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Navigating America's Waterways

How new NPDES water permits will affect you, and what you can do to make your voice heard

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NAAA Staff

Executive Director/Executive Editor
Andrew Moore

Assistant Executive Director
Peggy Knizner

Office Affairs Coordinator
Margaret Dea

Director of Education & Safety
Kenneth Degg

Manager of Communications/ Agricultural Aviation Managing Editor
Jay Calleja

Coordinator of Government and Public Relations
Keeley Mullis

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The purpose of NAAA shall be to advance the aerial application industry and its members in their efforts to enhance agriculture, and to protect the public health and the environment.

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Contents

ON THE COVER

NAAA President Brian Rau surveys the waterways located throughout central North Dakota from the cockpit of his 500-gallon Thrush

ALSO INSIDE:

NAAA is proceeding full steam ahead with preparations for its 44th Annual Convention & Exposition in Savannah, Ga.

Cover photo courtesy of Brian Rau, Medina Flying Service.

COVER STORY

Plus:

FEATURES

NOTES

DEPARTMENTS

Agricultural Aviation is the Official Publication of The National Agricultural Aviation Association

President's Message

Brian Rau

The Best You Can Be

I sometimes open the newsletter from our state's pesticide coordinator with apprehension, not knowing what the summary of pesticide complaints for the year will be regarding aerial application. Since 1998, state and national data shows the number of aerial complaints dropping. Some of the years showing this favorable trend are years with less aerial application; however, during some of this time, our industry was very busy. In light of the increased scrutiny the aerial application industry is under, it is very important that we are able to provide data that shows aerial application is not a significant source of problems when it comes to the application of pesticides. It is important for every operator and pilot to be the best you can be.

Pesticide Labels and Complaints

The aerial application industry may always have a certain number of complaints. Zero complaints are not an easily obtainable goal. A competent applicator can find himself the subject of a complaint, legitimate or not. Should there ever be a complaint about off label application by an aerial applicator? Confusion regarding labels of different brands with the same active ingredients could happen to an applicator. However, I am of the opinion that an aerial applicator has a special obligation to make sure the application is correct. Some things we can't always control, but this is one issue that we can. I know firsthand the pressure from growers to use a product that they know will work, but it is not labeled for the application requested. We have to be able to say no.

Drift Reduction Technology

The number of pesticide complaints can also be improved by continuing to reduce the incidents of off-target drift. Operators need to use all of the drift reduction measures possible. There is an inherent problem of releasing a droplet into a high-speed airstream in that the droplets tend to tear. The use of all measures available to reduce this is important, even if the improvements are small. The best available nozzles and additives are important. The reduction of drift incidents is essential to our industry.

Part 137 Operations and Subcontracting

Many aerial applicators work as subcontractors to another entity. There is some concern that the correct entity has the part 137 operating certificate. Part 137.11 (a) stipulates that *"no person may conduct agricultural aircraft operations without … an agricultural aircraft operator certificate…"* At what point of involvement could an entity that may be taking orders, scheduling work, providing/selling product and invoicing customers be considered to be conducting agricultural aircraft operations? It appears that in general the FAA is satisfied as long as someone involved has a part 137 certificate.

Part 137.55 states, *"No person may operate under a business name that is not shown on his commercial agricultural aircraft operator certificate."* However, how this requirement is complied with is not completely clear. If a part 137 certificate holder invoices an entity that is not the final customer and does so with his business name and information on the invoice, has he complied?

I am of the opinion that growers and regulators have a legitimate concern in knowing who is responsible for the work. If that is accomplished, I think everyone would be satisfied. However, if the arrangement provides anonymity for who is responsible, that is problematic and not a good thing for the industry. In addition to having a part 137 certificate, some state agencies such as aeronautics commissions and pesticide or plant board departments may also have regulations affecting how you operate as a subcontractor. Make sure you know the laws and regulations when operating in a state with which you are not familiar.

Let's all do what we can to make this industry the best it can be. n

Executive Director's Message

Andrew Moore

DRTs

Based on my observations of current federal environmental policy direction, I strongly agree with President Rau's suggestion in his President's column to "use all of the drift reduction [technologies (DRTs)] possible," and I urge aerial applicators to take heed of this suggestion. This isn't necessarily an inexpensive endeavor, but should the Environmental Protection Agency (EPA) ever decide to allow label language allowing for the elimination of buffers for applications to cropland on the downwind side of a sensitive area some fairly sophisticated DRTs will have to be in place to record the application. EPA's rub with allowing these applications currently comes from the Agency's Office of Compliance and Enforcement. EPA officials have stated that their reluctance in allowing applications directly downwind sans buffers comes from there being no way for an enforcement official to know if wind direction was moving away from a sensitive area when the application was being made.

Technology has changed all of that. Now with AIMMS—the Aircraft Integrated Meteorological Measurement System—a technology exists that allows for documentation of wind speed, direction, relative humidity and temperature. AIMMS is essentially an on-board anemometer. It develops these weather-related readings each second (or approximately every 200 feet for a moving ag aircraft); syncs that data with the exact latitudinal and longitudinal location of the ag aircraft; and saves that information into the aircraft's GPS system. AIMMS takes away the EPA's argument that there is no way for an enforcement official to determine whether an applicator was spraying in the right conditions—it's all right there on the data card.

Another important technology used in aerial application today to determine wind speed and direction is smokers. For those unfamiliar with ag aviation equipment reading this article, smokers enable pilots to safely inject a small amount of oil into the aircraft exhaust system that results in smoke being created. As the smoke enters the atmosphere it allows the pilot to determine the wind direction and an estimate of wind speed. According to a 2006 EPA survey, 86.1 percent of the U.S. agricultural aircraft fleet was equipped with smokers. Unfortunately, no technology currently exists photographically documenting the movement of a smoker's output away from a sensitive area and syncing that with the exact geographical coordinates in which the smoker was engaged. As a result, EPA is not likely to allow smokers to be used as a DRT to allow for an application without a buffer to a field on the downwind side of a sensitive area. However, NAAA's Research & Technology Committee has requested that the USDA-ARS Aerial Application Technology Program look into developing a technology that could photograph and geographically tag a smoker's output as another technology that may someday enable aerial applications directly adjacent to the downwind side of a sensitive area.

A component of the Aircraft Integrated Meteorological Measurement System (AIMMS) attached to an aircraft's wing. AIMMS can provide up-to-the-second real-time temperature, humidity, wind speed and direction readings to enable even more targeted drift-reducing aerial applications. The meteorological data runs updated readings every second, syncs the information with the GPS coordinates of the location of the aircraft and logs the information with the GPS system.

Going back to an earlier point, AIMMs isn't an inexpensive piece of equipment; nor will a smoker recording device be inexpensive. In 2005, an AIMMS system ran around $35,000; today they run around $20,000. This is not pocket change, but it is a similar trend to what we saw with GPS systems 20 years ago when they first entered the market. In 1990, a new swath-marking GPS ran approximately $30,000, but today they are slightly over $15,000. Because of their higher cost they weren't used by many in the industry. An NAAA pesticide use survey showed that 25 percent of the aerial application industry used GPS in 1994; 60 percent used GPS in 1998; and 94.7 percent used GPS according to a 2006 EPA aerial application survey. As the price goes down, use goes up. This is very likely to be what happens with AIMMS or a similar technology, particularly if EPA changes labels to allow for a mitigation or elimination of buffers when they are used.

Based on current policy and political trends, much scrutiny is being focused on chemicals in the environment. A policy requiring NPDES water permits for some pesticide applications appears imminent in April of 2011 (see cover story, pgs. 10–19). Furthermore, according to a recent report released from the President's Cancer Panel, chemical environmental exposure is "the major cause of cancer" (even though the American Cancer Society claims this doesn't represent scientific consensus). In addition, several court decisions and out-of-court settlements related to the Endangered Species Act have imposed harsh restrictions on the use of crop protection products, which include 1,000-foot buffers for aerial applications. This policy, report and decision are just a few of many underscoring a trend towards more regulatory scrutiny. Common usage of DRTs such as AIMMS and other sophisticated technologies will be another way to show enforcement agencies our commitment to professionalism and will be our best shot in having these agencies provide allowances to make applications to fields downwind of sensitive areas without buffers. n

Former NAAA President Roy Wood Passes Away

Former NAAA President Roy Wood Sr. passed away June 7 at the age of 78. He served as president of the association in 1982. After a stint as a jet fighter pilot in the Air Force, Wood founded Wood Spraying Service in Raeford, N.C. He also owned RW Cattle Farm and was a partner in R&R Pork Farm and Timberland Farm.

In addition to his term as president, Wood served as treasurer of NAAA and was on the board of directors for many years. He was instrumental in establishing the North Carolina Agricultural Aviation Association, serving as North Carolina's president for three terms and on several related committees. He also served on the N.C. Pesticide Board as a director for several years.

Wood is survived by his wife of 55 years, Jeannette, and five children: Sharon Montesanti; Roy Wood Jr. (Patti); Suzanne Balfour (John); Richard Wood (Sharon); and Randy Wood (Rebecca). He is also survived by nine grandchildren and his sister, Virginia Wood Rauch. NAAA wishes to extend its condolences to Jeannette Wood and the entire Wood family.

Memorials may be made to:
Raeford United Methodist Church, 308 N. Main St. Raeford, NC 28376, or
The Hospice Foundation of Hoke County, P.O. Box 1584 Raeford, NC 28376.

Roy Wood Sr., Aug. 12, 1931–June 7, 2010

WNAAA President's Message

Jane Barber

Mrs. Barber Goes to Washington

"Democracy is a device that insures we shall be governed no better than we deserve."
—George Bernard Shaw

As our voice in Washington, NAAA has been an effective advocate on our behalf. It is a blessing to have such devoted advocates working to educate policymakers about the critical role aerial application plays in American agriculture and to fight potentially harmful government policies. As members of NAAA and WNAAA, we provide our national association with the resources it needs to protect our livelihood through our dues. That is very important, but if we are truly concerned about protecting and preserving this great industry, we owe it to ourselves to go even further. We need to get more personally involved in the democratic process.

If you're like me, that requires stepping outside of your comfort zone. Even so, we all need to make more of an effort to visit Capitol Hill and meet with our elected officials in Washington, D.C. Each Director, Allied Rep, NAAA/WNAAA Officers past and present and spouses who travel to Washington, D.C. in February for the Associations' Spring Board meetings should make a conscientious effort to set up a face-to-face meeting. With their busy schedules, you may not get to meet with your Representative or Senator in person, but they will do their best to have you meet with someone from their staff that will pass on your issues or comments.

Our NAAA staff is very helpful with addresses, phone numbers and contact names. Keeley Mullis will even e-mail you some information on proper attire! This is helpful in and of itself. Leave that favorite flannel shirt hanging on the back of the chair and put on a suit coat! Those cute jeans with the worn-out look are stylish, but putting on a nice pair of slacks and blouse gives off a more professional appearance. You are representing your state association and NAAA.

DEMOCRACY AT WORK! *Make an effort to meet with your elected officials the next time you are in Washington. Politicians are happy to hear from their constituents and address issues that are important to them.*

You may fear you don't have anything to say to these elected officials, but you do! If you have an issue such as the EPA's drift proposal, wind towers or continuation of funding for the USDA's Agricultural Research Facility at College Station, Texas, that concerns you, by all means, let your representatives know how you feel. Our NAAA office staff will keep you well versed on current issues. They have a number of one-page briefs of the top issues pertaining to our industry that you can use to study and leave with the congressional offices. The home office will also give you some pointers to present to your Senator or Representative. Politicians are happy to meet people from their home states, to take care of issues that are important to you and let you

know they are taking your concerns seriously. It has been my experience to hear back from them after I return home, with 8x10 photos that follow! (Why do we always look for ourselves first in a group photo?)

This brings to mind one of the times I was in D.C. for Spring Boards. We met with then Rep. John Thune, Senator Tim Johnson and Senator Larry Pressler. South Dakota had quite a sizable group that year. We even took our daughter Jackie with us. While John was being introduced to everyone, he gets to Jackie, grins a bigger smile and says, "Well, Jackie, how are you and how is your cousin Abby?" The girls had been in T.A.R. (Teenage Republicans) and John remembered them. In all probability, that one meeting keeps me going back each time I am the WSDAA Director. Thune (now a U.S. Senator) was responsive and his candor gave us a welcome feeling and no uncertainties about returning.

In February, we had appointments with all of our South Dakota elected officials. We were going to let them know how we felt about wind towers! Mother Nature must have thought we'd be too taxing on them and gave D.C. a snowstorm to remember!

This past February we had appointments with all three of our South Dakota elected officials. Splendid. We were going to let them know how we felt about wind towers! Then Mother Nature must have thought we'd be too taxing on them and gave D.C. a snowstorm to remember! Better luck next year. We have been privileged to be able to make our travel arrangements to arrive in D.C. a day or two in advance of the scheduled Board meetings, so we can spend time on the "Hill."

Next year when it is Spring Board time, search your Senator or Representative online if you aren't sure who they are, or look for the link on NAAA's site. You can also visit them at home during congressional recesses. Contact their office ahead of time, investigate the issues you would like to bring before them and go visit. It really is an experience and not as intimidating as it sounds. You helped elect them. Let them hear your concerns, or let them know you are pleased with the job they are doing. Their jobs are some of the most unappreciated and most criticized jobs in America. n

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EPA's newly released draft permit unleashes a slew of different and unprecedented requirements for pesticide applicators. As the clock ticks on the Agency's 45-day comment period, aerial applicators are urged to comment and comment quickly. **You must act by July 19!**

How New NPDES **Water Permits** Will Affect You

By Andrew Moore
NAAA Executive Director

EPA's long-awaited draft general permit for pesticide applications made into, over or near waters of the U.S. (or conveyances to those waters)[1] for a number of different pesticide uses was released in the Federal Register June 4, 2010. Details on the permit may be found at the following Web site: *http://cfpub.epa.gov/npdes/home.cfm?program_id=410*. EPA intends to finalize the general permit by December 2010, incorporating comments received from states, industry, environmental groups and others. If it remains in its current form, the general permit will markedly alter compliance under FIFRA, add significant legal exposure and add to the recordkeeping and reporting burdens required of pesticide applicators. Aerial applicators' clients—entities making decisions about the use of pesticides—will have even greater burdens and legal exposure.

The permit is scheduled to be in place and in use April 9, 2011, although many doubt the process will be completed, especially among the 44 states that have to develop their own general NPDES permits from EPA's model. The legal liability pesticide applicators and their decision-making clients will have if that happens is unknown at this point. This article attempts to explain the draft permit requirements' effects on aerial applicators and provide those applicators with the tools they'll need to comment directly to the EPA about the permit's effects on our industry—in an attempt to get EPA to remove unachievable and unwarranted requirements from the permit before it becomes final. **Comments are due to the EPA on or before July 19, 2010.**

A Brief History

The requirement to obtain National Pollutant Discharge Elimination System (NPDES) permits for point source discharges from pesticide applications to waters of the U.S. stems from last year's decision by the U.S. Court of Appeals for the Sixth Circuit in *National Cotton Council, et al. v. EPA*. There the Court nullified a 2006 EPA rule that stated NPDES permits

[1] **Waters of the United States –** Waters of the United States or water of the U.S. means (as defined in EPA's 2010 NPDES Draft Pesticides General Permit):

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) All interstate waters, including interstate "wetlands";

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

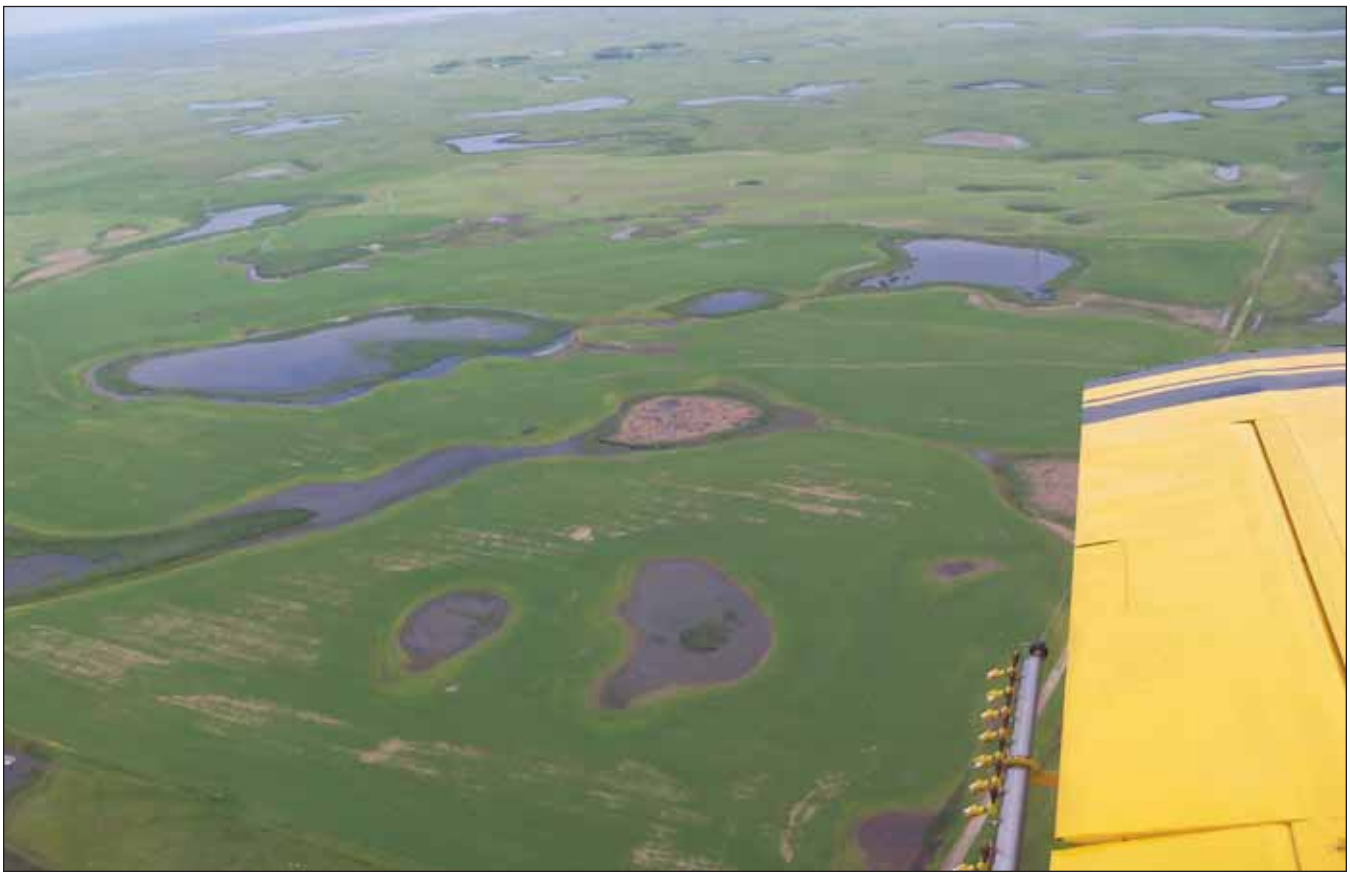
(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters indentified in paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) indentified in paragraphs (a) through (f) of this definition.

EPA's 2010 NPDES Draft Pesticides General Permit also states that if discharges of pesticides are made to conveyances of waters of the U.S., they will also require an NPDES permit. Conveyances are defined as waters "with a hydrologic surface connection to waters of the U.S. at the time of the pesticide application." In terms of this permit if an application is going to be made to a "conveyance" that is free of water, for example a river bed that is dry, it would not require an NPDES permit.



NAAA President Brian Rau surveys some of the waterways of the Prairie Pothole region of central North Dakota from the cockpit of his 500-gallon Thrush.

were not required for applications of pesticides into, over or near waters of the U.S. when the applications were made in compliance with the FIFRA label. Today's reality is that common applications of any pesticide over, near or onto waters of the U.S. and certain conveyances are considered to be a "discharge" and will require NPDES permits when the court's mandate takes effect beginning on April 9, 2011.

Permit Coverage

EPA's draft NPDES Pesticide General Permit (PGP) is effective only in areas where EPA is acting as the NPDES permitting authority. This includes Alaska, Idaho, Maine, New Hampshire, New Mexico and Oklahoma, Federal lands, Indian lands and several territories. Remaining states that have their own NPDES permitting authority are responsible for issuing NPDES permits for pesticide discharges in their respective jurisdictions. States are not precluded from making their requirements more stringent than the EPA permit requirements. Applicators are urged to be in communication with their state agencies with jurisdiction over these permits to express any concerns and suggestions and urge them to minimize the permit's adverse effects on their businesses.

EPA's PGP would authorize discharges to waters of the U.S. from the application of biological pesticides and chemical pesticides that leave a "residue" (excess pesticide active ingredient or degradation of product)[2] for the following pesticide use patterns: (1) mosquito and other flying insect pest control; (2) aquatic weed and algae control; (3) aquatic nuisance animal control; and (4) forest canopy pest control. Agricultural terrestrial applications are not covered under the permit; however EPA asked for comments on whether other pesticide uses, such as terrestrial applications, should be added before finalization. EPA acknowledges that the Clean

[2] It is important to note that all pesticides are assumed by the EPA to have residual and that the Agency considers biological products to be pollutants regardless of whether the application results in residuals.

PESTICIDE USE	NOI ANNUAL THRESHOLD
Mosquitoes and Other Flying Insect Pests	≥640 acres of treatment area
Aquatic Weed and Algae Control:	
–In Water	≥20 acres of treatment area
–At Water's Edge:	≥20 linear miles of treatment area at water's edge
Aquatic Nuisance Animal Control:	
–In Water	≥20 acres of treatment area
–At Water's Edge	≥20 linear miles of treatment area at water's edge
Forest Canopy Pest Control	≥640 acres of treatment area

Water Act's exemption of agricultural storm water and irrigation return flow mean they are not included in this general NPDES permit, and also that off-target spray drift would not be covered (authorized) by this permit. EPA states in its permit documents that "any use patterns not covered by this proposed draft permit would need to obtain coverage under an individual permit or alternative general permit if they involve pesticide applications that result in point source discharges to waters of the U.S."

An entity discharging under one of the four use patterns covered by EPA's general permit receives automatic coverage unless they exceed an annual treatment threshold (see chart above).

If an entity exceeds one of these thresholds it must submit a Notice of Intent (NOI) in order to be covered under the PGP. Exceeding any of these thresholds triggers the need to file an NOI and meet a number of analytical and paperwork requirements. EPA defines someone who must file an NOI as an "operator" (not to be confused with an aerial application operator, although in some instances they could be one and the same) and describes "operators" as (1) those that "have control over the financing for or the decision to perform pesticide applications that result in discharges, including the ability to modify those decisions; or (2) [an entity that] has day to day control of or performs activities that are necessary to ensure compliance with the permit (e.g. they are authorized to direct workers to carry out activities required by the permit or perform such activities themselves)." EPA states in its draft permit: "For-hire applicators are required to submit an NOI when their total treatment area exceed[s] an annual treatment area threshold, but only for those areas [treated that are] not accounted for in another NOI." The draft PGP documentation also states that "operators hiring another party to apply pesticides are responsible for submitting an NOI if: [t]he application exceeds any applicable annual treatment."

The NOI submission is done in advance of the pesticide application, sometimes months in advance. As such, the operator submitting the NOI needs to map and describe the exact locations of the planned treatments; which, if any, waters of the U.S. are present; which pesticides and what rate will be used; and (if known) which applicator(s) will apply the pesticides. Obviously, the decision-making client entities are the only ones who will know this far enough in advance to be able to submit the NOI. EPA anticipated this, and allows for-hire operators to be covered by the NOIs submitted by their client federal, state or municipal agencies and private/corporate organizations.

If it survives into the final permit, we believe this should generally exempt for-hire applicators from the multiple requirements that accompany the submission of an NOI, such as use and documentation of Integrated Pest Management practices, annual reporting, etc. However, if an applicator has contracted to apply pesticides for a client that doesn't file an NOI, to gain the protections of the NPDES permit the applicator will have to prepare and file an NOI, and meet many other analyses and paperwork requirements far outside what has ever been required of applicators before. The focus of NAAA's comments to the EPA is to clarify our concerns about some issues, express support for EPA's decisions on others, and to make suggested changes where we believe they are warranted.

If it remains in its current form, the Pesticides General Permit will markedly alter compliance under FIFRA, add significant legal exposure and add to the recordkeeping and reporting burdens required of pesticide applicators.

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In North Dakota's Prairie Pothole region, which covers much of the state, there are potholes of water throughout farmlands. The holes fill with water in some years and are empty in dry years.

In general, the PGP requires all operators to minimize pesticide discharges (by using the lowest effective amount of pesticide, preventing leaks and spills and calibrating equipment) and to monitor for and report any adverse incidents, including exceedances of state water quality standards. Operators such as federal, state or municipal decision-making organizations whose annual pesticide treatment area exceed the NOI threshold must submit an NOI to gain general permit coverage, implement integrated pest management (IPM) practices and best management practices (BMPs) to minimize the discharge of pesticides to waters of the U.S., develop a Pesticide Discharge Management Plan (PDMP), submit adverse incident and annual reports, and maintain records that effectively document all of these practices. It is a permit violation not to report incidents properly and quickly, or not to maintain records and the PDMP in a complete, up-to-date fashion. Implementing IPM includes a variety of requirements such as taking steps to identify the pest problem, evaluating pest-eradication methods (i.e., deciding, after analyzing a treatment area, whether to take no action, or use mechanical/physical methods, cultural methods, biological control agents or pesticides to eradicate a pest), and establishment of an economic or nuisance threshold that would justify pesticide application.

In its example of IPM techniques to follow pertaining to mosquito control, EPA suggested in its PGP Fact Sheet for operators to establish mosquito larval densities, analyze whether to either take no action, use mechanical/physical methods, cultural methods (reducing breeding sources), biological controls and/or chemical controls to eradicate the pest, and also document justification as to why the course taken was chosen. These steps are important in the pest management process for entities making the decision to have an area treated with a pesticide; however, they are decisions and steps not usually taken or required of most for-hire pesticide applicators whose focus and attention is on the processes involved with the actual application, maintenance and operation of the equipment and conditions related to those processes in the eradication phase of the pest management cycle. In addition, conducting pest counts and then post application surveillance and monitoring are other IPM requirements for those entities required to submit an NOI in order to qualify under the PGP. These are not appropriate for applicators, who might

The focus of NAAA's comments to the EPA is to clarify our concerns about some issues, express support for EPA's decisions on others and to make suggested changes where we believe they are warranted.

apply the pesticides at night, and are not the owners of the property treated (requiring them to trespass) to comply with these permit requirements. For these and other reasons, NAAA believes it is unreasonable for the applicator to be responsible for submitting an NOI or complying with applicable IPM requirements. NAAA's comments and those of aerial applicators submitting comments to the EPA should focus on these points.

What is more realistic is for aerial applicators to document current practices to provide evidence that they are complying with those sections of the permit that apply to them (e.g., maintenance of equipment, avoidance of spills, etc.). Such evidence will be critical if EPA or the state regulators do an inspection of an applicator's property and records, or a citizen suit is filed against the applicator by a neighbor or activist. NAAA will be pushing EPA to allow applicators to maintain a personal record of their BMPs and activities at their place of business, in lieu of needing to comply with all the other NOI requirements. These personal records (a Pesticide Discharge Management Plan) are required of those operators having to submit an NOI under the EPA's PGP. The contents of a PDMP would describe each aerial applicator's business and document how the applicator is meeting the technology best management practices (BMP) requirements of the permit. They would likely include:

A. Identify a Pesticide Discharge Management Team and responsibilities of that team (which person maintains and calibrates the aircraft, who supervises the purchase and storage of pesticides, who is trained in spill

How to Comment on EPA's Draft NPDES Permit for Pesticide Applications

Comments Due by July 19, 2010

NAAA urges U.S. aerial application operators and pilots to submit comments to the EPA pertaining to its draft NPDES Permit. NAAA has developed a Web page for applicators to visit providing a summary of this issue and guidance on how to draft and submit comments. The site also includes a draft of NAAA's comments the Association is developing to submit to the Agency. To visit the site go to: *http://agaviation.org/NPDESpermits.htm*. The EPA Draft NPDES Permit for Pesticide Applications and related documents may be found at *http://cfpub.epa.gov/npdes/home.cfm?program_id=410*. Comments must be submitted to the EPA to ensure being considered by July 19, 2010. When submitting comments to the EPA on the draft NPDES permit be sure to include the Docket Identification Number "EPA-HQ-OW-2010-0257." You may submit comments by one of the following methods:

1. Visiting the Web site: Direct your browser to www.regulations.gov. From there, click the tab that says "submit a comment." Under "Select Document Type," select "Agency Documents" and check the "Open the Comment/Submission" box, then, under "Enter Keyword or ID:"enter the docket number: *EPA-HQ-OW-2010-0257,* then click search. The title of the document, "Draft National Pollutant Discharge Elimination System (NPDES) Pesticide General Permit for Point Source Discharges from the Application of Pesticides," will appear in the search results. Click the "Submit a Comment" link, which is located under "Actions" in the right-hand column. Once you reach the comment page, fill out the requested information and either write your comments or attach a file that includes your comments;

2. E-mailing your comments to ow-docket@epa.gov; or

3. Mailing comments to:
   Water Docket
   U.S. Environmental Protection Agency
   Mail Code: 2822T
   1200 Pennsylvania Avenue, NW
   Washington, DC 20460
   Attention: Docket ID No.
   EPA-HQ-OW-2010-0257

If you have any trouble or questions while submitting your comments, please don't hesitate to contact Keeley Mullis, NAAA's Coordinator of Government and Public Relations, at 202-546-5722. n

When you submit comments, focus on measures you already take to ensure pesticide applications do not discharge into waters of the U.S. Reference technologies used such as GPS systems, automatic flagman, on-ground flagging or smoke generators and precision ag equipment, as well as participation in stewardship courses.

control and cleanup, who keeps the spray log, who knows and is responsible for recording changes to the PDMP. If it's the same person(s), just say so)

B. Pest Management Area Description (keep records of the treatments made, and where the treatment areas were; similar to FAA spray log requirements)

C. Control Measure Description (BMPs used, calibration and maintenance of equipment used)

D. Schedules and Procedures

1. Control Measures Used to Comply with the Effluent Limitations
   a. Application Rate and Frequency Procedures (document how this was chosen)
   b. Spill Prevention Procedures (document BMPs used)
   c. Pesticide Application Equipment Procedures (calibration and maintenance)
   d. Pest Surveillance Procedures (if any, describe)
   e. Assessing Environmental Conditions Procedures (document how go-no go decisions are made about wind, rain, drift, etc. on day of application, whether ground flagging, automatic flagman or GPS was used, etc.)
2. Pertaining to Other Actions Necessary to Minimize Discharges
   a. Spill Response Procedures
   b. Adverse Incident Response Procedures
   c. Pesticide Monitoring Schedules and Procedures
   d. Documentation to Support Eligibility Considerations under Other Federal Laws (state or federal laws that applicators need to consider when making applications—e.g., FAA, FIFRA)
   e. Signature Requirements from the officer of the company

Most of this information is obtainable for aerial application operators, but not without some additional paperwork and recordkeeping burdens. Some of the challenging PDMP items to obtain for aerial applicators will be the pest surveillance procedures; however, EPA has stated in the Draft PGP that aerial applicators are exempt from the visual monitoring requirements during application so that is what an applicator would write in its PDMP. EPA does require visual monitoring assessments during any post-application surveillance that is done to assess the efficacy of the pesticide treatment. If aerial applicators are required by their spraying contract with their client to circle back and look for efficacy in, say mosquito control, then aerial applicators would be also required to look for dead fish etc. and report them. But it is doubtful that any aerial application contracts will require the pilot to come back later to look for pesticide treatment efficacy—so the pilot would also not be required to do these types of searches.

In terms of what EPA is looking for under the PDMP for "Pesticide Monitoring Schedules and Procedures" according to the Draft PGP is monitoring the integrity of application equipment by calibrating, cleaning, and repairing equipment on a regular basis to reduce the potential for leaks, spills and unintended/accidental release of pesticides to waters of the U.S. The EPA also states in regards to this requirement that all permittees must monitor the amount of pesticide applied to ensure that the lowest amount needed to effectively control the pest is used, "*…depending on conditions…*" and balance pest control application rates with the need for efficacy and the avoidance of pesticide resistance development.

The prospect of those in agriculture having to comply with NPDES permits for pesticide applications that will or may result in a discharge into a water of the U.S. is arguably the largest regulatory challenge to face the pesticide application industry since the Food Quality Protection Act was enacted in 1996.

Next Steps & Grassroots Action

NAAA will continue to work with its agricultural and non-ag pesticide coalition colleagues in an attempt to urge Congress to enact legislation to prevent the NDPES draft permit from being implemented. The goal is to keep the FIFRA standard as the necessary water protection statute via its environmental and safety requirements for pesticides that are mandated as part of a pesticide's registration process. NAAA also will continue to work to

influence EPA during the period up to finalization of the permit.

Even though these legislative and EPA lobbying efforts are underway, the results are far from certain. Thus, pesticide applicators and others concerned about this permit must submit comments to the Agency to influence the draft NPDES PGP and make it more tolerable for the parties affected. NAAA urges U.S. aerial application operators and pilots to submit comments. NAAA has developed a Web page to assist applicators in this effort (see pg. 15 for more info). To visit the site go to: *http://agaviation.org/NPDESpermits.htm*. NAAA urges its members to read our draft comments on the site and provide suggestions of possible improvements.

When you submit comments to EPA, focus on how much impact EPA's proposal will have on your business, and whether EPA's requirements might have sufficient adverse economic impacts that they might make you go out of business. NAAA statistics, according to the Association's 2004 Pesticide Use Survey, indicate this is an industry of very small businesses. There is not likely enough time and manpower to do a lot of the extra things EPA has described. For example, our survey shows that there is an average of 2.2 aircraft per aerial application business. Employees range from one to two pilots, a mixer-loader of crop protection products and front desk administrator that serves as a bookkeeper, order-taker, and record keeper—four employees on average per aerial application business. The additional fieldwork and paperwork burdens required of entities filing an NOI will markedly strain these businesses putting into question EPA's analysis that the regulations will have minimal burden on entities, including small businesses covered under the general permit.

Applicators should also focus, when drafting their comments, on the measures already taken to ensure pesticide applications do not discharge into waters of the U.S. by referencing technologies used such as GPS systems, automatic flagman, on-ground flagging or smoke generators, and precision ag equipment, as well as participation in stewardship courses, such as calibrating dispersal systems by

Operators failing to comply with the Clean Water Act or violating specific provisions of the permit risk being found in violation and subject to penalties of up to $37,500 per day per violation.

attending Operation S.A.F.E. Fly-Ins and PAASS seminars.

The prospect of those in agriculture having to comply with NPDES permits for pesticide applications that will or may result in a discharge into a water of the U.S. is arguably the largest regulatory challenge to face the pesticide application industry since the Food Quality Protection Act was enacted in 1996. Operators failing to comply with the Clean Water Act (CWA) (such as failing to obtain NPDES permit coverage), or violating specific provisions of the permit (such as the fieldwork and paperwork requirements) risk being found in violation of the CWA and subject to penalties of up to $37,500 per day per violation (in additional to any possible FIFRA penalties). Also, the CWA provides for citizens to file suit.

It is clear that environmental groups will attempt to move EPA to require the NPDES permit to be far more stringent for permittees. That's why it is important that aerial applicators nationwide comment to the EPA stating that the permit requirements for applicators are too stringent and clarifications and revisions need to be made.

Currently, environmental activist groups responsible for pushing the Courts to include pesticide applications under the Clean Water Act permitting requirements are stating they will push for an even more restrictive permit than EPA's current draft. One environmentalist attorney went on record stating that his impression in regards to EPA's draft permit is that "it needs to have more teeth to it instead of being just a paper exercise." Another activist group that was a party to the Sixth Circuit decision stated that the lack of any requirement for a pesticide needs analysis as part of the draft permit is "a very general and striking inadequacy and as a result there has been no progress in protecting waterways through the permit." Moreover, these activists have stated that "there is no adequate rationale for some things that

are excluded from the permit, [such as agricultural crops and forest floors]." It is clear that these groups, during this open comment period, will attempt to move EPA to require the permit to be far more stringent for permittees. For this reason, it is important that aerial applicators nationwide comment to the EPA stating that the permit requirements for applicators are too stringent and clarifications and revisions need to be made. n

FIFRA Knows Best

One important statement EPA makes in the Federal Register Notice for the NPDES draft permit reiterates the importance to applicators not to stray from Federal Insecticide Fungicide & Rodenticide Act (FIFRA) labeling requirements. It is assumed that FIFRA labeling requirements are followed at all times, but with that said the following statement still bears repeating: "It is important to note that although the FIFRA labeling is not an effluent limitation, if the permittee is found to have applied a pesticide in a manner inconsistent with the relevant water-quality related FIFRA labeling requirements, EPA will presume that the effluent limitations to minimize pesticides entering the Waters of the United States has been violated under the NPDES permit. Therefore, use inconsistent with certain FIFRA labeling requirements could result in the permittee being held liable for CWA violation as well as a FIFRA violation." n

NAAA ANNUAL CONVENTION
& EXPOSITION

December 6–9, 2010 • Savannah, Ga.

Get Ready for a Dose of Southern Hospitality at NAAA's 2010 Convention & Exposition

NAAA's Annual Convention & Exposition is heading to the Southeast for the first time since 2006 and to Savannah, Ga., for the first time ever. We are looking forward to introducing you to another wonderful host city for another unique NAAA convention. Founded in 1733, Savannah has been recognized as one of America's most charming cities.

"Stewards of the Sky" is the theme for the 2010 Convention. Members of the aerial application industry work hard to ensure the benefits of America's agriculture while protecting and preserving the wide-open spaces of this country for future generations to enjoy. Our convention is a celebration of your yearlong efforts. We are looking forward to meeting with you in Savannah to recognize your efforts. Look at what we have planned, save the dates and make your reservations to join us in Savannah Dec. 6–9. If golf is your game, you may want to arrive even earlier for the AgAv PAC golf tournament Dec. 4–5 (see pg. 28). We think you will be as charmed by Savannah as NAAA's Board of Directors was when it chose this Southern gem.

Howie Franklin greets President Ford.

2010 NAAA Kickoff Breakfast

NAAA chose "Stewards of the Sky" as the theme of the 2010 Convention & Exposition because agricultural aviation and environmental stewardship go hand in hand. Who better to open the convention than a true steward of the sky, albeit a steward of a different sort? We are pleased to introduce Howie Franklin as the keynote speaker for NAAA's Kickoff Breakfast. Franklin served and flew with five presidents on Air Force One and is the only person to do so. Serving in the United States Air Force as the head flight attendant for Air Force One is quite different from how we normally perceive that job title. Franklin had many important responsibilities dealing with security, critical timetables, unusual requests and specific details. He was on hugging terms with most of the first families and saw them at the best and worst of times.

From his fly-on-the-wall vantage point, Franklin will offer attendees an insider's perspective, sharing details about the unique characteristics of Air Force One planes and tales about the powerful and famous passengers he had the privilege of serving over the course of five administrations. He has hundreds of fascinating and funny stories about the presidents and dignitaries he served, and always speaks with the greatest respect. Howie Franklin spent 29 years in the Air Force, including 18 years on Air Force One. After retiring from the Air Force, he became the airport manager for the Brunswick County Airport in southeastern North Carolina, which

NAAA's 44th Annual Convention & Exposition

Dec. 6– 9, 2010

Savannah's City Market provides delicious outdoor dining.

the *Atlantic Flyer* dubbed "The Little Airport with the Big Heart."

Be sure to register for the Kickoff Breakfast when filling out your registration form.

Your Education Destination

You won't need a "permit" to attend NAAA's General Session Dec. 7, but when it comes to making pesticide applications over or near water, that all changes beginning in April 2011. That is when the EPA's and a number of state water agencies' new NPDES permitting system go into effect. This is the biggest issue to affect the aerial application industry since 9/11. Costly and cumbersome though it may be, the new system goes into effect whether we like it or not. All aerial applicators need to learn as much as possible about the EPA's new permitting system before it goes into effect to avoid sanctions later. NAAA is assembling a panel of speakers to explain how the new NPDES permitting system will affect the aerial application industry and help guide attendees.

The second part of the General Session will feature a mock trial organized by the NAAA Insurance Committee. In addition, concurrent sessions covering a variety of topics will be held throughout the convention.

Your Savannah Getaway

We know many of you plan your winter vacation around the NAAA Convention. Holding the convention in Savannah offers lots to see and do! Plan to arrive a couple days early or stay a few days after the convention to take time to enjoy this unique part of America. Savannah in December ranges from an average high temperature of 62 degrees to an evening low of 39 degrees. (By the way, their average annual snowfall is one-tenth of one inch.)

Savannah has gorgeous Southern-style homes, beautiful parks and tree-lined streets and walkways. The picturesque city served as the setting for the present-day scenes in the movie "Forest Gump," in which the ever-friendly Forest, while sitting on a bench waiting for the bus, regales fellow passengers in waiting with story after story from his amazing life. Savannah takes on a much larger role in "Midnight in the Garden of Good and Evil," the bestseller by John Berendt, which shines a fascinating and entertaining light on the Southern locale and its colorful inhabitants. The city is an essential character in this true-life novel, if not the central character.

Savannah Tours features a variety of tours that will show you the sights and provide interesting and informative commentary about this special city. The most popular tour is the Historic Savannah Trolley Tour. The trolley tour operates from 9 a.m. to 4:30 p.m. and allows you to hop on and off at 14 convenient trolley stops. This let's you explore Savannah as you wish.

Don't miss the incomparable Paula Deen Tour. The Food Network star and cookbook author resides in Savannah, where she owns and operates The Lady & Sons restaurant with her sons, Jamie and Bobby Deen. Book early because

tours sell out. Savannah Riverboat Cruises are also very popular, as are ghost tours, walking tours, carriage tours and more. Visit www.SavannahVisit.com (check out the "50 Reasons to visit") and www.savannahtours.us for additional information.

Book Your Room!

NAAA has set up blocks of rooms at the Westin Savannah Harbor and at the Hyatt Regency Savannah for your use during the convention. Both hotels offer great rooms at the rate of $110 plus tax.

Which to choose? Great question, since each offers a very different convention experience. First, you need to look at location. These two hotels are separated by the Savannah River. The Savannah International Trade & Convention Center and the Westin Savannah Golf Resort and Spa are on one side of the river, and the Hyatt Hotel, as well as the main shopping, tourist and entertainment areas, is on the other side.

Getting across the river is quick and easy thanks to the free ferry service that will shuttle attendees back and forth throughout the day and evening. The Bells Ferry provides water transportation from the Hyatt Hotel to the convention center and Westin Hotel. The trip takes approximately five minutes, and ferry service will be continual during our stay. Free bus service is also available for those who are not comfortable on the water.

So, do you stay at the Westin and use the ferry and bus service to go downtown for shopping, dining and entertainment, or do you stay at the Hyatt—within walking distance of the entertainment area—and take the transportation to the convention center? The choice is yours. Either way, getting around the city is easy and another unique convention experience.

The Westin Savannah hotel, which is adjacent to the convention center, is one of two host hotels for NAAA. The Hyatt Regency Savannah is across the river from the convention center but steps away from the entertainment district.

Hotel Reservations:

Westin Savannah Harbor Golf Resort & Spa
912-201-2000 (use group code NAAA)
www.westinsavannah.com

Hyatt Regency Savannah
912-238-1234 (use group code NAAA)
http://savannah.hyatt.com

A Buyer's Market

The exposition portion of the convention brings buyers and sellers together under one roof in the form of NAAA's Trade Show. Last year, more than 120 companies displayed the latest products, technologies and aircraft designed for the aerial application industry. Exhibit registration has only just begun for 2010, but another strong turnout by exhibitors is expected. The NAAA Trade Show gives exhibitors 12 dedicated hours to interact directly with convention attendees.

As part of NAAA's ongoing effort to strengthen its annual convention, the Association has selected The YGS Group to manage its 2010 Convention Trade Show. YGS will be selling exhibit space and has developed a

robust exhibitor-registration Web site that will allow companies to register and manage their exhibit space online. If you are interested in exhibiting, please contact Marshall Boomer at 800-501-9571, Ext. 123, or reserve your booth space online at http://www.goeshow.com/naaa/annual/2010/.

Farewell Banquet & Awards Ceremony

Similar to past conventions, NAAA's 44th Annual Convention & Exposition begins with the Kickoff Breakfast and ends with an elegant Farewell Banquet & Awards Ceremony. It is a wonderful way to wrap up your 2010 convention experience and honor those in our industry singled out for their special achievements.

Unlike past conventions, we are approaching NAAA's Annual Awards differently this year. The identities of NAAA's award recipients have always been a closely held secret until the night of the Farewell Banquet. That will not be the case this year. Instead, the 2010 award recipients will be informed of their selection after the Fall Board Meeting. The actual presentations will still take place at the Farewell Banquet. Opting for transparency over secrecy means we can publicize who will be honored at the Farewell Banquet before the convention, which should make it easier for friends to plan ahead to attend. It will also allow us to honor the award recipients' achievements in new ways throughout the course of the convention. (Be sure to stop by the new NAAA award recipients display area in the exhibit hall.) The goal of the new format is to further recognize NAAA's award recipients and give attendees the opportunity to offer their congratulations and acknowledge what the award recipients have brought to the aerial application industry.

The 2009 NAAA award recipients pose with their hardware. NAAA is actively seeking nominations for the 2010 Awards. If you know a deserving candidate, nominate them by Sept. 10.

Before NAAA can give out its Annual Awards, we need you to nominate those deserving individuals. They don't need to be known at the national level. The aerial application industry is filled with exceptional individuals who go above and beyond, often with little fanfare. We just need you to tell us who they are.

In all, there are 10 award categories, which are listed on pg. 25. The 2010 NAAA Awards Nomination Form, additional award details and a list of past winners are available in the NAAA Membership Directory and on NAAA's Web site at www.agaviation.org/awards.htm. Think about the special people you have known and worked with over the years and tell us why they deserve an NAAA Award. To make a nomination, fax or e-mail completed entries to NAAA at 202-546-5726 or information@agaviation.org. **The nomination deadline is Sept. 10.**

This is just a small taste of what you can expect in Savannah. Look for much more information about the educational sessions, networking opportunities and first-class exhibitors at NAAA's 2010 Convention in the weeks and months ahead.

See you in Savannah in December!

Live and Silent Auctions Need Contributions

NAAA and WNAAA are holding live and silent auctions at the convention. Support the aerial application industry by contributing an item to either or both of these auctions. The live auction and a reception take place from 5:30 to 7 p.m. Dec. 7. The silent auction ends at 3 p.m. Dec. 8. To provide an item, contact NAAA at 202-546-5722 or information@agaviation.org.

Sampling of Available Auction Items

COMPANY	AUCTION ITEM
Airforce Turbine Services	$10,000 Gift Certificate toward the repair, overhaul or purchase of a PT6A Engine
Pratt & Whitney Canada	PT6-34AG Engine
Turbine Conversions Ltd.	Single Point Fueling System, approved for all Thrush, AT's, Dromader and Ag Cats

Here's a good reason to go to Savannah this December:
Pratt & Whitney Canada is giving away a PT6A-34AG engine! The engine will be available for bid at NAAA's Live Auction. Aficionados know the PT6 has become the ultimate turboprop designation, powering commuter, corporate and utility aircraft, aerobatic trainers, agricultural aircraft, short takeoff and landing (STOL) aircraft and water bombers. Versatile, dependable and a true performer, the PT6A is a thoroughly proven and popular turboprop engine in the 500- to 1,700-shaft horsepower class. The engine has logged more than 350 million stunning hours of flight. Pratt & Whitney Canada has certified seven new PT6 engine models in the last five years alone, building upon the engine's already legendary reputation for reliability and durability.

Join NAAA for the 44th Annual Convention & Exposition!

Events schedule subject to change. Changes will appear in future issues of this magazine and on the NAAA Web site at www.agaviation.org/conventionpage.htm.

Saturday, Dec. 4

6:30 p.m.	Golf Tournament (see pg. 28)
	Players Reception & Calcutta

Sunday, Dec. 5

7:30 a.m.	Golf Tournament
	Players Continental Breakfast
8 a.m.	Golf Tournament – Tee Times Begin
1 p.m.	Golf Tournament – Players Lunch & Awards
9–4 p.m.	Pratt & Whitney Seminar
	CD Aviation/TECI – TPE 331(FAA Approved IA Training)
4–6 p.m.	NAAA/WNAAA Board Meetings

Monday, Dec. 6

8–9:45 a.m.	Kickoff Breakfast – Howie Franklin
10–12 p.m.	ASABE Sessions
1–2:30 p.m.	ASABE Sessions (continued)
2:45–4:15 p.m.	Concurrent Sessions
4:30–6 p.m.	Concurrent Sessions
6:30–7:30 p.m.	Welcome Reception

Tuesday, Dec. 7

7–8:30 a.m.	CP Products Breakfast
8:45–12 p.m.	NAAA General Session –
	Clean Water – NPDES Permits – Mock Trial
12–6 p.m.	Trade Show Hours
5:30–7 p.m.	Live Auction & Reception

Wednesday, Dec. 8

8–9:30 a.m.	Concurrent Sessions
10–4 p.m.	Trade Show Hours
4–5:30 p.m.	Concurrent Sessions

Thursday, Dec. 9

8:30 a.m.–2:30 p.m.	Concurrent Sessions
5:30–6:30 p.m.	Farewell Reception
6:30–9 p.m.	Farewell Banquet & Awards Ceremony

Watch for more schedule information on NAAA's Web site at www.agaviation.org.

NAAA Award Categories

Agrinaut Award: Honors the agricultural aircraft operator or operating organization that has made an outstanding contribution in the field of ag aircraft operations. The recipient for the award must be or have been actively engaged in commercial agricultural application with an agricultural aircraft and the achievement cited should be a "state of the art" contribution for the benefit of the agricultural aircraft industry as a whole.

Allied Industry Individual Award: Recognizes the NAAA members or staff and/or an allied industry individual who has significantly contributed to the allied industry and their exhibit efforts.

Delta Air Lines "Puffer" Award: Recognizes the individual who has made an outstanding contribution to the design of agricultural aircraft and/or related equipment.

John Robert Horne Memorial Award: Honors a pilot with five years or less experience in the agricultural aviation industry that has an exemplary safety record and/or has contributed to safety in ag aviation.

Larsen-Miller Community Service Award: Recognizes outstanding contributions by a member to his community.

Most Active Woman Award: Recognizes an outstanding contribution by a woman who is active in the affairs of the industry or the association.

Opal & Bill Binnion Memorial Award: Acknowledges those who contribute to the WNAAA in their efforts to educate the public about aerial application.

Outstanding Service Award: Awards outstanding service to the commercial agricultural aviation industry or to its association.

Related Industry Award: Recognizes outstanding contributions by an allied industry member and his company.

William O. Marsh Safety Award: Recognizes significant achievements in safety, safety education or an outstanding operational safety program. n

SAVE THE DATE!

NAAA's 44th Annual Convention & Exposition

Savannah, GA

Dec. 6–9, 2010

Prospects and clients abound for you and your company at the world's largest trade show for ag aviation!

Unlimited networking opportunities and a great lineup of speakers and events makes NAAA's 44th Annual Convention & Expo an experience you won't want to miss.

STEWARDS OF THE SKY

National Agricultural Aviation Association
Savannah, GA 2010

Exhibitor and sponsorship opportunities are now open. Visit http://www.goeshow.com/naaa/annual/2010/ to reserve your booth today!

Marshall Boomer
Sponsor/Exhibitor Sales Consultant
717-505-9701 x123
Marshall.Boomer@theYGSgroup.com

The YGS Group is a proud partner of NAAA.

44th Annual NAAA Convention & Expo

Savannah, Ga. – Dec. 6–9, 2010

Pre-registration must be received by Wednesday, Dec. 1, 2010. Use this form and register today!

MEMBER REGISTRATION: You must be the designated member of an Operator or Allied Industry Company, State Association Executive, or have a Pilot, Affiliated Operator, Affiliated Allied, Associate, International or WNAAA membership in your name, or be the spouse of an NAAA member to qualify for member rates.

Registration at the convention site will cost $50 more per person!

NAAA Members	Registration With Banquets	Registration Without Banquets
Member	$320	$220
Spouse	$265	$165
Child (under 12)	$170	Free

Non-NAAA Member	Registration With Banquets	Registration Without Banquets
Non-member	$440	$340
Spouse	$380	$280
Child (under 12)	$170	Free

Banquets: Kickoff Breakfast and Farewell/Awards Banquet

EXTRA BANQUET/RECEPTION TICKET FEES:

NOTE: Attendance at the Welcome Reception, Auction Reception and Farewell Reception are included in your registration fee. Purchase Kickoff Breakfast or Farewell/Awards Banquet tickets only if you purchased a "without banquets" package. Purchase extra Welcome Reception and Farewell Reception tickets only for guests with no registration package.

Monday, Dec. 6	Kickoff Breakfast	$40/each	# needed ___
Monday, Dec. 6	Welcome Reception	$40/each	# needed ___
Thursday, Dec. 9	Farewell Reception	$30/each	# needed ___
Thursday, Dec. 9	Farewell Banquet/Awards	$75/each	# needed ___

REGISTRANT: First Name _____ MI _____ Last Name _____

(Please print your name as you would like it to appear on your convention badge.)

Company _____ Phone _____

Address _____ City _____ State_____ Zip _____

Country _____ Fax _____ Email _____

SPOUSE REGISTRANT: _____

(Please print name as you would like it to appear on convention badge.)

ADDITIONAL REGISTRANTS:

First _____ MI ___ Last _____

First _____ MI ___ Last _____

First _____ MI ___ Last _____

First _____ MI ___ Last _____

PAYMENT:

Registrant Fee $_____ Credit Card _____ or Check # _____

Spouse Fee $_____ Card# _____

Add'l Registrants $_____ Exp Date: _____ Phone _____

NAAA Dues $_____ Address_____

Banquet Tickets $_____ City _____ State _____ Zip _____

TOTAL DUE $_____ _____

(U.S. funds only, must accompany registration) *"Signature is permission to bill Credit Card."*

Mail payment and registration form to: NAAA – 1005 E Street SE – Washington, DC 20003
Print registration form at www.agaviation.org – Fax 202-546-5726 – Questions? Call 202-546-5722
E-mail information@agaviation.org. Online registration will be available Aug. 1 at www.agaviation.org.

Participate in the 2010 AgAv PAC Golf Tournament

Don't miss your chance to participate in the AgAv PAC golf tournament at the 44th Annual NAAA Convention & Exposition in Savannah, Ga. The PAC is used to strengthen NAAA's presence in Washington, D.C., by supporting congressional candidates friendly to the aerial application industry. So enjoy a round of golf to support the PAC and benefit the industry!

The tournament will be held at the luxurious Club at Savannah Harbor. The club lies nestled between the banks of the Savannah and Back Rivers among the abundant wildlife of the splendid Georgia Low Country, offering views of historic downtown Savannah while it gently winds its way through tidal wetlands. The Club at Savannah Harbor offers an 18-hole championship course designed by renowned architect Robert Cupp in conjunction with the legendary "Slammin' Sammy" Snead. The Club was recently named one of the "Top 60 Golf Resorts in the United States" by *Conde Naste Traveler* magazine and awarded a "Four Star Highly recommended Places to Play" by *Golf Digest*.

The golf tournament will be a four-member team scramble on Sunday, Dec. 5, with an 8 a.m. shotgun start. We recommend that golfers plan to arrive in time to participate in the pre-tournament reception and Calcutta on Saturday, Dec. 4, at 6:30 p.m. The Club at Westin Savannah Harbor has clubs for rent (Diablo woods, X 22 Irons, + 6 Calloway balls) for $50. If you will need to rent clubs, please contact the pro shop at 912-201-2240.

The NAAA Convention Golf Tournament Registration Form is required for each entrant.

The Westin Savannah Harbor Golf Resort & Spa features the Robert Cupp/Sam Snead Championship Golf Course.

NAAA AgAv PAC Golf Tournament Registration Form

Golf Package

Name: _____

Phone: _____ E-mail: _____

Golf Handicap (your golf score on a 72-par golf course): _____

Meal Package

Name: _____

Payment:

Amount: _____ Choose one: Check ____ Credit Card ____

Card #: _____ Exp. Date: _____

Name on Card: _____

(signature gives permission to bill)

Please make checks payable to AgAv PAC

*** All proceeds go directly to AgAv PAC. Federal law requires all PAC donations to be **personal** contributions. Corporate contributions are prohibited. PAC donations are not tax deductible. Payment must be made by **personal** check or **personal** credit card only. ***

Send entry forms and payment to NAAA by fax at 202-546-5726, e-mail at information@agaviation.org or mail at:
NAAA • Golf Tournament • 1005 E Street, SE • Washington, D.C. 20003

Tournament Schedule:

Saturday, Dec. 4
6:30 p.m. – Reception & Calcutta

Sunday, Dec. 3
7:30 a.m. – Continental Breakfast
8 a.m. – Tee Times Begin
1 p.m. – Lunch & Awards

Package Costs:

$200 – Golf Package (per player)
Includes greens fee, Saturday reception and Sunday breakfast and lunch.

$100 – Meal Package (for non-player attendees)
Includes Saturday reception and Sunday breakfast and lunch.

NAAA 2010 CONVENTION & EXPOSITION

WNAAA Convention Committee

"Early Bird" Invitation

The WNAAA would like to invite all ladies to our 2010 Convention activities in Savannah, Ga. Savannah is a lovely city with hospitality, charm and romance!

The WNAAA is putting together a program we know you will enjoy. Some programming will be held at areas of interest for you to visit while you are in town for the NAAA Convention.

You are cordially invited to attend a very special luncheon as a guest of WNAAA at **Paula Dean's *The Lady & Sons Restaurant*.**

There are limited spaces available, so look in future issues of *Agricultural Aviation* and on NAAA's Web site for reservation information. ***RSVPs will be required.***

We have a host of fun and exciting activities planned.
Ladies, we hope you will join us!

WNAAA 2010 Convention Program
We are planning for YOU!

44th Annual NAAA Convention & Exposition
Dec. 6–9, 2010 • Savannah, Ga.

The TOP 10 Things I Remember Most From My First Season

By John Thomas, Nebraska City, Neb.

As I prepare for the 2010 season I've looked back on my first season in agricultural aviation, as well as my 17 years in military aviation, and compiled a top 10 list of lessons learned and things that helped me thrive and survive to fly another day. Admiral H.G. Rickover once said, "It is necessary for you to learn from others' mistakes. You will not live long enough to make them all yourself." How true in many ways. I learned so much from my mentors last season, and I am hopeful that someone finds some useful information here which prevents them from learning something the hard way, as I almost did.

1. Prepare Your Body. Military aviation has many rules and advice for optimum performance. For example, you are required to get a minimum of eight hours of sleep the night before a flight. I tried to follow this, didn't always happen but I tried. Avoiding the consumption of alcohol for the 12 hours preceding the start of flight preparations and staying well hydrated were also stressed. They said that by the time you feel thirsty you're already in a state of dehydration so you should sip water (fluids) throughout the day even when you are not thirsty. Much of your body weight is made up of water, which is critical to all muscle functions including reflexes and brain activity. If your urine is clear you are properly hydrated. Try to eat a nutritious meal before flying. Lastly, aerobic exercise promotes blood circulation to your muscles and brain as well increases endurance while relieving stress; 20 minutes, three times a week can make a big difference.

2. Pre-Flight. Every morning I performed a preflight inspection of the aircraft. I checked the oil, the fuel for contamination, the control surfaces, lights and looked for leaks. I did this before getting my maps for the day so I would not feel rushed. I would also review several emergency procedures each morning so the required actions were always fresh in my mind.

3. Habits. I have been told by numerous mentors to always, always circle a field before starting a job as this allows you time to both identify obstacles and to figure out the best pattern to fly given the winds. Even when I was "behind" schedule I always heard their voices in my head and spent the extra five minutes circling the field. Also, avoid intersection takeoffs, use the full length.

4. Wires. Pay particular attention to the corners of fields and the wire traps that may lay in wait. Despite identifying this particular danger while circling a field prior to spraying it, I forgot about it when doing the final cleanup pass. I "bumped" the wire with a tire and thought I'd cut it; fortunately I did not nor did I damage the aircraft. Although I had previously read that the majority of wire strikes happen during cleanup passes, I got complacent and almost paid a high price. Dumb, very dumb!

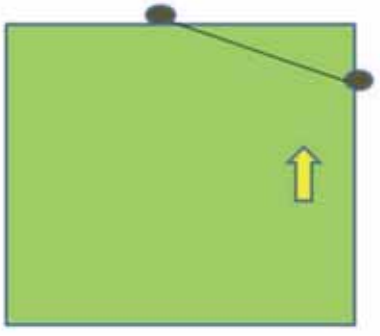

Figure 1. A typical wire trap: On approach the wire appears to parallel the far end of the field. BEWARE!

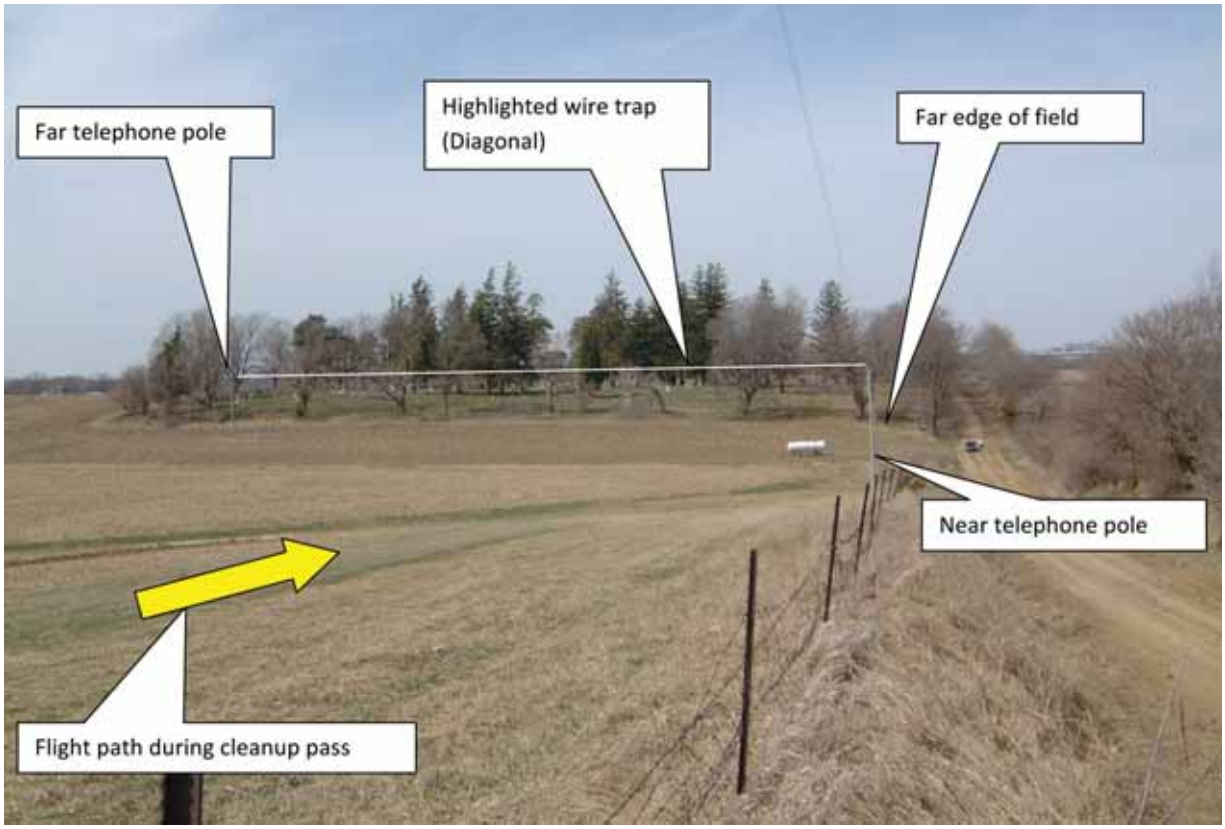

Figure 2. An insidious wire trap: The wire completely blends into the tree line in the background and cuts across the field.

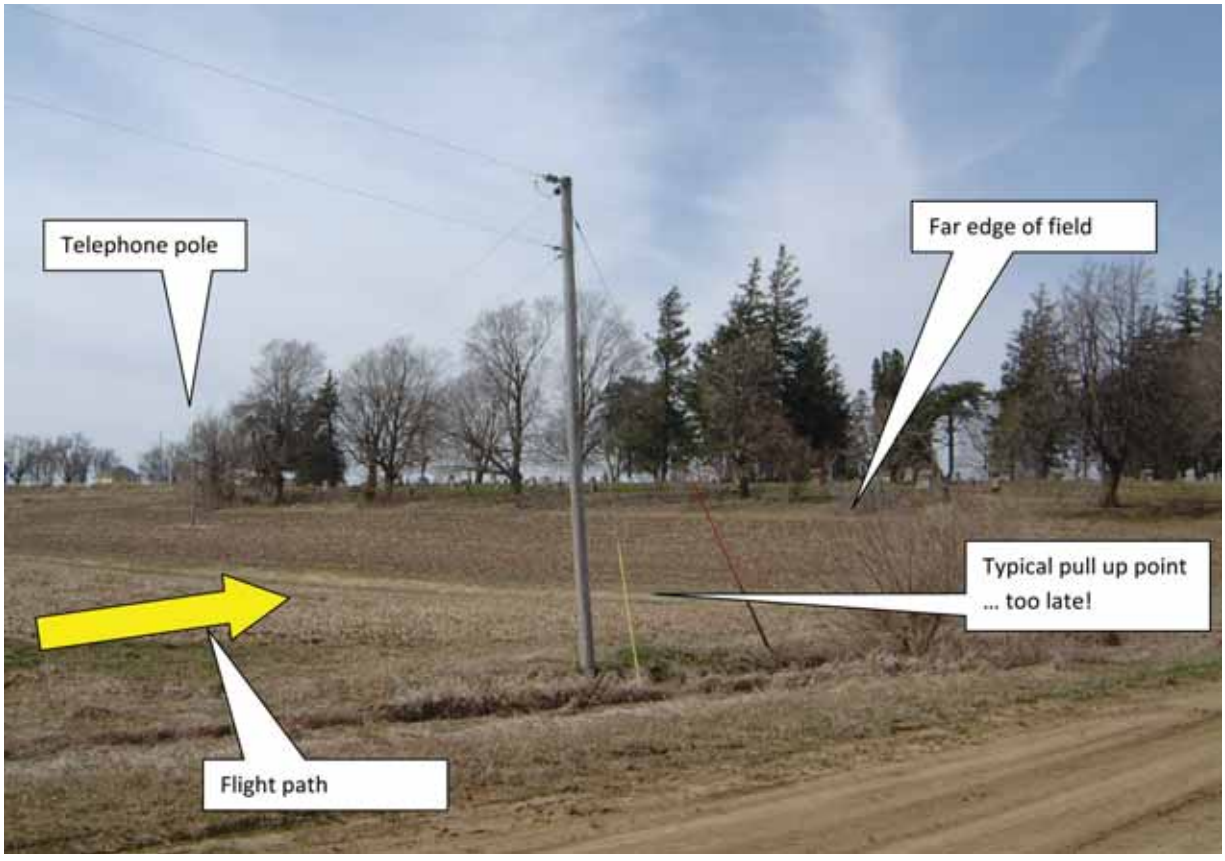

Figure 3. An up-close look at a hazardous wire trap.

5. Rolling Terrain. Donnie Andersen advised me to fly these a little higher and not hug the terrain (i.e., dampen out the oscillations). He said that flying higher allows you to look out ahead of the aircraft to see potential obstacles approaching rather than concentrating solely on the light bar and following the terrain.

6. Unfamiliar Fields. Sonny Blackburn recommended flying unfamiliar fields using a back-to-back pattern as this allows you to edge your way across a field giving you more opportunities to see and identify approaching obstacles. He also warned me to investigate all windmill water pumps (particularly ones missing their traditional fans) found in fields, as many farmers will run a wire out to the tower to run an electrical pump. This advice enabled me to avoid one of these wires the very next day!

Figure 4. All man-made obstacles in fields must be investigated; this one has an unexpected wire running to it. Expect the unexpected!

7. Be Professional. Not only does your flying reflect on your operator's reputation but you build your own reputation, good or bad, field by field. Deliver the right amount of product and on target. Give the farmer the entire chemical he paid for. If you need to leave off a portion of the field for whatever reason (i.e., restrictive terrain, drift concerns, etc.) leave off the appropriate amount of acres from the billing statement; the farmer and his pocket book will appreciate your professionalism and integrity.

8. Better Yourself Every Flight. The military is big into compartmentalizing different aspects of each flight. In other words, breaking up the flight into individual segments—i.e., start, taxi, takeoff, climb out, cruise, target area tactics, egress, return to base, landing and shutdown. When ferrying to/from

the field think 10 minutes ahead so you can be prepared for the next phase of flight. Try to improve each segment of the flight. I use every landing as an opportunity to practice my short field approach and landing technique, aiming to touchdown at a specific distance down the runway.

When an emergency happens, handle it and move on. *Aviate, Navigate and Communicate*, in that order!

9. Tuck Your Plane In At Night.

At the end of each day I was taught to service an aircraft (i.e., fuel and oil it, clean the windscreen, etc.) and complete a post flight walk-around. It is much better to find a discrepancy with the aircraft the night before while there is still time to work on it as opposed to finding it the next morning when there is a stack of maps containing really big rectangular fields waiting for you that you'll now have to hand off to someone else because your aircraft is temporarily down.

10. Clean Up The Paperwork.

While the information is fresh in your head, finish all required paperwork before you head home for the night. The people who process your paperwork first thing in the morning will appreciate it and it's all part of being a professional.

These are just some of the big takeaways from my first season. They were all passed on to me through mentorship, whether by seasoned ag aviators or the military, and I believe that they helped and will continue to help me become a safer, more efficient and productive ag pilot. n

Editor's Note: *This is John Thomas's third article for* Agricultural Aviation *and second season as a professional ag pilot. He completed his first season in 2009. John will continue to chronicle his experiences as an up-and-coming aerial applicator in future issues.*

Safety Begins in Bed

By Roberto Barbosa and James Gregory
Louisiana State University Agricultural Center

To dedicate some time for your body to rest and recover after a long day's work is not only the right thing to do, it is the smart thing to do. Our body goes through changes while we sleep: secretion of hormones, lowering of blood pressure, changes in kidney functions and memory consolidation to name a few. Problems falling and staying asleep bother seven out of 10 Americans, according to the National Sleep Foundation, creating losses of approximately $100 billion dollars in lost productivity, medical expenses and property damages. It is estimated that 50 to 70 million Americans are affected by chronic sleep disorders and intermittent sleep problems that can significantly diminish health, alertness and safety.

Agricultural aviation is a profession that involves long hours of work. It is not uncommon to hear agricultural pilots say they work from "sun up" to "sun down" while still dedicating some of the evening hours for maintenance work on their aircraft. Leonard G. Belisle in his book "Back-N-Forth: Recollections of a Crop Duster" (2008) reports of 100-hour workweeks and three-hour-a-night sleep during his career as an ag pilot. Long hours of tough, physically demanding labor without proper rest may come at a high price. Sleep deprivation is a common ingredient in work-related accidents.

What happens when we are sleep deprived and do not hear our body's demand for rest? We simply cannot function at the same level as a well-rested person. Experiments have demonstrated that sleep deprivation results in cumulative deficits in basic neurobehavioral functions including: vigilance performance, cognitive speed and accuracy, short-term memory and executive functions (the ability to plan and execute an action).

When we are sleep deprived we can't keep as many things online at any time. Sleep deprivation significantly impairs our attention and working memory performance. It also impairs hand and eye coordination and judgment about our ability to perform a task. People who are sleep deprived may perform as badly in hand/eye coordination tests as people under the influence of alcohol.

Thinking of adding caffeine to the mix? The use of caffeine in the form of coffee, sodas and other caffeinated drinks will temporarily block sleep-inducing chemicals in the brain and provide stimulation similar to that from adrenaline production, increasing alertness. It may be a short-lived solution because high doses of caffeine at bedtime disrupt your sleep pattern creating a loop "from hell."

What other consequences to your health may sleep deprivation cause? Researchers have found that sleep loss may have harmful consequences to our immune and endocrine systems (systems that are responsible for the protection against diseases and the regulation of hormone secretion) and contribute to serious illnesses such as obesity, diabetes, hypertension and heart disease. A study at the University

What is Sleep Apnea?

Chapter 87 in the fourth edition of Principles and Practice of Sleep Medicine reports that 2 to 5 percent of people 30 to 60 years of age have OSAHS (obstructive sleep apnea-hypopnea syndrome). Almost all OSAHS patients snore, often extremely loud. It is a leading cause of daytime sleepiness. Sleep apnea occurs when complete or partial obstruction to breathing causes oxygen saturation in the blood to drop and carbon dioxide to increase. The immediate reaction is for the person to wake up to breathe. The process disrupts the normal sleep cycle, reducing the deep sleep components of delta and REM sleep. The loss of these components and the reduction in oxygen saturation lead to other medical complications and risk for other diseases, such as heart disease and diabetes. Esophageal or acid reflux also frequently occurs with OSAHS.

The major risk factors for OSAHS are obesity and being over the age of 65. Considering the safety risk of reduced alertness associated with daytime sleepiness and the additional medical risks, sleep apnea is a serious sleep disorder that should be treated by a medical professional. The most common treatment is CPAP (continuous positive airway pressure). Aerobic exercise to strengthen the cardiovascular system and weight loss are good adjunct treatments. n

of Chicago showed that restricting sleep to just four hours per night for a week in healthy adults brought their levels of glucose and insulin to the same level as diabetics. People suffering from sleep apnea, a disorder in which breathing stops periodically during sleep, performed as badly or even worse in reaction-time tests as people with above-the-limit alcohol level in their systems.

Mood disorders are probably the most recognizable symptom of lack of sleep. A growing number of medical tests link lack of sleep with anger, anxiety and sadness. Evidence in research shows a relationship between long- and short-term sleep loss and cardiovascular diseases, including increased blood pressure and the risk of a stroke.

Nothing replaces a good night's sleep, and the sooner we recognize its importance in our life the better off we are. Every adult needs an average of seven to nine hours of bedtime every night. While older people may need only six hours of sleep compared to eight hours for a young adult, older people have less sleep efficiency, especially if they are out of shape and obese. It may take eight hours of bedtime for some older people to get their needed six hours of sleep. Evidently if we are sleep deprived, sleep at any time is as effective as sleep at night. Therefore, a 20-minute "power nap" may be just what the doctor ordered. n

Roberto N. Barbosa and James M. Gregory are Assistant and Adjunct Professors, respectively, in the Biological and Agricultural Engineering Department of the Louisiana State University Agricultural Center in Baton Rouge.

Seven signs that you are sleep deprived:

- You are too dependent on an alarm clock.
- You are drowsy driving.
- You are attached to the coffee pot.
- You are making mistakes.
- You are forgetful.
- You are cranky, snippy and irritable.
- You are frequently getting sick.

Some tips for getting more zzz's:

- Avoid caffeine, alcohol and nicotine close to bedtime.
- Exercise regularly but at least three hours before bedtime.
- Create a sleep-conducive environment that is dark and quiet.
- Maintain a regular bedtime and wake time, even on weekends.
- Don't eat right before going to bed.
- Treat pain to minimize interference with sleep.
- Make up for lost sleep whenever you can, such as sleeping an extra hour on a rainy day.

What Does CAM 8 Tell Us?

By Ken Degg
NAAA Director of Education & Safety

Lana Cease, Cease Fire Studios

NAAA is attempting to document early interpretations of the CAA manual to clear up differing interpretations that exist today. If anyone has previous FAA letters, documentation, guidance material or anything dealing with CAR 8 or CAM 8, please send NAAA a copy to put in its archives. For more information, contact Ken Degg at kdegg@agaviation.org or 217-532-6101.

The meaning and interpretation of a document called Civil Aeronautics Manual (CAM) 8 is very important to ag operators using aircraft to which it applies. CAM 8 applies to aircraft whose "birth certificate" was through CAR Parts 3 or 8, and in those cases it grants the operator more latitude in terms of aircraft modification and "special purpose" weight increases than if it was governed by an FAR. How much latitude it gives today is a matter for interpretation and a moving target for us.

So what does it say? This question has been the topic of conversations, misunderstandings, violations, praise and criticism. In preparing for this article, I have contacted many operators, pilots, mechanics and various offices of the FAA including many FSDOs and found almost as many interpretations as the number of people asked. I am not writing this as an "official" interpretation (if there is any such thing) but as a discussion of interpretations that I and others have had about CAM 8.

CAM 8 Then and Now

For some background information, Civil Air Regulations (CARs) were part of the original certification basis for aircraft first certified in the 1940s, '50s and '60s by the Civil Aeronautics Administration. As such, the CARs are still needed as reference for older aircraft, or as a standard for changes to older aircraft designs. Civil Aeronautics Manuals (CAMs) are policies that provide detailed technical information on acceptable methods of complying with the regulations. Such policies are for the guidance of the public and are not mandatory.

Some of the old regulations were recodified into the Federal Aviation Regulations (FARs) and others were not. Referencing Flight Standards Information Management System (FSIMS) Volume 2, Chapter 8, Section 4 titled "Restricted Category Agricultural Airplanes," the following text is from paragraph 2-1048.

- "The part of CAR 8 which provided the procedures for the type certification of restricted category aircraft was recodified as 14 CFR part 21, § 21.25."
- "Advisory Circular (AC) 20-33 … states that CAM 8 may be used in conjunction with part 21, §§ 21.25, 21.185 and 21.187 for restricted category certification of small agricultural airplanes only."

Subparagraph A (1) and (2) of 2-1048 discusses alterations to airplanes

The FAA agrees that CAM 8 is still a viable document; only its use is unclear.

originally built under CAR 8 and those built under 14 CFR parts 21 and 23. In the former case, guidance material in CAM 8 is applicable in cases where the material is appropriate. In the latter, the guidance may be used to assist in showing compliance with part 23, but only where it is appropriate and not in conflict with the intent of part 23 requirements.

Subparagraph B addresses the subject of gross weight increases. Quoting from this document, "CAM 8 sets forth acceptable procedures and practices for guidance, including Appendixes A and B, for those airplanes which were certified under CAR 8." Note that it says the airplane must be certified under CAR 8 for CAM 8 to be applicable as referenced in FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Approvals, as amended. Subparagraph B further states that airplanes certificated under parts 21 and 23 can use CAM 8 as an acceptable method of complying with the regulations as the basis for a field approval if the information is not contrary to the airplane's certification basis or the manufacturer's requirements.

I researched the CAM 8 subject and published an article in the July/August 2006 issue of *Agricultural Aviation*. A summary appears on pg. 38, but if you have a back issue of the magazine, I suggest reading it as it gives some thoughts about the tradeoffs of flying with an increased weight. That article was offered for review by the FAA's Atlanta Aircraft Certification Office with no objection to any of the points made. In fact, one of the ACO personnel asked for permission to pass that information along to some foreign equivalents of our FAA.

The research for that article yielded a document for the guidance of FAA inspectors titled Handbook Bulletin 92-14, which was later incorporated into The Airworthiness Inspector's Handbook (FAA Order 8300.10). That handbook information is available on the FSIMS Web site at http://fsims.faa.gov/. It is now included in FAA Order 8900.1, which includes 8300.1 along with the former 8400.10 Air Transportation and 8700.1 General Aviation Operations Inspector's Handbooks. The bulletin 92-14 gave an easy-to-understand breakdown of the situations where CAM 8 could be used involving increasing the restricted category gross weight, as follows:

1. For airplanes that used CAR 8 as the certification basis, the weight can be increased without FAA approval by following the guidelines of CAM 8, Appendix A, Figure 7-1 Possible Weight Increases.

2. For airplanes certificated under FAR 21 or 23, which referenced CAM 8 and/or Advisory Circular 20-33B on the Type Certificate Data Sheet (TCDS), the restricted gross weight shown on the TCDS may be used without further FAA approval.

3. For airplanes certificated after January 1992 that used FAR 21 and 23 as the certification basis, any increase in the gross weight shown on the TCDS must have engineering approval.

The Consensus is There is no Consensus

The guidance contained in the current documents on FSIMS is somewhat different from the bulletin guidance above. I have not been able to determine any regulation changes that account for this—only a difference in interpretation. This seems to be the root of the problem that we are having reaching agreement on understanding CAM 8. I have talked to a number

of FSDO airworthiness inspectors and other FAA contacts and have received a different understanding or interpretation from almost every one.

This 1950s era document has not been updated since that time because of the change to FARs and Advisory Circulars. By and large, the older operators and FAA inspectors have a better understanding of the way the manual was meant to be used. The use of the current FARs has drawn those that make the interpretations to rely on current practices more than the practices used when CAM 8 was conceived. Remember, the FAA agrees that CAM 8 is still a viable document; only its use is unclear.

The TCDS for the airplane you operate is available on the Internet at www.airweb.faa.gov/. From the FAA's Regulatory & Guidance Library home page, click on "Type Certificate Data Sheets (Make Model)," the last available link in the right-hand column. Begin searching by selecting "Current Models" either by aircraft make or by the TCDS number as shown in the aircraft paperwork or on the data plate. To search by manufacturer, select "Air Tractor, Inc.," "Thrush Aircraft, Inc." or whatever company in which you are interested. Click on the triangle to the left of the company name to display the list of models from which to choose. Using the manufacturers above will show that Air Tractor has three TCDS (A9SW, A17SW, A19SW) and Thrush has four (2A7, 2A9, A3SW, A4SW). This selection will allow a PDF to be opened to the TCDS.

Once you are viewing the sheet, make sure that your aircraft type is shown in the block at the beginning of the page. Each sheet will cover several models of the aircraft. Make sure you are referring to the group that applies to your individual aircraft model and serial number. For example, on A9SW, if you are looking for information on an AT-301, look at "II. Model AT-301 1 PCLM (Restricted Category) Approved December 19, 1974." In this section, you will notice the approved engine(s), propeller(s), CG limits, maximum weight, serial numbers eligible and other data. At the end of the specific models is a section titled "Data Pertinent to all Models" which includes, among other things, the Certification Basis of the aircraft. This information is followed by "Notes" that you must read to ascertain which ones apply to your specific model.

From the *Agricultural Aviation* Archives

Summary of 2006 CAM 8 Article

The 2006 CAM 8 article referenced in this article was written with a slightly different purpose than the current one. The primary intent was to warn pilots that when they use the increased weight limits that may be allowed under CAM 8, they must take extra precautions to prevent structural damage to their aircraft.

CAM 8, 8.10-4 (b)(3) reads, "Any increase in maximum weight will, of course, impose higher loads on the aircraft structure. The extent to which the weight may be safely increased will depend on the maneuvers and speeds used in the special purpose operation and the strength requirements to which the aircraft was originally designed." Consider this reminder when loading the aircraft: 8.10-4 (b)(2) states, "Under the aircraft operating limitations, the operator is responsible for adjusting the actual operating weight to provide a safe margin of performance for the existing flight conditions."

The aircraft structure is designed for a specific maximum maneuvering load factor at a specified maximum gross weight. CAM 8 suggests that operation at increased weight can be accomplished with reasonable safety if the airplane is flown in a restricted manner and all severe maneuvers are avoided. During these operations the load factor that can be reached in flight must be proportionately reduced. This includes consideration of ground handling on rough strips, gust loads, level flight speeds and "red line" speed.

Is the tradeoff of the additional special purpose load worth the chance of doing structural damage to the aircraft? Consider all factors and answer that question for yourself. n *–K.D.*


AG AVIATION'S SILVER BULLET – CAM 8

Some TCDS require careful interpretation to make sure that you are referencing the correct one. For example, the Thrush S2R-R1340 can use A3SW or A4SW depending if it is applicable to the Normal Category or the Restricted Category.

What Should an Operator Do?

In summary, with all of the various interpretations of the restricted category weight adjustments allowed in CAM 8, I think you should consider the following and draw your own conclusions. First, there is no excuse not to understand the certification basis of the airplane that you own or fly. The FARs make the owner/operator of the aircraft responsible for the airworthiness of the machine on a continual basis. The only way to be familiar with the requirements for airworthiness is to become familiar with the aircraft's TCDS, which lists the approved engines, propellers and other equipment along with limitations, placards, etc. The operator is largely on his own on determining airworthiness between visits to the mechanic or IA (Inspection Authorization).

Secondly, my opinion is that if your aircraft meets the criteria for the use of CAM 8, an operator cannot afford to fly at a weight higher than that given on the TCDS without a logbook endorsement. There is no room to argue about interpretation if the violation is clearly committed. I would also suggest talking with your local FSDO Airworthiness Inspectors to see how they interpret the restricted category requirements. My experience has been that it is better to have the inspectors helping you solve the problem than to wait until you are facing a violation and having to defend yourself. n

The Importance of Insuring Aircraft to the Proper Value

By Tim Bonnell Jr.
NAAA Insurance Committee

Aircraft change in value on a regular basis. There are numerous factors involved in determining an aircraft's value at any time including: airframe and engine times, equipment and the re-sale market. This is why each year before your policy renews your aviation insurance agent will ask you to confirm the desired hull value you would like for the policy's renewal. The key in this process is to understand how to value your aircraft and what would happen in the event the aircraft had a partial or total loss.

Most aircraft policies are written on an "Agreed Amount" (Stated Value) basis. That means in the event of a total loss, the amount listed in the policy under hull coverage (physical damage) will be the amount the insurance carrier will pay in the event of a covered total loss. This is different from the manner your other assets' insurance policies are written. Cars and trucks are generally written on an "Actual Cash Value" basis, which pays the vehicle's replacement value minus depreciation. Houses, hangars and office buildings are usually written on a "replacement cost" basis, which essentially means that these policies pay the cost to replace the property at the time of the loss. As a result there are usually requirements to carry the proper insurance to value.

Since aircraft are written on an "Agreed Amount" basis it is important to perform proper due diligence when determining the insured value for the aircraft. One process utilized to determine an aircraft's value is to use the Aircraft Blue Book. Blue Book provides a middle-of-the-road measure of an aircraft's value based on the aircraft year of manufacture, and make and model with mid-time components and average equipment. Using the average as the base value you then take into account the above or below average airframe, engine and component hours, as well as other upgrades to reach a solid determination of the aircraft's value. Most insurance carriers will not insure an aircraft that is 25 percent above or below an aircraft's average blue book value without substantiation or an appraisal.

Another approach to help determine the aircraft's value is to compare aircraft on the re-sale market. This can be done by occasionally looking at what is for sale in the classifieds as well as by visiting with operators of similar equipment. Doing this will provide a strong gauge of what it would take to replace the aircraft with one of similar kind and quality.

Determining what it would take financially to replace the aircraft with one of similar like and quality is a key determining factor as to the value you should insure your aircraft. Insurance, or indemnification, literally means to restore one to whole when a loss has happened. Insurance exists to restore your aircraft situation to what it would have been had a loss not occurred. It does not exist for one to benefit from a loss. In the event of a covered physical damage loss the insurance carrier has an obligation to either repair the aircraft, replace it with like kind and quality or pay the agreed value. Legally it is at the insurance carrier's discretion as to which option it chooses.

There are three general results when the hull value is selected for insurance:

1) the aircraft is property valued

2) the aircraft is over-insured

3) the aircraft is underinsured

When an aircraft is over-insured the policyholder is over paying their premiums. It also creates a hazard where it might be more affordable for the insurance carrier to repair the aircraft when it would be more desirable to total the aircraft. Conversely, if the aircraft is underinsured the customer may be out a significant amount of equity in the event an aircraft is totaled. It also creates the opportunity for a carrier to

Too many times, aircraft owners have either unintentionally underinsured their aircraft or only carried enough insurance to cover the amount remaining on the aircraft's loan. This has led to unfortunate financial losses for policyholders.

$60,000	+	$50,000	=	$110,000
Repair Bid		**Salvage Bid**		**Net Loss**
$110,000	>	$100,000	=	Constructive Total Loss
Net Loss	**is greater than**	**Insured Value**		
$130,000	-	$100,000	=	$30,000
Aircraft Value		**Insured Value**		**Loss of Equity to Aircraft Owner**

total an aircraft when the desired result would be a repair. This could cause a loss of equity for the aircraft owner.

When an adjuster reviews an aircraft hull loss, they look at a couple of issues: 1) the repair bid, and 2) the salvage bid. They add those two amounts together and if the sum is greater than the insured value they will total the aircraft and pay the agreed amount (insured value) in the policy.

Example: An operator has an aircraft insured for an agreed amount of $100,000, but the aircraft was actually worth $130,000. The aircraft has an engine failure and the forced landing causes $50,000 in damage according to the repair bid. While handling the claim the adjustor gets a salvage bid of $60,000. In this case, it makes more economical sense for the adjustor to total the aircraft. This is called a constructive total loss.

In this example there was enough insured value to cover the repair, but it made more economic sense for the carrier to total the aircraft. Too many times, aircraft owners have either unintentionally underinsured their aircraft or only carried enough insurance to cover the amount remaining on the aircraft's loan. They didn't take into account the potential for a partial loss to lead to the aircraft being totaled under a constructive total loss scenario. This has led to unfortunate financial losses for these policyholders.

All of this information dictates one possible answer. Review the aircraft's value on a regular basis (annually at the insurance renewal at a minimum) and insure your aircraft with the amount it would take you to replace the aircraft with like kind and quality. That is the only way to avoid the pitfalls that over-insuring and underinsuring bring.

In some situations (when it can be easily removed) Ag GPS equipment may be insured as part of or separate from the aircraft. Depending on the values, rates and deductibles it might make more sense for the GPS to be insured separately on a property policy. Be sure that you know whether your GPS is included or excluded on your policy. It is generally included, unless you otherwise request it to be excluded, but it is best to verify to be sure. If there is a covered total loss paid on an aircraft policy where the GPS is included, even if the GPS was undamaged, the GPS will belong to the insurance carrier once the claim is paid.

As always, be sure to check with your insurance agent to make sure you are adequately covered. n

Is there an insurance matter you would like to learn more about or think would be of interest to Agricultural Aviation*'s readers? The NAAA Insurance Committee welcomes your suggestions. Please send insurance article ideas to information@agaviation.org.*

The Future of Agricultural Aviation: Bright or Bleak

By Mary Margaret Roark

The second-place winner of the Women of the National Agricultural Aviation Association's 27th Annual Essay Contest and a $1,000 scholarship from Covington Aircraft Engines is Mary Margaret Roark. Here is her winning essay. For rules and information about the 2010 essay contest, visit the WNAAA Web site at* www.agaviation.org/scholarship.htm. *Essays for the 2010 contest are due Aug. 15.

Aerial applicators have made a long journey from their humble beginning to their current status. What began as simply dropping chemicals from a plane has matured to include a wide spectrum of advanced jobs. This aerial industry has evolved in great ways since it first began with the *Jenny* in 1921, and it has always made the necessary changes to fit the demands of each decade. So will the future of aerial applicators be bright or bleak? I believe their futures will indeed be bright as long as aerial applicators continue to embrace new technology, overcome obstacles, and adapt to the changes being made in upcoming years.

One of the most pressing conflicts facing our world is the challenge of conserving our earth's resources. Taking steps to create more "green" ways to fulfill their duties is a crucial step to the preservation of aerial applicators in the new century. Air travel has already been proven to be the most efficient way of tending crops. Fertilization, defoliation, planting seed, etc. is accomplished about three times faster when using aerial means of transportation as opposed to ground methods. The speed of the planes ensures that less fuel is being used to pollute the environment than would be used by tractors, but even further steps could be taken in the future to make the planes of aerial applicators even more economically and environmentally sound.

Another recent obstacle facing the agricultural aviation industry is the feared shortage of pilots that is predicted. New pilots must be brought into the industry to replace aviators of the past generation who will be retiring soon. It is the responsibility of current aerial applicators to educate young people who are considering joining the industry and mentor them along their journey. The bright future of aerial applicators depends on the recruitment of new pilots to bring a fresh generation to carry on the legacy that others have built.

The twenty-first century has brought new aspects to the aerial industry that previously existed only in dreams. Some of these being the GPS (Global Positioning Systems), GIS (Geographical Information Systems), flow controls, and real time meteorological systems. Each of these innovating developments has refined the safety, precision, and output of aerial applicators. The obvious adaptability of aerial applicators is catapulting their careers into the future and guaranteeing that it will endure changes to come.

Many people that are involved either directly or indirectly in aerial application have witnessed the periodic disapproval of the public. Pilots were eyed with skepticism after September 11, and it seems like every year more accusations of pollution of the environment are thrown at aerial applicators. As the daughter of an aerial applicator, I know that each one has the public's best interest at heart and takes the necessary steps to ensure safety of the environment and its inhabitants. Any chemicals or products used in aviation face rigorous testing conducted by the FDA (Food and Drug Administration) and the EPA (Environmental Protection Agency). These tests are only the beginning of how aerial applicators give special attention to the public's needs.

Aside from the immense physical difficulty and endless work hours that aerial applicators face, they each go out of their way to please those who depend on them. For the growing number of people who prefer organic foods, aviators courteously use newly developed organic chemicals. Also, aerial applicators often notify neighboring landowners prior to spraying. They also comply with an innumerable amount of rules and regulations to further ensure the protection of the environment. Educating the public about the difficulties that aerial applicators face and increasing their acceptance rate will be vital to the success of agricultural aviators.

As populations increase and more food shortages arise, the perception of aerial applicators will surely become much more appealing. Though populations

Mary Margaret Roark

Mary Margaret Roark is the daughter of Fred and Mary Jo Roark of Cleveland, Miss. Not only is Mary Margaret's father an aerial applicator, but her cousin is also pursuing this career. Mary Margaret was given a closer look at the life of an aerial applicator by visiting the airstrip, flying with her dad and hearing many of her dad's stories. She understands the hardships aerial applicators endure, and she trusts that the future has great success in store for aerial applicators.

As a 2009 Bayou Academy graduate, Mary Margaret was honored with the title of Valedictorian. She is starting her second year at Mississippi State University, which she is attending as a Biological Sciences/Pre-Med Major and a member of the Shackoul's Honor College.

are growing, land for food cultivation is becoming sparser with each year. The task of providing a greater amount of healthy crops with minimal damage is becoming a pressing issue. Aerial applicators are working harder than ever to make sure the greatest amount of crops can be harvested from farmland. When viewed in this light, aerial applicators appear to be the heroes they always have been.

So what does the future hold for aerial applicators? I think it holds a wealth of success for those who will take the necessary steps to sustain the industry. The industry will always feel the pressure to mold to its current society, but it will without a doubt remain a necessity. Aviators have progressed by leaps and bounds since the first days of air travel. The turn of the century has only magnified aerial applicators' dedication, talent, adaptability, and heroism, which is making their future look brighter than ever. n

NTSB Accident Report

Date	City	State	Aircraft Type	N #	Injury	Description of Accident
04/02/10	Malden	MO	AT-301	3653T	Minor	Hit tree—forced landing damage
04/22/10	Alpine	TX	AT-802A	9197F	None	Power loss—forced landing damage
04/22/10	Buckeye	AZ	G-164B	48455	None	Power loss on TO—Hit fence on runway end
05/03/10	DeWitt	AR	S2R	5531X	FATAL	Impacted trees for unknown reason
05/16/10	Rushville	NE	S2R	241WD	FATAL	Hit power pole

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For more information, visit www.agaviation.org and click on the scholarship link on the home page.

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As of May 24, 2010

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AL-PROPULSION #1
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Operators & Pilots who do not belong to a State/Regional Aerial Application Association must pay Participating Operator or Participating Pilot dues.

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$170	___ Affiliated Operator
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$1,000	___ Allied (101–500 employees)
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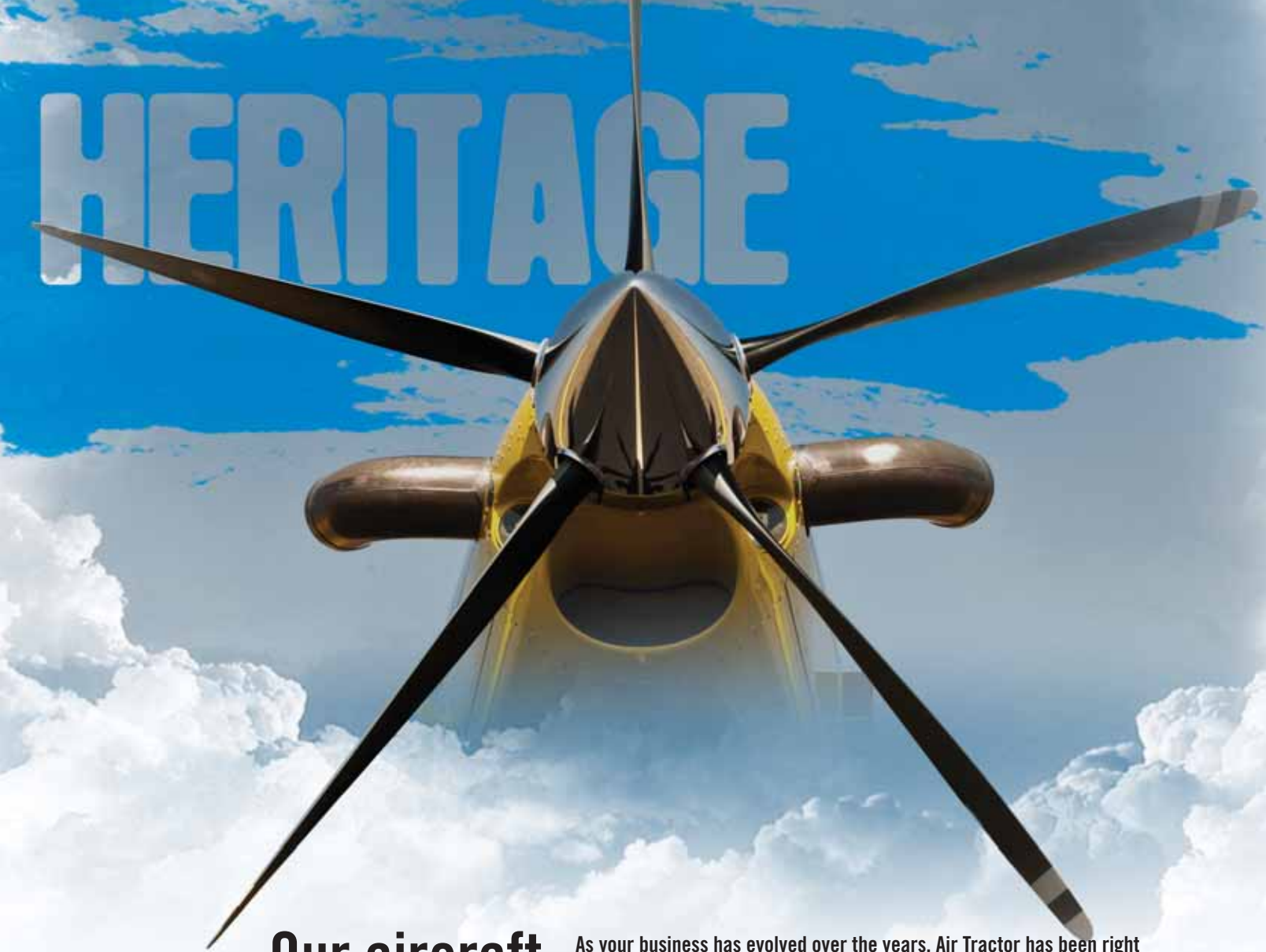

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