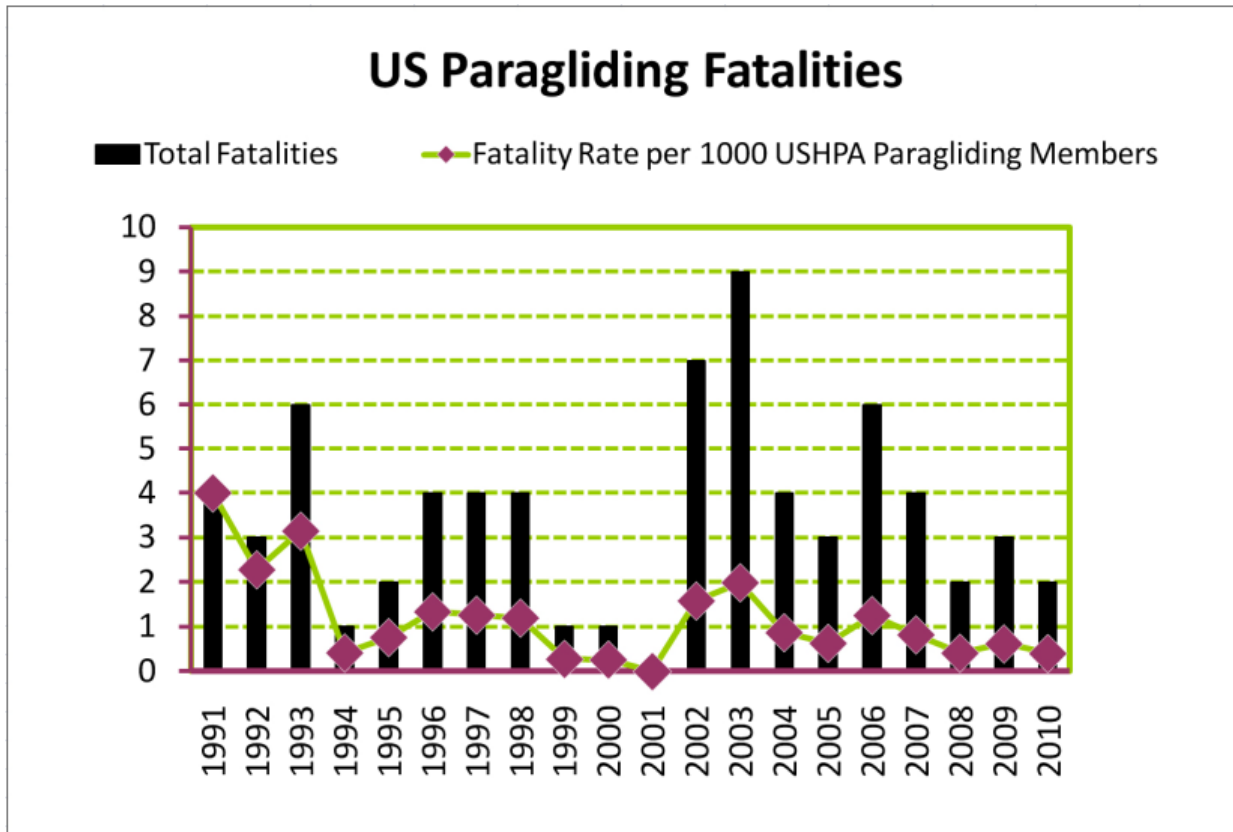


2010 Paragliding Injuries Summary  
Mike Steed

Looking back at ushpa.aero, I see this will be my fifth annual summary article. Last year I finished the article with, "Now, with this sobering experience behind me [reviewing all the accident reports], I am ready to try my hot new 2-riser comp wing scheduled to arrive this week. Here's hoping I've learned enough to still be around next tax season!" Maybe I should have been a little more specific. I did manage to "be around", somewhat to the surprise of my doctors. But it would have been better to avoid the whole medical detour.

This year we are seeing speed gliding wings in the statistics for the first time, so I'll begin with them. Many of those now entering our sport seem to be choosing speed wings. I suppose they like the portability and ability to launch in high wind. Plus, there are the online videos. You've seen them – helmet cam shots as the pilot skims down the flanks of a big snowy mountain, barely clearing obstacles and jagged ridges. The video you saw was almost certainly filmed on a clear, nearly-calm day, in the middle of winter. Do people understand why?

One of our fatalities was a young skydiving instructor who took up speed gliding on the side. He and two others set out to fly from a high ridge on a windswept tropical island. Because he was the last to launch, we know little about the crash except that he was found many hours later on a steep slope 600 vertical feet below launch. We don't know if a reserve parachute or a padded harness might have saved his life – he apparently had neither.



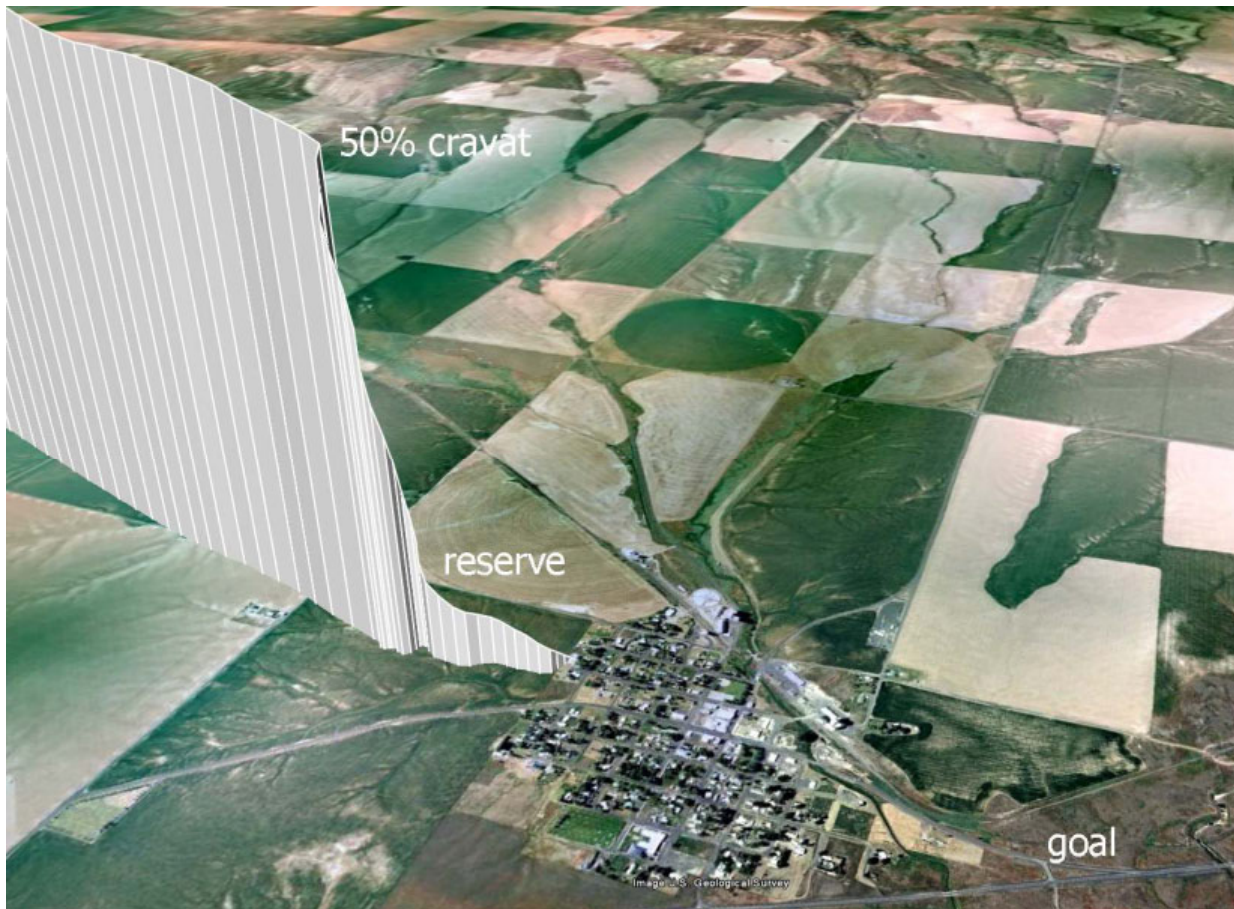
Consider another speed flying crash, this one in the mountain west. A similar demographic, but this time with an audience. A spectator had been talking with the pilot, and learned that it would be his 4<sup>th</sup> hike-up flight of the day. The spectator said he flew straight out, suddenly initiated a steep turn, and then seemed to have a problem with one wingtip. He spiraled to the ground from a height of 100 to 300 feet according to various witness estimates. I found no mention of a reserve parachute in subsequent discussions. This

was probably our most serious non-fatality of the year. (I say probably, because we never got an accident report about these or a few other serious injuries.)

Another speed wing pilot was ridge soaring in strong wind at an inland site. The wing had a frontal collapse and recovered, but he swung across the slope, impacting hard enough to break an arm. Another hurt a foot on the beach due to a mis-timed flare. Yes, they land fast. And we'll complete the speed wing reports on a happier note – one speed wing pilot was carrying a reserve parachute, felt the need to use it, and walked away uninjured!

Here is another serious crash – this one a conventional paraglider that also spiraled to the ground. The pilot doesn't recall any of it, but his GPS was intact, there were witnesses, and even a video of the last bit. Apparently he got a tip cravat in a strong thermal. Other pilots reported he tried to fix the cravat as the wing made two large circles, but then the wing accelerated into a spiral dive and he never threw the reserve. He happened to hit the steep slope at a low angle and survived. His GPS showed a loss of 660 feet in 16 seconds, an average of 41 ft/sec or 12.5 meters/sec. This sink rate is near the maximum of sink rates claimed by manufacturers for altitude loss in a spiral dive (with no cravat). Estimating the sink rate from the video of the last few seconds, I get an even higher number.

Attempting to fix a cravat is risky business, since it takes you into a hard turn for the duration. You may be better off to pay full attention to brake and weight shift in hopes of preventing both a stall and spiral. When entering a spiral, you risk blacking out from the g forces and spiraling to the ground. Altitude is your friend – but when in a spiral, you are losing friends at an alarming rate.

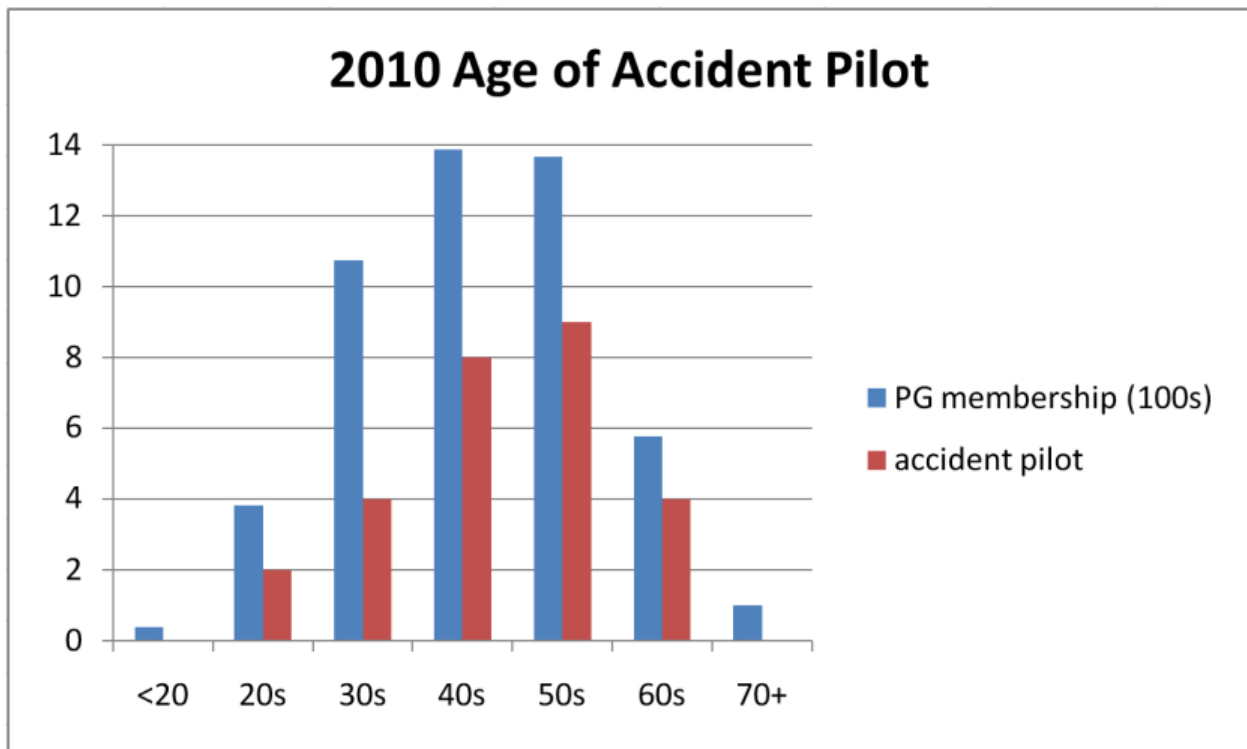


As it happens, I had some firsthand experience with cravat spirals this past year. I was approaching goal with a serious surplus of altitude, more than a mile above the ground. A witness later asked why I pulled a

helicopter way up there. What I recall is my wing rotating overhead like a helicopter, but without any brake inputs on my part and with no collapse until I essentially ran over my own wingtip. With half a wing and twisted risers, I soon went into a steep spiral. For a full minute my average sink rate was 16 m/sec, peaking at more than 20 m/sec. Most of that time was spent struggling against g forces to reach above the twist and grab any rear lines. I was finally able to slow the wing and stalled it twice, but the collapse wouldn't budge. So the reserve came out anyway, followed by steering the still-collapsed wing upwind to try to get down before town. Not my best day, but not my worst either -- that was still 3 days away.

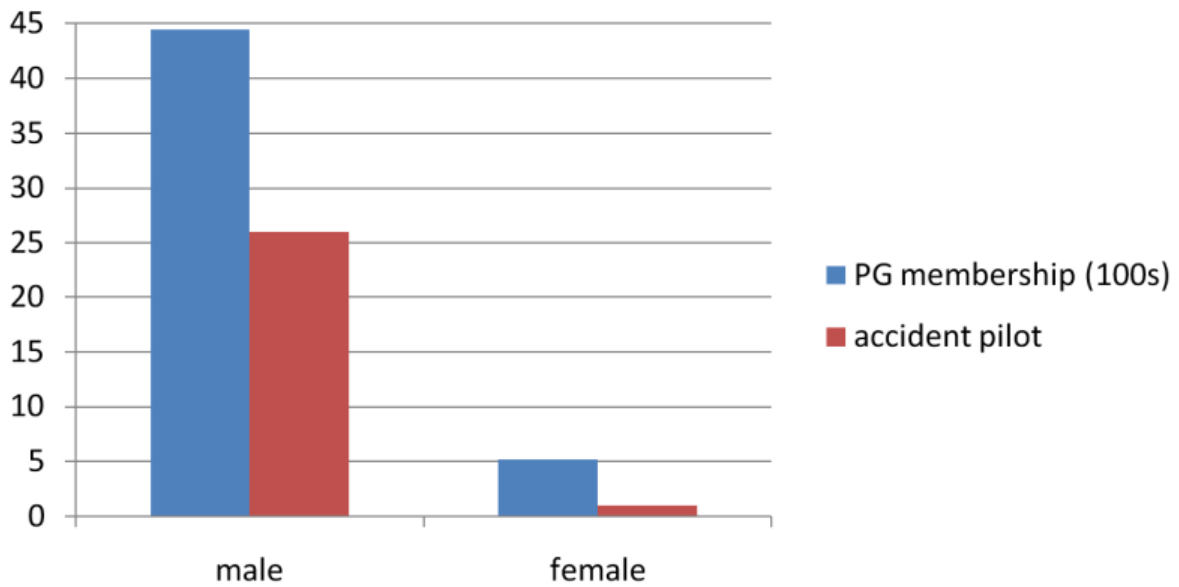
This year the number of reports and injuries were down. We don't know if this is due to a lack of reporting or a true reduction in the number of incidents. There were 45 unique reports -- some from the online reporting system, and some less formal and complete. Of these, 17 ended without pilot injury, though 8 of those included injury to property (wings, trucks, power lines) or injury to another pilot. Two midair collisions at popular soaring sites injured one para pilot and killed one hang pilot. Reserve parachute deployments without injury were reported 6 times, if you count opening "a second or two" before impact and walking away with a stick puncture in the leg as uninjured. The pilot injured in a midair collision threw his reserve to full extension but it did not open.

The statistics in the charts follow the usual rules -- injury accidents only, pilots from anywhere, but USA locations only. We don't count the guy who died of a coronary while laying out his wing, but we do count the guy who died while kiting. Both happened in 2010. You may have already read about the kiting fatality: a pilot on the beach removed the harness from his wing, and then kited the wing by holding the risers. He got lifted up, and held on. He continued up and up, eventually falling from a height of more than 100 feet.



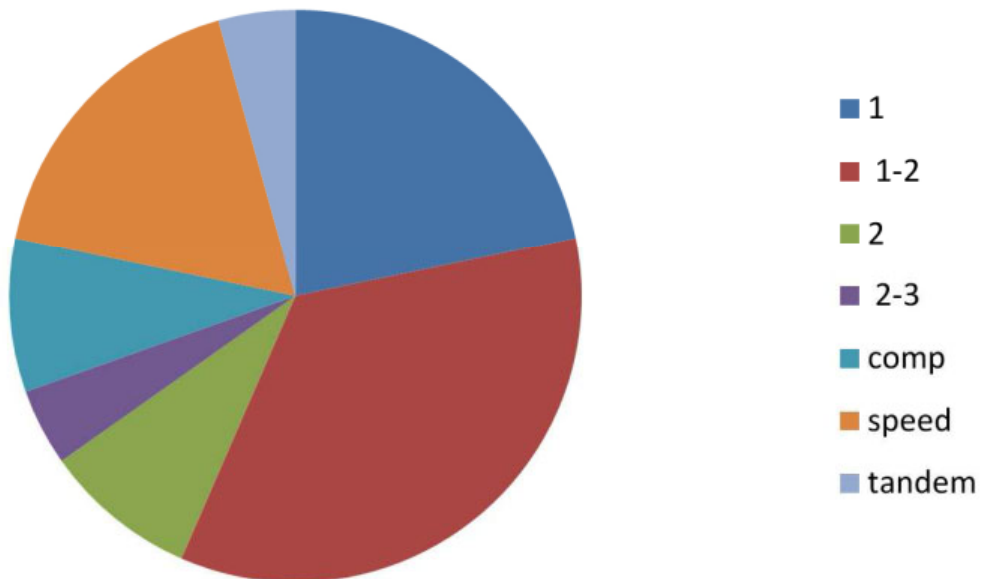
This year, the age profile of injuries is especially unusual. Past years, injured pilots tended to be a bit younger than the pilot population at large. This year, injuries are skewed way toward the older pilots. But note the small base of reports -- you could change the age reported by three pilots and get a balanced chart. So maybe it is random, or maybe we just have fewer beginners making beginner mistakes.

## 2010 Gender of Accident Pilot

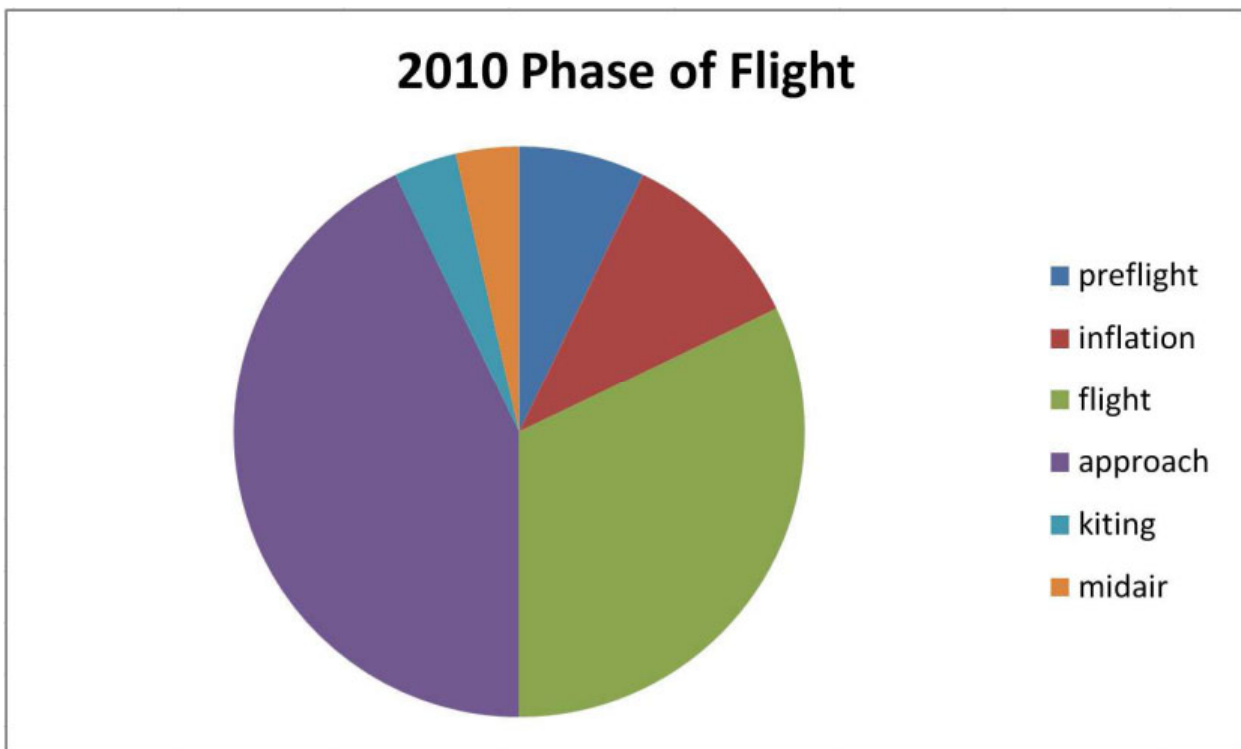
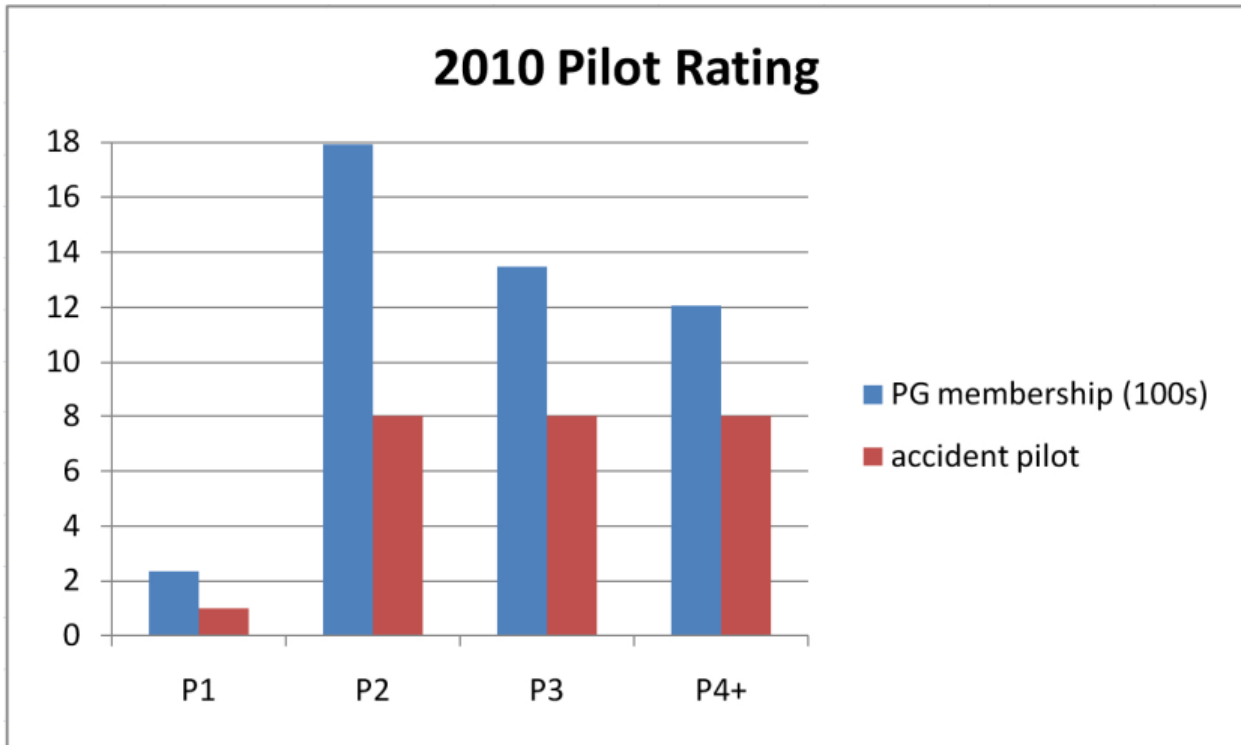


While reported injuries were down across the board, women accounted for only one pilot injury and one tandem passenger injury. Female pilots are few so their share of injuries tends to jump around, but over the years women seem less likely to crash as pilots. At the same time, women are more likely to be in the worst (forward) seat in a tandem tumble.

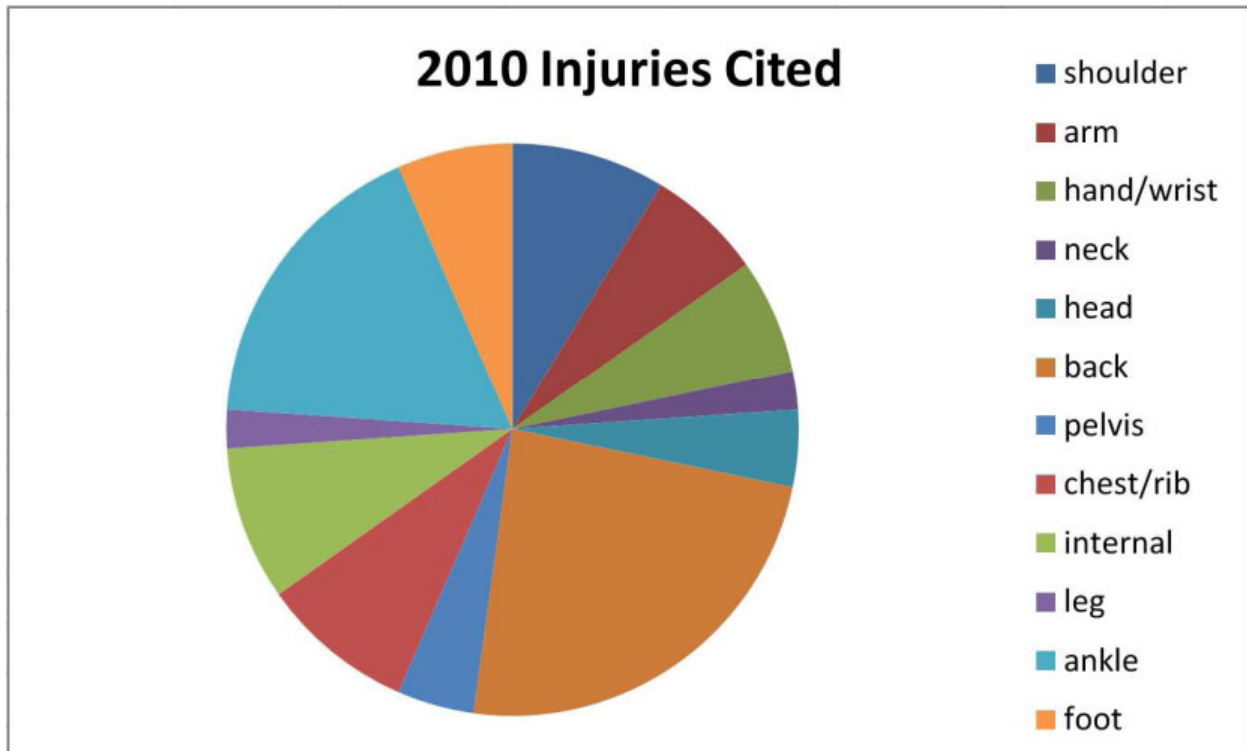
## 2010 Wing Rating



The wings flown by injured pilots continue to span the range of ratings, with speed wings suddenly becoming a significant share as already mentioned. The pilot rating of the injured pilot also spans the range, with a skew toward the higher-rated pilots. I suspect this says something about the tendency of some of us to fly cross-country in strong conditions.



Six injuries started before the pilot even left the ground. These were variously attributed to poor technique, bad preflight, or choosing to launch when conditions were not appropriate. Most of the rest were approach problems – pilot errors or surprising changes in wind velocity or direction. Wind shadows that left the pilot with low air speed contributed to several stalls and spins.



Finally, the one statistic that is not down is the severity of injuries. Overnight hospital stays were encountered with fully 69% of reported injuries. So while serious injuries persist, some of the minor injuries are either not being reported, or are being avoided by more pilots. Back injuries continue to be the single most common (and serious) injury reported. Back/neck/head are injured more often than lower extremities, which are injured more often than upper extremities.

So where did I “fall” in all this? I’m the older P4 pilot on a comp wing who completed a 105K competition task a little tired and dehydrated, and then failed to note the strong wind until drifting well past the airport goal. Pushing back upwind on speed bar, it became evident I could barely get across the rocky terrain to the near edge of the runway. I got off bar and out of the pod, descending vertically toward my intended landing spot. With no forward movement, I soon realized I had to judge wind direction by my crosswind drift, which I attempted to eliminate. Then, 20 meters above my target, I suddenly drifted right and up, not realizing that my whole left wing was folding under at the same time. I recall the imperative in my mind (keep it pointed upwind) being in conflict with subsequent reality – I couldn’t hold my heading as the risers slowly twisted. I had no plan B. I don’t remember the rest, but apparently I did nothing and allowed the wing to enter a wild spiral, with the half wing diving below me at one point during about two 360’s.

A bit of advice – if you have to crash, do it right where nearly every medically-trained person in the county is either already assembled, or is about to arrive. Thanks to you all for getting me quickly and safely to a hospital despite my being mostly unconscious. I have since recovered from injuries that included 6 broken vertebrae. Thanks also to good medical insurance, plus the repatriation insurance that flew me to another hospital near home for surgery.



So, how best to close the article this year? Maybe just a wish that my next 19 years will be as injury-free as the first 19, and that year 20 will prove to be a statistical aberration. And a wish that you all share your experiences (via the handy online form) so fellow pilots can learn from you and avoid injuries!