

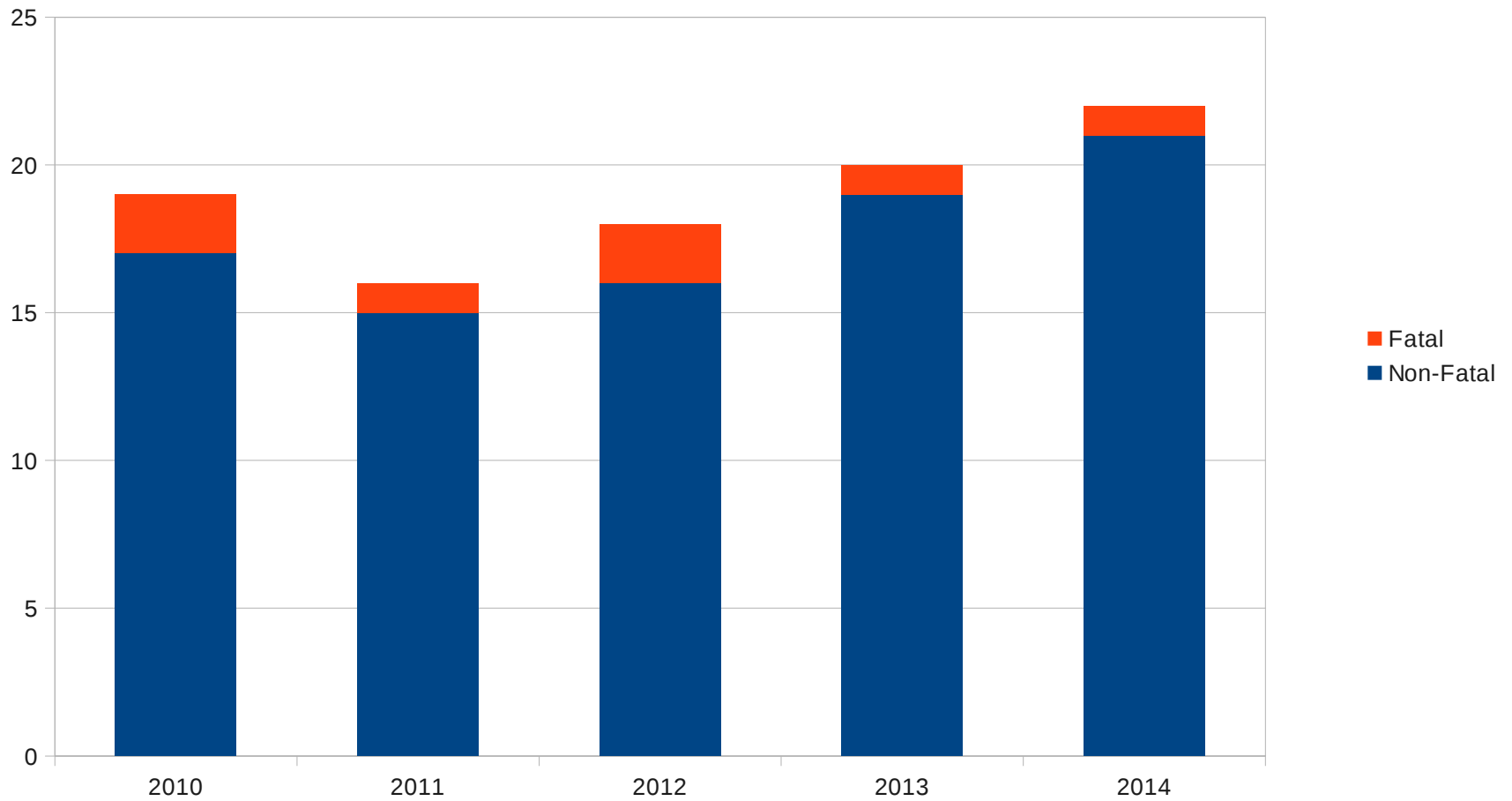
SSF Goal Oriented Approach

Soaring Safety Foundation
FIRC Presentation

SSF Soaring Safety Foundation

Landing Accidents

Fatal and Non-Fatal Landing Accidents



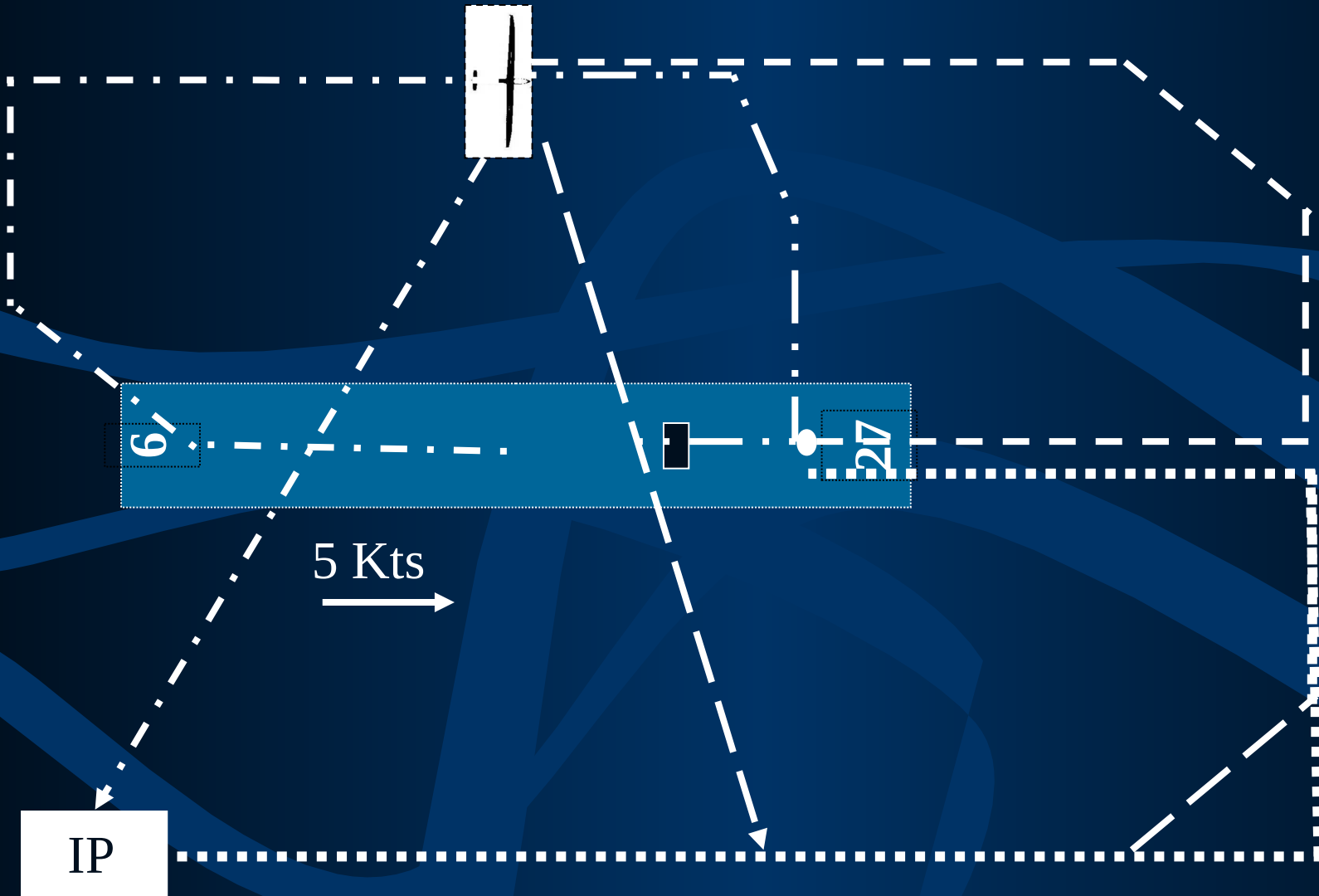
Approach and Landing

- Teach the stick&rudder skills required to fly the glider through the pattern and land at the predetermined point
- Teach the RM/ADM skills required to evaluate how well the pilot is accomplishing the mechanical skills task

Adding in RM skills

- What we really need to do is teach RM/ADM skills along with the mechanical skills
 - What factors will effect the airspeed on this landing?
 - What factors will effect the gliders height and position on this landing?
 - What actions would be required if conditions change?

Which Approach should I use?



Landing Scenario

- Coming back low
- Coming in from a different direction
- Dealing with other landing traffic
- Dealing with launching traffic
- Runway incursions during the approach
- Dealing with unexpected lift/sink
- Expediting a landing
- Dealing with being too high on downwind
- Making the decision to land out
- Dealing with faulty instrument readings

Coming Back Low

Ingrid, a 80 hr private pilot, has been checked out in the clubs Mini Nimbus and is preparing for a new season with X-C flights. She has spent the past few years learning soaring and basic navigation techniques in the 1-26, but the Mini gives her the opportunity to stretch out and fly longer distances. As she is landing after one of these early X-C flights you notice that the glider is low and slow as it comes in over the fence. Upon questioning Ingrid is unconcerned because 'everyone knows you need to practice low-energy landings if want to have a successful off-field landing'.

Coming Back Low

- Pilot
- Aircraft
- enVironment
- External

Coming in from a Different Direction

Irving, a commercial pilot, is returning to the airport from the North-East with an expected left hand pattern to land on runway 27. He is on final glide in his SGS 1-26 fighting a light headwind. About 2 miles out it becomes apparent that the glider will arrive over the airport about 500 ft AGL. A right hand pattern is frowned upon as the Initial Point takes you near an unfriendly neighbor who is fighting with the club.

Coming in from a Different Direction



Pilot

Aircraft

enVironment

External

Dealing with other Landing Traffic

Sam, a commercial pilot, is taking Mark, a SEL rated pilot, for his 1st glider ride and is upwind and low in the DG-1000. Approaching from the field from the North, Sam and Mark hear 2 other gliders announce they will be entering a left pattern for runway 33. Sam has been planning on a right hand pattern to runway 33, but now must deal with the conflicting traffic and an increasingly anxious passenger.

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Dealing with other Landing Traffic

- Pilot
- Aircraft
- EnVironment
- External

Dealing with Launching Traffic

Ingrid, a commercial pilot, is giving a ride to a passenger in one of the clubs ASK-21's as part of the club's annual charity ride day. On downwind she notices that the Pawnee is being connected to the other K-21. As she is turning onto base she hears the Pawnee's radio call and sees the launch begin on runway 9. Ingrid closes the spoilers and begins evaluating her options.

Dealing with Launching Traffic

- Pilot
- Aircraft
- enVironment
- External

Runway Incursion During the Approach



Irving is a commercial pilot flying his Genesis II on during a club contest flight. He finished the task and enters the pattern just behind Ingrid flying the clubs ASW-24. Ingrid announces that she will land long to allow Irving a place to go. While on short final, Irving notices that the ground crew has run over to the golf cart and is starting to chase the -24 down the runway to retrieve it.

Runway Incursion During the Approach



- Pilot
- Aircraft
- enVironment
- External

Expediting a Landing

Sam is a new commercial pilot who is building time by flying rides in a SGS 2-32. At about 2000 ft AGL and 2 miles downwind from the airport one of the passengers reports that he doesn't feel well. Sam deploys spoilers to expedite the landing and makes a bee-line back to the field. Sam's intention is to make a straight in approach to the runway to eliminate the turns that made the passenger sick.

Expediting a Landing

- Pilot
- Aircraft
- enVironment
- External

Dealing with being too High on Downwind

Irving is a recently rated private pilot flying the club's L-33 solo Blanik. Recognizing that his allotted hour is almost up, he enters downwind early (high) with the intention of using a little more spoilers than usual to get down. He fails to correct for the crosswind that is drifting the glider towards the runway and deploys even more spoilers. Irving concentrates on getting the glider lined up on final and he is shocked to find that the glider is lower than he expected. He slams the spoilers closed and just passes over the airport boundary fence before making a hard landing.

Dealing with being too High on Downwind

- Pilot
- Aircraft
- enVironment
- External

Making the Decision to Land Out

Sam, a low time glider pilot, has been on a local flight and is about 3 miles downwind of the airport when he fails to connect with the weak thermals he has been working. The glider must cross over a housing development to get back to the airport. As the glider begins heading toward the airport it is quickly apparent that the runway is rising on the canopy. Sam makes a 180 deg turn to the right and heads back to an open field where he makes a successful landing.

Making the Decision to Land Out

- Pilot
- Aircraft
- enVironment
- External

Dealing with Faulty Instrument Readings

Ingrid, a 40 hr private pilot is practicing spot landings in preparation for her Bronze Badge test in the clubs Grob 103. She is on downwind after a pattern tow, and she is monitoring the airspeed and descent rate by looking at the instruments. The mechanical vario has a blockage somewhere and is reading a high climb rate. Ingrid recalls the flight last week where she encountered lift on downwind so she deploys more spoilers. Turning final she realizes that the glider is lower than expected. By fully closing the spoilers she is able to successfully land on the runway.

Dealing with Faulty Instrument Readings



- Pilot
- Aircraft
- enVironment
- External

Conclusions

- A review of glider accident statistics shows that over 60% of the accidents occur in the landing phase of flight.
- The “Law of Primacy” states that the first thing learned is what is remembered during times of stress.
- Good Risk Management skills can help reduce the number of landing accident