BIRD STRIKE!

Experienced pilot Phil Welcome got the fright of his life when he took off in his Piper PA-31 Navajo from Whitianga aerodrome in March and met with a "river of brown".

// The damage to Phil Welcome's Piper PA-31 was extensive, the strike to the left tail was the most dramatic. Photo supplied by Phil Welcome.

An aviation examiner with approximately 40 years flying under his belt, Phil Welcome's seen a few things in his time.

His Navajo had been parked at Whitianga and he wanted to position it back to Ardmore.

"On the day it was a light easterly which favours runway 04 at Whitianga," says Phil.

It was late morning; there was nothing about the day or the conditions that could have given warning to what Phil was about to experience.

"At about the lift-off point I met a river of brown which collided with me just after rotation. A flock of Canada geese was airborne and came out of the cross runway from my left.

"I hit between 15 and 20 birds. They made a lot of noise and the aircraft lost a lot of power."

The damage to his Navajo was extensive. There were three main impacts to the nose area.

"A bird hit the nose leg. Both the landing and taxi light were broken. Another bird hit some of the aerials underneath. One bird went into the engine on the left hand side. On one side the de-ice boot on the wing leading edge was hit and the bird broke off a vortex generator as it went over the top, which I found on the runway. It was not far from the paint and gel-coat shrapnel on the ground. The other wing had a similar strike and there was a gouge through the paint into bare metal but the bird had gone between the vortex generators."

Phil says each side of the tailplane suffered a tremendous impact and the tailplane leading edge was destroyed.

After the bird strike, Phil was able to land and taxi back to the apron area to clear the runway.

Still catching his breath from the shock, Phil then had to start the grim process of cleaning up his twin-engine aircraft.

"I began to remove bird parts from the engine cowling and undercarriage legs. The look and smell was awful. Bits of dead bird were getting baked onto some of the cylinder fins and I was concerned about engine cooling. Shortly after, a friend came down with a hose and a power washer to help clean the aircraft."

About then some other club members came over to help and someone suggested that Phil take photographs before too much cleaning, to document what had happened.

"It took nearly two hours to remove the blood and guts from the aircraft. Not all the damage was noticed until after the washing."

Phil says an examination of the runway counted 13 birds, and a pile of debris looked big enough to account for at least three more.

"While some of the birds went over the top, causing the big dents, I think a number went underneath and through the propeller arc. The engines lost about 500 RPM as we ploughed through the flock. Both props had blades bent out of track."

Phil says he was very lucky that none tried to come through the front windscreen, and blood on the fuselage shows at least one came close.

Peter Stevenson-Wright has been in the CAA's Safety Investigation Unit for 23 years and has seen his share

of occurrences in that time, but says the sheer number of birds that Phil struck was very unusual.

"This bird strike is the only one I recall where so many birds, and large birds at that, were killed at one time. It was also fortunate that the pilot was able to land immediately and avoid having an accident."

Phil says what saved him was the preflight take-off drills.

"Crucially I back-tracked for full length and configured flaps for soft surface take-off. Personal brief: 'unless we get 100 knots (blue line) gear up we are not attempting to go'. The royal 'we' is the aircraft and myself," Phil says.

He says when the problem came, no piloting skill was required.

"It became simply: close the throttles, keep straight, hold the attitude. The aeroplane settled back on the ground."

Phil also can't emphasise enough the importance of making notes at the time of the incident.

"I was fortunate to have one passenger on board – a friend who's a C185 pilot. He was able to fill in some details after the incident.

"I recall during the strike the hardest part was keeping eyes on the horizon and keeping the aircraft straight. A lot of brown birds flashed past the windscreen."

Mixing it in the skies

Be aware of the heightened risk of bird strike at this time, with the big drop-off in aircraft activity, as a result of the COVID-19 restrictions.

More birds will have settled in and around aerodromes, particularly near the coast.

So be extra careful.

What happened to Phil could happen to any pilot and in most cases the pilot has little advance warning of the danger.

Bird strikes tend to happen below 800 feet during the take-off and landing phases.

Higher speeds have also led to greater impact forces and more serious consequences. In a collision, doubling the mass of the bird doubles the energy of the impact.

And the Canada geese that Phil encountered aren't small. Their length can range from 85–95 cm and they typically weigh between 4.5–5.5 kg.

The best way to make an aircraft conspicuous to birds is to turn on all its lights. Landing lights and strobes should be on when operating on or near any aerodrome.

Pilots who regularly fly below 500 feet AGL for bona fide reasons can help protect themselves by becoming familiar with, and avoiding, bird nesting or feeding grounds and high-tide roosting areas. Avoid flying along the coast, harbour mouths, dune banks or other wetlands. Or remain at least 1000 feet above them, to minimise the disturbance to birds.

If weather conditions dictate that you do have to fly along the coastline at low level (ie, down to 500 feet AGL), maintain a good lookout, and be prepared to take avoiding action.

You must report all bird hazards, near misses and strikes. Without such information, there's no firm evidence to justify bird-control measures.

For more information, email publications@caa.govt.nz for a free copy of the Good Aviation Practice booklet, Bird Hazards.

// The left engine took a bruising. Photo supplied by Phil Welcome.