



Dr. Katherine A. Wilson, who has been with the National Transportation Safety Board (NTSB) since 2008, was an interrogator during the NTSB's investigation of US Air Flight 1549. It is likely that Dr. Wilson is called Dr. Elizabeth Davis in the film "Sully."

Wilson questioned Sully as part of the "Technical Panel" as the NTSB investigated the actions of the crew and their landing on the Hudson River. Not a commercial pilot, Dr. Wilson holds a private pilot's license. She is a Human Performance Investigator at NTSB.

NASA has a bio of Katherine Wilson:

Dr. Katherine A. Wilson has been with the Board since 2008 and has been a group chairman or assisted in over 30 incident/accident domestic and international investigations, including US Airways flight 1549 in Hudson River, New York, New York, Empire Airlines flight 8284 in Lubbock, Texas, the Global Exec Aviation Learjet 60 in Columbia, South Carolina, UPS flight 6 in Dubai, UAE, American Airlines flight 2253 in Jackson Hole, Wyoming, and SWA flight 345 in LaGuardia International Airport, Flushing, New York.

Prior to joining the NTSB, Dr. Wilson worked as a Human Factors Psychologist at the University of Miami Miller School of Medicine and as a researcher at the Institute for Simulation & Training conducting research on teams, team training, and simulation-based training. She has over 15 years of experience studying crew resource management in commercial and military aviation and healthcare.

Dr. Wilson holds a Ph.D. (2007) in Applied Experimental and Human Factors Psychology from the University of Central Florida, a M.S. (2002) in Modeling and Simulation the University of Central Florida, and a B. S. (1998) in Aerospace Studies from Embry-Riddle Aeronautical University. She also holds a private pilot certificate.

After the crash-landing of Flight 1549 on the Hudson River, on the 15th of January 2009, the NTSB conducted its investigation into the accident. It is routine for the NTSB to do this and, despite the "Miracle on the Hudson" outcome, investigators are expected to ask hard questions.

Although Dr. Katherine Wilson is not a commercial pilot, she is experienced in the area of "human factors" and was one of the interrogators of Captain Sullenberger. She put a series of questions to Sully during her turn at the microphone. The following is from the recorded hearing transcript.

An important question to keep in mind, while reading Sully's testimony, is this: How much time did Sully and First Officer Jeff Skiles have between the bird strike and the forced water landing on the Hudson? The answer? A total of 208 seconds.

DR. WILSON:

...we'd like to ask you some additional questions to get your insights on some of the events that occurred on January 15th. Can you please begin by describing your experience as a pilot and also your experience at US Airways, what airplanes you've flown and how many hours you have?

CAPT. SULLENBERGER:

I learned to fly at 16, served in the United States Air Force as a fighter pilot, was hired by PSA, a predecessor company, in 1980. Been there 29 years now, at US Airways. I'm a captain currently on the Airbus. I'm type rated in the Airbus, Boeing 737, DC9, MD80, BAe146 [British Aerospace 146], and Lear jet. I have approximately 20,000 hours of flying time.

DR. WILSON:

...According to the CVR [Cockpit Voice Recorder] transcript, immediately after the bird strike, you called for the ignition to on and to start the APU [Auxiliary Power Unit]. This was before beginning the checklist. Can you explain your decision to do this?

CAPT. SULLENBERGER:

From my experience, I knew that those two steps would be the most immediate help to us in this situation.

DR. WILSON:

And you next commanded control of the aircraft and then called for the dual engine failure checklist. How did you know that this was the appropriate checklist to call for?

CAPT. SULLENBERGER:

From my experience, from my training, I knew that this was an ECAM [Electronic Centralized Aircraft Monitor - a system developed by Airbus that monitors aircraft functions and relays them to the pilot; produces messages detailing failures and steps to correct the problem(s)] exception and that it required First Officer Jeff Skiles to reference the quick reference handbook.

DR. WILSON:

While communicating with ATC [Air Traffic Control], you mentioned that you were examining different options of where you could potentially land. What were the options that you were choosing and why did you finally choose the option of landing on the Hudson River?

CAPT. SULLENBERGER:

The first option, of course, was to return to LaGuardia. I took a look out the left window at the landmarks, at the distance remaining from where we were to LaGuardia, and the fact that we were already at low altitude, at low air speed, heading away from the airport, and when I took control of the airplane [from First Officer Jeff Skiles] with the airplane still in a climb attitude but without the climb thrust in the airplane, our air speed began to decay rapidly.

In order to lower the nose and retain a safe flying speed, our rate of descent necessarily increased dramatically. Looking at where we were and how much time, altitude, and distance would be required to turn back toward LaGuardia and then fly toward LaGuardia, I determined quickly that that was going to be problematic, and it would not be a realistic choice, and I couldn't afford to be wrong. Once I had turned toward LaGuardia, it would have been an irrevocable choice, eliminating all other options. I had to make sure I could make it before I chose that option.

I decided I couldn't...And, as to Teterboro, it was too far away. The only option remaining, the only place in a highly developed, metropolitan area, long enough, wide enough, smooth enough to land was the river.

DR. WILSON:

Although you did not get to the ditching portion of the checklist, you did call for configuring the airplane for landing and you asked First Officer Skiles to put out flaps. At one point he mentioned that you had Flaps 2 and asked you if you wanted more. You made the decision to stay at Flaps 2. Can you describe your decision to do that?

CAPT. SULLENBERGER:

Yes. Again, the choice had to be made quickly because of the extreme time compression. By achieving Flaps 2, we had achieved almost all of the low speed stall protection that we would've gotten at Flaps 3, but at less drag. I was concerned about having enough total - in the airplane to trade air speed for sink rate to cushion the touchdown. I chose 2 as a better option.

DR. WILSON:

... Let's move on to the actual landing of the airplane. Can you describe your decision making process in terms of choosing a touchdown point on the river?

CAPT. SULLENBERGER:

From my previous experience on layovers in New York, visiting the Intrepid Museum, I knew that there was an area of a lot of boat traffic in that part of the river. We're trained, in our ditching training, to try to land near vessels to facilitate rescue.

DR. WILSON:

What role did crew resource management and Threat and Error Management play in the accident sequence?

CAPT. SULLENBERGER:

It was an integral part of this scenario. We didn't have time to consult all the written guidance, we didn't have time to complete the appropriate checklist, so Jeff Skiles and I had to work almost intuitively in a very close-knit fashion, without having a chance to verbalize every decision, every part of the situation. By observing each other's actions and hearing our transmissions and our reports to others, we were able to quickly be on the same page, know what needed to be done and begin to do it.

DR. WILSON:

In our next Topic 2, we're going to be talking about the ECAM [Electronic Centralized Aircraft Monitor - a system developed by Airbus that monitors aircraft functions and relays them to the pilot; produces messages detailing failures and steps to correct the problem(s)] and ECAM exceptions and use of the QRH [Quick Reference Handbook]. How would you describe the usefulness and complexity of determining the appropriate procedure to follow, given that you have these multiple resources available to you?

CAPT. SULLENBERGER:

Well, obviously, ideally it would be desirable not to have ECAM exceptions, but in this particular case, it was sufficient because they're listed in a quick reference handbook on the back cover.

DR. WILSON:

Could you please describe what training you received at US Airways that you felt was most useful to helping you manage this event?

CAPT. SULLENBERGER:

Well, we go through annual recurrent training, CQT [Command Qualification Training], under our AQP program, that involves a day of classroom and two days in the flight simulator. We review many scenarios, we practice CRM, and I think all those things helped quite a bit.

DR. WILSON:

From your interviews, you mentioned that you helped the flight attendants with the removal of one of the life rafts. Could you describe what training you received in terms of cabin preparation evacuation procedures?

CAPT. SULLENBERGER:

Yes. In the classroom portion, we actually use some of these in a cabin mock-up, operate the doors, learn the locations of the emergency equipment, and that also was vital in this case.

DR. WILSON:

What training or guidance have you received from US Airways for ditching without engines running?

CAPT.

T. SULLENBERGER:

We have--I've been familiarized with the QRH [Quick Reference Handbook], but the classroom training on ditching is all that we've gotten. We have not received flight simulator training on ditching. I don't believe that the simulators are capable of simulating that.

DR. WILSON:

Is there any written guidance that you've received or is it only training in terms of classroom and simulator training that you've received?

CAPT. SULLENBERGER:

There is general non-aircraft specific training in our flight operations manual.

DR. WILSON:

We know, from the CVR and previous interviews, that no information was available regarding birds that were in that area of LaGuardia on the day of the accident, whether it be the ADDS, PIREPS or air traffic control, from your experience, what significance do bird warnings play in your awareness during and after takeoff?

CAPT. SULLENBERGER:

In my experience, the warnings that we typically get are routine and general and not specific in nature and therefore have limited usefulness.

DR. WILSON:

Just a few more questions for you. Once you made the decision to land in the river, did you ever consider using a different checklist or moving to the ditching portion of the checklist?

CAPT. SULLENBERGER:

No. And if I had, time would not have permitted it.

DR. WILSON:

How do you think that your experience with over 20,000 hours as a pilot helped you during this experience?

CAPT. SULLENBERGER:

I think that it allowed me to focus clearly on the highest priorities at every stage of the flight without having to constantly refer to written guidance.

DR. WILSON:

Looking back at the accident event, is there anything that you would do differently if you were faced with that situation again?

CAPT. SULLENBERGER:

I think what we did, the situation we faced and the time that we had, First Officer Jeff Skiles and Flight Attendants Donna Dent, Sheila Dail and Doreen Welsh did the very best we could and I am proud to have been a member of a highly experience, highly trained team.

DR. WILSON:

What lessons do you think that we can learn from this accident?

CAPT. SULLENBERGER:

I think it's the importance of CRM, the importance of a dedicated, well-experience, highly-trained crew that can overcome substantial odds and working together as a team can bring about a good outcome.

DR. WILSON:

And one last question for you. Is there anything else that you would like to discuss today that we have not asked you so far?

CAPT. SULLENBERGER:

Just to reiterate my gratitude for such a good outcome on January 15th and the amazingly quick response of the first responders from New York and New Jersey.

DR. WILSON:

Great. Thank you. We have one more question for you.

MR. MARCOU: Thank you, Katherine. Nicolas Marcou from the BEA, could you please explain to us how you ditch through the air speed when you try to do this emergency landing?

CAPT. SULLENBERGER:

Yes. As we were not configured for landing, we didn't have a reference speed displayed on the PFD that we could fly, so I chose to use a margin above VLS.

MR. MARCOU: Thank you, Captain.

DR. WILSON:

Thank you, Captain Sullenberger.

Mr. Chairman, we have no more questions at this time. (See the [transcript of the NTSB hearing into the events of Flight 1549](#), pages 23-30.)

Remember ... 208 seconds is 3.46 minutes. That is the amount of time which elapsed between the bird strike (detailed in the [NTSB "Aircraft Accident Report"](#)) and the forced water landing.

Credits:

Image of Dr. Katherine A. Wilson as she testifies at a September 9, 2014 hearing. Photo online via the AP.

"National Transportation Safety Board (NTSB) investigator Katherine Wilson testifies about pilot fatigue during a hearing at the NTSB in Washington, Tuesday, Sept. 9, 2014. The NTSB was meeting to discuss UPS Flight 1354 plane crash."

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