



SKY LINES

MONTHLY NEWSLETTER OF SKYLINE SOARING CLUB, January 2013

Masthead photo by Dick Otis

Message from the President



By John Noss

As we close out one year and begin to think about the next, I would like to thank every single club member for their part in

making 2012 a safe, productive, and fun year of flying. We have set club records by a considerable margin for total glider flights and for student training, paid off our internal debt for the last towplane and glider acquisitions, gained many new active members, and seen a welcome though modest surge in cross-country interest. We will be taking advantage of our planned down time to finish up work on both towplanes, but when there is one available and the weather is good and there is sufficient interest, we will probably add in some ad-hoc flying days over the winter.

Our next big event is the annual membership meeting, which will begin promptly at 1030L on Saturday 26 January, at the Samuels Library in Front Royal (330 E Criser Rd). The board and club officers are already working hard on their respective presentations so that the entire membership understands how we are doing as a club, and has an opportunity to join in discussions that will shape what we do in the coming year. I hope you will be there! This is really the only time each year that we attempt to gather everybody together to assess the 'state of the club', recognize exceptional volunteers, and discuss issues face-to-face. We also need to ask for your help in preparation for that event. We have put together an online survey, and ask that each of you take the time to complete it between 1 Jan and 15 Jan. It's 30 questions, designed to help us understand your flying background and your views on some

By Jim Kellett, Resident Curmudgeon

important issues that will shape what we do in the future. You will need your logbook for the first few questions, we would really like to get a feel for your experience when you started flying gliders, and how long it took you to solo and earn your license. (How many flights and months to solo, how many flights and months to the checkride.) That's a subject that many talk about, but there are precious few facts to support the discussions, so we would genuinely value your time to help us fill in some blanks. All inputs are anonymous, it's all on one page, and should take less than 10 minutes. The link to the online form is:

<https://docs.google.com/spreadsheets/viewform?formkey=dDdvTE9LWnJLaTd1ZnFEYUJ6d3hJN2c6MQ>

(Remember that if all your glider flights have been with Skyline Soaring since 2005, you can easily pull up that history by logging in to the members-only section at <http://members.skylinesoaring.org/STATS/> thanks to Piet's wizardry.)

Also at the membership meeting on 26 January, we will be electing board members to fill in the two (of six) seats that are completing their three-year term, as set forth in the club by-laws. One of those seats is filled by me, the other by Martin Gomez, who was appointed to fill the vacancy left last year by Curtis Wheeler. Both of us are willing to run for re-election to second terms, but the ballot is open and welcome to any member who wishes to throw their name in the hat. If that's you, by all means let any board member know.

A month further down the line, please remember that our annual safety meeting will be on Saturday 23 February, also at 1030L at the Samuels Library. That's a mandatory event, and if you are not at the meeting, you will need to make it up later, before flying in 2013. We only ask for your time once a year for these formal presentations, and it's important to get your 'head in the game' on safety issues, so please do your very best to make this meeting as well. (Some clubs do quarterly mandatory safety meetings, by the way!)

As I observed last year when I began this first term as your club president, any soaring club needs to do three things to remain viable. First, it must be able to fly safely and accident-free in order to preserve our ability to operate at all within our increasingly-restricted airspace and regulations, and to preserve our aircraft and our lives. Second, it must be financially sound, with a membership and income base sufficient to support the resources and operations we choose to take on. Third, it must provide the services that club members want and need in a friendly, safe, and supportive (and fun!) environment. A club exists to provide collectively what we could not do individually -- maintaining towplanes and gliders, providing manpower for towpilots and instructors and duty crew, and joining together to learn from each other. I consider myself lucky to be able to enjoy the sport of soaring, and am proud of what Skyline Soaring Club is doing. I hope you feel the same way, and hope to see every one of you actively engaged in the coming year.

Fly Safe, Fly Often, Have Fun!

Holiday Party

GREAT drop-in potluck party on December 15!! quite a crowd, including not only a lot of enthusiastic Skyliners, but quite a few other airport tenants and visiting dignitaries as well!!

Here's just a small part of the crowd at the potluck dinner. Not shown is a fabulous local group of musicians, including (drum roll please!) our FBO Reggie Cassagnol himself!!



Photo by Jim Kellett

SSEF chose this major event to make the formal award of a soaring scholarship to Matthew Linger (left), who has already started his flight instruction with the club, and hopefully will finish up his scholarship training in early 2013. (Congratulations, Matt!!)



Photo by Jim Kellett

Now here's a frightening prospect - - the Curmudgeon himself (Left) with the famous Charlie Kulp (aka the "Flying Farmer")!! Charlie is ten years older than the Curmudgeon, and is still flying, although he retired from the airshow circuit at age 82, back in 2008. If you've not seen the Flying Farmer in action, rest assured it's the funniest airshow act in America!

(See https://www.youtube.com/watch?v=_MBRgK6Lld8)



Photo by Jim Kellett

He performed for years at the Flying Circus, where former glider pilot and CFI(G) Charlie Schwenker still does his acro routine.

Anyhow, you should'a been there!

"If flying were the language of man, soaring would be its poetry"- Anon

Soaring Wave at Front Royal



Colorado Wave by Chuck Stover

By Mike Ash

It's mountain wave season. Front Royal isn't the best spot in the world for wave soaring, but it's pretty decent. There are a lot of questions out there about how this wave flying business works and the specifics of this type of flying in our local area. Avoiding the basics of wave flying (other resources cover this topic well), here is specific information regarding our club and our general area.

1.Forecasting

Forecasting wave is something of a mystery. The good news is that most wave days are good soaring days overall, so if you come

out expecting thermals or ridge, you may just be pleasantly surprised. Ed – Wave can generally be seen the day after a front passes.

There are some prerequisites. You want wind conditions pretty much what you'd like for ridge soaring. That is to say, 15+ kts at ridge top level (generally at least 10 on the ground), with a heading of 270 to 330, and the closer to 300 the better.

The complete set of conditions include air stability, soundings, etc. The main thing I look for there is steadily increasing wind speed and favorable wind direction as altitude increases. This can be found on the NOAA sounding forecast[1] up to 48 hours in advance. XCSkies can also show forecast wind speeds at altitude.

2. Preparation

It's probably going to be cold. Really cold. Recall the 4-5 degrees you lose per thousand feet? It may be refreshing in the summer, but when it's 30 degrees on the ground and you're at 10,000ft or more, it's going to be troublesome.

Most gliders (except for the Sprite) are pretty well sealed and the canopy acts like a greenhouse. Still, it's going to be cold. Dress well. It's going to be warmer on the ground where you start out so you need to dress such that you're comfortable both ways. Good quality long johns, gloves, scarves, wool socks, etc. help with this a lot. Chemical hand/foot warmers can be a godsend, even though they lose effectiveness with altitude. (They run on oxygen.)

Most gliders, your lower legs and feet are exempt from the canopy greenhouse effect. Fortunately, you can still operate the rudder pedals perfectly well even after you've lost all feeling in your feet. I've tested this. If you're flying the club Grob, you can pull your feet up into the sun as you fly especially if you have somebody in the glider who can fly while you do this.

You may wish to take oxygen along. The specifics of using oxygen and the club's oxygen system are not covered here so please consult your friendly neighborhood CFG for more information there.

3. Takeoff and Tow

While it's possible to have wave with calm conditions on the ground, it's not normal, and you're likely to have some serious wind with a significant crosswind component and turbulence. Airborne, things are going to be bumpy often severely bumpy. Things-flying-out-of-pockets bumpy. Keep calm, keep it together, keep the shiny side of the plane pointed up, and don't worry about keeping tight tow position as you normally do.

There are TWO cases where you MUST release immediately: If you lose sight of the tow plane. The other is if the tow plane waves you off with a WING waggle. It could be hard to distinguish between a deliberate wing waggle and just turbulence in these conditions. One wing dip is turbulence, two is over correction, and three means release NOW. When in doubt, use your radio!

4. Where to Connect

You're probably going to spend several minutes having fun fighting the rotor.

When the wave is marked (with rotor or lenticular clouds), it should be clear enough where you should go. Get just upwind of one of the clouds. If there are no markers, then you just have to go by feel. In either case, you're looking for the turbulence to suddenly

cease, as if turned off by a switch, and the vario to peg up. In less than ideal wave conditions, the turbulence may fade more gradually.

If the forecast has favorable winds but there are no indicators Signal Knob and points northwest are a good place to look. I've most often contacted wave in line with the Massanutten or I-81. A high tow. A 5-6,000ft tow isn't unheard-of to get into wave, sometimes that's the only way to get into the lift. Occasionally you may find wave at 3,000ft or lower. You may also be able to thermal (or rotor-thermal) into wave after releasing. If it looks like the wave is high, my advice is to spend the extra money and take a high tow to contact it.

If you fail to make contact with the wave, or fall out of it, you'll probably find rotor-enhanced thermals below the wave in the same general spot (just upwind of the clouds) as you would find the wave. Work these up, and edge upwind, and you may well be able to contact the wave this way.

5. Climbing in Wave

The experience of flying wave lift is difficult to convey in words. It's the smoothest air you've ever flown in. You could be climbing at 10kts or more. Even if it's not that strong, remember that at a mere 1kt climb, 10 minutes gives you another 1,000ft. The lift often strengthens as you climb too, so while you may only see 1kt when you first make contact, you may well see that climb increase dramatically as time goes on.

Don't forget to pay attention to your horizontal position in the wave. "Forward" and "backward" refer to your position in the direction of the wind. Forward takes you into the wind, and backward takes you with the wind. (On a typical wave day, these are northwest and southeast, respectively. Or, pointing towards West Virginia and pointing towards the ocean.) Sideways takes you perpendicular to the wind.

There's a optimal spot for lift in the wave with regard to your forward/backward position. Forward or backward from that spot, the lift will decrease. Too far in front of or behind the the lift you'll be in sink. This sweet spot is typically a little bit in front of the clouds, if there are any. If you aren't sure where you are, SLOWLY edge forward or backward and see whether your climb rate goes up or down.

Wind speed at altitude is often about the same as your flying speed. This means you can point northwest, fly 50kts or so, and more or less just sit there and climb. If the wind is slower than this, you will drift forward. You can compensate by doing figure eights or simply crabbing so that you drift sideways. This sideways drift can get you a long distance up or down the valley. You rarely want to make full circles in the wave, as the wind is so strong that you will drift a considerable distance downwind in a single turn.

While you're doing all of this, pay CLOSE attention to your position relative to the clouds! If you're level with the clouds, you want to avoid drifting into them at all costs. These clouds can move and grow, so keep an eye on them if you're pointed away from them. An occasional quick turn to check behind you can be really useful.

6. Physiology

If you're flying a club glider without oxygen, club rules limit you to 12,500ft. If you're flying your own plane, you can go up to 14,000ft, but regulations limit you to 30 minutes at a time above 12,500ft. The rules and regulations should not be taken as guarantees. Just because the FAA says you're allowed to spend half an hour at

14,000ft does not mean that you're physically able to. Always pay close attention to your own mental state and watch for symptoms of hypoxia. Individual physiology varies enormously in this respect, and you may well encounter symptoms at lower altitudes. Don't get complacent! When in doubt, a cheap portable pulse oximeter can be had for under \$50 and will allow you to directly monitor the oxygen content of your blood.

7. Wave Window

Speaking of airspace, 18,000ft is the limit in the US unless you happen to have an instrument rating and an IFR capable glider.

For those of you trying for higher altitudes, the club has a wave window at New Market arranged with the FAA. The details are available on the club web site[2].

If you intend to make use of the window, please ensure that you understand all of the requirements!

8. Distances

New Market at 30 mi from FRR might sound far away compared to making local thermal flights at 3-6,000ft. But on a good wave day, it's not far. Even at an incredibly conservative glide slope of 2 miles per 1,000ft, you can still be comfortably within range of home at New Market while remaining under the class A.

Your ranges open up enormously, so its possible to venture a little farther afield than normal. Don't forget to always be aware of your position, your distance to home, and how your altitude relates to it all.

When planning your distances and glide slopes, beware that wave can carry powerful sink if you get into the downward part of it. Build a healthy margin into your calculations.

Conditions can vary a lot over the valley. You may need to travel far afield to find the best wave. Know your local landmarks and approximate distances to home. New Market is about 30 miles, Winchester is a bit under 20 miles, and the first ridge in the Alleghenies is about 15 miles if you're directly northwest from the airport.

In addition to the sink, don't forget the wind, which is likely to be extremely strong. If you're up or down the valley, this adds a significant crosswind component to your journey. If you're directly upwind from the airport, you'll get back with very little altitude lost. If you're downwind, you need to allow for a LOT of lost altitude to get home. Especially you Sprite folks. Stay upwind.

9. Playing the Wavelengths

On a typical wave day, the wave may extend from Petersburg, WV to beyond Front Royal. (We've all seen lennies over DC.) There are many wavelengths of the wave as it goes up and down and up and down. Not all of these are created equal. In general, the closer you get to the source in West Virginia, the stronger the wave will be, although this is not always the case.

When you first contact wave around Front Royal, you'll be a good distance from the source. While you can usually get a good climb this far back, it usually won't be as good as you could get further forward. Jumping forward might get you into better wave, but it's tricky business. The distance from one section to the next is typically several miles. To cover that distance, you have to battle a ferocious headwind, typically 50kts or more. About half of that distance will also consist of extremely strong sink as you transit

the downward part of the wave.

Everything is working against you as you make this jump. Put the data into a speed-to-fly calculation, it will probably go off the chart. In practice, you'll probably want to maintain 100kts or more to make decent forward progress. Be mindful of your Vne, and don't forget that your indicated Vne goes down with altitude (since it's true airspeed, not indicated). Even doing everything perfectly, expect to lose several thousand feet.

Make sure that you've gained as much altitude as is practical before you jump forward, but once you do that you may be at 10,000ft or more. If the wave is down at 5,000ft, you can afford to dump a lot of that to get into a spot that's potentially better.

It doesn't always work the way it's supposed to. I've seen wave where the areas closest to West Virginia were extremely weak, and the sections near the Blue Ridge were spectacularly strong. Keep an open mind, and don't always assume that everything will work exactly as described.

Wave soaring is a rare opportunity for glider pilots to soar above the clouds. While it's a spectacular sight, it can be dangerous. If you accidentally climb into a cloud from below, a quick push of the stick and perhaps application of spoilers is usually all you need to set things right. However, if you fall into clouds from above, no such easy fix is available. If you transit above wave clouds, be EXTREMELY careful and leave yourself PLENTY of margin.

If you're partway through your jump forward and decide you can't make it, just turn around. If you decide you need to go land, don't just turn straight for the airport if you're in sink. Wave sink can be strong and, unlike the sink we're used to on a typical thermal day, can persist over long distances if you stay in line with the wave. If you're in the down part of the wave and just point your nose toward home, you may well ride 10kts of sink all the way down and find yourself coming up short.

On your way back, you can enjoy a 50+kt tailwind instead of fighting a headwind. Once you're out of the sink, you may be able to re-establish a climb, and if not you're in a much better position to get back home.

10. Traffic

We fly out in the sleepy Shenandoah Valley where not much happens and we normally don't see much air traffic. While you should always remain alert to traffic no matter what kind of flying you're doing, things can become really interesting as you mix it up with heavies at the higher altitudes you can see during a wave flight. Around 6,000ft over Winchester lots of traffic coming into Dulles goes right over the city. Some traffic comes through higher. There are two other major DC-area airports, plus smaller airports, plus departing traffic climbing out, etc. I was once bracketed by a stacked pair of airliners flying at around 10,000ft and 14,000ft, which went over/under me while I was at 12,000ft.

A good deal of traffic also comes up the valley from the south, then turns in to DC, around the Linden VOR. Stay well away from that area at higher altitudes unless you really want to practice your see-and-avoid skills.

Keep in mind that traffic may come from behind. If you have a transponder, you'll be visible to ATC and airliners' TCAS systems, which helps a lot, although you certainly can't treat it as a license to keep your eyes in the cockpit. Once you start getting up there, you may consider talking to Potomac Approach on 120.45 to let them know where you are and what you're doing.

11. Airspace

As long as you stay within the valley, there isn't a whole lot of interesting airspace to contend with. However, the DC-area class B starts just on the other side of the Blue Ridge. If you're flying downwind in wave, you can cover that distance quickly, so keep aware of your position.

There are also a couple of bits of airspace as you go farther north into the valley. Martinsburg has a control tower and an associated class D. With the top of the class D at 3,100ft, it's not a factor for wave flying itself. Unless you fall out of the wave and need to land, you will have to talk to them before you land there. It's a relatively quiet airport and the tower tends to close early on weekends, plan to check in on the tower/CTAF frequency of 124.3 before you reach the top of the cylinder.

Farther north still is Camp David. This has a small ring of prohibited airspace above it, which is sometimes expanded, keep well clear. The FAA posts a NOTAM when the prohibited airspace is expanded. If you aren't sure, either find out or assume it is.

These may sound like they're a long way away, but they really aren't on a wave day. Martinsburg is about 37 miles away from Front Royal. With a 50% safety factor and a glide ratio of 37:1 (Grob), you'd need to be at around 12,500ft (typical wave altitude) above Martinsburg to be assured of making it home. Since wave lift normally extends in long lines up and down the valley, you can make long distances in very short times while never having to circle to climb.

12. Descent and Landing

Descending out of wave is generally pretty easy. slide back into the downward portion, and suddenly your elevator ride to the sky becomes an elevator ride down, using spoilers, flying fast, etc. are all fine techniques as well. With the altitudes you're likely to see, you have to plan your return home earlier than you're used to descending out of wave altitudes, it takes a significant amount of time just to descend (20+ minutes at times).

I have heard when flying fiberglass gliders you want to limit your descent rate to 1,000 FPM to limit thermal stress on the gelcoat. If the clouds start to close up below you or there's some other trouble that means you need to get on the ground right away, push it as hard as you can.

Sunsets come early during wave season here. It can be deceptively light at altitude while it begins to get dark on the ground, and the time needed to descend means you need to plan in advance to beat the sun down. Check the time of official sunset before your flight, keep track of the current time, and give yourself a healthy margin to get home and landed while the sun is still visible.

On the way back down the turbulence you flew through to get into the wave will still be there. The landing is likely going to be challenging. There are probably strong winds on the surface, and even stronger in the pattern. This means a strong headwind and a strong gradient on final. Keep your pattern tight and turn base early. Don't assume everything is just as you left it. Take advantage of local resources (e.g. Winchester and Luray AWOS, Skyline Ground, and Front Royal Unicom) to find out what to expect. If the wind on the ground is still strong consider staying in the glider, lest it blow away..

[1] <http://ready.arl.noaa.gov/ready2-bin/main.pl?>

Ratings, Badges, Milestones



Steve Polk joined the select group of student pilot "A-listers" Dec 15 when he made his first solo flight in *areal* glider (he's been flying relatively poor gliders, I mean airplanes, for some time!). Congratulations, Steve



Alexandra Burgard soloed on Dec. 15--the last "flying" day of the season (it rained on Sunday). Alex's solo occurred on the day after her 14th birthday.



**Recycled
Information**

**Worth
Repeating**



SAY AGAIN

Final Glides

Clarence See

From: [John Gill](#)

Sent: Wednesday, December 26, 2012 9:33 PM

To: [Karl Striedieck](#)

Subject: C SEE

CLARENCE PASSED AWAY THIS AFTERNOON. HE HAS BEEN BAD THE PAST FEW DAYS. HE WAS ONE OF MY BEST FRIENDS AND I SURE WILL MISS HIM. IF I HEAR MORE I WILL LET YOU KNOW. CORKY GILL

Airbus A380

By Douglas Hiranaka

On December 30th I Flew in a A380 Wide body double-decker from Charles deGaul to Dulles. I was exactly at the gate 20 minutes before departure because of a long customs line. This wasn't a problem since it takes a while to load over 500 passengers onto an airplane. The bottom deck seats 3/4/3 for 10 per row. I sat in row 50 with 4 more rows behind me. Seemed to take about an hour to load.

The main gear is 4 trucks of two pairs of 4 and 6 wheels for a total of 20 main wheels and two nose wheels. From the aisle seat I could just see the top of the winglet as we were on the ground. In flight I could not see any of the wing unless we were turning then

the wing unbends a little and the lower part of the winglet is visible. Even behind all 4 engines and at least one apu is was very quiet in the cabin except for a squeaking during turbulence.

During taxi out and take off and landing there is a camera mounted on the tail that is sent to the seat back monitors so you can see the progress out to the runway. We taxied out to the runway extension marked by the arrows showing the non-touchdown area. The acceleration is quiet and mild. Right before take off in the back part of the fuselage there is some pronounced yawing as the pilot or the computer starts using the rudder instead of the wheels to steer.

Being a day flight and being Air France they served a meal, my selection being a fish main course with white wine, bread, cheese, orange, pastry and a conac and coffee. This is what we got back in economy. Makes me wonder what they serve in first class. Cavier? Dom? 2 hours before landing we got a light snack of biscuits and bread with camebert, juice and more coffee.super

The tail camera comes on after the turn from the south to the north over Manassas and I had a tough time seeing the touchdown point until I realized that I was looking about 7 degrees too far to the west (straight out the nose). There was a 17k crosswind and the pilot kept the crab in until we flared then straightend out and way in the back we got a pretty decent shove to the side as the main gear took up the drift.

From a passenger standpoint the plane seemed to fly like most aircraft of that wing loading except for the leisurly accelration and maneuvering close to the ground. The wing flex seem normal to a glider pilot but is pretty noticable that the wing seemed to have dissapeared from view after takeoff.



President - John Noss
Secretary - Jim Kellett
Treasurer - Thomas Park
Membership - Steve Rockwood
Chief Duty Officer - Craig Bendorf
Chief Tow Pilot - Martin Gomez
Chief Flight Instructor - Piet Barber

Skyline Soaring Club, Inc.

Is a private, 501(C7) non-profit organization,
dedicated to the enjoyment and promotion
of the sport of soaring. SSC is based at
the Front Royal-Warren County, VA. Airport

and is an affiliate club of the
Soaring Society of America

For information about the club go to:

www.skyinesoaring.org

Safety Officer - Charles Norman
Skylines Editor - Douglas Hiranaka
duck_h@hotmail.com
Directors - Daniel Ernst
Mike Christenson, Jim Kellett
John Noss, Thomas Park
Steve Rockwood, Ertan Tete