

Hereford Natural Resource Conservation District

CONSERVING - PROTECTING - PRACTICING WISE USE



Sierra Vista, AZ, January 1, 2019

Photos by K. Morris

Sierra Vista, AZ, March 1, 2019

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Winter, 2019 Newsletter Chairman's Corner

It is unbelievable it's March already. So far the winter of 2019 has been wet and we are looking forward to a good spring.

The biggest news for the District this winter was partnering with Whitewater Draw NRCDC on a drone workshop. We want NRCS to approve monitoring done with a drone and help with some of the cost. The event was held at Cochise County Fairgrounds and attended by 35 people. Santa Cruz NRCDC, NRCS, BLM, Kim McReynolds, Mary Darling, and several other experts in their field presented their views on drone monitoring. Pat Call put together his power point video on the work he has done on several brush management projects. Frank Krentz, President AACD, talked about the future plans to get drone monitoring approved at the state level of NRCS. Thank you to Dusty Glidewell for helping coordinate the workshop.

Kathy Morris and I attended the winter meeting for AACD. There were a good number of districts in Phoenix but we were disappointed with the lack of knowledge from our state legislators on what conservation districts are and what we do. We need to get the word out on how important the conservation districts can be.

Regards,
John



**Working Together to Enhance
Our Natural Resources**

Drones and Rangeland Monitoring Informative Meeting



Photos by Sharma Torrens

(left) John Ladd—HNRCD displays an example of the approximate size of drone used to monitor grass rejuvenation after mesquite treatment on his ranch.

(below) Fred Davis—WWDNRCD addresses the crowd, explaining a slide show showing drone use for monitoring grass growth after mesquite treatment on his ranch.



Hereford NRCD and Whitewater Draw NRCD collaborated on an informative meeting discussing the use of UAVs (unmanned aerial vehicles) commonly known as drones, for ranch monitoring practices. Dusty Glidewell—NRCS, Douglas Field Office organized the event, held at the Cochise County Fairgrounds in Douglas, AZ February 25, 2019. Over 30 attendees

were resolved to learn about evolving and expanding technology despite the chilly temperature.

Fred Davis—WWDNRCD, John Ladd—HNRCD and Frank Krentz—WWDNRCD and AZ Association of Conservation Districts President made opening remarks and introductions. Dusty Glidewell provided an overview of rangeland monitoring in southern Cochise County.

Pat Call—HNRCD shared a video of how he utilized a drone for monitoring rejuvenated grass growth after mesquite and brush treatments on the Ladd and Davis ranches. Pat noted the aerial view from a drone highly changes the perspective of whatever one is looking at. The difference between *before and after* treatment and *treated and non treated* areas was so blatantly obvious being viewed from the bird's eye perspective of the drone. Drones are useful to count and find cattle as cattle don't seem to be agitated by drones.

Pat briefed the group on some of the "bells and whistles" available for drones such as high definition cameras, search lights, infra red capability, camera control zoom, and speakers. How fancy equals how much money is spent. Pat stressed that operating a drone is not difficult.

Mary Darling—Darling Geomatics provided a display table with two different sized UAVs and a monitor showing the results of a thermal camera in the occupied area of the event building. Mary informed the group of Darling Geomatics' work on the Horseshoe Draw project on the Ladd ranch. They did before, during, and after flights throughout the project. The monitors have solid data in the form of how much silt run-off has been retained from washing to the San Pedro River as a result of the project with the use of a drone. Mary spoke of some of the many uses for a drone with ranch work such as; fence inspection, thermal imaging for livestock or fires, observe where to perform controlled burns, windmill inspection, flood simulations, stock pond monitoring, distinguish elevations, and vegetative mapping. She said the maintenance of a drone is relatively low—keep the camera clean, check the wings (they can get

rules. Amateur users are those where no money is exchanged for drone use. A license to operate UAVs is necessary if the operator is not an amateur. Different rules and regulations apply for different types of licenses. Licensed operators have to re-certify every two years.

Jeff Gillan—Research Specialist and Ph.D. Candidate, University of Arizona presented a slide show on *Rangeland Inventory and Monitoring With Drone Imagery*. Jeff did range monitoring in southern Arizona, southern New Mexico and northern California utilizing a drone and SUAS (small, unmanned aerial systems). He demonstrated the difference between standard ground (field) method monitoring and drone technology monitoring. He identified differences between the two methods, such as with a drone huge areas may be studied rather than plots.



A drone's view of the meeting attendees outside the Commercial Building, Cochise County Fairgrounds. Photo by Darling Geomatics.

Drone Meeting, continued

However, the overall statistical research of both methods were very close to one another.

Kim McReynolds—University of Arizona Extension Service delivered a slide show of information on range monitoring using the conventional, ground method. She provided a history of rangeland monitoring by ground methods, and why an individual should monitor.

Sharma Torrens—Arizona Department of Agriculture addressed the group briefly to let them know about the Dept. of Ag's performance. She wants to educate the public on NRCD's and what they do.

Some considerations born from the meeting included marrying drone techniques with present day conventional monitoring, drone videos being useful when applying for grants, and project ideas for drone use.



Photo by Kathy Morris

A sampling of drone units and thermal imaging courtesy of Darling Geomatics.

Fort Huachuca/Babacomari Ranch Field Trip

January 25, 2019 Arizona Land & Water Trust held their field trip to Fort Huachuca, Sierra Vista, and the Babacomari Ranch near Elgin, AZ, both located within the Hereford NRCD. More than 50 people filled the large tour bus.

The tour began on Post at the Military Intelligence & Soldier Heritage Learning Center. Retired Col. Jeffery Jennings delivered an informative slide show and history of the fort to the audience.

Fort Huachuca was established in 1877 and has gone from “sabers to satellites.” Fort Huachuca is home to the U.S. Army Intelligence Center of Excellence. The Center is the Army's premier intelligence training facility for its active, reserve and guard component soldiers, and also trains Air Force and Marine Corps personnel.

Fort Huachuca is unique because of three main components: surrounded by mountains, military restricted air space, and the “oven mit”—the buffalo soldier electronic test range. Fort Huachuca is part of the Sentinel Landscape Program (Department of Interior/Department of Defense collaborative effort to bring partners together for conservancy efforts and to prevent encroachment around military installations).

From the museum the group traveled to the UAV (unmanned aerial vehicle or drone unit) and saw where pilots of the UAVs work from and to the electronic proving ground where MRAP (mine-resistant ambush protected) vehicles are tested.

The tour ended at the Babocamari Ranch where lunch was served and a brief history of the ranch was learned.

For information on Arizona Land and Water Trust field trips go to the HNRCD Fall, 2018 newsletter on our website, www.herefordnrcd.com

Federal News

Waters of the United States' (WOTUS): In 2015 the Environmental Protection Agency (EPA) and the Army Corps of Engineers (Corp) initiated a new rule for WOTUS under the Clean Water Act. The rule changed the definition of WOTUS (which had been navigable waters) making farmers and ranchers concerned that even the smallest pond or ditch could be declared a federal waterway. Due to many legal actions the 2015 Clean Water Rule has been “on hold” in Arizona and 27 other states.

In December, 2018 the EPA and the Corp proposed a revised definition for WOTUS which would clarify the scope of federal regulatory authority under the Clean Water Act in a more coherent and recognizable way. From the *EPA/Corps Fact Sheet*, “The agencies’ proposal is consistent with the statutory authority granted by Congress, the legal precedent set by key Supreme Court cases, and the February 2017 Executive Order entitled “Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the ‘Waters of the United States’ Rule.” The new rule also recognizes the primary responsibility and rights of states and tribes to regulate and manage their water resources under the Clean Water Act.

The proposed new rule precisely defines WOTUS as well as what would not be considered waters of the United States.’

The new rule has been published in the *Federal Register* and is currently open to public comments. The comment period ends April 15, 2019. To comment go to <https://www.regulations.gov> and follow the instructions to comment on Docket ID No. EPA-HQ-OW-2018-0149.

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Water Wise

Jim Lindsey (left) and Pat Call (right)—supervisors of the Hereford Natural Resource Conservation District spoke at a Water Wise panel discussion along with two additional speakers. The subject of discussion was water availability in the Sierra Vista sub water shed including San Pedro River.

Jim shared his personal observations from what he's seen growing up and living his entire life in the area, and what he's accomplished enhancing the natural resources on his ranch. Through the use of brush treatment and control he's increased the grass stand substantially which takes less water, allowing more water to go to the aquifer.

Pat Call demonstrated through a slide show that ground water is primarily what keeps water in the San Pedro River all year long. Pat addressed the Upper San Pedro Partnership and the Cochise Conservation and Recharge Network.

Water Wise has been in existence for 25 years educating people in water conservation and promoting awareness of water resources.



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BOARD MEETINGS
 Third Wednesday of every month
 9:30 AM
 Sierra Vista Cochise County
 Complex Conference Room
 Hwy 92 and Foothills Drive, Sierra Vista

Note: Date, location and time is subject to change.
 We invite District Cooperators and the general public's attendance and participation.

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 is on the World Wide Web!
www.herefordnrcd.com

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