

Seven Stages of Slope Evolution

Will the circle be unbroken.

[Dave Garwood](#)



1. Dave Garwood flies a Pat Bowman Models Comanche over the Pacific Ocean at Davenport, California. (image: Jim Harrigan)

A classic from Dave Garwood as it was originally published in the October 1998 in R/C Soaring Digest.

This article proposes a taxonomy of seven developmental stages that we have seen in slope soaring pilots as they progress through the hobby/sport. It is offered for the review and reflection of readers, and we hope that others will contribute to scholarly research and scientific knowledge in this area of study.

1. Primordial Awareness

In this stage, the subject has a dim cognizance of slope soaring flight. He has heard of it, has seen photographs of it, and may have even read a book or an article on slope soaring, but hasn't actually built or flown a slope sailplane.

The most important equipment at this stage of slope development is a computer terminal and an AOL account. His most recent quote: "Honey, I can never log onto the service. It's always busy. Maybe we should get Web-TV."



2. Dave Garwood flies a Dave's Aircraft Works Schweizer 1-26 from Francis Peak, overlooking the Great Salt Lake, during a Soar Utah event. (image: Joe Chovan)

2. Early Emergence

Fully aware of slope flying, a representative of this stage has watched RC slope soaring or hang gliding, has studied gulls and pelicans and has developed an understanding of the atmospheric dynamics involved in slope lift. He has tossed a Carl Goldberg Gentle Lady or DynaFlite Skeeter off a hill, and amazed himself at the longest flight in his soaring career.

Development in this stage involves building stronger polyhedral sailplanes, maybe a Great Planes Spirit or Culpepper Chuperosa. His most important

building tools are T-pins and X-acto knives. His field kit includes five minute epoxy and bits of balsa and plywood. He learns to turn only into the wind, to land shiny-side-up, and can be heard asking his wife on windy days, "Honey, do you think it's okay if I mow the lawn *tomorrow?*"



3. Dave Garwood flies a Dave's Aircraft Works *Kawafoamie Ki-61* at Wellfleet, Massachusetts. (image: Jim Harrigan)

3. Primary Adaption

Exuberance increases and an exploratory urge develops. The seeker builds an aileron slope plane, perhaps a Sig Ninja or CR Aircraft Turbo, and begins looking for slope flying sites. His shop now includes a moto-tool and a jig saw, and he is willing to travel up to 20 miles to fly slope.

He's not happy unless the wind is blowing 10–15 MPH and his most impressive maneuver is an inside loop. The most important items in his field kit are fiberglass cloth, CA glue, and kicker. He thinks to himself, "On our family trip to the beach (or mountains), maybe I'll take a slope plane and do a little flying."



4. Dave Garwood turns and burns over the Atlantic Ocean with a DAW *Kawafoamie Ki-67*. (image: Jim Harrigan)

4. Secondary Selection

The pre-addiction stage. Here the seeker accumulates several planes for several wind conditions, and may make a trip to the coast or the mountains with slope soaring as the primary focus of the trip. He can handle 20 MPH wind and fly aerobatics, including rolls and inverted passes. He may become interested in full-contact combat if he has discovered EPP-foam planes, and he's willing to travel 200 miles to fly at a good site.

At this stage the subject is not happy unless he has three planes ready to go with servos and receivers mounted. He has four long sanding blocks to save construction time. His newly discovered adhesives are hot-melt glue and Goop. Typical sailplanes are the Sig Samurai, Bob Martin Coyote, and Bowman Ruffneck. As he leaves the house he says, "I'll be back from the hill a little after dark."



5. Dave Sanders, designer of the DAW *FoaMe-109*, flies one over Cape Cod Bay in Truro, Massachusetts. (image: [Dave Garwood](#))

5. Early Specialization

Now mildly addicted, our man is not content unless he has four new kits on the shelf, and four planes ready to fly in winds up to 30 MPH. His shop equipment includes an airbrush and Rapidograph pens because he's not destroying his planes on landing so much any more. He has begun to

destroy planes during aerobatic practice. He may become interested in racing or in four meter scale planes, and now has a ModelTech P-51, Charlie Richardson Renegade, a Bob Martin SR-7, or a Brian McLean Vindicator. If aesthetically inclined and hooked on combat, he'll have a Lex Liberato Yak-3, a Merrill Farmer Saberjet, or DAW warbird.

He loves speed runs, stall turns, and low inverted passes. He can fly point rolls in both directions. Not afraid at this stage to leave his home valley to fly with other tribes, he'll travel up to 400 miles to participate in a weekend slope event, and says to his wife as he leaves, "It's only a two day event, my sweet baby."



6. Dave Sanders flies a Wade Kloos Durable Aircraft Models *P-51 Mustang* at a Southern California PSS Festival in Cajon Summit. (image: [Dave Garwood](#))

6. Progressive Homologation

Characterized by full addiction, our subject may spend a mortgage payment on a slope plane, either a five meter scale ship, or a fully molded unlimited racer with premium servos. He understands the use of ballast in sailplanes and he's got five ships ready to fly in five wind conditions. In addition to building planes, he now builds boxes to ship them to distant slope sites.

The slope pilot in Stage 6 has gotten over his fear of crashing his airplanes or putting them in salt water on those low beach runs. He understands the fighter pilot's credo "Death is a small price to pay for looking shit hot." He must have either two Brian Laird iron horses or a pair of John Higgins F-20s (one light and one heavy) ready to fly at all times, and can build another one and have it glassed and painted in a week if necessary.

He can now fly clean pylon turns and outside loops. He flies close-formation stall turns and knows combat strategy and tactics. His most-used shop tool is a hot wire foam cutter and the most important item in his kit bag is a fast field charger.

He spends *all* his vacation time flying slope, and has flown by two oceans or inland seas. He is willing to cross the Sierra Nevada range, or the Mississippi River, or travel 1000 miles to join like-minded slope heads at Los Banos, El Cajon, Point of the Mountain, Wilson Lake, Sleeping Bear Dunes, Jockey's Ridge, or Cape Cod. As he leaves, he promises his significant other, "I'll call you every night."



7. Dave Sanders and Joe Chovan fly DAW *Foam-51* and *FoamE-109* over Wilson Lake in Lucas, Kansas during a Midwest Slope Challenge. (image: [Dave Garwood](#))

7. Total Immersion

This stage is characterized by hopeless addiction. He must have faster and heavier planes, and won't go to the slope in less than 25 MPH wind although he is not really happy unless the wind is blowing 40 MPH or better. The only thing he wants to do after a slope flight is grab another plane and launch again. He mindlessly performs complex aerobatics, flies diving rolls for relaxation, and can bring tears to the observer's eyes with a big sky aerial ballet.

His shop now includes a production vacuum bagging setup and ventilated paint booth. He buys epoxy by the gallon and carbon fiber cloth by the yard. His most important field accessory is a selection of lead bars. By this point he's flown full-house HLGs, unlimited racers, scale sailplanes, PSS warbirds

and slope jets, tailless planes, and a Pterodactyl or R/C Gull, but is unfulfilled unless he has a personal relationship with a slope plane designer and has something on his workbench that approaches a wing loading of 40 ounces per square foot.

This pathetic creature takes leave without pay to fly, if he has been able to keep a day job at all. Eastern region Stage 7 *Homo Slopiens* have been known to modify the landscape with a chain saw to improve slope sites. These guys travel thousands of miles to fly the legendary hills, can handle any winds from 5–75 MPH. They may say over their shoulder as they head out of the cave, “I’ll call you from the airport when my flight gets in.”



8. Dave Sanders and Dave Garwood plan a slope flying trip over the hood of an exceptionally comfortable glider hauler cruiser. (image: Paula Garwood)

The End Game

Ultimately, this single-minded machine of a man will continue to drive himself to explore the limits of technology, biology, and wanderlust to satisfy needs for more exotic machines, more extreme thrills and more unusual sites.

Upon arrival to any given flying site he will calmly and deliberately move to the edge of the slope and hold out his arms palms down to feel the magical vapors of slope lift climbing the face, noting subtleties in the air, determining the strength of the lift and imagining how he will pick through its intricacies with all manner of pure-bred, wind-driven hardware.

To the casual observer this appears ritualistic, but his Stage Seven fellows know the wry smile and burning fire in the belly of another fully developed *Homo Slopiens*, and will confer not with speech, but rather with gestures and motions as an Indian shaman would communicate with another tribal elder.

The Stage Two or Three slope flyer will look at them and see a glimpse of their own fate, sealed in the crumpled remains of countless airframes, and the injuries acquired from long hikes to recover aircraft flown into lower slope faces at terminal velocity.

As the grizzled veteran walks back to his vehicle with a 40 MPH wind at his back to select an aircraft for his initial sortie, he may be heard to say, "No guts, no glory. Let's rock."

About the Authors

This article began as a dinner discussion on Eagle Butte among wilderness chefs Dave Reese and Ed Cypret, along with Joe Chovan and Dave Garwood. It was continued in a late night discussion with Sanders, Chovan, Garwood and Alden Shipp at the Lucas County Inn during the 1998 Midwest Slope Challenge, and was finished in the Kansas City International airport by Dave Sanders and Dave Garwood.

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