

# The brightest objects in our strange universe

What are the brightest objects in the universe?

The answer is quasars, which emit incredible amounts of energy over the entire spectrum, including visible light. They are located in the hearts of far distant galaxies and are powered by black holes.

The most distant is nearly 13 billion light years away, meaning it formed less than 800 million years after the Big Bang and is an unimaginably 63 trillion times brighter than the sun.

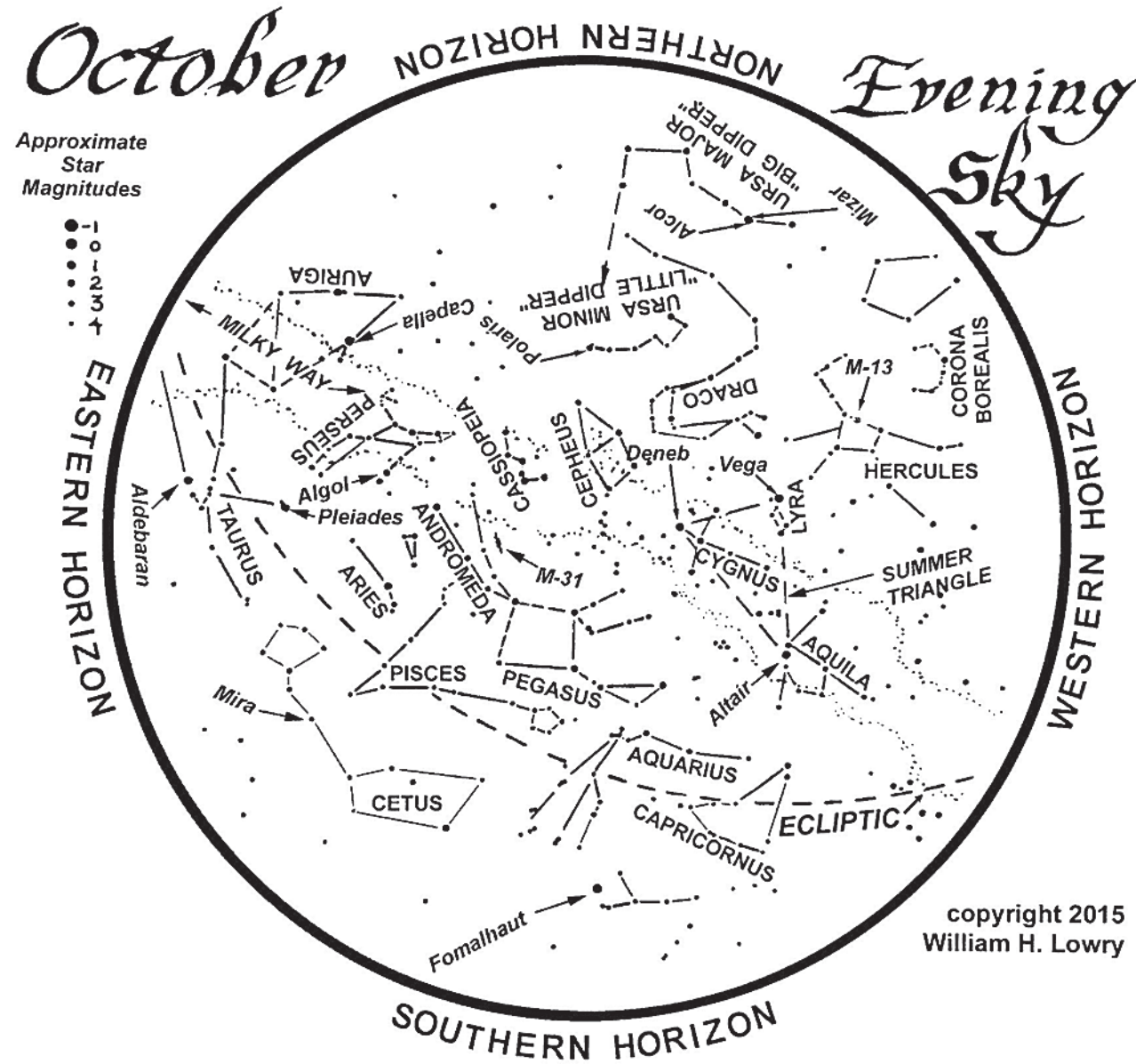
The nearest is only 581 million light years distant, with a brightness that exceeds all of the billions of stars in its galaxy combined.

Most quasars have a single black hole with masses millions to billions of times greater than the sun that gobble up all of the matter in their neighborhood while emitting energy in the process. Thus quasars with black holes at their hearts constantly cannibalize matter and spew forth energy, making them the brightest objects found in our strange universe.

### Focus on the planets

Four naked-eye planets grace the early morning sky in October, Venus, Jupiter, Mars and Mercury, while Saturn reigns alone as the single easily found planet during the evening hours.

Mercury rises above the eastern horizon about an hour before dawn. The best chance to spot Mercury is on Oct. 11, when it is about a degree to the upper left of the slim crescent moon. As



the month progresses, Mercury slides ever deeper into the glare of sunrise.

Venus rises in the east at about 3:30 a.m. where it keeps company with two planets and the crescent moon.

Mars shortly follows Venus into the eastern sky, where the much dimmer "Red Planet" may be seen to the lower left of its illustrious predecessor.

Jupiter is the last of the planetary triumvirate to rise on the eastern horizon, following Mercury and Venus. With the trio complete, dawn on Oct. 3 will find Jupiter, Mars, Regulus and Venus in an ascending line from left to right.

Saturn rises in the southwest about an hour after sunset, where the ringed planet has ruddy Antares as a com-

panion. Saturn's ring system is still well-tilted for observation and the major moon Titan may be spotted as well.

Uranus is best spotted around midnight among the stars of Pisces, while Neptune is found in Aquarius. The blue-green and blue-gray disks of Uranus and Neptune respectively can be found with binoculars and the aid of the Sky & Tele-

scope magazine's finder chart at [skypub.com/urnep](http://skypub.com/urnep).

### October events

- 1 Sunrise, 6:33 a.m.; sunset, 6:17 p.m.
- 3 Jupiter, Mars, Regulus and Venus are in ascending order on the eastern horizon an hour before sunrise.
- 4 Moon in last quarter, 5:08 p.m.
- 9 Mars, Jupiter and the

moon are in a fairly close circle just before sunrise with Venus just above.

11 Mercury is close to the upper left of the moon just before dawn. Jupiter, Mars and Venus are far to the upper right. The moon is at apogee or farthest distance from Earth.

12 New moon, 8:06 p.m.  
16 Saturn is close to the lower right of the moon this evening.

17 Look for an extremely close pairing of Mars and Jupiter on the eastern horizon an hour before sunrise that will not be repeated until 2018.

20 First quarter moon, 4:32 p.m.

21 The Orionid meteor shower peaks tonight. The moon sets around 1:30 a.m. giving about a 4-hour window for observation. Expect an average 15 meteors per hour radiating from Orion's raised club near Betelgeuse.

25 Jupiter and Venus, the brightest objects in the night sky after the moon, stand side by side in the pre-dawn sky.

27 Full moon, 8:05 a.m. The full moon of October is called the hunter's moon or blood moon.

28 Jupiter, Venus and Mars form a tight triangle in the east-southeast an hour before sunrise.

29 Look for Aldebaran, the 'Red Eye' of Taurus the Bull, close to the upper right of the Moon at mid-evening.

31 Halloween, a cross-quarter day marking the midpoint between the fall equinox and winter solstice. The sun enters Libra on the ecliptic. Sunrise, 7:12 a.m.; sunset, 4:26 p.m.

**Send astronomical queries to Clair Wood at [cgme.wood@aol.com](mailto:cgme.wood@aol.com) or care of the Bangor Daily News, Features Desk, P.O. Box 1329, Bangor, ME 04402.**

## Coastal towns form clam lobby

BY WALTER WUTHMANN  
THE FORECASTER

BRUNSWICK — After suffering several legislative defeats in Augusta, town officials charged with regulating marine resources are setting up a lobby to push their agenda through the Statehouse.

Their goal is to end a power struggle between clam harvesters and marine worm harvesters over access to the town's mud flats.

Members of the Brunswick Marine Resources Committee, as well as the town's harbormaster, say that important clam conservation closures are being destroyed by worm harvesters, and they have no authority to stop it.

On Sept. 24, Brunswick leaders called a meeting with elected representatives from 10 other coastal towns to discuss the issue.

"We all have a common interest," said Mark Latti, chairman of Brunswick's marine resources committee. "(We're) looking to protect the intertidal area where we've got clams."

Elected officials from towns that included Yarmouth, Thomaston, Cushing and Harpswell gathered in Council Chambers in Brunswick to discuss the problems they've encountered in trying to close off clam-growing conservation areas.

They all told similar stories about worm digging in their closed areas.

"The biggest concern for us right now ... is reseeded areas," said Danny Staples, a Cushing selectman and head of the five-town Georges River Shellfish Management Committee. That committee represents the towns of St. George, South Thomaston, Thomaston, Warren, and Cushing.

"A worm group can go in the very next day and devastate it," he said.

Towns that manage clam licenses can only restrict clam diggers from closed conservation areas. Marine worm diggers, on the other hand, are regulated by the state, and have very

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This discrepancy came to a head recently in Brunswick, when the town's marine resources committee reopened a conservation closure because it was repeatedly being "rolled" by worm diggers.

Brunswick Harbor Master Dan Devereaux said it was a matter of "equity;" it didn't make sense to have clam diggers stand by as bait worm diggers dug through their product, he said.

"There's no way for the town to protect (conservation closures) from being disturbed," said Latti.

The conflict comes at a time when the resource is particularly stressed: soft-shell clam landings have been steadily declining statewide since the late 1970s, from almost 40 million pounds in 1977 to just about 10 million pounds in 2014, according to data from the Maine Department of Marine Resources.

Scientists and local resource managers have linked the drop to ocean acidification, invasive green crab predation, and a disease called neoplasia.

"This is an emergency situation here," said Staples, of Cushing. He urged meeting attendees to immediately begin crafting a strategy to gain authority over conservation closures, because the "other group," he said, "is very well organized."

Sitting in the back of that meeting were the four founding members of the Independent Maine Marine Worm Harvesters Association, the so-called "other side."



Marine worm harvesters rake the mud of Woodward Cove in Brunswick in rows to find their catch recently.

They had not been officially invited to the public meeting.

From the back row, they watched as officials told story after story of wormers destroying clam flats.

At one point, Dan Harrington, the group's president, raised his hand.

"A good first step would have been to invite us here, rather than have a meeting like this, where we're excluded from it," he said.

None of the officials in attendance responded.

A few minutes later, the wormers stood up and walked out of the room.

"I cannot sit here, and listen to them say every single problem they have being my fault," worm digger John Renwick said on his way out of the room. "The whole thing is a joke."

### The other side

At a recent meeting of the worm harvesters association at the Montsweag Roadhouse in Woolwich, Vice President Jim Arsenault spread his arms out to the group of about 10 people at the table.

"When the people in Brunswick talk about that well-organized lobby," he said, "well, you're looking at them, right here."

The association formed last year in response to legislation introduced by state Sen. Stan Gerzofsky, D-Brunswick, and endorsed by the Brunswick Marine Resources Committee. That bill sought to ban marine worm digging from town-closed conservation areas.

Harrington, Arsenault, and others organized a large group of worm diggers to come testify in op-

position, which resulted in many provisions of the bill being struck.

Members of the association point to multiple studies, done by Brian Beal of the University of Maine and William Ambrose of Bates College, that find that worm digging's effect on juvenile clams is "benign," and "probably overstated."

"What (the marine resource committee) really desires is to put us under their municipal controls," said Arsenault.

Association officers respond to accusations of having a "steel grip" hold over their members as "blatant misrepresentation."

Instead, worm digging is the "last free industry" in Maine, Harrington said, and diggers feel threatened by towns trying to exercise authority over their right to access the mud flats.

Renwick, who is the group's secretary, said diggers lose money and a day's work by going to testify.

"Should we allow towns to take over ... just so clambers can have a better of time of it?," Harrington said.

The Brunswick Marine Resources Committee is "enflaming a situation ... that doesn't really exist to any large degree," Harrington said.

Instead, the push by Brunswick officials, Arsenault suggested, "is nothing more than an old-style smear campaign."

"They're trying to crucify us in the court of public opinion," he said at the association meeting Sept. 15.

He added that wormers hope "to someday have a

real executive director to actually defend us in Augusta."

### Next steps

Back in Brunswick, the talk had also turned toward the Statehouse.

State Rep. Jay McCreight, D-Harpswell, presented legislation she drafted and submitted to the Legislative Council.

Her bill would allow municipalities with shellfish conservation programs to apply, through the state's Department of Marine Resources, to restrict harvesting by all fisheries in its closed conservation areas.

"If this does get to the legislative level ... we're going to need all hands on deck," Devereaux said.

Latti agreed. Organization should start from "within" the leaders in attendance, he said, and then expand with "a lobbyist, as well as with a grassroots effort."

At the end of the meeting, about five people, including Devereaux and Staples, volunteered to be on a smaller steering committee to craft strategy for the larger group.

Speaking afterwards, Darcie Couture, Brunswick's marine consultant, said she was optimistic about the newly formed organization.

"This is the first time I've seen 10 significant clamming communities ... all agree we have to focus on one thing," she said.

There are a "variety of factors" affecting clam populations, Couture said, but "Unfortunately, the one thing we can actually do anything about is harvest activity."

## Lost Valley to open this year

Supporters raise about \$23,000

SUN JOURNAL

AUBURN — Much to the relief of local ski and snowboard riders, the owners of Lost Valley ski hill announced via Facebook on Friday that it will open for the coming winter.

Connie King, one of Lost Valley's co-owners, said in an email message more important news about the resort, which will be launching its 55th season, will be announced soon.

There had been some question about the season's fate after the resort had a rocky start last year.

In June 2014, owners announced they might not be able to open for that coming ski season and said they were facing about \$1.6 million in debt.

But after a crowdsourcing campaign and other events organized by local supporters who dubbed themselves Friends of Lost Valley raised about \$23,000, the resort opened in January 2015.

"We are excited to say, the slopes WILL be open this winter," the Facebook post read Friday.

The announcement also said season passes and lesson packages would go on sale on Thursday, Oct. 8, and that more details would be announced soon.

The ski resort first opened in 1961, founded by the late Otto Wallingford and Camille "Doc" Gardner. It's been the home terrain to such notable skiers as former U.S. Olympian Julie Parisien.

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