

**DEDICATED TO PERPETUATING AN
ECONOMICAL AND EFFICIENT
PROGRAM IN RESOURCE
MANAGEMENT AVIATION**

ASSOCIATION OBJECTIVES:

- A. To promote the recognition of the importance of sound aviation practices in resource management, with safety as the paramount factor.
- B. To encourage and develop the educational, social, and economic interests of aviation in resource management.
- C. To exchange information on operational techniques and procedures.
- D. To utilize member experiences to develop and distribute reference materials of aviation interest to the Association.
- E. To coordinate, research, and promote new techniques and equipment.
- F. To take all action necessary to further the use of aircraft in natural resource management.

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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 fun-

damentals 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 geese 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

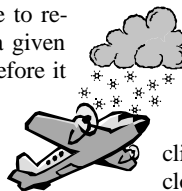
(Continued on page 2)

SAFETY CORNER

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

Dennis Dura, D.P.E.

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 fuse-

lage, 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

(Continued on page 2)

PARTY CORNER
Smoke Signals...
 At John Clem's



A Gathering of Old Buzzards

In a prelude to the upcoming festivities in New Orleans, John Clem hosted a cook out for visiting fellow aviator Richard Stoltzman 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 Stoltzman (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 geese 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

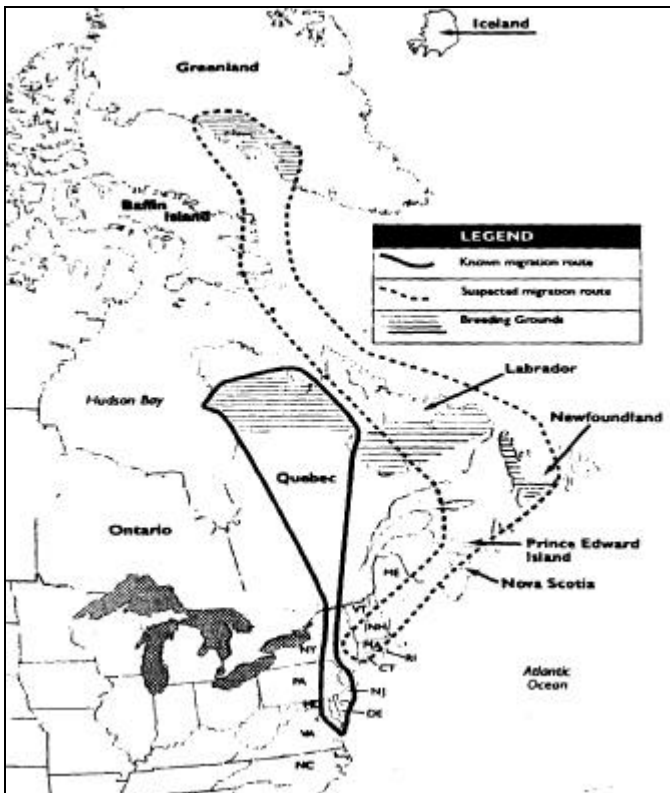
flight was what modern air travelers would describe as "an uneventful flight"; the 2000-mile journey was accomplished with no significant problems or delays. Most of the geese arrived in the United States near October 1 and wintered on the Eastern Shore of Maryland and states to the north. Pinpointing 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 geese 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.



Atlantic Flyway Migration

(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.

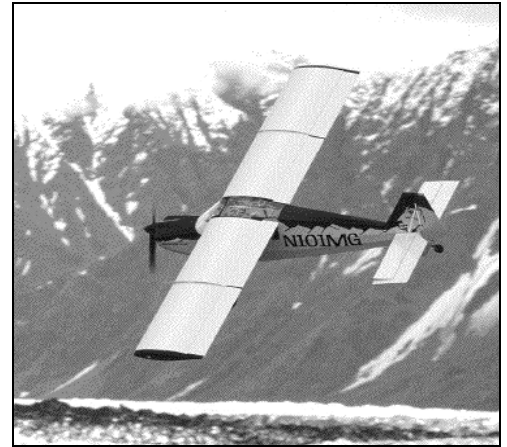
Whatever you fly, or whatever technique you use, remember that most winter accidents occur due to a lack of proper planning and poor knowledge of the landing site. A change in seasons requires a change in how you think about the weather and how you fly the aircraft. A good review of winter flying can 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



Kinetic Aviation Mountain Goat

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

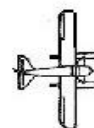
PERFORMANCE	
ALL DATA WITH 26 INCH DIAMETER GOODYEAR TIRES. PERFORMANCE DATA PENDING FAA CERTIFICATION.	
Takeoff max performance - light load:	50 ft.
Takeoff max performance - gross weight:	300 ft.
Max demonstrated X wind:	26 mph
Rate of climb, sea level - light load:	2,600 fpm
Rate of climb, sea level - gross weight:	1,200 fpm
Cruise speed / endurance (45 minute reserve):	100 mph / 1,400 statute miles
	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

Con Aero Newsletter

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THE INTERNATIONAL ASSOCIATION OF NATURAL RESOURCE PILOTS



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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 www.oas.gov.ace symposium.

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

Name _____

Department _____

Address _____

City _____

Work Phone () _____

Fax () _____

Signature _____

This is a:

Renewal Full Member

Original Membership (Check One) Associate member (Check One)

MAIL TO:

IANRP Treasurer
9740 Briarwood Drive
Plain City, Ohio 45064

(Please enclose \$20 membership fee)

Calendar of Events

- 10/24/99 Microcomputer Applications in Fish & Wildlife Stateline, Nevada.
- 10/26/99 Ecosystem Symposion Hot Springs, Arkansas
- 10/29/99 N'awlins Air Show New Orleans, Louisiana
- 11/02/99 FWS GIS National Workshop Phoenix, Arizona.
- 11/05/99 Fort Smith Airshow Fort Smith Arkansas
- 01/24/00 Heli-Expo 2000 Las Vegas, Nevada
- 01/31/00 IANRP Workshop 2000 New Orleans, Louisiana

See Details on the IANRP Web Page

IANRP WEB PAGE

The IANRP Web Page is now on line.
The formal address is:
<http://IANRP.org>



CLASSIFIED ADVERTISEMENTS

POSITION WANTED: PILOT/BIOLOGIST

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(505)277-5130; Fax 277-0304

(Resume available on the IANRP Web Page)

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