

Skimbat

JAN22



Early season black ice. Skimbat heaven, Kodiak Alaska NOV2 I

American Skimbat NOV21

Hand held wing sailing is increasingly popular these days.

It is all about getting the most from your wing sail. Whether you drive a Kitewing 6.0 Pro or the FI inflatable, light weight; easy to handle rigs dictate performance.

At Kitewing we are working to explore the potential of our new tapered tube. The goal is weight and cost savings. With our built to spec tapered tube we get twice the span over the traditional tip wand for the same weight.

Kitewing is in process working with different frame solutions. We have a Dyneema 4.5 sq M rig with Y tubes which weighs 5 pounds 10 ounces. The gross weight savings is almost half of any other wing except an inflatable in the same wing area class.

Those of you waiting for better plastic tensioners be patient. Kitewing approached the problem on the cheap. You can build your own tensioners or rig with the hardware we built in our shop. Our parts are crude. However they work.

Kitewing is all about ice and snow sailing. We sell what we sail. We work hard to bring the best the industry can offer to our customers.

Charlie Meding
Dicky Saltonstall NOV21

Rigging and Tuning Skimbat Skate Sails

Tensioners for all wings

3NOV21

Tip Tensioners: Tip tensions force the carbon front tube to bend. The carbon tube will seek the limits of the luff tube of the sail. Or in other words: the carbon tube gets bent against the sail fabric. The rig is tight when the front tube is evenly tensioned along the luff seam. Loose rigs allow battens to project ahead of the front tube.

Where a few pounds of force deflects the loose rig, more force is required to deflect a tight rig. You can test this by grabbing your rig at the tip to shake it. A loose rig will flop around more than a tight rig.

Loose tip tensioners allow the carbon front tube to relax away to the rear from the leading edge of the luff tube. There is less tension on battens. Consequently the rig will distort more under loads. Handling the rig, it will feel mushy when you try to pump it.

Tight tip tension makes the rig stiff. When you pump the rig it will react quicker with less distortion. Tight, stiff, reactive, light weight rigs are better than heavy floppy rigs.

You decide what feels best for the conditions.

Dyneema sails are designed to be tensioned.

Batten Tensioners: Tension aluminum battens to eliminate wrinkles. Tension RBS battens to eliminate wrinkles. Do not force battens. You may punch a batten through the batten pocket. Battens can be installed to the Skimbat sail easily without force. When battens are installed and tensioned to eliminate wrinkles the rig gets tuned via outhaul and tip tension.

Outhaul: Tension the outhaul to flatten the rig. Tensioning the outhaul of the Skimbat will also preload the leech of the sail which makes it distort or twist or wash out less under load.

Camber: (with glass batts) I rig a camber adjuster on my boom when I am using glass battens. A simple loop of 2mm chord rigged to slide on the carbon boom works great. Wrap the loop around the boom four times to pass through itself to choke the purchase. The glass batten can be pushed to the front of the rig to induce more camber. Stand the rig on its nose to adjust. Dont forget to release outhaul.

Reflex: Reflex is a reverse curve to the camber of the rig. Reflex acts like an elevator to make the wing fly up. Adding reflex can make it easier to control the wing with one hand. Adding reflex makes the wing less prone to diving. With Y tube frames, use reflex to shift the load ahead or away from the boom. The more camber you have the more reflex you need as velocity picks up. With laced reflex: leave the reflex rigged when you take down. Simply pull the end of the two part boom out to unrig. Feed it through the rigged laces to set up. Laces allow you to adjust reflex which is important.

RBS Glass Battens: RBS battens are standard with the Skimbat and the SK821. Glass battens work very well in the Skimbat. They are not as stiff. They do not induce as much shape as the 7075T6 battens. RBS battens may be popular with heavy air sailors. *The glass battens will invert if the rig is mishandled*. RBS battens are a lot more durable than the aluminum alternative. With RBS battens there is a significant cost saving. There is a slight weight penalty with glass battens. The RBS battens for the P4.5 proto type rig weigh about two ounces more than the aluminum battens when all the battens are weighed together.

7075 T6 Aluminum battens: Aluminum battens allow us to induce camber without using sail shape. They work very well. We use batten profiles to shift or hold camber closer to the leading edge of the rig. The aluminum battens are stiff. They rig a stiffer and more stable sail.

I rig tip tensioners 4:1 on my wings and 3:1 with skate sails. Distinguish wings from skate sails. Skate sails do not have Y tubes.



Skimbat batten tensioner rigged 2:1

Batten tensioners are usually rigged 2:1 You can rig 3:1 but suggest it is too much for the simple tube tensioner. Unrigging 3:1 batten tensioners can be frustrating if they are too tight....

To unrig tube tensioners, try twisting and pulling. With 4:1 tip tensioners you may have to grab the first part downstream from the chord lock to work the purchase free.



Skimbat tensioner shows inboard chord cammed to arrow nock



Kitewing 4.6 X ply batten tensioner rigged 3:1 Most folks only need 2:1



Kitewing 4.6 X ply tip tensioner rigged 4:1 The same tensioners work with the older wings. Pull the plastic part with the web strap off the tip wand to replace.



Skimbat tip tensioner rigged 3:1



Skimbat out haul



Camber tuner forces the batten forward against the front tubes with the sail. the result is more camber. This tuning tip may not resonate with everyone. It is simple to rig for folks who want to try. forcing camber in to the rig makes it easier to handle as draft is maintained closer to the leading edge.



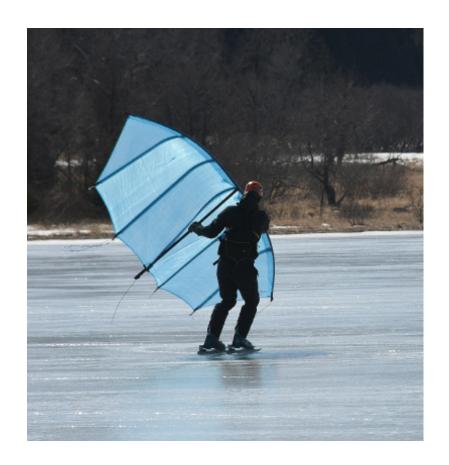
Loop wraped on boom can be slid forward or back to adjust batten camber. Loop is captive under batten tensioner within notch of batten



Camber tensioner is rigged under the batten tensioner.



Kitewing Skimbat skate sail 8NOV21 Kodiak Alaska Nice Ice!



Kitewing Skimbat proto type BA skate sail. 4 square meters, 4 pounds Kodiak AK APR2 I

Skimbat skate sail Rosetead Kodiak AK USA NOV2 I Nice Ice.





One handed manipulation. Skimbat skate sail Kalsin Pond Kodiak AK DEC2 I

P45 skate sail. Nice Ice NOV2 I Kodiak AK

P45 is a very light 4.5 M wing with Y tubes. 5 lbs 10 ozs.

So far it is a favorite



Building Your Own Tensioners

We will supply tensioners with our Skimbat skate sail rigs. This includes the Skimbat and the SK821.

The tensioners work with the older wings as well.

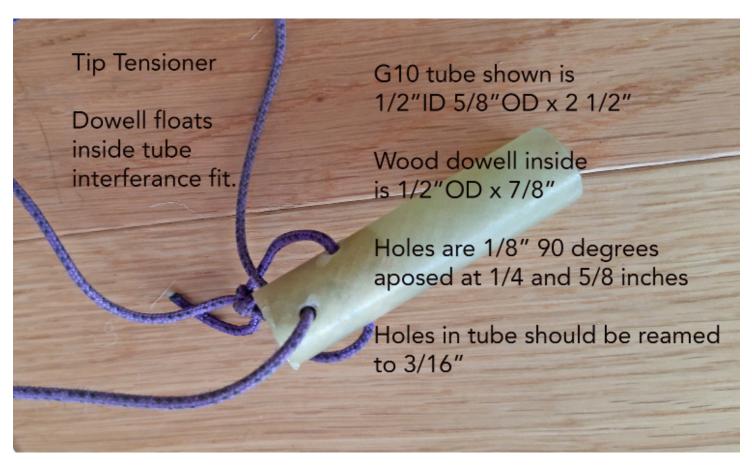
Tip tensioners are a 1/2" x 5/8" x 2" tube. Inside the tube we use a 1/2" x 7/8" plastic dowel. Drill 1/8" holes 90 degrees to each other through the tube and the dowel. The assembly acts as a lash cap. The tube keeps the dowel in place at the end of the half inch tip wand as well as our tapered tubes. 1/2 inch hard wood dowel works very well.

Batten tensioners are easy. Use $1/2" \times 5/8" \times 1"$ PEX or similar plastic. Drill two 1/8 inch holes in line approx 1/4 inch apart in the middle of your 1" tube.

Important: Tapered tubes fit rather precisely to a half inch socket. Depending on the exact dimension, a tapered tube can jam within the half inch tip tensioner tube. We experimented with four different tubes advertised to be 1/2 by 5/8 inches. The Shark bite potable water tube jams to the tapered tube if cut too long. The G10 Garrolite tube worked well at 2 1/2 inches.



Shark Bite potable water PEX batten tensioner. Holes should be in line so arrow nock can trap both parts. Tension by pulling chord closest inboard to arrow nock. Tube jams to chord. Twist and pull to release.



Garrolite tube with wood dowell tip tensioner. Rigging is crucial to success. Keep all parts running the same direction. Use with a chord lock or rig to the cam lock buckle of your sail.

We build initial sail designs from Dupont Tyvek. BA 4.0 skate sail shown here



SKIMBAT/SK821 Skate Sails

9OCT21

The Ezzy production proto type sails have arrived.

Skimbat is a 2 lb 10 oz 3 square meter Dyneema skate sail with a carbon fiber frame.

Skate sails are all about eficiency. Light, easy to rig and stow hand held skate sails require less logistic concern than heavier parts intensive wing sail rigs. Skate sails pack down to a more managable size than the traditional wings with Y tubes. Skate sails are designed to be stowed to carry on a pack.

Handheld wingsail performance derives from weight savings. Dyneema sails and carbon tubes are as light and strong as it gets. Light rigs are easier to handle. Rigs which can be broken down to stow quickly on a pack make sense for skate touring.

The Kitewing Skimbat skate sail is a go to rig. It is an easy light air sailor with enough punch to be all the rig most folks require on ice. Skimbat works on snow as well. Nordic skaters and skiers take note.

Kitewing designed a hollow tapered carbon tube to replace the tip wand. Our 60 inch tube is much more efficient than the tip wand. The new tapered tube has allowed us to save weight and complex parts. We can use significantly shorter front tubes. We can support double the sail area for the weight of the original tip wand. The skate sail rigs eliminate the X tube. We are experimenting with a Y tube wing frame.

Dyneema fabric is the way to go. Dyneema sails can be tensioned without significant stretching. Tensioned Dyneema and carbon tubes allow us to design stiff and stable rigs. Dyneema fabric is very durable and easy to repair. Dyneema fabric can be abused in a manner most laminated fabrics cannot.

We ordered 20 Skimbat sails built from Dacron. At this time I cannot say if the gamble will be worth the cost savings. The Dacron sails will be cheaper and likely a bit heavier. they will stretch on the frames which may or may not be an issue. Time will tell.

Skimbat breaks down quickly to a roll including all the parts. The rig is easy to set up with simple front tube and batten tensioners.

Kitewing skate sails are standard with fiberglass RBS battens. Glass battens are about the same weight as more expensive and stiff aluminum battens. RBS battens have worked well in every rig since we started with them last season.

Traditional 7075 T6 battens are very expensive. Tempered 7075 aluminum battens make the rig stiffer and generate more shape or camber. We bend our alu batts for light air performance.

RBS battens allow a tighter stow, a flatter sail, they can nest inside the boom when the rigs are rolled.

The RBS glass batts bring costs down.

Skimbat does it all. Skates, skis or wheels, heavy air or light air. Skimbat is the most versatile rig at the Kitewing store.

SK821 is a new 2.3 sq meter sail with battens designed to fit the old SK8 frame. Production sails will be Dacron to save costs. If you already own an SK8 you could buy the new sail with battens and upgrade to the SK821.

My all carbon frame SK821 with an Ezzy Dyneema sail weighs 2 lb 14 ozs. Dacron rigs will weigh a bit more. Older SK8 rigs with aluminum tubes weigh more.

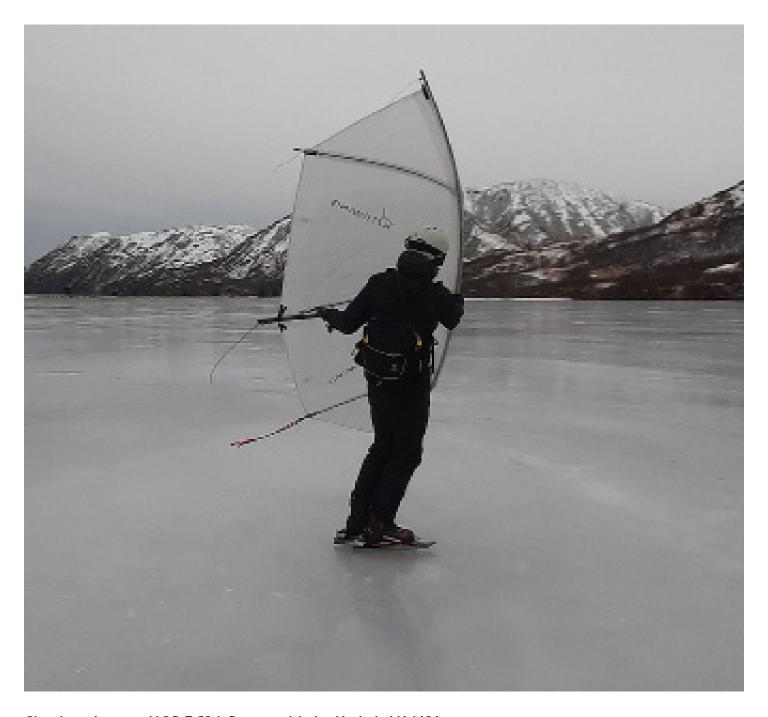
Comparing the SK821 which uses the traditional tip wand to the Skimbat illustrates the difference in sail area supported by the short heavy tip wand relative to the longer tapered tube. The approximately 2 square meter SK821 weighs about the same as the 3 square meter Skimbat mostly due to the heavy Exel tip wand and associated parts.

The traditional tip wand does have utility. Solid glass tip wands make the SK821 forgiving for beginners. The traditionbal tip wand is more likley to survive bad crashes The short tip wands allow the SK821 to stow in the same short roll as the SK8.

SK821 is a dramatic step up in performance compared to the old SK8.

Note on glass battens: The glass RBS battens can invert if you back wind your rig. It has happened to me in heavy air. The rig can invert if it is mishandled. However, the glass batts generate a slightly flatter set with draft a bit further aft which is faster.

Notes on camber tuner: Camber tuners are not stock with the rigs. However if you are using glass RBS battens the camber tuner helps to get the most out of your rig. Advanced sailors will not want to go sailing without one.



Skimbat skate sail 13DEC2 | Rosetead Lake Kodiak AK USA.

"After the last few days of sailing with Stacey and our sidebar agenda of comparing wings, we have both developed a genuine appreciation for the Skimbat and sk8. The sensation one feels with the lighter weight designs is somewhat different and the technique is too. The weight, cost, setup time and compactness are wonderful. The overall simplicity is a delight. Less is more.

A huge benefit is the elimination of what I refer to as the KW muscling. In light or heavy air, I can sail all day and not tire out my arms and shoulders. Remember the original 5.5? It would wear me out for days...and I was much younger. For the record I sail on small to medium plates of ice and have never used a harness.

Speed is another thing. These things are fast. In the right hands, you can smoke a big wing...if competition is your thing." Scott Carlson DEC2 I



Scott Carlson, Skimbat proto type, Maine USA DEC21 Photo by Stacey ${\sf K}$

Wendy Close Eskew with her camera 17NOV21 Kodiak AK USA 4.0 Kitewing





Davis Saltonstall skate sailing Fossil Beach, Twin Lakes, Kodiak AK USA DEC21 Factory Skimbat with RBS battens



Martin Kimbell, Squambats, Somewhere in New Hampshire, USA

Hey y'all, Nice to see the analogies and comparisons. The new light wings on the market certainly make the sport of winging a lot easier to manage, hold, learn, and find a new groove.

Make no doubt, this is a wind sailing sport. We have been sailing Kitewings almost exclusively since 2006. Our introduction was Adrenalin filled with big wind and big lakes here in the lakes region. We saw big growth in the sport over the years that Dicky moved the company here to the US. Our Kitewing riders here in NH are still on the Adrenalin filled arena with Big lakes and touring. We go out on ice after wind speeds bigger than 9mph up to 40.We go out on snow when wind exceeds 15 mph. Up to 45.

The new inflatable wings go on ice in as little as 2 to 3 mph wind. And so will the new Skimbat. Light weight wings can easily sail in light wind. The Nordic skaters will be interested in the light weight wings. Yet our season is snow covered here in NH for the time being. We did have great ice for a while already before the holiday

Years ago I had dubbed the 7m Kitewing Powerfoil the Cadillac 747 Eagle, as it is the Powerhouse of the wings we sell. I fell in love with the ability to fly a wing with ground effect, steady flying control, and hanging in the harness so comfortably cradled.

All of the Kitewings from 3, 4, 4.6, 4.8, 5.5, 6.0 and 7.0 have the comfortable harnessed in effects of hanging from the wing in big winds. The stronger the wind, the more we downsize. Lift with a kitewing is part of the thrill of being attached to a bird with wings. The analogy of not having lift and standing upright is more like windsurfing and skating upright. All good. Not all of us want to go to the edge of intimidation and adrenaline. I just happen to be addicted to the feeling of flying yet being close to the ground.

Wishing you all an exciting and eventful new year and season. Yeehaa.

Martin Kimbell DEC2 I



Martin Kimbell, Squambat, New Hampshire USA Kitewing 5.5

IIJAN22 Digression

I sail on ice a lot. When there is decent snow I go skiing. So far this season we have been on the ice most of the time since the end of October.

We still sail on hard fast snow surfaces. If it is cold slow snow I would rather point my skis down hill.

I have not sailed a wing with Y tubes very much for about two years. Maybe a few times last season and a few times this past year I sailed to make a photo or demonstrate a Kitewing product. This season we set up heavy wings to compare them with newer designs.

Are the old wings obsolete? No.

Sailing preference will determine your favorite wing. If you want to hang in your harness or jump and glide you will not be satisfied with a Skimbat skate sail. I am old daddio with shakey knees and other fragile parts. Light weight minimal gear suits me.

If you are tired of holding up a rig when the wind dies, try a skate sail. Skimbat is all about saving weight. For folks who spend time on their blades, the Skimbat may be all the rig anyone needs. Light weight rigs work on the snow too. If you seek light air performance: Skimbat may be your thing. Light air is fun with a Skimbat.

Kitewing has a rig for everyone. Sailing style is important. If you are not happy flying the rig over your head, stick to a shorter wing span. Suggest the 3.0 or a skate sail. Folks who want an efficient flyer can ride the 6.0 or an improved 7.0. Bias makes me favor the designs I have introduced. You may want an older or vintage wing like the Kitewing 5.5.

We still stock parts, we still sell the original designs. I cut my teeth on a 5.5 Pro twenty years ago. It is still possible to buy the same rig with upgrades.

Call or write to Charlie at Kitewing.com

You decide what you want and we will build it for you.

All carbon frames are a step up. Light weight and stiff carbon tubes out perform aluminum. Kitewing carbon frames are the best available in any hand held wing. We have been sailing with carbon frames for a long time. We know what works.

More about carbon fiber frames:

The initial carbon tube we used was built by Exel in Finland. The tube did not have a balanced orientation of fibers which made it prone to split. Early carbon front tubes have a sleeve at the



Kitewing 4.6 X ply Buskin Lake Kodiak AK USA FEB2 I I hardly ever use a harness.

tip end to maintain the tip wand socket. The Exel tubes are light, but heavier than what we use now.

Once we apreciated the benefit of weight saving and stiffness we decided to replace more of the Kitewing frame parts with carbon. We replaced aluminum tubes with carbon tubes of the same dimension spec. We tested three different fiber orientations based on samples sent from the manufacterer.

I have been sailing with carbon tubes for seven years. I have not broken a tube yet. However some have. I believe we cannot build our frames to be bomb proof without compromising weight savings. When I was younger I broke parts. An older more experienced sailor adivised me, "You wont finish the race with a broken boat."

If you crash and break tubes try to be honest with yourself. Did you push your parts past a reasonable tipping point?

If you decide to use a harness:

You are now declaring that you are the one to assume liability for your broken parts. Harness sailors break parts because they crash hard. The harness allows you to load the rig with more weight. When you use a harness you have to be a better wing handler to be able to recognize wind shifts and aparent wind vector changes in time to trip out of your harness to avoid digging a front tube and consequently falling on the rig while you are still hooked up. Even experts crash.

Try to release the rig so it does not have to sustain a crash which it was not designed to do. Better to let go.

Best, Dicky Saltonstall

Ice Safety

It is important to know the ice you are sailing on. Most of us have local ice that we can check as temps slide to frost. Observing the last open holes, the extent of open water around inlets and outlets, helps to locate thin ice later. Most ice has historic holes and thin ice in the same places from year to year. You will learn where the spring holes and gas holes are. Deep water can induce what some call an early ice hole.

I use an axe to check my local ice. I like to be able to chop blocks which I leave propped as markers. The eroded markers can tell me a lot about weather conditions between visits to the same ice. I can tell if temps remained below frost or not via the condition of my marker a day later. Observing ice blocks can tell me a lot about the freeze history of the ice. Ice block markers can serve to delineate thin ice. Later in the season when the ice is a lot thicker, I carry a light hatchet in my pack. I use the hatchet for chopping blocks as well as firewood if we bring our zip stove.

I learned to check ice for ice boats. I have never been a big fan of the poke pole. The ax and the pole weigh about the same. I get more from ax blows because it is what I am used to. However many use a pole. Experience and knowledge of the ice are what counts. Either ax or pole, both work well for knowledgeable ice checkers.

Wear picks always. Carry spare picks. Picks need to float. Picks should always be worn outside clothing snug up to your collar where you will find them when you need them. Loose picks sling around behind your neck. Picks in a pocket are useless. Carry a throw line. Carry a water tight bag with a puff jacket and pants; the bag serves as a float. Try to carry your pack always. You will have it when you need it.

On the ice, most injuries are head injuries. Wear a helmet. Wear knee pads.

Some accessories could include an ice screw, a short spectra loop with a carabiner, a thermos full of hot drink, a liter of water, food, binoculars (small binos make it easy to observe or find folks who may be far enough away on big ice), a Tyvek suit or similar emergency wind shell (a large contractors trash bag might work).

Plan ahead. Every time you step on the ice take a short moment to assess the ice. What are the potential hazards, what will you do if you fall in or something goes wrong. Be confidant in your skills. Practice with your picks. Practice with your throw line. Practice pulling someone with your line. I believe it is easiest to skate backwards with my elbows braced. Keep line in front of you to avoid tripping in a loop or cutting the line with a skate blade. There is no happy ending if you cannot self rescue or rescue the folks you are with.

Wear clothes which can be wrung out. Unless it is really cold and blowing hard enough to turn you in to an instant icicle, suggest strip down wring out and get dressed. You may be able to

continue on your way to a fun day. I almost always carry a wind top parka and pants. Synthetic rather than down fill, synthetic long johns and fleece work well. Wool is old school yet some of us are loath to part with our wool shirts.

The faster you get out of the water the less you cool off. Remember to turn around to get out. The strongest ice is likely to be the ice that held you up before you went in. You will swim out of the hole using the picks for traction. Get horizontal. You will be swimming with ice chunks. Slither, slide or roll to distribute weight. Do not attempt to stand until you are well away from the thin ice.

Use your whistle to signal friends.

Cell phones are very handy unless you are in Alaska without cell service. Communicate plans with your party, stick together to avoid lost sheep. Explore at the speed of the slowest member of the group.

Most folks fall through the ice due to poor choices. Folks do not recognize changes to ice composition which signal weak ice. Folks are not paying attention or looking ahead where they intend to go. Folks do not listen to the ice or recognize shooting cracks which are a warning.

There is a difference between the high frequency thin ice cracks and low frequency thick ice cracks, between ice cracks affected by a skater and ice which is merely singing due to expansion or contraction.

Early ice disguised by snow should be avoided if you do not know the same ice. Avoid ice subjected to obvious currents; this includes rivers and streams.

Respect pressure ridges.

Late season ice will eventually rot. Ice transforms to vertical structures which can be flooded with water. At night the surface of what amounts to slush will freeze. During the day as temps climb, the strong frozen layer melts and you may plunge through what seems to be very thick and strong. Even ice which is over a foot thick can be a treacherous trap in the spring. The ax is useful for chopping a hole in spring ice. Before chopping completely through the ice you will be able to see if there is free surface water within the ice sheet because it will migrate in to your hole. It will be easy to see the extent of the frozen surface layer. Does the ice show signs that it has gone to candles or needles? Does the ice fracture like safety glass or does it retain structure?

Learn about ice at http://lakeice.squarespace.com.

Kitewing MT:

Having arrived in Helena about 3 years ago, and being snow kiter for the last 15 years, it was inevitable that I would eventually head out on to the frozen lakes when the mountains lacked snow. It took I session and I was hooked. That day delivered perfectly smooth black ice and a 15kn wind with no gusts, a very rare occurrence for Montana. The early winter sun, low on the horizon, casting gold and rose colored reflections under my feet as I wizzed along at 30-40 mph on hockey skates, was pure magic! Frictionless, efficient, Fast! And when I would finally stop, total silence besides the pinging and cracking of the 3" ice under my feet, and an odd feeling of accomplishment. After I got home from that session I knew I couldn't have been the first to sail on ice, so I began researching what was out there for this unique environment. This led me to find Kitewing and the awesome Squambat community!

It has been a year since I have started sailing these fantastic machines. Not sure where I saw it or who said it, but someone said, "A kite is like an ice cream scoop and a wing is like a knife in the wind." I couldn't agree more! Learning how to trim the wing and let it gain apparent wind in light conditions is an incredible and rewarding feeling. So far, I have started to prefer the 4.6 for our region since it is efficient enough to get moving in about 10 kn or less, depending on the surface, but when you find where the wind is 30kn in the middle of the lake I am still able to sail along with confidence. The 5.5 and the 3.0 have also shown their advantages when the wind is just out of range for the 4.6. I was very surprised on a 20kn g35 day just how stable the 3.0 was. A collapsing 3.5 f1 inflatable wing was quickly outperformed by the kitewing while still feeling safe and in control at all times. Having instant flag out abilities when you need to navigate thin ice, cracks, or ridges has made being out on the ice such a joy.

Sunset Session, Tom Wietecki, Kitewing Montana



Helena is in a unique spot where its valley is in a bit of a rain shadow, in the otherwise snowy rocky mountains. This provides many months of freezing temperatures and snowless weeks. We have several bodies of water, large and small, to sail on in any wind direction thanks to the Missouri River and its many dams in our area. The largest body of water is Canyon Ferry. If you follow ice boating at all, I am sure you are already familiare since they have been going strong here since the early 80's at least. The wind is also very interesting in our valleys. North and South winds will make Canyon Ferry easy to traverse. If it turns west, the wind is blocked by the mountain ranges surrounding it and will quickly go dead. When that happens, a trip back into the Helena valley or White Sulfur Springs an hour away will certainly provide west wind exposure and an assortment of lakes to choose from. If there is anything but high pressure happening in the atmosphere, and you have time to drive, you're sure to find a session somewhere.

While winging has been quite slow to catch on around here, there is a very strong presence of nordic skaters and ice boaters that frequent our lakes. With some exposure and some patience, I am hoping we will have a community of sailors similar to the NH lakes region in the coming years! If you find yourself wanting an adventure, and sailing in Big Sky Country sounds like your kind of trip, I would be happy to be your guide! It would be a treat to see some of you winging vets out here ripping it up! Feel free to reach out on FB or Instagram @kitewing-MT if you have questions about MT.

Looking forward to sailing with you all some day!

-Tom Wietecki



Sailing 4.6 Tom Wietecki