With winter just around the corner, it might be wise to review some operating procedures in snow. It should be a given that all snow and ice will be removed from the aircraft before it moves for the purpose of flying. A contaminated airfoil will not produce its design lift. If the airplane or helicopter has been outside and is cold, do a thorough runup in order to ensure that all systems are warmed up prior to takeoff. Cold fluids and cold oil can cause problems at high RPM. Airplane brakes can freeze while taxiing if the snow is deep enough and the friction heating of the brakes allows melted snow to get into the brake assembly.

For obvious reasons, taxi slowly with ice or snow on the ramp near other airplanes. In loose snow the prop wash may create a small snow cloud requiring you to stop at times before proceeding. A helicopter can obviously create a snow cloud with its main rotor down wash. You may have to ground taxi a skid equipped helicopter in increments, making sure the skids remain free to move along the snow covered ground.

An airplane taking off on a snow-covered runway is usually accelerated slowly at first to reduce the blowing snow over the fuselage, and then as speed increases full power is applied. Keep in mind that this technique will require more runway than a normal takeoff. A helicopter takeoff from a snowy surface is usually done with an initial application of power above hover power in order to establish, as quickly as possible, a positive rate of climb. This will reduce to a minimum any time spent in the snow cloud that may be produced. Always be prepared to lose visual references momentarily when departing from a snowy surface in a helicopter.

When landing your aircraft to a snowy surface, be aware that it may be difficult to judge height and determine the contour of the terrain. Pilots tend to think that they are higher than they actually are, and view up-sloping terrain as a level area due to the snow cover. An airplane should touchdown as slowly as possible on a snow-covered runway using soft field landing techniques. The Pilot should anticipate zero braking conditions. You might be wise in doubling the landing distance normally anticipated for a dry runway. Land to the center of the runway and keep any crosswind correction in until you are ready to taxi off the runway. Prior to landing a helicopter at a landing

**SAFETY CORNER**

**Let It Snow, Let It Snow, Let It Snow...**

Dennis Dura, D.P.E.

**GEESE MIGRATION**

**Flyway Home...**

Courtesy of Ducks Unlimited

Twenty-Two Transmitters, Teflon, and a Little Tradition

Memphis, October 6—Scientists from Ducks Unlimited are putting a modern twist on the ancient ritual of fall migration. Twenty-two Canada geese from Greenland, Labrador, and Newfoundland will make their annual journey this fall equipped with high tech transmitters and tiny antennas. Their daily movements will be tracked through a complex relay of information over a period of 18 months.

**Data Relay: Geese in Space**

Dr. Bruce Batt, chief biologist at Ducks Unlimited, is directing the project with Dr. Richard Malecki of the NY Cooperative Fish and Wildlife Research Unit at Cornell University. The biologists will use the collected data to track the movements of Atlantic Flyway Canada geese to learn more about where they go during migration, where they spend the winter, and when they move from one location to the next. “This is one of the last frontiers in goose biology. Even the most basic information about their numbers and where they breed is lacking. We need to know these fundamentals so we can refine our management,” explains Batt. The high tech transmitters, weighing 30 grams, are attached to the birds with a flexible Teflon harness. From that point on, the transmitter sends signals to space, which are then picked up by French Argos satellites that circle the earth every two hours. The data is then sent to a receiver on earth, which forwards the information via Internet to Dr. Malecki’s research lab in New York.

**Correcting a Case of Mistaken Identity**

There are 18 distinct populations of Canada goose across North America. In the Atlantic Flyway, there are two populations, the migrant goose and the resident goose, which are easily confused. The migrant geese are the focus of this study. “The Atlantic Flyway Canada goose, named after its migration route, breeds in the Arctic and migrates south for the winter to areas in the Northeast and as far south as North Carolina,” explains Batt. “The annual migration south follows the goose’s ancestral heritage. We’re focusing on the migrant goose because something...”

(Continued on page 2)
PARTY CORNER
Smoke Signals...
At John Clem’s

In a prelude to the upcoming festivities in New Orleans, John Clem hosted a cook out for visiting fellow aviator Richard Stoltman of Minnesota. Many very patient wives were in attendance, and a good time was had by all. Consensus had it that John’s bonfire (in one of the drier falls on record) represented job security for the local natural resource pilots.

Co-conspirators can be identified from left to right as John Clem (Ohio), Joe Barber (Ohio), Richard Stoltman (Minnesota), Buster Keaton (Ohio), Sam Fetty (Ohio), and Pete Hobstetter (Ohio). They all look forward to seeing you in New Orleans. Don’t forget to mark your calendar!

(MIGRATION Continued from page 1)

is happening somewhere during the year that is jeopardizing the population. By studying their migration and the rest-stops in between, we can get a clear picture of which habitats need restoration or protection.” The migrant goose population declined precipitously between 1987 and 1995. Batt and Malecki suspect two threats: unfavorable weather during springtime and too much harvesting pressure in the fall. Perhaps the goose has been under more hunting pressure than it can sustain, due to a mix-up with the very abundant, resident goose. Accordingly, managers have closed the hunting of the migrant goose until they have further information. Dr Batt explains, “They want to make sure that the migrant is not over-harvested in a case of mistaken identity.”

Building on Earlier Study of Quebec Geese

Dr. Batt and Dr. Malecki are building on their earlier 1996 -1998 study of geese that breed in northern Quebec. That study, like the one currently underway, was prompted by concern about the Atlantic Flyway Canada goose population and its overall health. The fall flight was what modern air travelers would describe as “an uneventful flight”; the 2000-mile journey was accomplished with no significant problems or delays. Most of the goose arrived in the United States near October 1 and wintered on the Eastern Shore of Maryland and states to the north. Pinpointing their October arrival date meant that a window existed prior to October during which resident geese could be harvested. Discovering this window gives wildlife managers an opportunity to thin the population that is over-abundant while protecting the one that is in trouble.

Goose-Tracker on the Internet

Ducks Unlimited will put the goose-tracker on the Internet starting October 15th. The scientists want to use the 2-year study to build appreciation, among school kids and adults alike, for the natural wonders of this bird. “They're interesting birds. Many species of birds—including most ducks—mate for the season and then split up. Canada goose form pair bonds that last as long as they’re alive. After mating and breeding, they migrate south as a family. We want to make sure that people standing in their yards in Connecticut or in New York’s Central Park or on a farm in Vermont—that they know that this family vacation they’re witnessing might have started in Greenland, of all places. At least, that’s what we strongly suspect.”

You can follow these birds throughout this coming fall, winter and spring by logging onto www.ducks.org. For more information, or to schedule an interview, please call:

Tildy La Farge, Ducks Unlimited, at 901-758-3859.

(SAFETY CORNER Continued from page 1)

area, it may be difficult to determine whether the snow is loose, crusted over, or frozen. A low flyby with a helicopter can help determine how loose the snow is. Observing the depth of footprints of personnel or animals can help determine the condition of the snow. The helicopter approach is planned in order to ensure that the helicopter is on the ground prior to being engulfed by the snow cloud. One technique is to execute a normal to steep approach, but during the last fifty feet stay above effective translational lift until just ready to land; then make a quick deceleration and land. Another technique is to perform a shallow approach and plan to land with no forward motion by gradually establishing a landing attitude during the last third of the approach. If you land in snow that allows the helicopter to settle up to it’s belly, you may incur a main rotor or tail rotor strike.

Whatever you fly, or whatever technique you use, remember that most winter accidents occur due to a lack of proper planning and poor knowledge of the landing site. A change in seasons requires a change in how you think about the weather and how you fly the aircraft. A good review of winter flying can be found in Advisory Circular 91-13C: Cold Weather Operation of Aircraft.
PRODUCT REVIEW
The Kinetic Mountain Goat

For those aircrews out there who may be planning to replace aircraft in the next few years, you may want to take a look at a new aircraft which is currently undergoing flight testing. Kinetic Aviation of San Ramon, California has developed a two-place "bush" plane which with an anticipated base price somewhere between 115,000 and 120,000 dollars. That will buy a lot of performance.

The aircraft can carry a useful load of 1,250 pounds, and take off with that load in a run of about three-hundred feet! Imagine climbing out at gross weight and seeing 1200 fpm on the VSI, then level off and cruise along at better than 150 mph for 800 miles and still have a 45-minute fuel reserve! (If you really want to impress your colleagues, keep the load light and pop off the ground at about fifty feet in a 2400 fpm climb). Throttled back to 100 mph, the aircraft can stay airborne for 14 hours. This means that the logistical problems associated with an aircraft reaching remote sights and performing extended surveys and/or surveillance missions are virtually eliminated. The limiting factor becomes one of human nature, and fortunately landing distances for the Mountain Goat are equally impressive! The plane has been designed to maximize performance for a typical load used by an outfitter. It will pick up 7 to 9 mph in cruise with a heavy load versus a light load.

This is all accomplished by mating a fabric-covered airframe to a 180-horsepower Lycoming engine. The wings, fowler flaps, and flaperons are made of aluminum and flush riveted. To enhance its off-airport capability the Mountain Goat is being designed to accept tundra tires, floats, and/or skis. It can carry up to 350 pounds of cargo aft of the rear seat. Base configuration will include: Garmin 250XL, transponder, mode C, nav, strobe, and landing lights, electric turn & bank and standard engine and flight instruments.

According to company president, Bill Montagne, the prototype is a thousand hours into the testing program. Additional investors are being sought, and once funding is available FAA certification will begin. The plane will be produced in Wasilla, Alaska. A six-seat plane named the Big Horn, which will have a 1750 pound useful load, is also under development. Further information is available from Kinetic Aviation Inc, 7481 Northland Avenue, San Ramon, California, 4583. Their web page can be found at http://www.bushplanes.com.

SPECIFICATIONS

| Power Plant: | LyC IO 360 B2E, 180 HP (2000 hr TBO) |
| Propeller: | Kinetic Aviation Ground Adjustable, 80" |
| Length: | 24.3 Ft. |
| Height: | 6.75 Ft. |
| Wing Span: | 35.5 Ft. |
| Wing Area: | 188 Sq. Ft. |
| Seats: | 2 Tandem |
| Empty Weight: | 1,225 lbs |
| Max Gross Weight: | 2,475 lbs |
| Useful Load as tested: | 1,250 lbs |
| Payload w/ full fuel as tested: | 830 lbs |
| Fuel capacity total/useable: | 70 US gal/ 65 US Gal |
| Baggage Area (aft of rear seat) | 24.2 cu ft and 350 lbs |

PERFORMANCE

ALL DATA WITH 26 INCH DIAMETER GOODYEAR TIRES.

| Takeoff max performance - light load: | 50 ft. |
| Takeoff max performance - gross weight: | 300 ft. |
| Max demonstrated X wind: | 26 mph |
| Rate of climb, sea level - light load: | 2,600 fpm |
| Rate of climb, sea level - gross weight: | 1,200 fpm |
| Cruise speed / endurance: | 100 mph / 1,400 statute miles |
| 45 minute reserve): | 155 mph / 800 statute miles |
| @75% Power 2,200 lbs 5,000 ft: | 159 mph |
| @75% Power 1,670 lbs 5,000 ft: | 152 mph |
| @55% Power SEA LEVEL | 128 mph |
| Landing distance, ground roll @ 1,670 lbs: | 120 ft |
| Landing distance, ground roll @ 2,475 lbs: | 275 ft |
| Vx | 55 mph |
| Vy | 75 mph |
| Va | 120 mph |
| Vs1 @ 1,900 lbs - Flaps Reflexed: | 50 mph |
| Vs0 @ 1,900 lbs: | 32 mph |
| Vs0 @ 1,670 lbs: | 27 mph |
2000 IANRP WORKSHOP
Cajun Convention!

Don’t forget! The IANRP 2000 Workshop will be held in New Orleans, Louisiana at the Le Pavillion Hotel from January 31 through February 4, 2000. A precise agenda is yet to be established, and we are looking for IANRP members who could and would make a contribution in the way of a talk or slide presentation, or movie or comedy act or anything else of passing interest. For those members who have access to the internet, updated information can be found on the [website].

I herewith petition the Executive Committee of the International Association of Natural Resource Pilots for Membership.

Name
Department
Title
Address
City                                                            State/Province
Zip
Work Phone       (         )                                        Home Phone    (         )
Fax        (         )                                                 E-mail

This is a:                     Renewal                        Original Membership  (Check One)
Full Member                 Associate member  ( Check One)

MAIL TO:          IANRP Treasurer
9740 Briarwood Drive
Plain City, OH 43064
(Please enclose $20 membership fee)

IANRP WEB PAGE
The IANRP Web Page is now on line.
The formal address is:  
http://IANRP.org

CLASSIFIED ADVERTISEMENTS

POSITION WANTED: PILOT/BIOLOGIST
Stephen D. Earson
Dept. of Biology
167 Castetter Hall
University of New Mexico
Albuquerque, NM 87131
(505)277-5130; Fax 277-0304
(Resume available on the IANRP Web Page)

CLASSIFIED RATES: $25 per 100 words, or portion thereof; per issue. No charge to IANRP members for job postings. Payments due in advance of issue date without prior arrangement. Contact editor.

ADVERTISING RATES: $12.50 per Square Inch, or portion thereof; For Press Release information contact the editor. Web Page rates: 25.00 per term for a banner. Terms run concurrently with the newsletter. Banner rates include the hyperlink. Payments due in advance without prior arrangement. Contact the newsletter editor, Pete Hobstetter.