follow.

23. Survey Requirements

Surveys have been conducted throughout the province in keeping with the recommendations of the *anatum* Peregrine Falcon Recovery Plan. A more detailed study of the site near Gladstone Manitoba and of the adjacent areas close to the 15 sites where Peregrines were observed in the urban centres but failed to nest may prove beneficial. In the first

instance the eyrie near Gladstone may reveal important clues as to a model nest site for this area and as a possible location for future releases. In the case of urban nesting Peregrines, the birds can be secretive and it is possible that potential nest sites have been overlooked.

24. Short-Term Recovery Objectives

- Within the next five years three issues are paramount.
- The first objective is to produce captive bred Peregrines within the province of Manitoba.
- The second objective is to habituate a pair of captive bred Peregrines to accept a hack-breeding tower as a future nest site.
- The third objective is to produce young Peregrines in a state of controlled liberty as a forerunner to any future release programme that maybe required.

25. Recommended Approaches

- Development of Specially Designed Flight Enclosures

One of the key aspects of the recovery strategy involves the construction of specially designed flight enclosures featuring a model nest site. The enclosures are considered critical for the following reasons.

- a) They will serve as a holding facility until the birds are of breeding age
- b) They will facilitate research aspects of the project with regards to the behaviour modification process, especially the imprinting on model nest sites.
- c) The enclosures will allow for assessment for pairing compatibility prior to release as adults.

Based upon production figures from the Canadian Wildlife Service captive breeding facility at Wainwright between 1971 and 1985 a production rate of 50% is realistic. (R Fife.1988.)

Construction of the Parkland Mews Peregrine Falcon captive breeding facility is ranked as a first priority.

- Managing the Parkland Mews Breeding Programme

The breeding option does provide the means by which a recovery process can begin. As the intent is for release, only pure *anatum* stock is used. Aspects to be considered include the following:

Captive Breeding

- a) The source of captive breeding stock
- b) The genetic assessment of pairs
- c) The genetic compatibility of pairs
- d) The suitability for breeding
- e) The evaluation of breeding performance
- f) Seasonal management regimes and record keeping
- g) Support resources: incubator room, brooder room, and game bird production unit.

- Managing the Parkland Mews Peregrine Falcon Development Programme

Post Hatching to Post Fledging.

Considerations include the following:

- a) Early development of the chicks
- b) Later development of the chicks
- c) Imprinting on the parents
- d) Imprinting on siblings
- e) Environmental imprinting
- f) Habituation and conditioning
- g) Development of survival responses
- h) Record keeping and review process

In keeping with the second objective, which has a strong falconry component, there is merit in allowing Peregrines to be kept by falconers under the provincial wildlife act. Falconers have proved to be an asset to recovery programs across North America and their contribution should not be overlooked in Manitoba.

- Managing the Parkland Mews Falconry Programme

Aspects to be considered include the following.

Equipment and Facilities

- a) Gloves, hoods, anklets, jesses, swivels, leashes, perches, bells, telemetry
- b) Mews design
- c) Flight enclosure design
- d) Weathering yard design
- e) Hack tower design and placement

Care of Falconry Birds

- a) Development of Peregrines post fledging
- b) Training, habituating, conditioning, hunting
- c) Preparing for life on the tower
- d) Maintaining at tame hack
- e) Maintaining through each season year one
- f) Maintaining through each season year two
- g) Record keeping and review process

- Managing the Parkland Mews Breeding at Tame Hack Programme

- a) Selection of individuals as prospective mates
- b) Assessment of pairs for compatibility
- c) Management of pairs during courtship
- d) Management of pairs during nesting
- e) Management of pairs and progeny
- f) Management of pairs and young post breeding season
- g) Record keeping and review process

26. Actions Already Completed or Underway

In July of 1999 Manitoba Conservation received a proposal from Parkland Mews concerning recovery action for the Peregrine Falcon in Manitoba. The author was issued a license under Manitoba's Endangered Species Legislation permitting the acquisition of Peregrine Falcons.

By summer 2000 a resource building comprising of two basic flight enclosures, office, shop, Game bird production area, brooder/incubator rooms, mews, along with separate weathering yards were completed at the Parkland Mews location in time for the arrival of four young *anatum* Peregrine Falcons from Phil Trefry in Alberta.

By summer of 2001 another Peregrine from Phil Trefry had been acquired and a hack-breeding tower constructed at the Parkland Mews location due to the generosity of Manitoba Hydro.

In early 2002, a Peregrine Falcon Working Team was established to assist with the recovery of the Peregrine Falcon in Manitoba.



Figure 20 | Peregrine Falcon Hack-Breeding Tower at the Parkland Mews Location.
Courtesy of Manitoba Hydro

Photo Robert Wheeldon

27. Anticipated Conflicts or Logistical Difficulties

Parkland Mews is a Canadian Registered Charitable Organization and as such is dependent on fundraising activities for its continued existence. The long-term sustainability of the programme is dependent on suitable funding and volunteer effort.

28. Potential Management Impacts for Other Species/Ecological Processes

The development of the Manitoba Peregrine Falcon Recovery Strategy poses no known risk to other non-target species or natural communities. The purpose is to develop the recovery process step by step first and to assess its merits under practical application. Only then will the option to implement the strategy on an ongoing basis be considered.

29. Lead Organization Responsible for Species Recovery & Key Contacts

Manitoba Conservation is responsible for leading the species recovery. Parkland Mews is responsible for developing the recovery action and the Manitoba Peregrine Falcon Recovery Team functions in an advisory capacity.

Contact Information

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Appendix

Summary of Breeding Peregrine Falcons in Manitoba 1989-2001

Year	Eyrie Location	Male	Female	Offspring/Fostered
1989	Radisson Hotel, Winnipeg	Hacked 1986 Winnipeg Red Band 5P9	Wild Nestling 1987 Minneapolis Black Band P27P	4 Males
1990	Radisson Hotel, Winnipeg	Hacked 1986 Winnipeg Red Band 5P9	Wild Nestling 1987 Minneapolis Black Band P27P	1 Male 1 Female
1991	Radisson Hotel Winnipeg	Hacked 1986 Winnipeg Red Band 5P9	Wild Nestling 1987 Minneapolis Black Band P27P	2 Females
1992	Radisson Hotel, Winnipeg	Hacked 1986 Winnipeg Red Band 5P9	Hacked 1989 Cedar Rapids, Iowa Red Band V52	1 Male 1 Female Fostered 2 Females
1993	Radisson Hotel, Winnipeg	Hacked 1986 Winnipeg Red Band 5P9	Hacked 1989 Cedar Rapids Red Band V52	1 Male 1 Female Fostered 2 Females
1993	University of Manitoba, Winnipeg	Wild Nestling 1989 Winnipeg Black Band 1X	Hacked 1990 Brandon, Manitoba Red Band EH	1 Male 1 Female Fostered 2 Females
1993	McKenzie Seeds, Brandon	Hacked 1991 Brandon Red Band *7/3	Hacked 1991 Brandon Red Band B/1	1 Female
1994	Radisson Hotel, Winnipeg	Hacked 1986 Winnipeg Red Band 5P9	Hacked 1989 Cedar Rapids Red Band V52	3 Males 1 Female
1994	University of Manitoba, Winnipeg	Wild Nestling 1989 Winnipeg Black Band 1X	Hacked 1990 Brandon, Manitoba Red Band EH	2 Males 1 Female Fostered 1 Male
1994	McKenzie Seeds, Brandon	Hacked 1991 Brandon Red Band *7/3	Wild Nestling 1991 Winnipeg Black Band 0/*B	2 Males 2 Females
1995	Radisson Hotel, Winnipeg	Wild Nestling 1989 Winnipeg Black Band 1X	Hacked 1989 Cedar Rapids Red Band V52	1 Male 1 Female
1995	University of Manitoba, Winnipeg	Wild Nestling 1994 Winnipeg Black Band 9/3	Hacked 1990 Brandon Red Band E/H	0
1995	Fort Garry Hotel, Winnipeg	No Band	Hacked 1992 Brandon Red Band A/4	0
1995	McKenzie Seeds, Brandon	Hacked 1991 Brandon Red Band *7/3	Wild Nestling 1991 Winnipeg Black Band 0/*B	3 Males 1 Female

Year	Eyrie Location	Male	Female	Offspring/Fostered
1996	Radisson Hotel, Winnipeg	Wild Nestling 1989 Winnipeg Black Band 1X	Hacked 1989 Cedar Rapids Red Band V52	1 Male 2 Females
1996	Legislature Bldg., Winnipeg	No Band	Hacked 1992 Brandon Red Band A/4	1 Male 2 Females
1996	McKenzie Seeds, Brandon	Hacked 1991 Brandon Red Band *7/3	Wild Nestling 1991 Winnipeg Black Band 0/*B	1 Male 2 Females
1997	Radisson Hotel, Winnipeg	Wild Nestling 1991 Winnipeg Black Band 0/*B	Hacked 1989 Cedar Rapids Red Band V52	2 Males 2 Females
1997	St. Boniface Basilica, Winnipeg	Wild Nestling 1994 Brandon Black Band *7/1	Hacked 1990 Brandon Red Band E/H	1 Male 3 Unknown*
1997	McKenzie Seeds, Brandon	Hacked 1991 Brandon Red Band *7/3	Wild Nestling 1991 Winnipeg Black Band 0/*B	3 Males 1 Female
1998	Radisson Hotel, Winnipeg	Wild Nestling 1996 Brandon Black Band 2÷7	Hacked 1989 Cedar Rapids Red Band V52	1 Male
1998	McKenzie Seeds, Brandon	Hacked 1991 Brandon Red Band *7/3	Wild Nestling 1991 Winnipeg Black Band 0/*B	2 Males 2 Females
1999	Radisson Hotel, Winnipeg	Wild Nestling 1996 Brandon Black Band 2÷7	Hacked 1989 Cedar Rapids Red Band V52	2 Males
1999	McKenzie Seeds, Brandon	Hacked 1991 Brandon Red Band *7/3	Wild Nestling 1991 Winnipeg Black Band 0/*B	2 Males 1 Female
2000	Radisson Hotel, Winnipeg	Wild Nestling 1996 Winnipeg Black Band 2÷8	Hacked 1989 Cedar Rapids Red Band V52	2 Unknown*
2000	McKenzie Seeds, Brandon	Hacked 1991 Brandon Red Band *7/3	Wild Nestling 1991 Winnipeg Black Band 0/*B	2 Males 2 Females
2001	Radisson Hotel, Winnipeg	Wild Nestling 1996 Winnipeg Black Band 2÷8	Hacked 1989 Cedar Rapids Red Band V52	1 Male

Total of wild birds produced in Manitoba from 1981-2001: 70

A sex ratio of wild offspring: 38 males: 27 females * sex of 5 offspring not determined

Accidentally injured or killed: 8

Number of wild birds known to have returned to Manitoba after 1 year 7 males 5 females

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