

# Bird flu fades in the West as virus strikes Midwest

Washington state vet: Look out for returning migration

By DON JENKINS  
Capital Press

A bird flu virus that debuted in the U.S. in early December has infected commercial turkey flocks in Minnesota and Missouri, illustrating the disease's unpredictability.

Until last week, highly pathogenic avian flu had been confined to the Pacific Flyway. Within days, it appeared in three locations in the Mississippi Flyway.

Migratory waterfowl, which carry the virus but are immune, in both flyways share breeding grounds in Alaska. Washington State Veterinarian Joe Baker said he's been pondering when the virus would show up in the Midwest. "I've been wondering that for over a

month." Less predictable is when or whether the virus will show up elsewhere, including in the Central and Atlantic flyways, and whether more flocks will be infected in the West.

"It's just the nature of the beast," Baker said.

The H5N2 virus, a mix of Eurasian and North American strains, infected commercial turkey farms in southwest and central Missouri, officials confirmed Monday. Last week, the virus infected a turkey barn in western Minnesota.

H5N2 first appeared in the U.S. in a northern pintail duck found dead at Wisner Lake in Whatcom County in northwest Washington on Dec. 8. The migratory duck carried the virus but actually died of another bacterial infection.

Between Dec. 1 and mid-February, bird flu strains infected commercial

poultry farms in California and British Columbia, Canada. A game bird farm in Washington and backyard flocks in Washington, Oregon and Idaho were also infected.

The last case of bird flu in poultry in the West was confirmed Feb. 17 in a non-commercial flock of 90 chickens, turkeys and ducks in Deschutes County, Oregon.

Confirmation of the virus in wild birds in the West continue to trickle in, Baker said.

The percentage of wild birds that carry the virus is apparently low, he said. The northern pintail collected at Wisner Lake was the only one out of 66 ducks gathered there to test positive for bird flu, he said.

Baker said the disease's relative rarity in the wild helps explain why more domestic flocks haven't been infected, but he said he was concerned that new cases will appear in the West as birds

migrate north.

"Are we going to see some increased potential (for new cases) over the next six weeks?" he said. "I don't know, but I'd be worried about it because these birds are on the move."

The Mississippi Flyway roughly follows the Missouri and Mississippi rivers. Cases there come as quarantines in Western states are being lifted. Oregon's only remaining bird flu quarantine, the one in Deschutes County, may be removed this week, state Department of Agriculture spokesman Bruce Pokarney said.

Washington, where bird flu was particularly severe in December and January, has been quarantine-free since Feb. 25.

Dozens of countries, including the 28 in the European Union, have in the past few days banned poultry from Minnesota, the country's second-leading turkey producing state behind only

North Carolina, according to USDA's National Agricultural Statistics Service.

Sanctions against Missouri, the country's fifth-leading turkey producer, are expected.

The virus in Minnesota was confirmed March 4 in a barn with 15,000 18-week-old breeder replacement turkey hens, according to a report to the World Organization for Animal Health.

Some 6,500 turkeys in another barn on the farm did not show increased mortality. Turkeys in both barns were to be destroyed, according to officials.

The Missouri Department of Agriculture reported late Sunday that the virus had infected commercial turkey operations near Asbury in the southwest corner of the state and in Fortuna in the central part of the state.

The department did not provide the number of birds impacted by the virus. Efforts to reach a department spokesman were not successful.

## 'These are areas we hike with our grandchildren'

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public comment. Instead, multiple stations were set up where people could get information and interact with state and federal agency employees and then put written comments in a box.

"Dal Dagnon (a Tonasket rancher) took a mic and gave them a pretty good talking to," DeTro said.

"These people shove this stuff at Okanogan County as a poster child and target Okanogan County for everything they can think of and Okanogan County is fed up," he said.

"What the hell is the NPS doing taking comments on grizzly recovery? These agencies are in bed with or have imbedded greens and are de facto fundraising for the greens," DeTro said, explaining federal efforts draw attention to the issue and helps environmentalists raise money.

The federal effort is an end run to try to accomplish what couldn't be accomplished through the state in the past, he said.

A March 5 open house in Wenatchee was the same format with no oral presentations or comments. A couple dozen people attended.

This is the scoping phase from which alternative plans will be developed with a final decision on whether to actively pursue restoration made jointly by NPS and USFWS in three years, said Ann Froschauer, USFWS spokeswoman.

While grizzlies are more plentiful in other parts of Canada and the U.S., a small population lives on the Canadian side of the North Cascades and ventures into Washington state, although there have been no confirmed sightings in Washington since 1996, said Chris Servheen, USFWS grizzly bear recovery coordinator from Missoula, Mont.

"What we would like to do is improve their status, focusing on remote areas of the Pasayten Wilderness and North Cascades National Park," he said.

The agencies want to keep them in remote areas and bears who endanger people or livestock would be relocated and if they re-offend a second time, destroyed, Servheen said. Problem bears from other areas "absolutely" would not be brought



Dan Wheat/Capital Press

Chris Servheen, U.S. Fish and Wildlife Service grizzly bear recovery coordinator, Missoula, Mont., at Wenatchee, Wash., grizzly recovery open house, March 5.

into the North Cascades, he said.

The North Cascades ecosystem is about 10,000 square miles and could safely handle 200 bears, he said. The Yellowstone ecosystem is about the same size and has 1,000 grizzlies that largely stay away from people, he said.

But Doug England, a Chelan County commissioner, said it will be difficult for the same area to be used by grizzlies and hikers.

"We are part of their food chain," England said. "Hikers and sleeping bags are the soft tacos of the grizzly world."

Chelan County commissioners sent a letter of opposition to the agencies, he said. It was interesting, he said, to see state Fish and Wildlife personnel at the meeting when state law prevents the state from spending money on grizzly bear recovery.

Any lawsuit likely would boil down to whether the state overrides the federal government in recovery jurisdiction, he said.

Evidence grizzlies lived in Washington is all anecdotal, not historical data, he said.

"This is serious in Stehekin.

These are areas we hike with our grandchildren," he said, adding the concerns of people whose lives and livelihoods will be impacted should carry more weight than those who don't.

Open houses were set for Cle Elum March 9, Seattle March 10 and Bellingham March 11. Comments will be received through March 26 at: <http://parkplanning.nps.gov/NCEG>.

## Wash. has not declared a drought since 2005

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"I can tell you the governor's office is ready and primed to move forward with a decision, if the executive committee makes the recommendation tomorrow," Marti said.

Washington has not declared a drought since 2005. The DOE, based on its experiences then and in the drought year 2001, has asked lawmakers for nearly \$9 million for drought relief. The money would go for such purposes as drilling and deepening wells, adding pumps and pipes, plugging leaks and lining canals, and buying unused water waters.

During the last drought, most drought-related responses were in the Yakima Basin.

The U.S. Bureau of Reclamation forecast Monday senior water rights will have full supplies, but junior water rights will have 73 percent of their normal supply. The five Yakima Basin reservoirs are nearly full, but snowpacks are extremely low, according to the bureau.

The same conditions — enough rain but far too little snow — prevail throughout the state.

State climatologists predicted spring won't bring relief, with a drier and warmer than normal season expected.

Reservoirs, swelled by winter rain, may blunt drought impacts in some areas.

The Northwest River Forecast Center predicts the Columbia River will have more than 80 percent of its normal summer flow.

## Craft beer sector's growth still going strong

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now have barley varieties in development that will meet craft brewers' specifications.

The major brewing companies have also invested heavily in small, craft-style breweries because of their growing popularity. A survey of AMBA's membership, which includes large and small breweries, indicated respondents would like the organization to put 55 percent of its emphasis on developing and promoting malt barley varieties for adjunct brewing. But it also indicated about 45 percent of the emphasis should be on all-malt barley varieties for craft brewing.

In addition to breeding new varieties, Davis said farming practices, such as minimizing application of nitrogen fertilizer, can also be used to better meet all-grain brewing guidelines.

### Rapid growth

The craft beer sector's recent trend of double-digit growth continued in 2014, according to Bart Watson, chief economist with the Brewers Association, which represents small breweries.

When his final estimates for 2014 are released on March 16, Watson expects craft production will be up by about 18 percent from the previous year. He also anticipates craft brewing's market share by volume will increase from 7.8 percent in 2013 to double digits, and its market share in dollars will increase well above its previous level of 14.3 percent.

Watson said a 31-gallon barrel of all-malt beer requires 55 pounds of malt on average, compared with 17 pounds of malt for a typical domestic Pilsner. Consequently, Watson said U.S. craft breweries use a disproportionately higher volume of malt — about 27 percent of malt used by U.S. breweries in 2014.

Malt is made by moistening barley after harvest to induce sprouting and then baking it.

### Imported malt

U.S. breweries import more than 20 percent of their malt, said Chris Swersey, the Brewers Association's technical brewing products manager. Craft breweries, in particular, often look to varieties raised in Germany or England, where all-grain brewing is the norm.

Bob Beckwith, of Firth, Idaho, coordinates the 80 judges who score more than 1,600 beers in the annual North American Beer Awards, which are hosted in Idaho Falls. Beckwith said many ribbon winners use imported Golden Promise, a Scottish malt, or Maris Otter, from England.

In addition to better fitting the all-malt brewing style, the foreign varieties are known for rich flavor and efficient sugar extraction, Beckwith said.

"For U.S. farmers to go out and grow something like Maris Otter, they have to be careful how much nitrogen they put on it, so therefore the yield is pretty low on it," Beckwith said, "so they have to get a premium price."

Beckwith said small breweries can boil harder and longer to "blow off faults in beer," but it reduces their output and lengthens production time.

The Canadian variety Harrington was once a favorite among craft breweries, including New Glarus, but it's been largely supplanted by high-



John O'Connell/Capital Press

Gongshe Hu, barley breeder with the USDA's Aberdeen Agricultural Research Service, leads a 2013 tour of barley test plots at University of Idaho's Teton Research and Extension Center. Hu says he's now focusing about 10-20 percent of his breeding efforts on all-malt lines.

| Rank/state       | Millions of barrels sold |
|------------------|--------------------------|
| 1.....California | 2.95 million             |
| 2. Pennsylvania  | 1.79                     |
| 3.....Colorado   | 1.41                     |
| 4.....Ohio       | 1.1                      |
| 5.....Oregon     | 0.88                     |
| 6.....New York   | 0.86                     |
| 7.....Texas      | 0.85                     |
| 8.....Michigan   | 0.58                     |
| 9.....Wisconsin  | 0.44                     |
| 10.....Minnesota | 0.37                     |
| 11. Washington   | 0.33                     |

**Top craft beer states, 2013**  
(31-gallon craft barrels)  
Source: Brewers Association  
Alan Kenaga/Capital Press

### How beer is made

The all-grain brewing process:

- **Steep coarsely milled malted barley**, or malt, in water heated to roughly 152 degrees. At that temperature, protein enzymes cut starch strands into smaller sugar segments that are readily converted into alcohol and carbon dioxide by yeast.
- **The sugary water**, or wort, is drained into a boil kettle, and additional hot water, called sparge water, is poured through the bed of grain to extract additional sugars and fill out the necessary volume.
- **The liquid wort is boiled**, with hops added at different stages. Hops added early lend more bitterness while hops added later lend more aroma.
- **Yeast is added** after the wort is cooled. Larger breweries force carbonate their beer, but some microbreweries add a pinch of sugar to each bottle to allow the yeast to naturally carbonate it.



Photo submitted

New Glarus Brewing in Wisconsin conducts a test of the brewing qualities of experimental varieties out of Aberdeen, Idaho, intended for use in all-malt brewing.

er-yielding varieties. Carey buys as much Harrington as he can find but resorts mostly to varieties such as Copeland and Metcalf, which are in greater demand by the big brewers.

Greg Smith, plant engineer with InteGrow Malt in Idaho Falls, said Harrington is also prone to lodging — falling flat in the fields, complicating harvest.

"Harrington is really on the way down," Smith said. "We used to have a bunch of it here, and now we have hardly any. It's down to something like 4-5 percent of the barley crop."

### Brewers test lines

Aberdeen ARS barley breeder Gongshe Hu estimates 10-20 percent of his barley breeding program is devoted

to developing higher-yielding lines that meet the new all-grain guidelines.

"In the future, it may increase because of demand," Hu said.

In 2013, Hu screened his program's entire library of elite lines for their all-grain brewing potential, evaluating crosses previously rejected by the large breweries.

Hu identified 10 lines with promising protein and free amino nitrogen levels, among other specifications, and planted them in small plots. North Dakota State University malted seed from the plots and sent it to six craft breweries, including New Glarus and Colorado-based New Belgium Brewing, for evaluation.

Carey made 10-gallon

batches of his signature beer, Spotted Cow Farmhouse Ale, with each of Hu's varieties. The brewery's taste panel concluded three of the lines offered a cleaner, superior taste.

"To us, that was encouraging," Carey said.

This summer, Hu plans to raise up to 2,000 pounds of seed of the same three brands New Glarus liked for broader evaluations by the craft industry.

Chris Holbrook, who oversees supply chain quality for New Belgium, said his brewery also made small batches with Hu's crosses. Holbrook said New Belgium, which uses predominantly domestic malt, is evaluating additional lines from Hu's program and some OSU lines, such as Full Pint.

"Our brewmaster has said he looks forward to the day the U.S. is producing malt sought after by overseas brewers because of its flavor and qualities, much the same as the U.S. craft brewers are looking at traditional German and English malt," Holbrook said.

### OSU's tests barley lines

The Brewers Association is in the third year of contributing funding toward the development of all-grain lines at Aberdeen and is offering new grants this year at OSU and Michigan State University.

OSU has invested some of its grant dollars toward renovating a room for a small-scale malting facility, which will house a "mini-malter" designed by OSU students to make 150-pound batches. The facility will enable OSU to produce small "home brew" batches to evaluate its all-grain breeding lines.

Scott Fisk, an OSU faculty research assistant, said his program has been making all-grain barley crosses for about three years, using mostly European barley lines as parents.

"A lot of things in our advanced trials could definitely fit into the craft industry," Fisk said.

Idaho Falls grain farmer Matt Gelling believes growers will also reap rewards from the advancement of high-yielding, all-grain barley lines.

"As a grower, if I had a buyer for that out front, I'd be glad to raise it," Gellings said. "If it's a good yielder and they'll pay a premium on it, I'm sure the growers will grow it."