

Watershed Info

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7 Items

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—————Feel Free To Pass This Along To Others—————

If your watershed is doing something you would like others to know about, or you know of something others can benefit from, let me know and I will place it in this Information newsletter.

If you want to be removed from the distribution list, please let me know. Please note that all meetings listed are open.

Enhance your viewing by downloading the pdf file to view photos, etc. The attached is all about improving life in the watershed.

This is already posted at EnviroInsight.org

- 1. Need To Renew Your OSHA 8 Hour Certificate?** Join others in a relaxed setting for an 8 hour OSHA class and walk out with a certificate, good for a year. Class is on October 14, 2019 from 8 a.m. to 4:00 p.m. Lunch is provided. Cost is \$80.

Please contact the editor (sconflict@aol.com or 623-930-8197) of the newsletter before October 11 if you plan to attend.



2.

Comment Period Extended for Clean Water Act § 404 Roadmap Thank you to stakeholders, public and Tribal leaders for attending this week's meetings about ADEQ's Roadmap to Clean Water Act (CWA) § 404 assumption and providing input on the value of Arizona assuming the permitting program.

We have received letters from Inter Tribal Association of Arizona and the Yavapai Apache Nation requesting an extension of the comment period to allow more opportunity to comment and provide Tribal consultations. To honor this request, we have extended the deadline to **November 18**.

Stakeholders are encouraged to download and review the Roadmap and then click the survey link on Page 66 to provide feedback on the program as currently proposed. **Visit azdeq.gov/cwa-404 to Download the Roadmap.** Please email CWA404@azdeq.gov for questions or additional information

3. **Astroshed: October Astronomical Highlights: Orionid Meteors and the Pleiades** his month the sky is full of treats and some tricks. The Orionid Meteor Shower lights up the skies in October, with up to 25 meteors an hour at its peak, which extends from October 20 to 27. However, the best time to observe the show (the peak of the peak, as it were) is overnight from October 21 to 22. The bits of dust that ignite the atmospheric streaks producing the Orionids were left behind from Halley's Comet. The radiant, or plane, from which the meteors appear to emanate, lies to the left of Orion's reddish star Betelgeuse and close to the border of Gemini. Orionids are some of the fastest known meteors—if you blink, you might miss one. With the full moon falling earlier in the month, viewers should get to enjoy a relatively dark sky.

For the second month in a row, the full moon falls on the 13th. The Hunter's Moon in October will take place on a Sunday at 2:09 p.m. PDT, but it doesn't rise until just after sunset. Look east to see the full moon ascending in the constellation Pisces. Some of the other, possibly more appropriate, names for October's full moon are the Blood Moon or Dying Grass Moon, which fit the Halloween and autumn season. Speaking of Halloween, those who are out trick-or-treating will hopefully be treated to a beautiful view as the sky grows dark—a crescent moon to the southwest, sitting next to Jupiter (the pair float almost 5 degrees apart on October 31) with a backdrop of the Milky Way.

October's Planets

Halloween is not the only evening in October when the moon will be near Jupiter. On October 3, Jupiter and the moon will be less than 2 degrees apart. The moon will be a fat crescent on that night at 33-percent lit. The moon also has a close encounter with Saturn two nights later on October 5, during first quarter moon.

On October 28, a new moon means the sky will be nice and dark for the opposition of Uranus, which rises at sunset and sets at sunrise in the constellation Aries. At magnitude 5.7, it can be spotted with a pair of binoculars and possibly even without optical aid from a dark-sky site; the trick is knowing where to look. Uranus does not look much different from any random star. If you sketch the corner of the constellation Aries where it meets Pisces and Cetus from night to night, you will see one "star" slowly moving against a background of other stars, and that object is Uranus. The easiest way to find it, however, is to wait until it has a close pairing with a bright, well-known object. The next decent opportunity to see Uranus in this way is in March 2020.

Fall's Star Cluster: The Pleiades

One favorite fall observing target is the Pleiades, a small star cluster in the constellation Taurus. The Pleiades looks best when viewed through binoculars; its large size cannot be completely captured in a telescope. Without any optical aid, you'll first notice the Pleiades as a fuzzy patch of stars in the east after it gets dark. The shape is reminiscent of a little dipper.

The Pleiades is also known as the "seven sisters," six of which are easily visible without optical aid. Under the right conditions, magnification will suddenly increase the number of stars visible from a few hundred to more than a thousand. The stars in the Pleiades cluster were born together about 100 million years ago, and the grouping itself lies about 440 light-years away.

4.



4. WESTERN MEADOWLARK | PHOTO COURTESY OF MATTHEW PENDLETON, MACAULAY LIBRARY AT CORNELL LAB OF ORNITHOLOGY

Over the past 50 years, the conservation movement in North America has famously helped protect some of the most iconic birds from extinction, including bald eagles, wild turkeys, white pelicans, peregrine falcons, Kirtland's warblers, and California condors. But a new study in the journal *Science* shows that while those rare birds were recovering, total bird numbers were plummeting, even among some of the most common backyard species.

The work is the first comprehensive attempt to reconstruct the abundance of birds in North America between 1970 and 2017. The team compiled data from academic studies and professional breeding bird surveys conducted by the USGS and Canadian Wildlife Service, along with citizen-science data collected from the Audubon's annual Christmas Bird Count, the Manomet's yearly shorebird survey, and other efforts. The team also looked at the last decade of data collected by the 143 NEXRAD weather radar stations located across the continent, which are able to track the entire biomass of bird migration each spring and fall.

The results of the study are shocking, even for the researchers. In total, bird populations have declined by 2.9 billion individuals, representing a 30 percent drop in total breeding bird numbers.

Lead author Ken Rosenberg, senior scientist at the Cornell Lab of Ornithology and American Bird Conservancy, says the magnitude of the loss and the number of species involved was unexpected. While ornithologists have noted broad trends showing that some species' populations have been on the increase and others have been in decline over the past few decades, no one had really dug into the data to see if the overall number of birds had changed.

“We were hit with this question of, OK, so if some are declining and some are increasing, are there really fewer birds today than there were in 1970?” Rosenberg says. “It’s a pretty big job just synthesizing all that information for over 500 species. We ran the numbers like a banking account sheet. I was pretty stunned by this 3 billion net loss of birds.”



EVENING GROSBEAK |

PHOTO COURTESY OF MATTHEW PENDLETON, MACAULAY LIBRARY AT CORNELL LAB OF ORNITHOLOGY

The researchers found broad population decreases, not just with rare or threatened birds. “We saw that these losses occurred in the common species and across every habitat,” Rosenberg says. “Even birds we were calling generalists that should be well-adapted to human environments were in decline. Starlings and house sparrows, these invasive species that we thought may be taking over, were showing the same declines. That overall result was, to me, a big surprise.”

The data shows certain categories of birds have been hit particularly hard. Grassland birds, for instance, lost 720 million individuals, or 53 percent of their total population during the study period; forest birds have dropped by 1 billion individuals, with 500 million of those coming from the boreal forest alone. Shorebirds, which had already suffered significant population drops before 1970, have lost 30 percent of their abundance since then. The radar data indicates that in just the past 10 years, the volume of birds migrating through the night sky each spring and summer has dropped by 14 percent.

Long-time feeder watchers have likely noticed the declines as well. Dark-eyed juncos, which are one of the most abundant birds across the United States in winter, have declined by 168 million individuals. Eastern and western meadowlarks, whose song used to be part of the backdrop of rural America, have dropped by 139 million, or 75 percent; the white-throated sparrow and its classic “Oh, Canada, Canada” call has plummeted by 93 million. Two out of every five Baltimore orioles are gone, and the same is true for barn swallows.

The loss of 3 billion birds over 50 years may not seem like a lot; billions of birds die annually from natural causes and human-generated threats. But Rosen says the losses are concerning because they come from the core population of adult, breeding-age birds. Each year, these nesting birds produce a clutch or several clutches of offspring, so many that by the end of the summer, overall bird numbers can increase five to 10 times. Before the next breeding season, however, more than half of those birds will perish. Over time, upticks in those mortality rates have eaten away at the core breeding population, decreasing it from roughly 10 billion birds to 7 billion across North America.

While the paper does not try to pinpoint the causes of the declines, previous studies have identified loss of habitat driven by agriculture, urbanization, and deforestation. Increased pesticide use and the massive reduction in insect numbers worldwide also likely play a major role. A study published last week, for instance, found that consumption of neonicotinoid insecticides caused weight loss and delayed migration in white-crowned sparrows, a phenomenon that may be more widespread in wild bird populations.

North America isn't the only area seeing downward trends in bird populations. BirdLife International's latest State of the World's Birds report, published every five years, found that as of 2018, 40 percent of the world's 11,000 bird species were in decline, with one in eight threatened with extinction. Most face threats similar to those of North American birds.

The study is grim news, but it does come with a positive conservation story: Those groups of birds that have received the most conservation attention are on the upswing. The once-imperiled raptors have increased by 78 percent, or 15 million individuals. Waterfowl have jumped by 56 percent, primarily because government funding and hunting groups spearheaded efforts to protect and restore millions of acres of wetland habitat.

That means there's hope that bird numbers can recover if individuals take action and government and conservation organizations make the right investments. Rosen says the rebound of ducks and raptors shows that, given a little extra help and protected habitat, the birds can recover quickly.

“The story is not over,” coauthor Michael Parr, president of American Bird Conservancy said in a statement. “There are so many ways to help save birds. Some require policy decisions such as strengthening the Migratory Bird Treaty Act. We can also work to ban harmful pesticides and properly fund effective bird conservation programs. Each of us can make a difference with everyday actions that together can save the lives of millions of birds—actions like making windows safer for birds, keeping cats indoors, and protecting habitat.”

Rosen says bird lovers and conservationists should look to the model of waterfowl recovery. “The reason we have healthy and increasing waterfowl populations today is because recreational duck hunters were noticing declines back in the 1970s and they did something about it,” he says. “They raised their voices; they put their money where their mouth is, and policies were put in place and billions of dollars went into wetland protection, restoration, and waterfowl management.”

“What we're really hoping is that this paper leads everybody who loves birds to start raising our voices and to take action,” Rosen says. “Then we can magnify those actions at the community and societal level and eventually become a political force for changing policies. It's time for the rest of the people who love nature and love birds to become a voice.”

Source: Wall Street Journal (9/20/19), Cornell Lab of Ornithology and American Bird Conservancy

5. The Bureau of Reclamation will host a webinar to provide information about the Cooperative Watershed Management Program Funding Opportunity Announcement (FOA). The webinar will take place on Tuesday, October 1, 2019, at 2:30 p.m. MDT. Specifically, it will discuss the following:

- **Cooperative Watershed Management Program – Phase I - [Funding Opportunity Announcement BOR-DO-19-F010](#):**
 - Eligible Applicants and Projects
 - Evaluation Criteria
 - FOA Deadline: Nov 13, 2019

Featured Speakers:
Avra Morgan and Robin Graber
Reclamation's Office of Policy and Administration
Denver, CO

To join the webinar, please register by clicking the link below:

[Join the meeting](#)

Call-in Number: 415-527-5035

Meeting Number (Access Code): 901 793 971

Meeting Password: TYpsYU6n

To view the funding opportunities or learn more about the Cooperative Watershed Management Program please visit [Reclamation's website](#).

Thanks,

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- 6. Compost Your Trash Bags.** If You Care Compostable Trash Bags are made from potato starch from non-GMO starch potatoes blended with a certified, fully compostable polymer. No plasticizers are added. Found in 3 gallon and 13 gallon sizes.

The potato starch used to make If You Care Compostable Trash Bags comes from starch potatoes, which are not grown as a food source, but only for starch production. Therefore, there is no diversion from food supplies. In addition, to produce the same starch from these potatoes as from corn requires 40 % less land. Other compostable bags are made from corn which requires more water, but potatoes require no irrigation, and need only normal rainfall



Why Use If You Care Compostable Trash Bags? Approximately 80 million tons of waste (U.S. EPA figures) which goes to landfill annually is material which under the right conditions, can be turned into compost, including food scraps, yard trimmings and non-recyclable paper. In a landfill environment, this trapped organic material (leaves, grass etc.) releases methane gas – a greenhouse gas – contributing to global warming. Diverting food scraps and yard trimmings from landfill to compost facilities – either municipal or commercial in areas where available – contributes significantly to preserving our planet and natural resources.