



# **The Nunavut and Northwest Territories Raptor Database: User's Manual**

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Adapted from Shank, C. C. 1997. *The Northwest Territories Raptor Database: User's Manual*



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TABLE OF CONTENTS:

INTRODUCTION .....3

DEFINITIONS ..... - 4 -

RAPTOR BIOLOGY .....5

COLLECTION PROTOCOL .....6

DATA STORAGE AND NEST DESCRIPTION FORM .....7

READ/WRITE AUTHORIZATIONS AND SECURITY CONCERNS .....13

ACKNOWLEDGEMENTS.....14

REFERENCES .....6

APPENDIX .....18

## INTRODUCTION

The Raptor Database is a repository and research tool containing nest locations and associated biological information of raptors (birds of prey) in the Northwest Territories and Nunavut. The database is maintained by both the Department of Environment and Natural Resources at the Government of the Northwest Territories (GNWT) and the Department of Environment at the Government of Nunavut (GN). In the database there are now 3861 nest sites (NU: 2469, NT: 1338, AB: 51, YT: 3) and 18 473 visit histories (NU: 11 377, NT: 5164, AB: 1929, YT: 3). The information most often contributed to the database includes occupancy and productivity records at nests from all species of northern-nesting raptors, as well as the physical location of the nesting territories. The Raptor Database has become a powerful resource for researchers and wildlife managers interested in all aspects of northern-nesting raptors. This report describes the data collection and storage protocols for the Raptor Database so that the data can be effectively supplemented and interpreted in the future. Without the valued contribution of the many researchers, biologists, and citizens who have worked to gather this data, such a resource could not exist. To maintain and strengthen this database, our aim is to both safely store this information in a central location and allow its use for research, conservation and wildlife management. Acknowledgement and original data holder permission will be secured before any external use.

## DEFINITIONS

Definitions are adapted from Postupalsky (1974), Steenhof and Kochert (1982), Fuller and Mosher (1987), Poole and Bromley (1988), Newton (1992), and eBird (2012).

- **Raptor:** A bird of prey/predatory bird are generally considered to include species in the orders Accipitriformes (hawks, eagles, kites), Falconiformes (falcons), and Strigiformes (owls). Though Common Ravens are Passeriformes (songbirds), they are often included as functional raptors since they are top predators/scavengers, use similar prey and habitat, and have a similar body size and nesting habits (Poole & Bromley 1988a; Gaston & Elliot 1996; Booms et al. 2010). They are therefore included in this database.
- **Nest:** A specific location where mated pairs have their eggs and raise their offspring until fledging. A nest is within a breeding **territory** (see below). Nests can be on a cliff ledge, tree, boulder, open ground, or even human-made structures depending on the species' biology and the availability of breeding sites.
- **Territory:** An area defended for its resources (mates, nesting habitat, food, etc.) by a pair or a single individual against conspecifics or other species, particularly competitors and predators (Newton 1992). A breeding territory includes an area around a nest site, within which other individuals of the same species do not nest.
- **Alternate nests:** Different nest sites within the same territory within a single breeding season. **Alternate nests should not be occupied simultaneously for breeding, although adults can use them as perches.** They are generally located relatively close to each other within the same territory. For example in 2012 in Igloodik, NU, one pair of marked Peregrine Falcons established a nest on a cliff within their territory before switching (before laying eggs) to a breeding site on a cliff 500 m away from the first site (K. Peck, pers. obs.). These were two alternate nests within the same territory, and no other birds bred in this area that year.
- **Scrape:** A type of nest. It consists of a shallow depression made in some substrate. It is usually a depression in dirt or vegetation on a cliff ledge.
- **Whitewash:** White dried bird feces. Different species have different patterns of whitewash around their nests (Ministry of Sustainable Resource Development, Province of British Columbia 2001). This can be a good indication of a nest or a perch.
- **Occupancy:** A breeding territory is considered occupied when a pair of birds is nesting there (laying, incubating, brooding, etc.) (eBird 2012; Postupalsky 1974). The occupied nest usually has two adults exhibiting territoriality and courtship. During short survey times, sometimes only one individual is detected. **Occupied or Not?-** Only when it is confirmed that birds are breeding or about to breed should the nest be called "occupied" in the database. However, occupation can often be inferred by seeing birds show defensive behaviour or fidelity to a nest site, indicating that the birds are tied to that nest location. The "Status" codes in the Raptor Database are not detailed enough to differ between suspected and confirmed occupied nests, so to call the nest occupied there must

be strong evidence that the nest is in fact occupied before it is given an “OC” code (see “Status” field below).

- **Productivity:** A nest is considered productive when the nest produces at least one offspring which survives to the fledgling age (eBird 2012; Postupalsky 1974). In reality, however, nests are usually considered productive when older chicks are seen.
- **Territorial Fidelity:** The behaviour of returning to a specific territory. For example, peregrine falcons demonstrate fidelity across years for their breeding territory by returning from migration to the same nesting areas each year.

## RAPTOR BIOLOGY

Knowledge of raptor biology helps to understand why and how data is collected (Steenhof 1987; Court, Gates, & Boag 1988; Poole & Bromley 1988a; Newton 1992; Newton 1997; Bird & Bildstein 2007). Many raptor species exhibit **site fidelity** (see definitions) and use consistent habitat features for breeding. Especially in areas where continuous monitoring occurs, mapping raptor distribution helps to understand their habitat use, identify areas of special importance for wildlife, and detect population changes (e.g. absence of active nests in areas known to host many in the past). Raptor nest characteristics vary among species, but there are some common features of nest sites to aid in recognition. Stick nests are usually larger than any non-raptor bird and nests on rocky ledges often have some **whitewash** and dark orange lichen (*Xanthoria elegans*) nearby. Raptors which show some fidelity to their nesting territories will return but can use different alternate nests between years (Poole & Bromley 1988b). However, different Arctic raptor species use different strategies for nesting (Poole & Bromley 1988a; Ministry of Sustainable Resource Development, Province of British Columbia 2001). Below are some common raptor species nesting in the North:

- **Gyrfalcons (*Falco rusticolus*)-** Like all falcons, Gyrfalcons do not build stick nests. They typically use old Common Raven or Golden Eagle stick nests or make **scrapes** on ledges. Usually, their nests are under overhangs and are marked with considerable **whitewash**. Over the years, the stick nests are depleted and can end up as nothing but bare, whitewashed ledges. Gyrfalcons are relatively easy to detect on aerial surveys compared to other cliff-nesting birds (Booms et al. 2010).
- **Peregrine Falcons (*Falco peregrinus*)-** In the Arctic, most Peregrine nests are simply dirt **scrapes**. Some nest on river or lake mud banks or in old stick nests from other birds. There is usually some whitewash when they nest on cliffs. It can often be difficult to find a peregrine nest unless the birds themselves indicate the location. Rough-legged hawks can nest in close vicinity to peregrine nests (Sokolov & Lecomte Pers. Comm.).
- **Golden Eagles (*Aquila chrysaetos*)-** This species builds huge stick nests by adding to an existing nest each year. Golden Eagle nests are typically quite distinctive because of their size. They are almost never marked with whitewash. Only very rarely will another raptor species nest near an occupied Golden Eagle nest (Poole & Bromley 1988a).

- **Bald Eagles (*Haliaeetus leucocephalus*)**- Bald Eagles nest on cliffs, in trees or on human-made structures. Cliff nests are very similar to those of Golden Eagles. Tree nests are added to over the years until their bulk and the eventual death of the tree brings everything crashing down.
- **Common Ravens (*Corvus corax*)**- This species is not a raptor but has similar nesting habits. Ravens usually build stick nests under overhangs. They will often look messier than other cliff nests, with lots of whitewash. These types of nests are preferred by Gyrfalcons.
- **Rough-legged Hawks (*Buteo lagopus*)**- Rough-legged Hawks eat mainly small mammals, which are strongly cyclic in numbers. Therefore their reproductive output is often related to small-mammal densities, and their fledgling production is positively correlated to small mammal densities (Potapov 1997). Generally the same territories are occupied, though they typically build a new nest each year. They are almost never marked with whitewash. Rough-legged Hawks can nest in the vicinity of Peregrine Falcon nests and often use the alternate nests of Peregrine Falcons (Sokolov & Lecomte Pers. Comm.).

### COLLECTION PROTOCOL

In the Northwest Territories and Nunavut, raptor surveys are often done by helicopter but are also done on foot, by boat, or by other vehicle. For reference to survey techniques used for raptors in other locations, see Anthony, Garrett & Isaac (1999), the Ministry of Sustainable Resource Development, Province of British Columbia (2001), Andersen (2007), and Booms et al. (2010). In the past, nesting territories in the Raptor Database were marked on topographic maps (1:250 000 or 1:50 000 if available) and the latitude and longitude was extracted from these maps. With the advent and increased usage of the Global Positioning System (GPS), nest locations are now recorded during the survey with devices as close as possible to the exact nest location. Positioning the GPS right at the nest site is often impossible, unless the nest is directly entered. However, most recent GPS devices offer a topographic map display and cursor to mark locations slightly away from the GPS unit and therefore give more precise locations than previous units. In general, most recorded locations of nest sites are accurate to 50-100 meters. This intrinsic inaccuracy should be taken into account when planning surveys and data analysis. Even with the advent of GPS all new nesting territories are recorded on paper topographic maps.

Nest territories are recorded with a unique number (see SiteNumber). To be sure that the nest is occupied by a breeding pair, the nest should be visited at a time when they are likely to be detected, which often differs between species and locations. If a breeding pair is not initially detected due to their cryptic behaviour, this does not mean they are not present (Steenhof & Kochert 1982; Anthony, Garrett & Isaac 1999). During the early nesting period pairs are usually easier to see, however this must be balanced by their sensitivity to human visits during this period (Fyfe & Olendorff 1976 ; Steenhof & Kochert, 1982). On the other hand, if surveys occur too late in the season, pairs which failed earlier in the breeding period may be missed. This would decrease the number of pairs detected in the area. Single bird sightings may not indicate a

breeding pair; they may be floaters or simply hunting in the area. Using well-designed surveys with observers well-trained in raptor identification and behaviour will increase the quality of the data collected and the accuracy of detecting nesting raptors (Anthony, Garrett & Isaac 1999; Andersen 2007).

To decrease error associated with different observers, new sites or nest territories are recorded only when there is strong evidence that they are or were used, not by guessing potential nest habitats. Recording “potential nest locations” clutters the database with subjective interpretations of good nesting habitat, rather than nesting habitat that has been validated by actual nesting birds. Although raptors often show territory fidelity, they do not necessarily nest in the same location each year. The surveyor can often find one to several alternate nests within the same territory. These alternate nests may be up to a few hundred metres away. They are given a sub-number of the territory ID (see SiteNumber for naming system). On subsequent surveys, if a nest is used and a second mated pair is found at an alternate nest **in the same breeding season**, the latter is numbered and recorded as a new territory in the database.

Since nests can be used by different species each year, nests cannot be characterized as being ONLY a Gyrfalcon or Golden Eagle nest, *except* for in a particular year. A nest might be built and used for several years by Common Ravens then taken over by Gyrfalcons the next year. No matter which species takes over the nest area, the territory should maintain the same ID with the additional species information updated in the Nest Visit database each year.

#### DATA STORAGE- NEST DESCRIPTION AND VISIT HISTORY

Data is stored in a relational database where the “Nest Description” table is linked to the “Nest Visit” table by a unique territory number (“SiteNumber”). A detailed description of each data field in both databases follows below. Digital and hard copies of the data collection should be backed-up and well-named (For example: generallocation-nameofcreator\_year.xls/.txt) in order to double-check information in the database if discrepancies are noted.



#### Nest Description Database Fields:

**SiteNumber-** A unique identifier given to each breeding territory and used as the primary key to relate the Nest Description and Nest Visit databases. The convention for assigning the site number is: Year code (two digits) site number (consecutive integer starting from 1 for each year). The year code is the number the year is given



Figure 1: Location of raptor nest illustrating the use of alternate nests and the subsequent naming.

beginning at 10 in 1980. All nests found in years before this are not given a year code, just a site number. For example, for a nest found in 1985 the year code is 15; for a nest found in 2010 the year code is 40, and so on. The site number is the consecutive number recorded that year. For example from **Figure 1**, the SiteNumber 1570 was the 70<sup>th</sup> nest site recorded in 1985. This numbering system allows for up to 100 new nests each year. However, the update of the Raptor Database by Poole (2011) found that there were some years with more than 100 new nests, so the site numbers were extended to five digits, i.e. the 101<sup>st</sup> nest found in 2010 has the ID: 40101 (the first two digits for the year code, the last three for the site number that year).

For alternate nests (see definition), it has only been recently that enough accuracy has been available to record their locations. From 2010 onwards, efforts to record the exact locations of alternate nests were underway. These are named using a decimal system related to the original nest location, for example 1570.1 and 1570.2 are two alternate nests in the 1570 territory. If alternate sites are then discovered to be occupied concurrently, they both are given real site names. For example in Figure 1, in 2005 site 1570.1 and 3501 were both occupied.

Naming the site for the Raptor Database should remain the task of the person adding the records to the database. Therefore, it is the task of the data collector to give unique identifiers to their own data. Once the data is contributed to the database, they will receive the Raptor Database ID and can use this in the future, or continue to use their own IDs consistently in the future to relate to the database number (see OrigID below).

**OrigID-** The original ID that the data collector gives to the site name. These are linked to the SiteNumber in the Raptor Database.

**Source-** Either the company, organization, research group, or overall area the data originates from, whichever is the most logical to cite in the future.

**Latitude-** Location in decimal degrees of the nest to the most precise latitude value possible (ca 10m). For example, the Igloolik Airport is located at 69.369483° lat.

**Longitude-** Location in decimal degrees of the nest to the most precise longitude value possible (ca 10 m). For example, the Igloolik Airport is located at -81.818532° lon.

**UTMZone-** The UTM zone in which the nest is located. For example, the town of Igloolik is in zone 17, while Iqaliut is in zone 19.

**UTME-** A six-digit number referring to UTM easting. For example, the Igloolik Airport is located at 467814m E.

**UTMN-** A seven-digit number referring to UTM northing. For example, the Igloolik Airport is located at 7695767m N.

**Projection:** The projection the given locational information is in. For example, if the UTM is recorded on a GPS, the data is usually in NAD83 or WGS84. Older locations may have been recorded using other projections however, and it is important to know which one was used when the data is being converted to decimal degrees or put into a map. Leave blank if the coordinates are unprojected (already in decimal degrees)

**Year-** The year the nest was first discovered.

**Date-** The date (dd-mon-yr) the nest was first discovered.

**Territory-** The Canadian territory or province the nest is found in (i.e. NU, NT, YT).

**InitialObserver-** The names of the initial observers of the nest site.

**Map-** the 1:250,000 NTS map in which the nest is found. E.g., 106H

**Aspect-** direction the nest cliff is pointing. (S, SE, E, NE, N NW, W SW)

**CliffHT-** the approximate height (in m) of the cliff or tree on which the nest sits. Inclinometers and rangefinders are ideal tools for this, but an approximation is also sufficient. This can usually be taken roughly from a GPS topomap.

**NestHT-** the approximate height (in m) of the nest above the ground. Inclinometers and rangefinders are ideal tools for this, but an approximation is also sufficient.

**Overhang-** approximate percentage of the nest covered by an overhang (usually applies to cliff nests). If it is unfeasible to look at the nest closely enough to know, leave blank.

**NestType-** a code indicating nest type, when it can be determined. Codes are as follows:

RS- raven nest

GS- golden eagle nest

HS- hawk stick nest

US- unknown stick nest

GL- grassy ledge (or any vegetation on ledge)

RL- rocky ledge

TN- tree nest

GN- ground nest

NB- nest box

**Comments-** Any extra notes on the nest site.

#### Nest Visit Database Fields

Visit information should be recorded even if the nest is not occupied (this information is also interesting). This information allows the tracking of the occupation and detection rate of the raptors. The following categories are the field names and name descriptions for the “**Visit**

**History**” database:

**SiteNumber**- A unique identifier given to each territory. This links the Nest Description database with the Nest Visit database. For more information see the description for the Nest Description database.

**OrigID**- The original ID that the submitter gave to the site name. These are linked to the SiteNumber.

**VisitYear**- the year the nest is visited.

**VisitDate**- the date of the nest visit.

**Species**- Full species English name present at the site (ex. GOLDEN EAGLE).

**SPCode**- A four letter code for the species found at the nest. In general, they are named by the first two letters of the first word and the first two letters of the second word. Species is not entered if birds are not seen (STATUS code= NS) or nest was unoccupied (STATUS code= UU).

|        |                    |
|--------|--------------------|
| AMKE=  | American Kestrel   |
| GGOW=  | Great Gray Owl     |
| BWHA=  | Broad-winged Hawk  |
| NOGO=  | Northern Goshawk   |
| RTHA=  | Red-tailed Hawk    |
| SSHA=  | Sharp-shinned Hawk |
| GYRF = | Gyrfalcon          |
| PEFA = | Peregrine Falcon   |
| GOEA = | Golden Eagle       |
| BAEA = | Bald Eagle         |
| CORA = | Common Raven       |
| RLHA = | Rough-legged Hawk  |
| OSPR = | Osprey             |
| MERL = | Merlin             |
| SNOW = | Snowy Owl          |

SEOW = Short-eared Owl

NOHA= Northern Harrier

RPTR= Unknown Raptor. Add details in Comments

SPP = Other or unknown species. Add details in Comments and specify the species name if known.

**STATUS-** A two letter code indicating whether the nest is occupied or not, whether the adults have eggs or young, etc.

NS= Nest not seen; no birds seen.

OT= Occupied territory, adult(s) seen, nest with eggs or young not seen. See definition of “**Occupied**”.

UU = Nest ledge or stick nest seen and confirmed as unoccupied and unproductive. No adults present.

OU= Nest was occupied but known to have been unproductive.

OP= Occupied nest, productivity likely; e.g. when birds have apparently fledged already.

OC= Occupied nest during courtship, no eggs yet.

OE= Occupied with eggs. Incubating parent or eggs seen.

OY= Occupied with young. If both eggs and young, code OY.

**Adults-** Number of adult birds seen.

**Sex-** Sex of adults seen, if known.

**Eggs -** Number of eggs at the nest. Leave empty if the number of eggs is unknown.

**BadEggs-** number of apparently addled eggs. Usually determined by an egg(s) remaining long after the young have hatched.

**YoungTot-** number of young birds in the nest. Leave empty if the number of young is unknown.

**YoungAge-** age of young as estimated from visual estimation or by visiting the nest and measuring the young birds. If measuring the birds, use established growth curves from previous experience or published literature. Indicate the method used in the Comments.

**Deadyg-** Number of dead young in the nest.

**ObsType-** this field indicates the mode of the visit; i.e., by ground travel, by helicopter,

and whether the nest was entered. More than one of the following codes may be used. For example, "HGE" would mean the nest was visited by helicopter, ground and was entered on the same day.

H = helicopter

G = ground

B = boat

E = nest entered, usually to band nestlings

F= fixed-wing aircraft

O= other, address in Comments

**Comments-** Any additional comments about the nest visit, e.g. band number used

**Observers-** name(s) of person(s) making the nest visit.

**Requests Contact Before Use?-** The field where contributors can stipulate whether they wish to be contacted about the information they contributed before it is used or any other stipulations they wish to be attached to their data.

**Contact Info-** The most reliable, LONG-TERM method with which to contact the contributors of the data in the future. This is for verification and also to request use of the data in projects and studies.

## READ/WRITE AUTHORIZATIONS AND SECURITY CONCERNS

One person in each Department (GNWT and GN) is responsible for the continued integrity and security of the database. This person may delegate updates on a project-specific basis. Raptors can sell for significant amounts of money on the black market. It is possible that an unscrupulous person could use the raptor location database or the file maps to determine exactly where to go to illegally remove young birds from the nest. Consequently, it is important to retain a certain amount of security over the data to ensure that it is not widely released. Data on nest site location should only be provided to persons with a legitimate interest and should be accompanied with a data sharing agreement and knowledge of the importance of maintaining the confidentiality of nest locations.

## ACKNOWLEDGEMENTS

Special thanks to all those who contributed data to the Raptor Database (Table 1). Without these willing contributions to the database, it would not be the resource that it is today. Thanks also to those who replied to requests even though they did not have any data contributions for the years requested. Thanks to Kim Poole for responding to questions about the database and giving helpful advice, on top of years of excellent data collection. Thanks to Matt Fredlund for reviewing this manuscript and Bonnie Fournier for maintaining the Raptor Database at GNWT.

**Table 1:** Database contributors to the 2010 Raptor Database Update (Poole, 2011) and the 2012 Raptor Database Update (K. Peck, unpublished).

| <b>Project</b>   | <b>Territory</b> | <b>Data sources</b>   |
|--|------------------|---|
| High Lake – Izok (MMG)   | NU               | A. Mitchell, MMG Resources; K. Poole, AWR   |
| Jericho (Tahera Diamond)   | NU               | D. Payani, Golder   |
| Hackett River – Back River – Bathurst Inlet Port and Road (Sabina) | NU               | E. Sherlock, Sabina Gold & Silver; D. Muggli, Rescan  |
| Hope Bay (Newmont)   | NU               | C. Hanks, Newmont; G. Sharam, Rescan  |
| Courageous Lake (Seabridge Gold)                                   | NU               | B. Murphy, Seabridge Gold; G. Sharam, Rescan  |
| Meadowbank (Agnico-Eagle Mines)                                    | NU               | M. Gebauer, Gebauer and Associates  |
| Kiggavik (Areva)   | NU               | M. Gebauer, Gebauer and Associates  |
| Turqavik-Aberdeen (Cameco)   | NU               | M. Gebauer, Gebauer and Associates  |
| Ferguson Lake (Starfield Resources)                                | NU               | A. Rippin-Armstrong, Starfield Resources; F. Landry, Rescan   |
| Rankin Inlet (Arctic Raptors Project)                              | NU               | A. Franke, University of Alberta  |
| Mary River, Steensby Inlet (Baffinland)                            | NU               | M. Pickard, Baffinland Iron Mines; M. Tae, Knight Piésold. Data not useable. Some data from Steensby Inlet area provide by A. Franke, U of Alberta, for 2010. |
| Tuktut Nogait National Park  | NU               | M. Kirk, Parks Canada; G. Holroyd, Environment Canada, J. Obst, Yellowknife   |
| Aulavik National Park  | NWT              | M. Kirk, Parks Canada   |
| Quttinirpaaq National Park   | NU               | C. Machtans, CWS  |
| Ekati (BHP Billiton)   | NWT              | J. Bartlett, BHP Billiton; B. Milakovic, Rescan   |
| Diavik (Diavik Diamond Mines)                                      | NWT              | S. Bohnet, DDMI   |
| Snap Lake (De Beers)   | NWT              | J. Ash, De Beers; D. Payani, Golder   |
| Gahcho Kue (De Beers)  | NWT              | P. Cobban, De Beers; D. Payani, Golder  |
| Taltson River  | NWT              | D. Payani, Golder   |
| Lou Lake   | NWT              | C. Wood, Golder   |
| Daring Lake  | NWT              | S. Carriere, S. Matthews, ENR   |
| Mackenzie Valley   | NWT              | S. Matthews, ENR  |
| Nahanni National Park  | NWT              | D. Tate, Parks Canada   |

|                                 |           |  |
|---------------------------------|-----------|--|
| Wood Buffalo National Park      | NWT/AB    | R. Kindopp, D. Andrews, Parks Canada                               |
| <b>2012 Update</b>              |           |  |
| Project                         | Territory | Data sources   |
| High Lake – Izok (MMG)          | NU        | K. Poole   |
| Turqavik-Aberdeen (Cameco)      | NU        | M. Gebauer, Gebauer and Associates                                 |
| Meadowbank (Agnico-Eagle Mines) | NU        | M. Gebauer, Gebauer and Associates; K. Dawe, Golder and Associates |
| Meliadine (Agnico-Eagle Mines)  | NU        | K. Dawe, Golder and Associates                                     |
| Gahcho Kue (De Beers)           | NWT       | C. Wood, Golder and Associates                                     |
| Bylot Island Study              | NU        | G. Gauthier, Universite de Laval                                   |
| Parks Canada- NWT               | NWT       | M. Kirk, Parks Canada  |
| Parks Canada- NU                | NU        | P. Ashley, Parks Canada  |
| NWT/NU Bird Checklist           | NWT/NU    | C. Machtans, Environment Canada                                    |

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APPENDIX- DATA SHEETS:

**RAPTOR NEST DESCRIPTION FORM**

INITIAL OBSERVERS \_\_\_\_\_

SITE NUMBER \_\_\_\_\_ NTS MAP NUMBER \_\_\_\_\_ DATE  
OBSERVED \_\_\_\_\_

LAT \_\_\_\_\_ LONG \_\_\_\_\_

UTM ZONE \_\_\_\_\_ UTM E \_\_\_\_\_ UTM N \_\_\_\_\_

ASPECT \_\_\_ %OVERHANG \_\_\_ CLIFF HT \_\_\_ m NEST HT \_\_\_ m NEST TYPE \_\_\_  
(Nest type codes; RS = raven nest, GS = golden eagle nest, HS = hawk stick nest,  
US = unknown stick nest, GL = grassy ledge, RL = rocky ledge, TN = tree nest, GN  
= ground nest, NB = nest box)

OBSTYPE \_\_\_\_\_ ALTERNATIVE SITES? \_\_\_\_\_

**COMMENTS:**

Computer Entry: Operator \_\_\_\_\_ Date \_\_\_\_\_

File Map Entry: Recorder \_\_\_\_\_ Date \_\_\_\_\_

If site number is changed, make changes in following and check them off: \_\_\_  
Notes, \_\_\_ DESCALL, \_\_\_ VISTOT, \_\_\_ File Maps,  
\_\_\_ Hardcopy Description, \_\_\_ Hardcopy Visit, \_\_\_ Photos,  
\_\_\_ Banding Forms, \_\_\_ Samples.

## RAPTOR NEST VISIT FORM

SITE NUMBER \_\_\_\_\_ NTS MAP NUMBER \_\_\_\_\_

DATE OBSERVED \_\_\_\_\_ SPECIES \_\_\_\_\_ STATUS \_\_\_\_\_  
TYPE OBS \_\_\_\_\_

# ADULTS \_\_\_\_\_ # EGGS \_\_\_\_\_ # ADDLED EGGS \_\_\_\_\_  
# YOUNG \_\_\_\_\_ # DEAD YG \_\_\_\_\_

AGE OF YOUNG \_\_\_\_\_ METHOD OF AGING: \_\_\_\_\_

BAND NUMBERS \_\_\_\_\_

OBSERVERS \_\_\_\_\_

### NOTES AND COMMENTS

Computer entry: Operator \_\_\_\_\_ Date \_\_\_\_\_

#### STATUS CODES

- NS Nest not seen; no birds seen.
- OT Occupied territory but no nest seen. One or more adults present.
- UU Unoccupied and unproductive. Nest seen but was not successful. No adults present.
- OU Occupied nest but known to have been unproductive.
- OP Occupied nest but productivity likely but uncertain; e.g. when birds have apparently fledged already.
- OC Occupied nest during courtship with no eggs yet.
- OE Occupied with eggs. Incubating female adequate evidence.
- OY Occupied with young. If both eggs and young, code OY.

#### CONVENTIONS FOR ENTERING NUMBER OF ADULTS, EGGS, AND YOUNG

Leave fields blank for status codes NS, OP, OT. Enter relevant numbers for status codes UU, OC, OU, OE, OY. When number not known, enter 9.

#### OBSERVATION TYPE CODE

H = helicopter, G = ground, B = boat, E = nest entered, F = fixed wing, O = other. Can use two types together.

#### SPECIES CODE

AMKE=American Kestrel, GGOW=Great Gray Owl, BWHA=Broad-winged Hawk, NOGO=Northern Goshawk, RTHA=Red-tailed Hawk, SSHA=Sharp-shinned Hawk, GYRF = Gyrfalcon, PEFA = Peregrine Falcon, GOEA = Golden Eagle, BAEA = Bald Eagle, CORA = Common Raven, RLHA = Rough-legged Hawk, OSPR = Osprey, MERL =Merlin, SNOW =Snowy Owl, SEOW =Short-eared Owl, NOHA=Northern Harrier, RPTR, Unknown Raptor. Add details in Comments, SPP = Other or unknown species. Add details in Comments and specify the species name if known.

