My name is Daren Hudson I reside at 23 Bay Shore Dr. Greenland, NH. I have been a professional airline pilot for 26 years presently flying wide body aircraft internationally for a major airline. Prior to my airline career I was a commuter and charter pilot based throughout New England and before that a flight instructor at Daniel Webster College, Nashua, NH.

I was asked to speak today on behalf of the Academy of Model Aeronautic AMA Clubs and members, by the New England Vice President, Andrew Argenio who is unable to attend.

We want to thank the committee for giving us an opportunity to comment on New Hampshire SB-459

My involvement with model aviation began as a child and after re-entering the hobby 4 years ago I joined the Academy of Model Aeronautics. The AMA is the official national association for model aviation enthusiasts. We have 185,000 members and 2,400 clubs and over 3,000 flying sites.

I am presently a New England AMA Event Director & Safety Officer and president of the Fremont Flyers RC Club, Fremont, NH and Vice President of the Plum Island Airport RC Club in Newbury, MA- where we have a successful flying site on a private airport in conjunction with full scale aircraft operations.

One of our most important initiatives is to create a membership culture for safe and responsible model aircraft flying. Utilizing educational materials supplied by AMA we also teach STEM (Science Technology Engineering and Math) programs at area schools.

We have 21 chartered AMA clubs, 30 flying sites and over 1,300 members in NH. AMA pilots in the USA average 30 million flights per year or 7.5 million hours in the National Air Space. For this level of flight activity the FAA considers AMA member pilots to have an-exemplary safety record and as a result Congress in 2012 passed Public Law 112-95 Sec. C 336 which exempted our community based organization from further FAA regulations, allowing us to continue to create safety programming for our members.

We are here today to oppose the 100 ft. above ground level altitude limit in SB459 for AMA members and to voice our concerns about the need for any of the additional items in this legislation. A 100ft ceiling limit for model-aircraft flying creates a much greater risk of a conflict or collision between other aircraft, operators, spectators, people, and property, then flying at higher altitudes while remaining within Class G uncontrolled air space.

The higher risk is not conjecture, its fact proven by decades of flying by AMA members and ongoing risk mitigation. The acceptable safe vertical altitude component established was 400 ft. and above to accommodate larger aircraft and others that operate at higher speed. The higher altitude is a required AMA regulation for flight training because it allows for more recovery time to stabilize the aircraft in the event of a pilot error or system failure.

Although these altitude guideline existed in the AMA as far back as the 1950s, they were first introduced by the FAA in 1982 in document Advisory Circular 91-57 and revised on September 2, 2015 in Advisory Circular No. 91-57A item (e) reads "Model Aircraft operators should follow best practices including limiting operations to 400 ft. above ground level."

At a 100 ft. altitude limit for model aircraft, 1/3 of our members would no longer be able to fly competition aerobatic aircraft, sailplanes, turbine jets, and large scale model aircraft that they have flown safely at higher altitudes without incident for many years. The other 2/3 of members would be flying in much more hazardous conditions in the compressed flight box especially at AMA flying sites where typically four aircraft at a time fly in an oval flight path around the field and over the runway. This represents an unacceptable safety hazard for everyone on the ground and those model aircraft taking off or attempting to land, with other aircraft operating in this same smaller flight box.

>Question: As it pertains to radio controlled model aircraft or "drones" what is SB459 accomplishing that the FAA and AMA are not all ready accomplishing?

The FAA registration regulations, the FAA clarification of state vs. federal authority (noted in the FAA Fact Sheet from the Office of Chief Counsel dated Dec. 17, 2015 which states among other recommendations on state vs federal authority "To ensure the maintenance of a safe and sound air transportation system and of navigable airspace free from inconsistent restrictions, FAA has regulatory authority over matters pertaining to aviation safety." (close quotes) and the AMA- Academy of Model Aeronautics which was exempted from the promulgation of FAA rules for small Unmanned Aerial Systems operations in the National Airspace and is recognized as the community-based organization for safe and responsible flying. This exemption was passed by Congress on February 14, 2012, as Public Law 112-95 section 336 (c). Beyond all this, what will SB459 do that these agencies and organizations are all ready doing effectively as we speak? (See provided supporting materials for reference)

- >I'd like to review SB459 proposed amendment to paragraph XIV (14). For any person to operate an unmanned aircraft system, known as a drone, unless:
- (a) The person possesses a valid license or certification issued by the Federal Aviation Administration.
- > Being addressed at the federal level by FAA Registration Process and guidelines in cooperation with the country's largest Community Based Organization- AMA- Academy of Model Aeronautics to assure safety guidance, education and compliance. Suggested wording- "The person possesses a valid Federal Aviation Administration Small UAS Certificate of Registration" or equivalent determined by the FAA and AMA.
- (b) The person has received written permission for the operation from the owner of any private property that the drone flies over.
- > Being addressed by AMA- Academy of Model Aeronautics to assure safety guidance, education and compliance requiring each club chartered to have permission of private property owners and AMA members when flying at not chartered sites are required to obtain permission if their reasonable expectation that permission is required, AMA is proactively working with the FAA at a federal level to aid in education of non AMA member modelers to create a more informed, safe community even outside the membership of AMA.
- (c) The drones flies no higher than 100 feet above land.
- > Being addressed at the federal level by FAA Registration Process and guidelines in cooperation with AMA to assure safety guidance, education and compliance. Suggested wording "The drone flies no higher above ground level then provided in the Federal Aviation Administration regulations and guidelines in effect at the time"
- (d) The operator is within visual range of the drone at all times.
- > A requirement in AMA guidelines before the FAA was established. Addressed at the federal level by the FAA December 21, 2015 model aircraft registration "direct rule".
- (e) The operator maintains liability insurance to the amount or limit of at least \$1,000,000 on account of injury to or death of any person resulting from operation of the drone.
- > Being addressed by the AMA Insurance Programming as part of the value proposition for members. Each club chartered has liability coverage for the club and its officers and members of 2.5 million and 5 million of primary coverage for the site property owner additional insurance coverage is available for event locations.

*If time permits-

>On a personal note I'd like to express some experience I have had on the other side of this issue. As an airline pilot I assume this legislation is intended to make my work environment a safer place. When I line up for a takeoff of my 500,000 pound jet with 295 passengers I am required to assess any number of threats and risks that may occur

in the next minutes of a takeoff and climb out. This "threat error management" begins with defining the threats. In the form that SB459 and even the FAA regulations are written my threat assessment has not changed at all. I stand a higher risk of ingesting a goose, a balloon or some other unregulated object than I do getting hit by a "drone", model aircraft or UAS, or whatever you want to call it. I have over 17 years experience flying in and out of some of the busiest airports in the world including: JFK, DTW, ATL, LAX, ORD, Plus major airports with chartered AMA flying sites very close to flight paths such as FLL, PBI to name a few. The other thing they have in common from my experience. Not once in over 17 years have I ever seen a model aircraft anywhere near my flight path. At JFK where they operate model jets and giant scale model aircraft across flushing bay less than 3 miles away- Nothing! At DTW where a very successful AMA club has resided right under the approach within 4 miles of the runway for decades- Nothing! FLL- a paved Jet RC field on final- Nothing, PBI- Nothing, MHT-Nothing, ASH- Nothing, etc... There is a trend? The only time I ever see a model aircraft is when I know I will overfly the field on final and I see cars parked and I have to search very hard since they are all well clear and often still do not find them. NO THREAT from responsible modelers flying under safety guidelines provided by a Community Based Organization recognized by Congress AND the FAA who have a membership card and now an FAA small UAS registration certificate, who identify their aircraft with a number and contact information, who get permission from private land owners, who fly at safe altitudes depending on the size of the aircraft and type of flying while remaining clear of ALL full scale aircraft and giving way to full scale aircraft at all times (IMAC briefing at Plum Island- give way and crash your plane, some worth more than \$10,000 if necessary to avoid full scale aircraft!), These responsible model pilots do operate within visual line of site at all times WITH a spotter watching and clearing the airspace and they also operate with liability insurance of 2.5 million dollars per member.

>With all this in mind my question still remains to this committee concerning SB459 WHY?

>Technologies are presently being developed through modeling in conjunction with AMA that will enhance safety in the National Airspace System. Legislation limiting those operations such as SB459 risk eliminating the very technologies that will benefit the intent of this bill- safer skies.

>Questions for me?

>Thank you very much.