

Drones, despite complications, essential to OSU researchers

By ANTHONY RIMEL
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CORVALLIS — There's a lot that can go wrong in using unmanned aircraft to do survey work for research.

Weather can make a scheduled flight impossible, sometimes software controlling the vehicles has mysterious hiccups or the satellites that guide the vehicle autonomously through a planned route can't be reached or an important component is forgotten in the lab.

Since he began using unmanned aircraft in his research in 2012, Oregon State University forestry professor Michael Wing has seen many ways a flight can go wrong.

Once, in August, he even had a turkey vulture threaten to attack a quad-

copter he was using; the bird came within about 15 feet of the vehicle, he said.

Wing said nearly every flight has some kind of complication.

Wednesday, when Wing and one of his graduate students surveyed a vineyard near Amity, was no exception.

On the first flight, Wing and his student, Cory Garms, briefly lost control of the quadcopter they were using to record infrared footage of a vineyard as the craft's battery was ticking down to near zero. The vehicle, which was following a programmed route, kept trying to follow the route even as Garms was attempting to take manual control of it to land it as the battery was getting low.

Garms eventually was able to get control of the craft and land it with

about 10 percent of its battery capacity remaining. That's well below the 25 percent he and Wing aim to have remaining when they land, so that they don't risk thousands of dollars of equipment falling out of the sky when the battery dies.

Wing said that despite the challenges, lots of new research opportunities are made possible by vehicles like quadcopters and other remote-controlled vehicles equipped with cameras, infrared sensors and LIDAR systems to do survey work. Wing said before these crafts were available, it took six months to schedule a plane to do a flyover to gather similar data.

Although when he started using unmanned vehicles for survey work, the Federal Aviation Administration required a two- to five-month process

for approval of such research flights, Wing said that process was streamlined in August 2016.

"We went from one flight in 2012, to two flights in 2013 and from there it just exploded," he said.

Wing said the 2012 flight was the first FAA sanctioned research flight in Oregon, but there are now 15 to 20 other researchers at OSU alone using unmanned aerial vehicles for research.

He said his Aerial Information Systems Laboratory at OSU has a budget of anywhere from \$30,000 to \$50,000 annually, and gets funds from the U.S. Forest Service, U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife and Oregon Department of Forestry. Wing is also the principal researcher for OSU's participation as a core university in the FAA's Center of

Excellence for Unmanned Aerial System Research.

Wing and his students have done projects like surveying a shipwreck, counting sea turtles, studying elk populations and doing topographical studies of volcanically active areas. These studies have taken place across the United States and in Indonesia, Brazil, Turkey, Germany and the Dominican Republic.

Wednesday at the vineyard near Amity, Wing and Garms were surveying a field where the grapevines had been infected with red blotch disease, a viral infection that hampers fruit production. Wing said the flight was the fourth in a series of five monthly flyovers at the field where he and Garms were using an infrared camera to look for the disease.

Jail: An average of 68 people per day have populated the jail this year

Continued from Page 1A

Wednesday to discuss the results of a \$51,000, two-month study. The private firm examined the feasibility of relocating the jail from Astoria to the Warrenton site.

Commissioners approved the study in May in anticipation of the state closing the youth facility. Money for the youth facility was not included in the state's two-year budget adopted in July, and the facility will officially close in October.

Inmates at the county jail, a 60-bed facility on Duane Street across from the county courthouse, often are released early due to overcrowding. When this happens, they aren't required to post bail even when a criminal case is pending in court.

This year, an average of 68 people per day have populated the jail. Out of 1,765 inmates that have been booked as of Sept. 21, 209 of them have been released due to overcrowding. As a result, inmates charged with crimes such as possession of methamphetamine or those who have been arrested for driving under the influence of intoxicants on multiple occasions are typically released early.

"If we don't have a jail population, possibly, of 150-plus, we are going to constantly be chasing the same people over and over again," District Attorney Josh Marquis said.

The larger expansion plan in Warrenton would offer the opportunity for future expansion of up to 252 beds. Due

to the design, it also would require less staff supervision of inmates.

The current jail requires 29 staffers. Just 36 staff members would need to work in the jail under the larger expansion, as opposed to 46 in the smaller renovation plan.

That would result in an 18 percent difference in staffing costs between the two plans, which architects predict would mitigate the construction cost difference after 10 years.

"This is more of the way jails are going," Sheriff Tom Bergin said. "Over the long run, once we start deferring the costs of all the personnel, we're going to be a lot better off."

DLR Group had previously provided similar services for the sheriff's office as part of a project to relocate most of its functions to a new location in Warrenton near the site of the youth facility. The project was completed in the summer of 2016.

The county jail in Astoria opened in 1980, and its population has grown and shrunk multiple times since then due to economic swings. Bergin cited multiple studies since 1999 that have illustrated the need for a jail expansion, though two bond measures have failed.

Several questions, including what would happen to the current jail, have yet to be determined. Commissioners will likely hold another work session in the future to further discuss the potential relocation.



Colin Murphey/The Daily Astorian

Porcupines have recently been spotted around Ecola Creek, pictured here, near Cannon Beach.

Porcupines: Rodents are mostly east of Cascades

Continued from Page 1A

It is not unheard of for timber companies to trap and kill porcupines, sources in Washington state and Oregon say.

Georg Ziegltrum, animal damage control supervisor with the Washington Forest Protection Association, says identifying markers such as bark being stripped away and eaten and distinctive tooth marks make it clear when porcupines are to blame for tree damage. He said they can take a heavy toll on industrial timberland.

Porcupines can weigh up to 40 pounds, but despite their bulk they will climb high in young trees, gnawing around the trunks — "girdling" them — eating the bark. They may expose roots and clip branches in their foraging, making the trees more susceptible to disease and decay.

A draft management plan for the Elliott State Forest in Coos and Douglas counties named porcupines on a short list of wildlife species — including beaver, elk and black bear — that were causing damage in the forest. The damage, the plan's authors note, was "sporadic and occurs in varying severity as to the number of trees damaged."

Growing population

Porcupine populations are believed to be robust in Oregon. The rodents are found mostly east of the Cascade Range, but they have become more common in western Oregon, as well, Dennehy said.

On public land, they are considered unprotected mammals; people who want to trap



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Porcupines, a rare sight in Clatsop County, are toothy rodents that like to gnaw bark and have sharp quills to ward off predators.



Colin Murphey/The Daily Astorian

Porcupines are rare in Clatsop County, but recently the rodents have been spotted around Ecola Creek near Cannon Beach by loggers.

or hunt them have to apply for a furtaker license through the state. The season is open the entire year and the state does not track harvests. In general, there tends to be very little public interest in hunting porcupines, Dennehy said.

On private lands, the state considers them predatory ani-

mals for the damage they do to tree saplings and they can be trapped without permits.

"The porcupine range has been expanding slowly for the last 30 years or so," said Dennehy. "ODFW saw much the same reaction in Tillamook County 25 years ago when the 'first one' showed

up as roadkill and people were flabbergasted."

Not anymore. "They're fairly common in Tillamook now, though the county isn't overrun with them."

Olson grew up in Clatsop County and has seen a few porcupines during her time here. She has also seen evidence of porcupine-related damage in the woods she helps manage for GreenWood, but she and other foresters weren't worried about a few girdled trees here and there.

This summer, though, they saw several acres where numerous 10- to 20-year-old trees had been hit. Most of these trees will likely die or bush out, Olson said, losing their value. In her seven years with the timber company, she has never seen the level of damage they are seeing now.

Next year, GreenWood expects to initiate an annual program to monitor where porcupine activity is taking place and if it is occurring in stands that are particularly vulnerable. The company will work with contractors to establish acceptable and unacceptable levels of damage that will guide when, if necessary, more animals need to be trapped and killed.

"I think their population is increasing," Olson said, "and I think that's why we're seeing some of the damage to our young stands. ... We want to, when we find that damage, control it."

But, she added, "I think it's something we can control without having a considerable impact on the population overall."

Rentals: Ordinance would impact at least 173 property owners

Continued from Page 1A

provide covered garbage containers and possess at least one fire extinguisher. They also could set maximum occupancy at three people per sleeping area plus two more at a rental.

Regulations would not cap the number of days a particular unit can be rented out, a major difference from ordinances in some cities.

The ordinance would not apply to Arch Cape, which has had regulations in place since 2004, or any properties within the county's five cities.

County estimates reveal the ordinance would impact at least 173 property owners. The figure is nearly double the estimate in 2010 of the number of properties available to rent for up to 30 days.

Sheriff: 'It doesn't mean I agree with Mr. Sessions' policies'

Continued from Page 1A

Sessions, a former Republican U.S. senator for Alabama, advocates several controversial administration positions, such as a tougher stance on illegal immigration and a ban on travel to the U.S. by citizens from several Muslim-majority nations. The attorney general also is against marijuana legalization by states like Washington and Oregon.

The Sept. 19 meeting included a number of other

Washington state sheriffs, including those from Wahkiakum and Cowlitz counties.

Johnson defended his decision to listen to the attorney general's expectation of cooperation from local leaders as he runs the U.S. Department of Justice with a "prosecutorial eye."

"It doesn't mean I agree with Mr. Sessions' policies," the sheriff said. "I don't answer to anyone but the citizens. But how he conducts business affects us locally."

Johnson said Sessions' vow to have anyone in the country illegally tracked down and deported contradicts information Northwest officials with U.S. Immigration and Customs Enforcement gave him two weeks ago.

They told him ICE is targeting immigrants who have been previously deported or involved in crime. The Seattle and Portland-based officials said federal agents come into the county knowing who they're going to pick up.

"I said 'OK, show me the money,'" Johnson said. "The community keeps telling me they're coming in taking grandma and grandpa."

ICE agreed to let the sheriff know when arrests are made in the county but declined to share further details, such as names, that would allow him to confirm stories from neighbors.

About a week later, the sheriff said, federal agents came into his office without warning. They arrested a man

who was at the front counter registering as a sex offender on Sept. 15.

Johnson said he has no problem with ICE deporting people who are committing crimes after coming into the country illegally. But with little information about who's being taken during federal operations, it's hard to tell whether the government could be spending federal dollars on "other, more important issues."

Local law enforcement

does not ask anyone about their immigration status or use it in making decisions, Johnson said. He's asking for answers from ICE because people are coming to him with questions.

After writing two letters to the federal agency and meeting with officials, the sheriff said he got the first official word of an ICE arrest on Monday.

A longtime employee of a Bay Center business was taken. The man left behind a wife and two children.