February 25, 2022

NAAA eNewsletter

A Tip of the Hat to Substantive Work Conducted by NAAA/NAAREF Board at Fort Worth Meeting

Last week the NAAA Board posse returned to Fort Worth, Texas, for its spring board meeting to conduct substantive business to strengthen the aerial application industry. The 2021 fall NAAA board meeting was also held in Fort Worth and returned last week because there were fewer COVID restrictions in the Lone Star State than in other locations.

Yippee-iii-EPA

Top brass from the EPA's Office of Pesticide Programs addressed NAAA's board and committee members via Zoom at the spring board meeting's opening session.

Director of the EPA's Office of Pesticide Programs (OPP), Ed Messina, and branch chief of OPP's Environmental Risk Branch of the Environmental Fate and Effects Division, Amy Blankinship, spoke to NAAA's board virtually to start the meeting. OPP regulates the manufacture and use of all pesticides in the U.S. for safety, including determining if pesticides may be used via aerial application. Messina discussed the EPA's charge of reviewing the safety of all pesticides every 15 years to ensure their safety to people and the environment. He also brought up a new EPA policy stemming from the Biden administration to prevent litigation by ensuring that new pesticide products meet Endangered Species Act requirements before they may be registered for use. There are presently 13 pending lawsuits regarding 40 active ingredients that the EPA is facing pertaining to endangered species concerns. Messina mentioned that they have completed over 5,000 registration reviews during this 15-year cycle. The OPP's 600 total staffers have also been busy this past year approving 14 new pesticide applications, reviewing over 11,000 comments pertaining to registrations, and addressing 100 congressional inquiries.

Blankinship discussed several different entities looking into the safety and efficacy of drone applications—an issue NAAA has brought up to the agency for a few years due to drones not yet being tested compared to manned aircraft. Blankinship stated that the American Chemical Society, North America Remotely Piloted Aerial Application Systems, CropLife America's Pesticide Registrant Task Force and the EPA's PPDC Emerging Technology Task Force, of which NAAA Wisconsin board member Damon Reabe sits on, have all been looking into testing drones' application systems, but no comprehensive testing data has emerged yet. Blankinship also mentioned the multi-year discussions NAAA and the EPA-OPP have had focused on shifting from Tier 1 to Tier 3 of the AgDRIFT model that calculates off-target aerial drift. Tier 3 considers more realistic atmospheric and drift reduction technology equipped on-board the ag aircraft today, compared to the Tier 1 model that grossly overestimates movement of the applied materials. The EPA stated they continue to have internal discussions within the agency on NAAA's request and data backing up the recommendations.

Lowdown on the State of the Industry

President Jim Perrin presides over NAAA's board meeting in Fort Worth.

2022 NAAA President Jim Perrin called the meeting to order after the EPA's presentation welcoming the new board members and graciously invited them to share their thoughts during the two days of business. Andrew Moore, NAAA CEO, presented an overview of industry and association issues, beginning with sharing positive forecasts for the 2022 U.S. agricultural economy. The USDA forecasts a record $175.5 billion in 2022 U.S. ag exports—resulting in a $10.5 billion surplus when considering ag imports coming into the U.S. The 2021 U.S. ag export surplus was $8 billion. Two variables Moore brought forward that could result in an even larger ag trade surplus in 2022 include China and its 2020 Phase 1 trade agreement with China committing to purchase $73.9 billion of U.S. ag products over two years. To date, it has only purchased $61.1 billion—only 83% of the target level. The second variable is tensions in the Black Sea region between Ukraine and Russia—a global source of wheat. Bellicose actions in that region may disrupt their ag markets, result in rising grain prices and reliance on other grain-producing nations such as the U.S.

Moore then discussed policy issues, repeating the EPA's charge of reregistering pesticides every 15 years and NAAA's involvement in retaining label language allowing aerial use without unnecessarily burdensome restrictions. Through 2025 it will be reviewing 297 pesticides, including 2,4-D, imidacloprid, malathion, pyrethrin, etc. Moore also discussed Biden administration environmental initiatives, including a USDA Commodity Credit Corporation program calling for $1 billion for farmers sequestering carbon (includes funds for applying cover crops). The EPA has stated that agriculture contributes 10% of the U.S.'s overall carbon emissions. NAAA has submitted calculated data that ag aviation protects 27.4 million acres of land from being converted into farmland every year and that cover crops seeded by air sequester 1.9 million metric tons of carbon dioxide annually, the equivalent of 412,000 carbon combustion car engines, and that increasing cover crop acreage by 15% would sequester another 11.9 million metric tons of carbon dioxide annually

Also discussed was the Biden administration's rewrite of how waters of the U.S. (WOTUS) are defined under the Clean Water Act. This is the third attempted redefinition of WOTUS in six years. The Biden administration's attempt nearly mirrors the Obama administration's 2015 attempt that didn't survive court scrutiny. It defines WOTUS to include ephemeral or temporary waters with no nexus to navigable waters. NAAA has commented to the EPA opposing the rule due to it expanding the number of waters that trigger obtaining a pesticide general

permit under the Clean Water Act—an unnecessary, duplicative requirement since pesticides are already reviewed for safety under FIFRA; and due to the U.S. Supreme Court agreeing to hear a case involving the definition of WOTUS in 2023.

Moore stated that polls indicate a possible Republican takeover of both the House of Representatives and Senate after midterm elections are held in November. This could result in Sen. John Boozman (R-Ark.) taking over the chair of the Senate Ag Committee in the year—2023—the farm bill must be reauthorized. NAAA will urge that regulatory provisions, including NPDES-PGP requirements, be eliminated.

Moore also mentioned how election results could move Rep. Sam Graves (R-Mo.) into the chair of the House Transportation & Infrastructure Committee. Graves championed enacted legislation in 2018 requiring the marking and logging of towers in rural areas 50-200 feet in height and 10 feet or less in diameter, with communication towers only having to abide by one of the requirements. In 2023, FAA Reauthorization expires. This provides another opportunity for NAAA to bring communications towers under both logging and marking requirements. FAA is currently working on developing rules to enforce the law. NAAA is working with Rep. Graves to hasten the process.

An additional aviation safety concern raised by Moore relates to proposed regulatory requirements from an FAA aviation rulemaking committee (ARC) that would allow commercial drones to operate under 400 feet, beyond visual line of sight (BVLOS), weigh up to 1,320 pounds (LSA weight) and be exempted from granting right-of-way to manned aircraft when operating within 100 feet of towers and wires and manned aircraft not equipped with ADS-B In, and having the unmanned aircraft certified for airworthiness. NAAA has been in contact with members of the ARC opposing these proposals due to these provisions raising serious manned aircraft pilot safety concerns.

Moore discussed communications initiatives next, including the continued 100th anniversary of agricultural aviation, which runs until August. NAAA will be participating in Ag Day on the Mall, March 21-22, 2022, where dozens of national ag groups will put their wares on the Washington, D.C., National Mall to promote precision agriculture. NAAA will have a booth and an OH-58 Bell helicopter on display with spray boom and bucket along with its 100th anniversary history panels. Glenn Martin of Helicopter Applicators Inc. in Gettysburg, Pennsylvania, is loaning the helicopter for display. The event will be seen by tens of thousands of people, including key federal legislators and regulators.

NAAA will conclude its 100th anniversary celebration at EAA's AirVenture in Oshkosh, Wisconsin, again participating in its airshow demonstrating an aerial application ballet to its tens of thousands of spectators as the air boss narrates the importance of the industry.

Moore charged the board with continuing to use the 100th to promote the industry as there are still 4½ months remaining. More information on celebrating and promoting the industry's 100th anniversary can be found at **AgAviation100.com**. He also urged the purchase of the 100th anniversary history book, which has sold 665 copies to date. Books can be purchased at **AgAviation.org/book**.

Moore also stated that the 100th anniversary campaign, according to Agility PR Solutions, a media monitoring service, reached 400 million people based on the total circulation of the news outlets reached—an ad value equivalency of $10 million. Due to the success and need to reach the public and educate them about modern agricultural production, NAAA will conduct a communications audit next month polling its members and audience about what their desired focus of association communications should be—internal communications or positive public relations; the mediums of communication preferred—print, online, social media, podcasts, etc.—and what content is most preferred—aviation safety, application stewardship and efficacy, human interest stories, etc.

NAAA will also continue to run its "Above All Forms of Crop Care" ads in ag publications this spring. The ad campaign promotes the benefits of aerial application and leads those interested in using the service to NAAA's website where they can search for NAAA operator members that aerially apply near them. The campaign will be advertised for six weeks in AgWeb's eNewsletter with a national circulation of 201,000 farmers nationwide and *CropLIfe's* eNewsletter with a national of 20,500 retailers, cooperatives, crop consultants, universities and extension agents. The NAAA campaign won a National Agricultural Marketing Association Award in 2019 and has markedly increased click-throughs to NAAA's aerial applicator operator search function when the ad campaigns are run.

Education and safety issues were then discussed, primarily about work that has been conducted on developing a professional certification program for the aerial application industry. At present, the plan is to make the program available to ag pilots starting in 2023 that would initially require annual attendance in PAASS, biennial attendance in Operation S.A.F.E., and membership in both the national and a state/regional agricultural aviation association. Additional requirements will be forthcoming in 2024, including a comprehensive ag airman certification standard (AACS) that NAAA and NAAREF have developed over several years and is being fine-tuned presently by an aviation attorney. Curriculum will then be developed from the AACS and presented via online learning through learning management software NAAA is exploring. Once installed, the curriculum will be offered and test questions developed to ensure the ag pilot understands the material.

Moore then discussed ag aviation accidents, stating that there were 55 accidents in 2021 and 12 fatalities. He also stated that 2020 data from the FAA General Aviation Activity Survey had just been released showing that there were 6.11 accidents per 100,000 hours flown in 2020, which lowered the number of accidents per 100,000 flown to 7.15, or by 25.81%, since PAASS was introduced after the 1998 application season. He also mentioned that only 47% of ag pilots attend PAASS and that statistics show that PAASS attendees are less likely to have accidents, particularly the more one consistently attends PAASS. That underscores the importance of a professional certification program for the industry that augments continuing education opportunities to solidify professional aerial application habits.

NAAA's Ag Aviation Expo will be in Knoxville, Tennessee, for the first time Dec. 5-8, 2022.

The success of the 2021 NAAA Ag Aviation Expo was discussed. There was a total of 1,540 in attendance compared with the COVID-19 truncated convention in 2020, which had 790 in attendance. Plans are underway for the 2022 Ag Aviation Expo, Dec. 5-8 in Knoxville, Tennessee, with Astronaut Scott Kelly locked in for the Kickoff Breakfast. Kelly has spent a total of 520 days in space—more than any other American. One of those vertical jaunts includes leading the Hubble telescope repair in

1999. The general session will be titled “Healthy Public Relations” with agvocate Michelle Miller, also known as the Farm Babe, providing valuable PR lessons for us to agvocate for aerial application. Returning to the general session will be Dr. Stan Musick, Flight Surgeon, AME, aerobatics pilot and aerial applicator that will discuss pilot medical issues, medical certificate procedures and good health. Starting in 2023, the Ag Aviation Expo will be held at the following locations: Palm Springs, California (2023); Fort Worth, Texas (2024); Reno, Nevada (2025); and Savannah, Georgia (2026).

Membership totals were discussed next, with NAAA ending 2021 with a total of 1,781 members—84 more than 2020 but 33 fewer in the operator category. There are 1,560 total operators in the country and 2,028 non-operator ag pilots.

Moore concluded with forecasts stating that inflation could be a burr under the saddle of the 2022 season due to fertilizer costs being high, particularly nitrogen, which accounts for 50% of corn fertilizer costs. Recent statistics show that fertilizer costs are projected to be up 80% in 2022 compared to 2021. On a per-commodity basis, fertilizers account for $117 per acre of corn, or 36% of operating costs—the highest cost of all commodities—with rice at second and peanuts and cotton tied for third. Soybeans have lower fertilizer costs at $31 per acre, so it is expected more soybean acreage will be grown this year.

The good and bad news is that population projections are growing. The downside of that is that the more people, the greater demand, and as the demand variable rises so does price, so crop input prices may be on an upward trajectory with more population demand. The good news is that with the global population rising, more souls will demand the food, fiber and biofuel the aerial application industry helps produce, and today there are 7.9 billion earthly souls to feed, with 9.7 billion projected in 2050 and 10.9 billion projected in 2100.

After that lowdown on industry-related happenings, President Perrin adjourned the meeting for the committees to round up some substantive direction to take the aerial application industry.

Roundup of NAAA-NAAREF Industry Initiatives

Awards—The Awards Committee suggested, and the board approved a motion to rename the Related Industry Award to the Richard “Dick” Reade Memorial Award. The award recognizes outstanding contributions by an allied industry member and his company. The committee also urged all members to provide nominations for those deserving of an award due to exemplarily serving the industry. Forms and award details may be found at **AgAviation.org/onlineawardsform** and **AgAviation.org/awards**.

Budget and Finance—The board approved a 2022-2023 fiscal year budget presented by Dwayne O’Brien, former treasurer from Louisiana, which begins July 1, that has a projected deficit of $50,679. This includes $35,000 for learning management software to host educational content for a professional ag pilot certification and a depreciation expense of $42,000, which is a paper, not a real expense. This is a significantly reduced deficit than what was projected this current fiscal year ($114,618), and with sound financial assets and more than surviving in the COVID quarantine era, the association is in quite good shape fiscally.

Communications—The Communications Committee urged the board and all industry members to purchase copies of *Agriculture’s Air Force*, the history book of the industry, and to share it locally by donating them to libraries and schools in their area. The book can be found at **AgAviation.org/book**. The committee also spoke at length about the upcoming survey being developed for industry members to glean updated information about who NAAA’s focused audience should be in regard to the lion’s share of communications resources and also what is the best medium to communicate and the most important topics in which to communicate. The Communications Committee, along with a subcommittee of the Long Range Planning Committee, will be reviewing a draft list of questions before the survey is sent.

Convention—The Convention Committee discussed the 2021 Ag Aviation Expo in Savannah and the post-convention survey, which was very positive about the event. More will be done to ensure auction bidders can better hear and see the auction items up for bid. Heartfelt thanks were expressed to the auction donators, particularly Pratt & Whitney Canada for its PT6A-34 turbine engine donation and Darrel and Deb Mertens’ and Boyd Morgan’s donations of Ag-Cat aircraft. There were 1,540 attendees and exhibitors and 142 paying exhibitors in Savannah.

The 2022 Ag Aviation Expo will take place in Knoxville, Tennessee, Dec. 5-8, 2022, with five different hotels in different price points around different areas of downtown Knoxville, all within four blocks of the convention center. The room block links will be released to members in the next couple of weeks. For more on the convention, visit **AgAviation.org/convention**.

Government Relations—Chairman Damon Reabe of Wisconsin discussed upcoming meetings to be held soon between NAAA and two major pesticide manufacturers. These meetings are part of NAAA ensuring aerial labeling is pursued when these companies submit (re)registration data to the EPA for approval of pesticides’ use.

Reabe also urged and many committee members echoed the importance of operators providing their GPS data to Mississippi State University’s (MSU) Raspet Flight Research Laboratory for its continuing research study on safe operational distances between low-altitude, manned aircraft and drones. MSU Raspet is now beginning the second stage of GPS flight log data collection from manned agricultural aircraft. The industry donated GPS flight log data during the first stage of data collection from 2017 to 2020. The second stage of data collection needs to capture aircraft make and model info (not the N number or other personally identifying information) and GPS system make and model info in addition to the GPS flight logs. These additional details will make the research more useful, as the airspace modeling will be impacted by different aircraft, such as fixed-wing versus helicopter operations. All data submitted will be wiped of any personal identification information. The overall objectives of the research are to:

1. Identify Ag Aircraft Operational Trends

2. Develop Ag Aircraft Operational Models
3. Validate Model through Observation/Collection of Empirical Data
4. Inform/Educate UAS operators
5. Promote Safety in all Low-Altitude Ag Environments

To upload to the NAAA Ag Data Repository, use the following website, username and password (1 GB file limit per upload):

- **https://www.hpc.msstate.edu/raspet-naaa/**
- **Username:** raspet-naaa
- **Password:** Ag2!naaArePo

To upload large uploads to a secure Dropbox link, send a request to Madison Dixon, MSU Aviation Program Manager, at **mpd162@msstate.edu**.

To email your data, send it directly to Madison Dixon, MSU Aviation Program Manager, at **mpd162@msstate.edu**.

Or simply mail a flash drive or other external hard drive device to the address below (the flash drive will be immediately mailed back to the sender once data is received):

Attn: Madison Dixon
MSU Raspet Flight Lab
114 Airport Road
Starkville, MS 39759

Long Range Planning—The committee discussed the value of a professional certification program to help the industry embrace such a program designed to enhance professionalism which, in turn, mitigates accidents and drift incidents. Thoughts shared, in addition to benefits allied members (insurance, chemical companies, etc.) might offer, included markedly aiding in marketing one's company to farmers and regulators would be less likely to promulgate burdensome industry regulations.

The committee is also looking into expanding leadership training to more prospective leaders in the industry throughout the country since current sponsorship levels of leadership training have been considerably reduced in recent years.

Membership—The Committee discussed ideas for an upcoming video ad NAAA is developing to promote membership. The promotional video will be shown at the PAASS Program presentations and posted online via social media pages related to agricultural aviation. The committee also deservingly awarded an honorary lifetime NAAA membership to Scott Yackel, a pilot who works for Chatham County, Georgia, and has helped immensely over the years with the aircraft move at Savannah during the convention. The board approved Yackel's honorary membership.

Museum—The Museum Committee discussed the Snow S2A aircraft. The airplane's engine is currently under repair in Mississippi and may be displayed and flown at EAA AirVenture in July before it is permanently put on display at the National Agricultural Aviation Museum in Jackson, Mississippi. In addition, the board approved a motion for NAAA to donate $5,000 per year to the museum.

Precision Agriculture—The committee discussed work that is underway to integrate multiple precision ag technologies together to enhance application automation on manned agricultural aircraft. It also discussed see and spray technologies that are being developed for terrestrial applications that may make their way to ag aircraft before too long. Efficacy and drift testing for drones were also discussed, with the USDA-ARS Aerial Application Technology Unit representative stating that they are trying to facilitate unmanned aircraft service providers to participate in Operation S.A.F.E. clinics. It was mentioned that a task force of pesticide manufacturers—the Unmanned Aerial Pesticide Application Task Force—is being developed to conduct drone application tests along similar lines as the Spray Drift Task Force testing manned aircraft back in the 1990s on drift movement and efficacy.

Safety & Federal Air Regulations—The committee is partnering with Balmoral Engineering to promote its wire marking equipment to power companies. A presentation is in development to promote to rural electric cooperatives.

Support—The Support Committee announced that its 2022-2023 Athena Program content would be about balancing home life with work life. It will be part of the Support programming at the convention in Knoxville, in addition to a luncheon at the Sunsphere—the golden tower overlooking the city that was constructed as part of the 1982 World's Fair. Mention was made by Chairwoman Jane Pitlick of South Dakota that a number of states have offered CEU units for Athena Program attendance. In addition, Pitlick mentioned that the essay topic for the 2022 Support scholarship is "What role does ag aviation play in producing a local commodity?" Scholarship information may be found at **AgAviation.org/supportscholarshipcontest**.

National Agricultural Aviation Research & Education Foundation— NAAREF President Matt Hovdenes reported that CFIT will be the focus for the 2022-2023 PAASS program. NAAREF meetings largely discussed the professional certification program. To that point, it was stated that past PAASS modules would be matched to the AACS, selected and updated for use on the learning management software as part of the certification program.

Hovdenes and staff will also attend a wire aviation safety course offered as part of the HAI Heli-Expo next month to determine its worth as content at the Ag Aviation Expo on Sunday and Monday in Knoxville for an additional fee. Wires are the main cause of ag aviation accidents.

NAAREF President Matt Hovdenes accepts a $3,000 donation from Tom May, who presented it on behalf of the Nebraska Aviation Trades Association.

State Reports—NAAA President Perrin then opened the floor for state reports. Tom May of Nebraska graciously presented NAAREF President Hovdenes with a $3,000 check for the foundation *(pictured above)*.

Erin Morse of Washington spoke of a bill in that state that markedly increases buffers around riparian habitat. The bill was defeated but likely will resurface down the road. The Washington association has worked closely with their state's DOT to show how aerial application provides billions of dollars of value to the state. This information will likely be helpful the next time such deleterious legislation toward the industry resurfaces.

George Parker of Idaho reported on a win for Idaho AAA—the successful enactment of legislation exempting ag aircraft and related parts from state sales tax. Another piece of legislation the state is working on amending is the state's right to farm law to include the ingress and egress of ag aircraft to treatment areas and agriculture fields. He urged the states having legislative and regulatory troubles to hire state lobbyists. It has served Idaho well of late, according to Parker.

As they say in Texas, there was a "whole messa" good business conducted in the Lone Star State for the NAAA-NAAREF Board spring meeting, as aforementioned. President Perrin adjourned the meeting on Saturday afternoon, Feb. 19, and board folk made it home safely.

Captain Scott Kelly to Speak at 2022 Ag Aviation Expo Kickoff Breakfast

History-Making Astronaut First to Complete a Year-in-Space Mission
Captain Scott Kelly, a former NASA astronaut and retired U.S. Navy captain, will speak at the 2022 Ag Aviation Expo Kickoff Breakfast on Monday, Dec. 5. Kelly is also a U.S. spaceflight record-holder and an experienced test pilot, having logged more than 15,000 hours of flight time in more than 40 different aircraft and spacecraft.

A former fighter pilot, Kelly flew the F-14 Tomcat aboard the USS Dwight D. Eisenhower aircraft carrier. NASA selected Kelly as an astronaut in 1996. A veteran of four space flights, he piloted Space Shuttle Discovery to the Hubble space telescope in 1999 and subsequently commanded Space Shuttle Endeavour on a mission to the International Space Station (ISS) in 2007.

Kelly's long-duration space flight experience includes two flights on the Russian Soyuz spacecraft, launching and landing from Kazakhstan, and two stays aboard the International Space Station as commander: the first a 159-day mission in 2010-2011, followed by his record-breaking 340-day mission to the ISS in 2015.

During his yearlong mission, known worldwide as the "Year in Space," he conducted three spacewalks before returning home in March 2016. His Year in Space Mission was chronicled in a ***Time* magazine documentary series** and an Emmy award-winning PBS special.

Kelly has traveled more than 200 million miles, which is more than twice the distance to the sun, and has orbited the Earth more than 8,300 times. Kelly has received many awards and honors, including the Defense Superior Service Medal, the Legion of Merit and the Distinguished Flying Cross.

He was on the cover of *Time* magazine in December 2014 and named one of its 100 Most Influential People in 2015.

Kelly is a Fellow of the Society of Experimental Test Pilots and a member of the Association of Space Explorers. In 2016, Kelly published the *New York Times* best-selling memoir *Endurance: A Year in Space, A Lifetime of Discovery*. More recently, he published *Infinite Wonder: An Astronaut's Photographs from a Year in Space*, a collection of extraordinary images he photographed aboard the International Space Station, also a *New York Times* bestseller. He is also the author of two children's books, *My Journey to the Stars* and *Goodnight, Astronaut*. His next book, *Ready for Launch: An Astronaut's Lessons for Success on Earth*, will be published in 2022.

In 2021, he was inducted into the U.S. Astronaut Hall of Fame at Kennedy Space Center in Florida. Kelly's identical twin brother, Mark, is also a former NASA astronaut and the current junior U.S. senator from Arizona.

Airworthiness Directive Issued for Continental Engines

The FAA is adopting a new airworthiness directive (AD) for certain Continental Aerospace Technologies Inc. C-125, C145, IO-360, IO-470, IO-550, O-300, O-470, TSIO-360 and TSIO-520 series model reciprocating engines and certain Continental Motors IO-520 series model reciprocating engines with a particular oil filter adapter installed. This AD was prompted by reports of two accidents resulting from power loss due to oil starvation. It requires replacing the oil filter adapter fiber gasket with an oil filter adapter copper gasket.

The effective date of the AD is March 29. Action is required before accumulating 50 flight hours after the effective date or at the next scheduled oil change after the effective date of this AD, whichever occurs first. View the complete AD **here**.

NAAA first reported on this AD when it was proposed in the **October 14, 2021 eNewsletter**.

NAAA's 'Agriculture's Air Force' Book Gets Library Love

To mark 100 years of aerial application, Lilly Paxton, Jane Barber-Pitlick's granddaughter, donated a copy of ***Agriculture's Air Force: 100 Years of Aerial Application*** to the Sully Area Library in Odina, South Dakota.

Jane chairs NAAA's Support Committee. Lilly (pictured at right) made this donation with the hope that local residents will learn more about the agricultural aviation industry and be inspired to take an active interest in how agricultural aviation has advanced over the years in sustaining food, fiber and bioenergy in the U.S. Order *Agriculture's Air Force: 100 Years of Aerial Application* for yourself, customers and your local library at **AgAviation.org/book**.

Top 10 Agricultural Aviation Magazine Articles of 2021

From a profile introducing 2021 NAAA President Mark Kimmel to several articles focusing on various aspects of the agricultural aviation industry's 100th anniversary, here are the top 10 digital articles from *Agricultural Aviation's* 2021 issues based on the most viewed articles at **AgAviationMagazine.org** and the **Agricultural Aviation Magazine App** in 2021.

1. **Century Mark – Winter 2021**
   Mark Kimmel of Mississippi is NAAA's 2021 President on agricultural aviation's 100th anniversary
2. **Pulling Together – Spring 2021**
   2021 NAAA President Mark Kimmel, on pulling together, during and after the pandemic
3. **Agricultural Aviation from Infancy to Adolescence – Spring 2021**
   In the dawning days of agricultural aviation, pioneering pilots, researchers and engineers cultivated an invaluable new industry
4. **The Next 100 Years: If You Can Keep It – Spring 2021**
   NAAA CEO Andrew Moore, on selflessly pursuing the greater good to be a moral, well-respected industry
5. **The Watchful Eye and Helping Hands of Matt Hovdenes – Winter 2021**
   Brian Rau, on 2020 Outstanding Service Award recipient Matt Hovdenes
6. **Aircraft Boom Propels Agriculture's Air Force – Spring 2021**
   Between excess warplanes and new aircraft models, ag aviators' aircraft options expanded immensely in the '40s and '50s
7. **100 Years – Winter 2021**
   2021 President Mark Kimmel reflects on 100 years of ag aviation
8. **Introspection – Spring 2021**
   NAAREF President Matt Hovdenes gets introspective
9. **Perspective – Summer 2021**
   President Kimmel puts the aerial application industry's centennial into perspective
10. **Washington Report – Spring 2021**
    Unmanned and manned aircraft traffic deconfliction continues to evolve

Back issues are available in *Agricultural Aviation's* **Issue Library**.

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Give the Gift of *Agricultural Aviation*

Want to go a step further? As NAAA continues to mark the agricultural aviation industry's 100th anniversary in 2022, spread the gospel of the industry to your farmer-customers by giving them a **gift subscription to *Agricultural Aviation***, the official publication of NAAA! NAAA members automatically get a complimentary *Agricultural Aviation* subscription with their membership, but additional subscriptions may be purchased for employees, customers, suppliers and local schools.

Syngenta Offering Update and Aerial Application Training Sessions in March

2021 was a busy year for the aerial application of fungicides. As we prepare for another busy season in 2022, Syngenta is hosting an update and training session on its products. Join subject matter experts Dr. Tyler Harp, Fungicide Technical Product Lead with Syngenta, and Dr. Brad Fritz, Agricultural Engineer with the USDA Aerial Application Technology Research Unit, College Station, Texas, as they review the 2021 season and discuss application best practices for optimum disease control.

Topics will include:

- Fungicide Review
- Aircraft Setup: Booms and Nozzles
- Swath Width
- Spray Volume Guidance
- Common Aircraft Setup Errors

Two aerial application training sessions are being offered:

Audience: **Fixed-Wing Registration**
Date: Tuesday, March 15
Time: 8 a.m. CST

Audience: **Helicopter Registration**
Date: Wednesday, March 16
Time: 8 a.m. CST

Upon completion of registration, you will receive an email with personalized login details and an option to save the event to your calendar. The call will require a passcode listed within the email, and you will also receive reminders one week, one day and one hour before the event.

NAAA Comments on Biden Administration's Redefinition of the Clean Water Act's Waters of the U.S.

NAAA submitted **comments** on the EPA and Army Corps of Engineers' (Agencies) proposed redefinition of a Waters of the U.S. (WOTUS) within the Clean Water Act. The proposed rule, in essence, reincarnates the 2015 Obama administration's definition of a WOTUS, expanding the definition to include ephemeral waters, or temporary waters with no nexus to navigable waters, thereby adding additional complexity and confusion for aerial applicators grappling with NPDES pesticide general permit requirements.

Some of the detrimental parts of the proposal and **NAAA's response** to those proposals and recommendations to the definition of WOTUS to the Agencies are as follows:

- Since the 2009 decision in National Cotton Council v. EPA, aerial applicators nationwide have been subjected to CWA National Pollution Discharge Elimination System (NPDES) permits for any pesticide applications into, over or near WOTUS. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), pesticides are only approved for use in the U.S. following a rigorous scientific review to ensure that any approved uses do not pose unreasonable risks to humans or the environment, including aquatic ecosystems. NAAA firmly contends NPDES permits are an unnecessary and duplicative regulatory burden for applications of pesticides approved for use under FIFRA. NPDES permit requirements have created additional costs and reporting burdens for aerial applicators, as well as the threat of legal jeopardy from CWA citizen suits for presumed permit violations. The additional liability has prompted several NAAA members to refrain from accepting contracts for services that fall within the NPDES permitted universe. NAAA continues to advocate for legislation that would eliminate CWA permitting for the application of FIFRA-approved pesticides.
- First, the final WOTUS rule should include clear jurisdictional lines and definitions. Aerial applicators, and the farmers and landowners that hire them to perform services critical to agricultural and public health, need a clear rule that will make it practicable in most circumstances for a layperson to discern whether a particular feature is a WOTUS. The proposed rule contains ambiguous and potentially overly expansive definitions that call into question features outside the bounds of CWA jurisdiction/WOTUS, including ephemeral features which only flow in response to a rain event, isolated wet areas, and other waters that are remote from any traditionally jurisdictional waters. In this regard, the CWA's definition of "tributary" as a water feature having the physical indicators of a bed, bank and ordinary high water mark is particularly problematic for aerial applicators, farmers and others in the CWA regulatory community. Unless clarified, the "tributary" definition would erode the CWA's traditional statutory exemptions for farming activities and agricultural stormwater and irrigation water, given that common land features, such as gullies, ephemeral drains and ditches, may often exhibit a bed, bank and ordinary high water mark that meet the definition of tributary.

  Additionally, in vast areas of the arid west and southwest, it is common for erosional features, including gullies, rills and other ephemeral features, to display the physical characteristics of a tributary after a single rain event, and they may only contain flowing water a few times of the year. For aerial applicators, the implication that every ditch, gully and ephemeral stream on a farm may be a jurisdictional tributary brings into question whether every farm would require a CWA NPDES permit for aerial spraying. This regulatory uncertainty would hinder timely pesticide applications vital to crop protection and public health and result in farmers and landowners having to hire expensive consultants and environmental engineers to provide determinations on whether ephemeral and erosional features meet the definition of WOTUS.
- A WOTUS definition that leaves substantial room for case-by-case expert determinations of federal jurisdiction would unduly burden the aerial application industry and the farmers and landowners that hire them to perform timely and critical crop protection services. The Agencies should ensure that key terms and concepts are clear and foster consistent and practicable implementation across the U.S. The agriculture sector needs regulatory certainty to continue to produce affordable food, fiber and biofuel relied on by all Americans.
- Ephemeral features, which only carry water temporarily in response to rainfall, serve as natural drains on agricultural land and should be excluded from the revised WOTUS definition. Likewise, agricultural ditches—a ubiquitous component of farmland infrastructure—should be excluded. NAAA also recommends excluding stormwater control features (e.g., roadside ditches), which collect and convey stormwater, as well as manmade features such as irrigation ponds and canals and retention ponds/basins. NAAA also urges the Agencies to consider input offered on exclusions provided by others in the agriculture sector.
- Lastly, let the Supreme Court weigh in before finalizing WOTUS. On Jan. 24, the **U.S. Supreme Court announced** that it would hear arguments in Sackett, et ux., v. EPA, et al. This case has the potential to considerably impact the regulatory landscape on this issue. For this reason, NAAA encourages the Agencies to adjust their work schedule so as to not finalize a new WOTUS definition until after an opinion has been issued on this case and the Agencies have had sufficient time to analyze it and incorporate it into a new proposal. Although this may impact the regulatory timeline, it is likely to greatly reduce wasted and duplicated effort on the part

of the Agencies and the entire stakeholder community, reduce regulatory uncertainty and significantly increase the chances of the final definition being durable.

Years of rulemaking and court challenges over several administrations have created a great deal of confusion over which waters are subject to federal regulation. Currently, EPA and the U.S. Army Corps of Engineers are interpreting "waters of the United States" (WOTUS) consistent with the pre-2015 regulatory regime until this 2021 proposal is promulgated. In 2015, the Obama administration's EPA and Army Corps of Engineers (the Corps) finalized a Clean Water Rule to revise the definition of WOTUS. The rule federalized many thousands of minor waters, canals, ditches and other manmade conveyances that are insignificant or likely already protected by state laws. The rule expanded the CWA's reach and federal enforcement to include generally dry or seasonally dry "ephemeral tributaries," neighboring waters "adjacent" to such tributaries, and many other newly jurisdictional flows to be covered by pesticide general permits and other policies. These provisions, as well as citizen suit vulnerabilities, would have required additional consideration by aerial applicators when they accept pesticide application contracts. The Obama rule focused on minor waters and included many manmade, man-altered and natural non-navigable waters and seasonal conveyances that were either not previously jurisdictional under the CWA or were jurisdictional only after a case-by-case determination by the Corps.

On Feb. 28, 2017, President Trump issued an executive order directing the EPA and the Corps to rescind and replace the rule. In late 2018, the Agencies released their joint proposal to replace the WOTUS definition. The 2018 proposed WOTUS definition included more bright lines that would have made it easier for aerial applicators and their landowner customers to determine which water features are WOTUS and thus require CWA permitting, including NPDES permitting for aerial spraying. NAAA has responded with comments to all of these federal actions and will continue to keep you informed of the Biden administration's stab at rewriting the Clean Water Act's definition of a WOTUS.

House Committee Holds Hearing on 5G Deployment Effects on Safety, NAAA Weighs in with Panel on Safety Concerns

On Feb. 3, the House Subcommittee on Aviation held a hearing entitled "Finding the Right Frequency: 5G Deployment and Aviation Safety." During the hearing, members had the opportunity to hear from the FAA and other aviation interests and discuss the impact that deployment of 5G technologies might have on aviation safety.

Chairman Rick Larsen (D-Wash.) levied criticism against cell service providers for failing to coordinate the rollout of its new 5G service with airlines, the FAA and other stakeholders in the aviation industry. Ranking Member Sam Graves (R-Mo.) accused both the FAA and FCC of playing a waiting game rather than communicating to take care of the issue. The result was a rollout that had many airlines canceling flights over concerns that 5G signals may interfere with plane navigating in low-visibility areas.

The FCC has agreed to pause using 5G technology until the signal strengths and tower locations can be approved by FAA safety measures. Currently, the FAA has other protocols in place to allow the FCC to keep their towers in place but not turned on. These expire on Feb. 25, but FAA Administrator Dickson believes that they will have more up-to-date data by then to clearly outline a plan for 5G.

The 5G transmissions of concern to airlines' GPS equipment is not expected to interfere with GPS systems equipped on ag aircraft due to differences in the technology; however, NAAA used the hearing to bring questions forward to the FAA, via congressional members on the subcommittee, to register concerns with the FAA over its delay in promulgating a rule that was part of the enacted 2018 FAA reauthorization law. The rule requires towers in rural areas between 50 and 200 feet high and 10 feet or less in diameter to be marked or logged into a public database developed by the FAA, or both. With broadband infrastructure moving into rural communities, particularly after the recently enacted infrastructure bill, the presence of towers is expected to grow.

NAAA also registered its **concerns about the Ligado 5G signal**, not yet online, which is also expected to disrupt GPS signals.

The full hearing can be found **here**.

USDA Announces $1 Billion to Farmers Combating Climate Change, Such as Using Cover Crop, No-Till Practices, Etc.

The Agriculture Department (USDA) recently announced $1 billion in funding for a program aimed at helping farmers and forest landowners combat climate change by sinking more carbon into the ground. The program, Partnership for Climate Smart Commodities, will use funding from the Commodity Credit Corporation to establish climate pilots across the country—a major step in the Biden administration's push to leverage agriculture as part of the solution on climate change. According to the EPA, the sector contributes about 10% of the country's overall emissions.

The overall goal of the climate pilots is to implement climate-smart conservation practices on working farms and forests (such as no-till, cover crops, rotational grazing, reforestation) and then actually measure and verify the climate benefits of those practices, whether it's sinking carbon into soils, capturing methane or releasing less carbon dioxide into the atmosphere. The third component is to "develop markets and promote the resulting climate-smart commodities," per the USDA's announcement.

The USDA defines a "climate-smart commodity"—a relatively new term—as an "agricultural commodity that is produced using agricultural (farming, ranching or forestry) practices that reduce greenhouse gas emissions or sequester carbon." Climate-smart marketing claims are already starting to pop up on food packages, along with other climate-related claims, such as low-carbon or carbon positive. The department appears to be going down a road of trying to formalize some of these claims so they have legitimacy and so farmers can potentially benefit from premium prices.

Funding will be available in two rounds. The first round, due April 8, will focus on larger projects worth over $5 million. A second round, due May 27, is for smaller projects that cost $250,000 to $5 million. A broad range of entities is eligible to apply, from state and local governments to commodity groups, businesses and tribal governments and nonprofits.

Over the past year NAAA has detailed to the USDA how aerial application is already a commonly used climate-smart farming practice. Using data presented at the 2020 Ag Aviation Expo by Dr. Senarath Dharmasena and data from the 2019 NAAA Operator Survey, NAAA calculated that the efficacy and timeliness of aerial applications protect 27.4 million acres of land from being converted into farmland every year. This protection occurs because of the higher yield benefit of aerial application, which would require additional cropland to make up the yield loss if aerial application was no longer an option. NAAA has also communicated to the agency that aerial application provides four times the productivity of ground rigs for conventional broadcast applications and 30 times the productivity of airblast sprayers for orchard applications. NAAA explained how this superior productivity helps to manage pesticide resistance and increase the efficiency of pesticides. The latest climate change research shows that increasing pesticide efficiency helps farmers adopt reduced tillage systems that can lower carbon dioxide in the atmosphere.

Precision agriculture also increases the efficiency of pesticide applications, and the numerous precision agriculture technologies used in aerial application, including GPS, flow control systems, prescription mapping and onboard weather monitoring, have been explained to the agency.

The other big contribution aerial application makes to improving the environment is by seeding cover crops. The cover crops seeded by aerial applicators sequester 1.9 million metric tons of CO2 annually, which would be the equivalent of removing approximately 412,000 cars with carbon-combustion engines from the roads each year. Climate change research has shown that growing cover crops on an additional 15% of U.S. cropland would further sequester 11.9 million metric tons of CO2 equivalent annually. NAAA has pointed out to the agency that because aerial application of cover crops can occur while the cash crop is still standing, it offers a significant advantage over ground seeding in terms of establishing a healthy cover crop.

FAA's GA Survey Data Collection for 2021 Now Underway

The FAA's annual General Aviation and Part 135 Activity Survey (GA Survey) is officially underway. The survey is for reporting on activity for the calendar year 2021. The GA Survey is the only source of information available that provides reliable data on the GA fleet, including the number of aircraft and hours flown. The data is used by the FAA, other government agencies and the aviation industry for a variety of things, including assessing safety and understanding the economic impact of aviation.

The GA Survey is especially critical to the agricultural aviation industry. NAAA uses the results of the GA Survey, in conjunction with NTSB accident numbers, to calculate an overall accident rate and a fatal accident rate for Part 137 operations. This allows NAAA to track and document the safety of the agricultural aviation industry and provide evidence to the FAA and NTSB that PAASS and other safety programs are working to reduce Part 137 accidents. This is especially helpful in the event additional regulations may be proposed.

Participation in the GA Survey is voluntary, but the agricultural aviation industry needs your input. If you are selected to participate in the GA Survey, you will receive an email or postcard invitation asking you to complete the survey online. For those who chose not to complete the survey online, a mail survey is sent that includes a postage-paid return envelope. The information is confidential and will only be used for statistical purposes. It will not be published or released in any form that would reveal an individual participant. It only takes 10 to 15 minutes to complete the survey.

Please respond to the survey even if you did not fly your aircraft during 2021, sold it or if the aircraft was damaged. If you own three or more aircraft, you can use an abbreviated survey form instead of completing a survey for each aircraft. About 30% of the total number of GA aircraft are surveyed every year, so you may be asked to participate two or more years in a row. If you have questions, please contact Tetra Tech, the independent research firm conducting the GA Survey for the FAA, toll-free at 1-800-826-1797 or by email at **infoaviationsurvey@tetratech.com**.

Robinson Helicopter R66 Type Certificate Change Comments Requested

Robinson Helicopter Company (RHC) has applied for a change to the Type Certificate (No. R00015LA) for the Model R66 helicopter. This change incorporates a pressure fueling system in the Model R66 helicopter. The RHC Model R66 helicopter, a derivative of the earlier models of the Model R66, is a part 27 normal category helicopter. It is a single turbine engine helicopter with a four-passenger capacity. It has a maximum gross weight, with no external load, of up to 2,700 pounds depending on the model configuration.

This modification would provide faster, easier and safer refueling when the engine is running and the rotors are turning than the existing fueling system located on the top of the main fuel tank. To view the special conditions or to comment, click **here**. The comment period ends March 7.

Update Your Information for 2022 Member Directory

Have you moved or changed employers since you renewed your NAAA membership? Allied companies, have you reviewed your company description lately? Ensure your listing in the 2022 NAAA Membership Directory is correct today by logging into your account. If any information has changed, please let us know right away. You can provide your information by:

- Updating your information at **AgAviation.org**. Log in using your username and password and update your information under My Profile.
- Emailing your changes to **information@agaviation.org**.
- Responding to the letter or email that you will receive in a couple of weeks.
- Faxing your changes to (202) 546-5726.
- Calling the NAAA office at (202) 546-5722.

Updated information was due by Jan. 25 to guarantee accurate inclusion in the 2022 NAAA Membership Directory.

We All Have a Telling History: Use Yours and NAAA's Materials to Broadly Communicate Agricultural Aviation's

By Andrew Moore, NAAA CEO
If you are an active citizen in the world of aerial application, don't be a static audience member during this epic centennial event. Take the stage with us and bring out your inner thespian as we enunciate the gospel of agricultural aviation to the public.

History is not just documenting famous or infamous people, times and events. We all have a history—a story to tell about ourselves that can contribute to the next and future generations' betterment. One could also believe that sharing our history is one of the meanings of life—to improve and evolve our world by sharing the key to living a good life and sharing the hazards and obstacles that may hinder such living.

NAAA has reached the climax in the centennial epic of sharing our industry's history to the public, which of course was Aug. 3, 2021. But just because the official centennial anniversary date is behind us doesn't mean all efforts to share the importance of our industry to the public have passed you by. We will be celebrating the centennial of agricultural aviation for an entire year. We continue to reach out to policymakers, our brethren in the fields of agriculture and aviation, to the trade press, to the public and to the national news media. We continue to share our history of improving the cultivation of food, fiber and bioenergy consumed globally and how we've learned from harrowing experiences and evolved technologically to fine-tune our craft, use less product to cover more acres and better care for Mother Earth. We are continuing to use all types of media to educate the public—three different length video documentaries, a comprehensive book of our history, social, print, trade and news media releases and a special website, **AgAviation100.com**, to share the 10-decade story of ag aviation and we will continue to due so through July of 2022.

If you are an active citizen in the world of aerial application—whether an operator, pilot, crew member, service-parts-equipment provider or related tangentially to the industry in another way—don't be a static audience member during this epic, year-long centennial event. Take the stage with us as we enunciate the gospel of agricultural aviation to the public. Inform your local television stations, newspapers and radio stations about the industry's 100th anniversary, even if it is by simply directing them to **AgAviation100.com**. On that site, there is a "**Get Involved**" tab with a draft press release about the 100th that discusses the importance of the industry, its progressive evolution, and directs readers to **AgAviation100.com** to learn more. Feel free to cater that press release to your own operation and experience and send it to your local news outlets.

You can also brush up on the ag aviation script about the importance of ag aviation, environmental safeguards that are common practice today and other industry talking points on NAAA's media relations kit webpage that may be found **here**.

The media relations kit also includes suggestions on how to best communicate to the media and public when espousing ag aviation's significance. If you don't feel comfortable communicating directly, no worries. NAAA staff and an assortment of ag aviation ambassadors can be used as understudies and take over that role, but do make sure the public and news media in your area are informed of our centennial milestone to maximize the value of this pivotal once-in-a-lifetime event.

Don't forget, we all have a great story to tell about this industry. Whether it is how one got into the industry; the training to fine-tune ag aircraft and the application equipment; how ag aviation provides to local employment and the local economy; or how after five generations, our technology and experience are such that we produce more per acre, showing that our care for the environment continues to progress—all of these anecdotes are both important and fascinating to public audiences.

It's up to us all to tell the story to continue this industry's remarkable legacy. And again, just because the official anniversary date has occurred, our centennial lasts a year and you can still contribute plenty. Please join the ag aviation cast for this once-in-a-100-year performance that is leading to glowing public reviews and will continue to do so throughout the year.

NAAA Releases Book of the Century! Buy It Today

NAAA has released the book of the century—a century of agricultural aviation, that is.

One hundred years ago, an aerial crop dusting experiment spawned the birth of the agricultural aviation industry. To commemorate agricultural aviation's 100th anniversary, NAAA is pleased to present ***Agriculture's Air Force: 100 Years of Aerial Application***.

Agriculture's Air Force provides a new, updated account of aerial application's history, 35 years after Mabry Anderson's masterpiece, *Low & Slow: An Insider's History of Agricultural Aviation*, was published. NAAA's meticulously sourced book is based on a collective history of the agricultural aviation industry based on material from *Agricultural Aviation* magazine, *AgAir Update*, *Low & Slow* and other resources.

Beginning with *Agricultural Aviation's* Spring 2021 issue, NAAA has been publishing excerpts from *Agriculture's Air Force* and will continue to do so through the Fall 2021 issue. Those stories are just a small slice of what's in the 268-page hardback edition, however. The complete book contains so much more.

Agriculture's Air Force delves into the intersection of agriculture and aviation. It chronicles the agricultural aviation industry's growth from its infancy in 1921 through the boom times after World War II and on to today's modern era of high-tech aerial application.

The finished hardback book has been years in the making but well worth the effort. "This is a significant piece of work covering not just the industry's history, but its essence," NAAA CEO Andrew Moore said. "We are proud of it and believe it will make a lasting contribution to the industry."

The story of agricultural aviation is much like the broader story of aviation: It is mostly punctuated with interesting smaller moments sandwiched between milestone developments. Aerial application is also the story of technological leaps and bounds.

Agriculture's Air Force covers five eras spanning more than 10 decades. In addition, it features 34 Spotlight pieces focused on significant individuals, organizations, trends, technologies and topics related to aerial application.

Agriculture's Air Force: 100 Years of Aerial Application may well be NAAA's most enduring 100th anniversary initiative. One thing's for sure: It is no textbook. The commemorative book is written from a fresh perspective that is entertaining and enlightening. Readers will come away with a new appreciation for agricultural aviation as a profession and the dedicated individuals who propel it forward.

Order Your Copy of Agriculture's Air Force Today!

Agriculture's Air Force retails for $45, excluding shipping. Order it from **AgAir Update's Online Store**.