From: Ken Eklund
To: Coffin Butte Landfill Appeals
Subject: Transferring ENRAC evidence to Commissioners" Public Record: 2 of 13
Date: Tuesday, August 19, 2025 5:25:08 PM
Attachments: Carbon Mapper explainer 3.pdf
CB Basic Facts.pdf
CB CUP Process Flow Chart.pdf
CB Ex. Summary.pdf
CB Expansion Overview.pdf
CBL and EPA - timeline.pdf
CBL and EPA - timeline.pdf
Coffin Butte Landfill - Benton County, Oregon.url.download
Coffin Butte Landfill methane leaks exceed state, federal limits.pdf
Coffin Butte Landfill methane leaks exceed state, federal limits.url.download
Coffin Butte Online Resources.docx
Corvallis to stop accepting leachate from Republic Services.pdf
Corvallis-Benton County Economic Development Strategic Plan 2021-2023.pdf

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ENRAC supplied the evidence it used for its Recommendation to Deny to the Planning Commission; the link to its Google Drive is in the ENRAC Recommendation to Deny, which appears to have been omitted from the Commissioners' Public Record, but it is in the Planning Commission Public Record here: https://library.municode.com/or/benton_county/munidocs/munidocs?nodeId=7ea953a15b3ad

This series of emails transfers the ENRAC material into the Commissioners' Public Record. There are 63 files total in the ENRAC evidence archive; I am transferring them all. – Ken Eklund

Ken Eklund, writerguy

37340 Moss Rock Dr
Corvallis OR 97330
408.623.8372

Creator of
World Without Oil
Ed Zed Omega
FutureCoast
and other storymaking games

CARBON MAPPER AND LANDFILL GAS

AERIAL METHANE GAS DETECTION AT COFFIN BUTTE LANDFILL

- An Explainer -

What's happening?

Carbon Mapper, a climate science nonprofit, has been observing Coffin Butte Landfill since July 13, 2023. Using its advanced methane detection technology, it has gathered data about landfill gas being emitted by the landfill.

What kind of data is being collected?

This data focuses on point-source emissions at super-polluting levels (above 100 kilograms of methane released an hour). Carbon Mapper processes its data to:

- pinpoint the origin points of leaks;
- produce images of the plumes caused by the leaks;
- characterize the persistence of leaks at the facility;
- if possible, quantify how large a leak is (its emissions rate) at the time it was observed;
- if possible, quantify a characteristic overall emissions rate for the facility – its Source Emissions Rate.

Why is Carbon Mapper collecting this data?

Because point-source, super-emitting leaks are the "low-hanging fruit" of climate damage reduction. Leaks such as these create most of the climate damage, yet once identified, are easily found and can be quickly remediated by facility operators. Carbon Mapper is focused on using data to facilitate climate action.

How reliable is this data?

Carbon Mapper only publishes results if they are above an appropriate confidence threshold. Emissions rate quantifications typically have a "confidence window" as

well, expressed as a "+/-" range from a given number that is the midpoint of the range. The scientists at Carbon Mapper are continually refining their process; it's been very successful in California at gaining emissions reductions.

How did Carbon Mapper collect this data?

To date Carbon Mapper surveyed Coffin Butte Landfill seven times – six times by aircraft during an intensive 10-day period in July 2023, and once by satellite in September 2024. These surveys revealed four different origin point clusters, yielded 17 unique plume images, a Persistence Rating of 100% for the landfill ("there were always super-emissions present") and an overall Source Emissions Rate of 1.6 metric tons of methane per hour for Coffin Butte Landfill, plus or minus 0.6 metric ton per hour.

How do I convert this methane emissions data to landfill gas?

Carbon Mapper detects methane and focuses on methane in its published reports, because methane is a very harmful greenhouse gas: a metric ton of methane leaked into the atmosphere will do as much damage as 86 tons of carbon dioxide, over a 20-year period. At Coffin Butte Landfill, 53% of the landfill gas is methane; the rest is carbon dioxide and a wide range of other chemical gases, some of them toxic and odorific. To (roughly) convert the Carbon Mapper methane emissions to landfill gas emissions, multiply by 1.9. So the landfill overall releases 1.6 metric tons x 1.9 = 3.0 metric tons of landfill gas per hour, based on Carbon Mapper's current quantifications.

What are the cautions about using this data?

The main caution is irregular monitoring. Carbon Mapper observed Coffin Butte Landfill intensively in July 2023, as part of a nationwide survey of landfills; but they have made only one additional observation since then. So it is difficult to assert definitively that the landfill has been super-emitting at an average rate of 3 metric tons of landfill gas per hour throughout that period.

It is possible, however, to assert that it's <u>likely</u> that Coffin Butte Landfill has been super-emitting at around that level throughout that period. There are three reasons why:

1. The Carbon Mapper observations are supported by EPA inspections of the landfill, which have also always found multiple high-volume leaks, and by hundreds of widespread community reports of landfill odor over the years, some of them from locations many miles from the landfill, which would suggest large plumes of landfill gas being released.
2. Carbon Mapper has observed hundreds of landfills, some of them regularly, and they note in their findings that super-emitting leaks at landfills often go unremediated for months or years.

3. The plume origin points are in areas not monitored by the landfill operator.

Other cautions have to do with the detection technology, which Carbon Mapper is still in the process of refining. You can find more at carbonmapper.org.

How does Coffin Butte Landfill compare to other landfills, according to this data? Is Coffin Butte exceptional?

Yes. Other Oregon landfills such as Columbia Ridge and Short Mountain do not have persistent methane plumes at all. As part of its national survey, Carbon Mapper looked at super-emitting landfills as a group, and on average a super-emitting landfill was releasing 0.9 metric tons of methane per hour (i.e., was a super-emitter nine times over). At 1.6 metric tons per hour of methane, Coffin Butte Landfill is well above that average, and is a super-emitter 16 times over. You can find out more at carbonmapper.org.

Enough discussion – I would like to see some plumes and data.

Certainly. Go to the bottom of page 4!

Does the Carbon Mapper data represent all the landfill gas that is leaking from Coffin Butte Landfill?

No. Carbon Mapper publishes data on point-source emissions from large leaks. It doesn't include point-source emissions from small leaks, or diffuse or area leaks. Republic has estimated their operational methane emissions rate to be about 1.07 metric tons each hour, and it's clear that some of that is small-scale or diffuse leakage that's in addition to what Carbon Mapper is detecting, but it's unclear at this time how much. If a lot of Republic's estimated methane emissions are from myriad small-scale leaks, then the landfill's total methane emissions rate may approach 2.6 metric tons per hour, which would be a landfill gas emissions rate of roughly 5 metric tons per hour.

How is Carbon Mapper's data relevant to the landfill's application to expand?

The landfill last tried to expand in 2021, and at that time, the Benton County Planning Commission cited concerns about methane as a reason to deny the application. The Commission could not make a finding that expanding the landfill would not significantly impact the area, the character of the area, the burden of services to the area, etc. because there were signs that the landfill had large emissions of landfill gas and the effects of those large emissions were not known.

The situation today is much the same. Except, now, the signs that the landfill has large emissions of landfill gas are more apparent. We can look at an image

of a plume of landfill gas that is over a mile long, or of one estimated to be emitting over 10 metric tons of landfill gas every hour. There are more questions now then there were in 2021 about the effects of these landfill gas emissions at these large volumes. There is evidence now that PFAS, the "forever chemicals," leave landfills in aerosolized form, i.e., as part of landfill gas, for example, and accumulate in the surrounding environment.

Republic Services says in its application that Oregon DEQ regulates environmental matters; this is irrelevant, however, because denying a land use application is not a regulatory action. Republic Services also asserts in its application that it is (or will be) in compliance with state and federal regulations, but that is irrelevant also. The Planning Commission has discretionary power to approve the application based on its findings that the proposed land use will not significantly impact other land uses, the character of the area, public facilities and services, etc. The Commission's focus is on actual impacts, not on compliance/non-compliance, and if actual impacts cannot be known or are not shown, the applicant has failed their Burden of Proof and the application should be denied.

1. CARBON MAPPER FINDINGS AT COFFIN BUTTE LANDFILL, JULY 2023: A WALKTHROUGH

Carbon Mapper included Coffin Butte Landfill, outside Corvallis in Oregon, as a target landfill in its nationwide survey of U.S. landfills in 2023, performed in partnership with the EPA. Coffin Butte Landfill may have been chosen because it was found to be out of compliance by an EPA inspection the year before, and that inspection in turn had been triggered by many community complaints in 2021.

Carbon Mapper flew over Coffin Butte Landfill on three separate days in July 2023 – July 13, 18 and 22. It overflew the landfill twice on each day, about two hours apart, for a total of six overflights.

Observations from these overflights showed there were four origin points all emitting high levels of methane at the same time. Super-emitting plumes of landfill gas were detected on the first overflight, throughout the survey period, and still present when the survey ended.

Five graphics follow:

1. POINT SOURCE MAP: THE FOUR ORIGIN POINT GROUPS. Carbon Mapper imaged 16 plumes, each with a specific origin point; these origin points fell into groups as shown in Figure 1.
2. REPRESENTATIVE PLUME, ORIGIN POINT GROUP A: Plume 1, 1.4 metric tons CH4 per hour. This image shows methane still at super-emission levels over a mile away from the landfill.
3. REPRESENTATIVE PLUME, ORIGIN POINT GROUP B: Plume 11, 1.4 metric tons CH4 per hour.
4. REPRESENTATIVE PLUME, ORIGIN POINT GROUP C: Plume 10, 5.3 metric tons CH4 per hour.
5. REPRESENTATIVE PLUME, ORIGIN POINT GROUP D: Plume 13, not yet quantified.

Figure 1

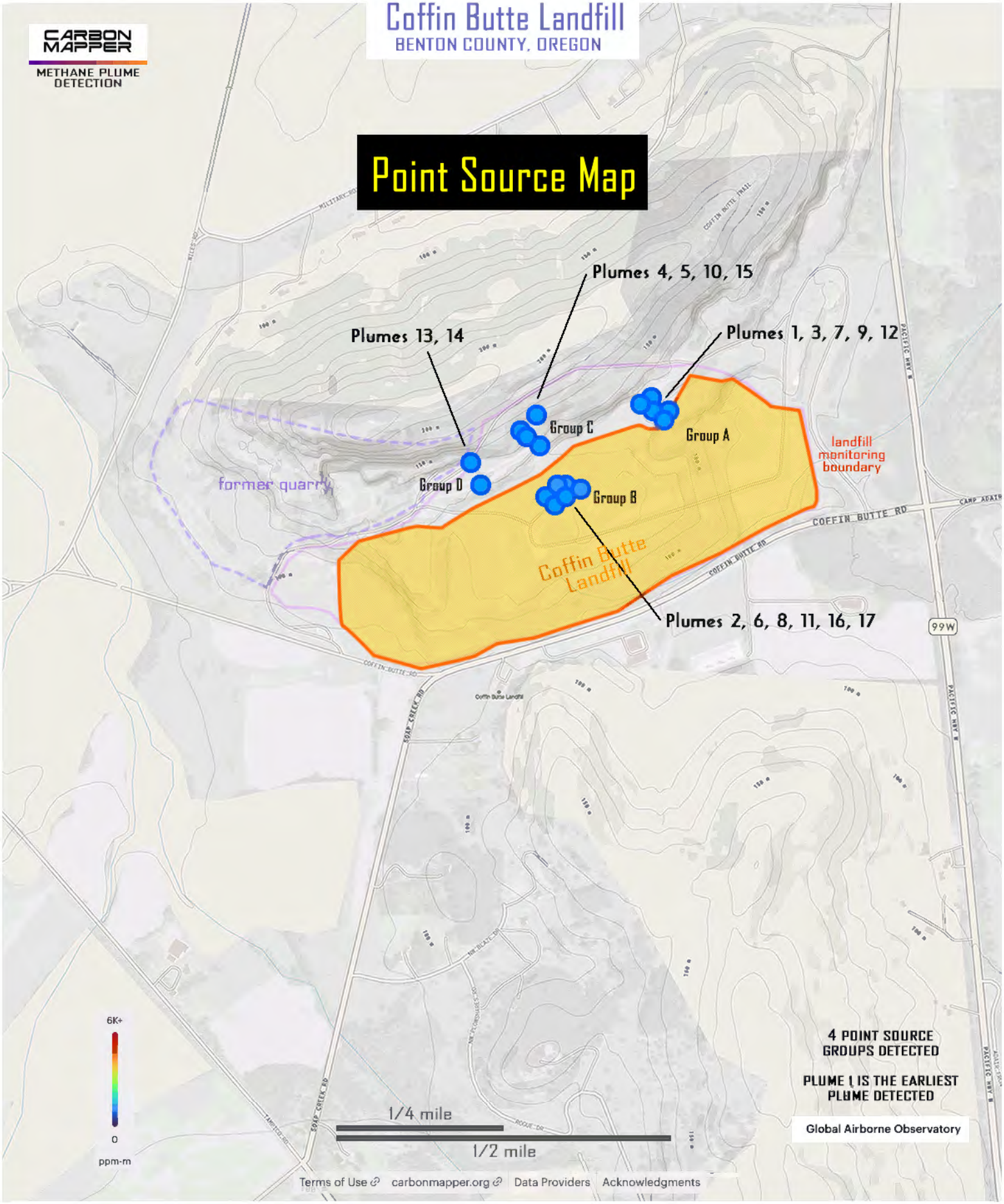
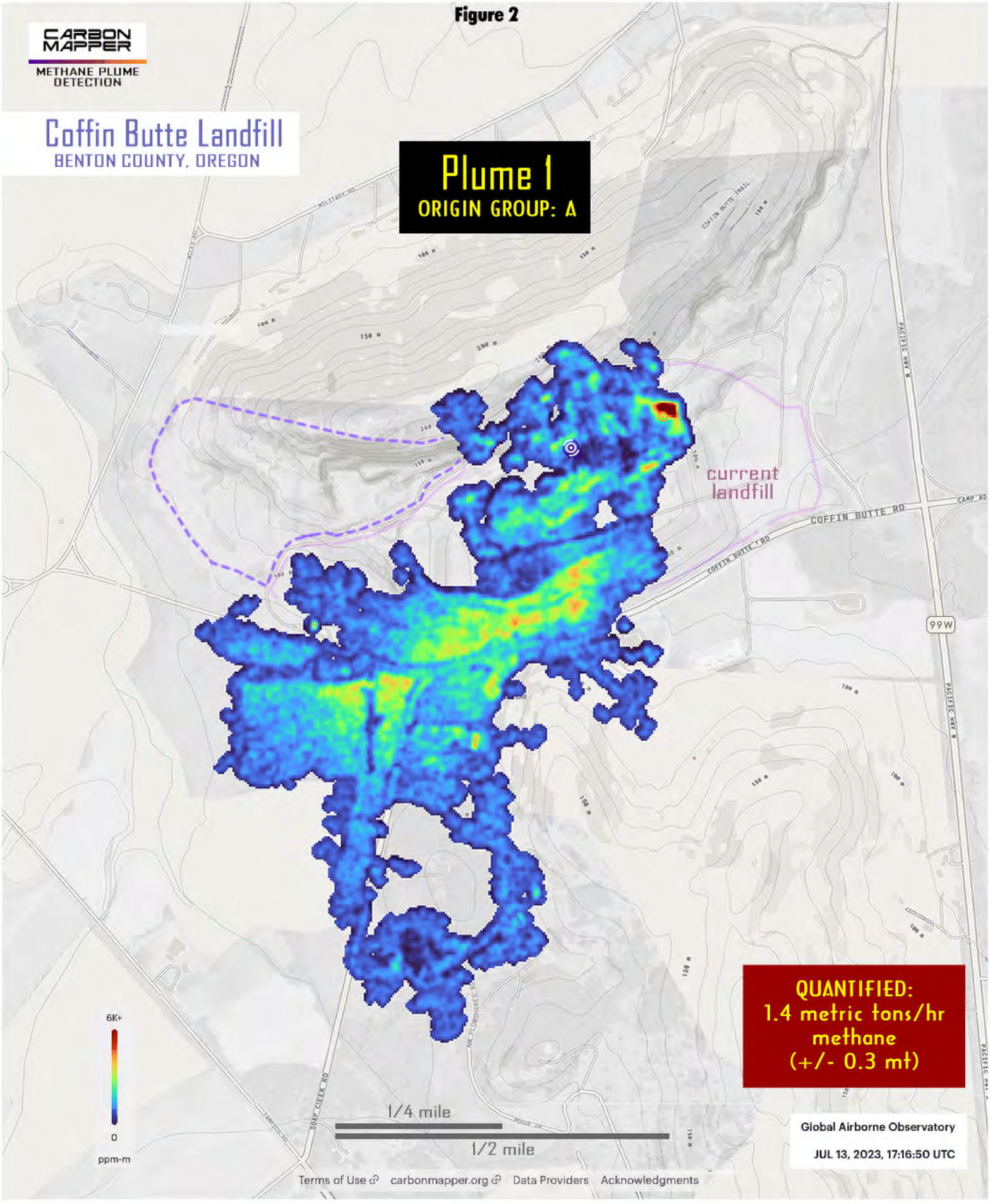

CARBON MAPPER
METHANE PLUME DETECTION
Coffin Butte Landfill
BENTON COUNTY, OREGON
Point Source Map
Plumes 4, 5, 10, 15
Plumes 13, 14
Plumes 1, 3, 7, 9, 12
Group C
Group A
Group D
Group B
former quarry
landfill monitoring boundary
COFFIN BUTTE RD
Coffin Butte Landfill
Plumes 2, 6, 8, 11, 16, 17
99W
SOAP CREEK RD
6K+
0
ppm-m
1/4 mile
1/2 mile
4 POINT SOURCE GROUPS DETECTED
PLUME 1 IS THE EARLIEST PLUME DETECTED
Global Airborne Observatory
Terms of Use
carbonmapper.org
Data Providers
Acknowledgments

Figure 2


CARBON MAPPER
METHANE PLUME DETECTION
Coffin Butte Landfill
BENTON COUNTY, OREGON
Plume 1
ORIGIN GROUP: A
current landfill
COFFIN BUTTE RD
99W
QUANTIFIED:
1.4 metric tons/hr
methane
(+/- 0.3 mt)
6K+
0
ppm-m
1/4 mile
1/2 mile
Global Airborne Observatory
JUL 13, 2023, 17:16:50 UTC
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Data Providers
Acknowledgments

Figure 3

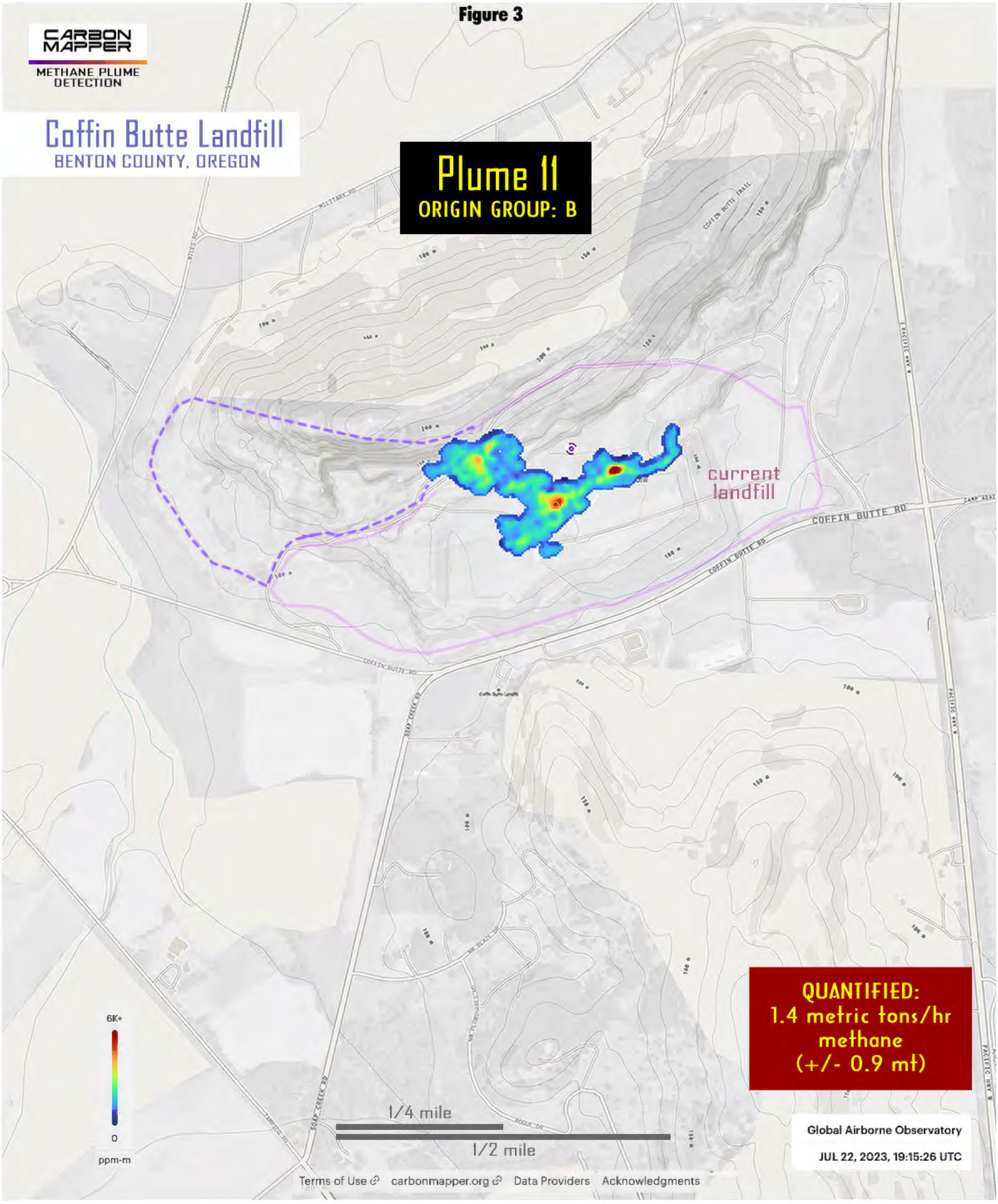
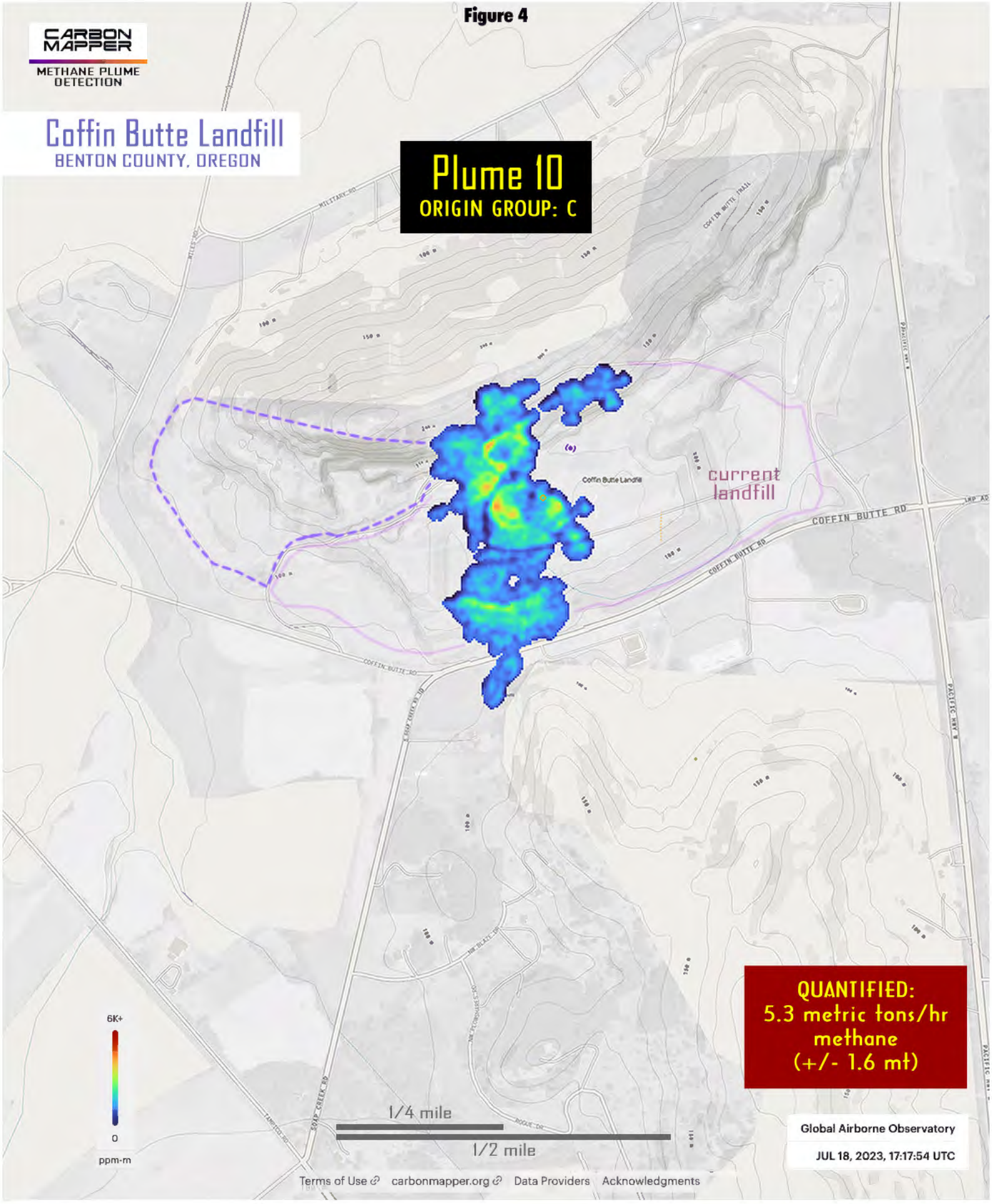

CARBON MAPPER
METHANE PLUME DETECTION
Coffin Butte Landfill
BENTON COUNTY, OREGON
Plume 11
ORIGIN GROUP: B
current landfill
COFFIN BUTTE RD
6K+
0
ppm-m
1/4 mile
1/2 mile
QUANTIFIED:
1.4 metric tons/hr
methane
(+/- 0.9 mt)
Global Airborne Observatory
JUL 22, 2023, 19:15:26 UTC
Terms of Use
carbonmapper.org
Data Providers
Acknowledgments

Figure 4


CARBON MAPPER
METHANE PLUME DETECTION
Coffin Butte Landfill
BENTON COUNTY, OREGON
Plume 10
ORIGIN GROUP: C
current landfill
COFFIN BUTTE RD
QUANTIFIED:
5.3 metric tons/hr
methane
(+/- 1.6 mt)
6K+
0
ppm-m
1/4 mile
1/2 mile
Global Airborne Observatory
JUL 18, 2023, 17:17:54 UTC
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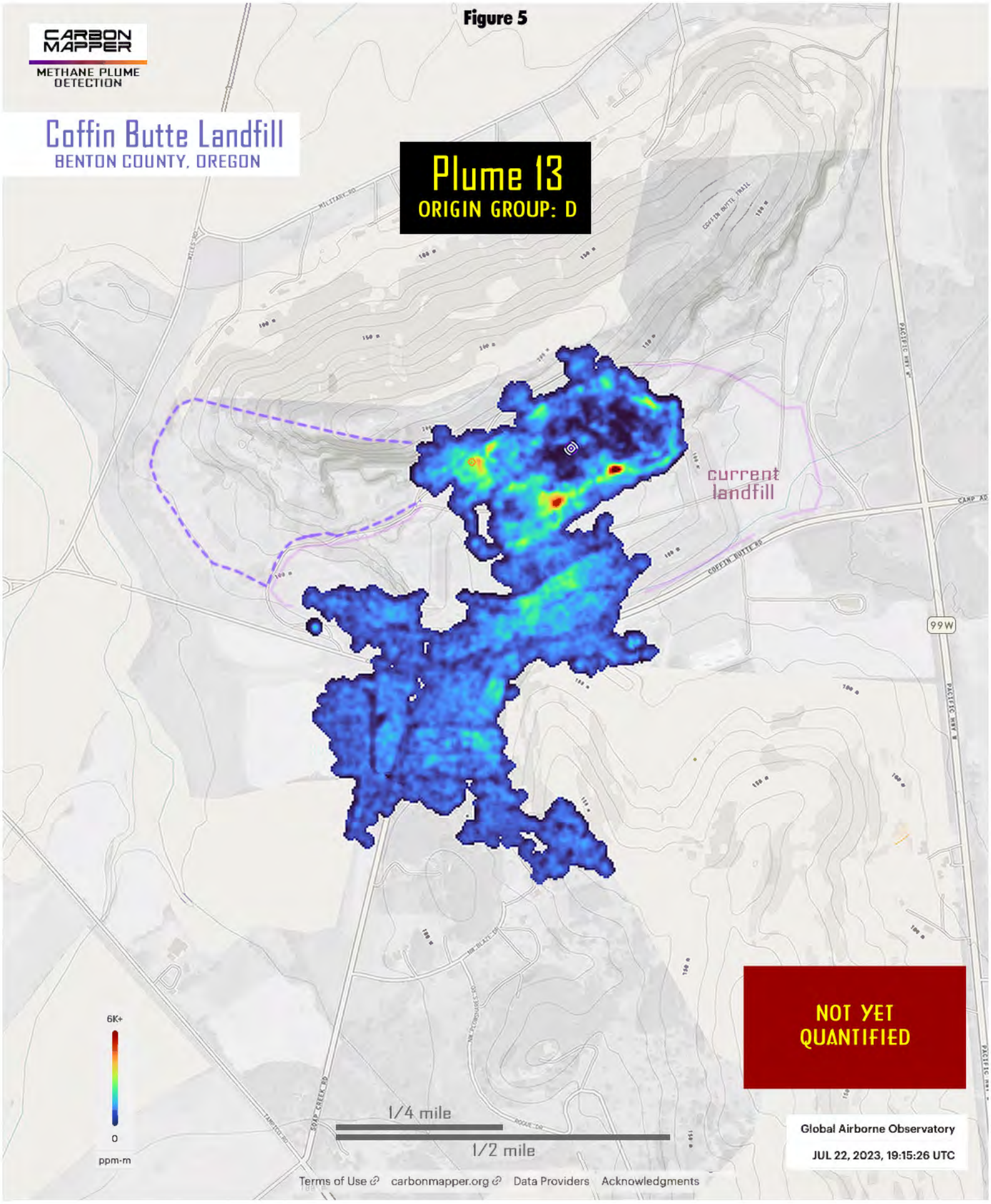
Acknowledgments

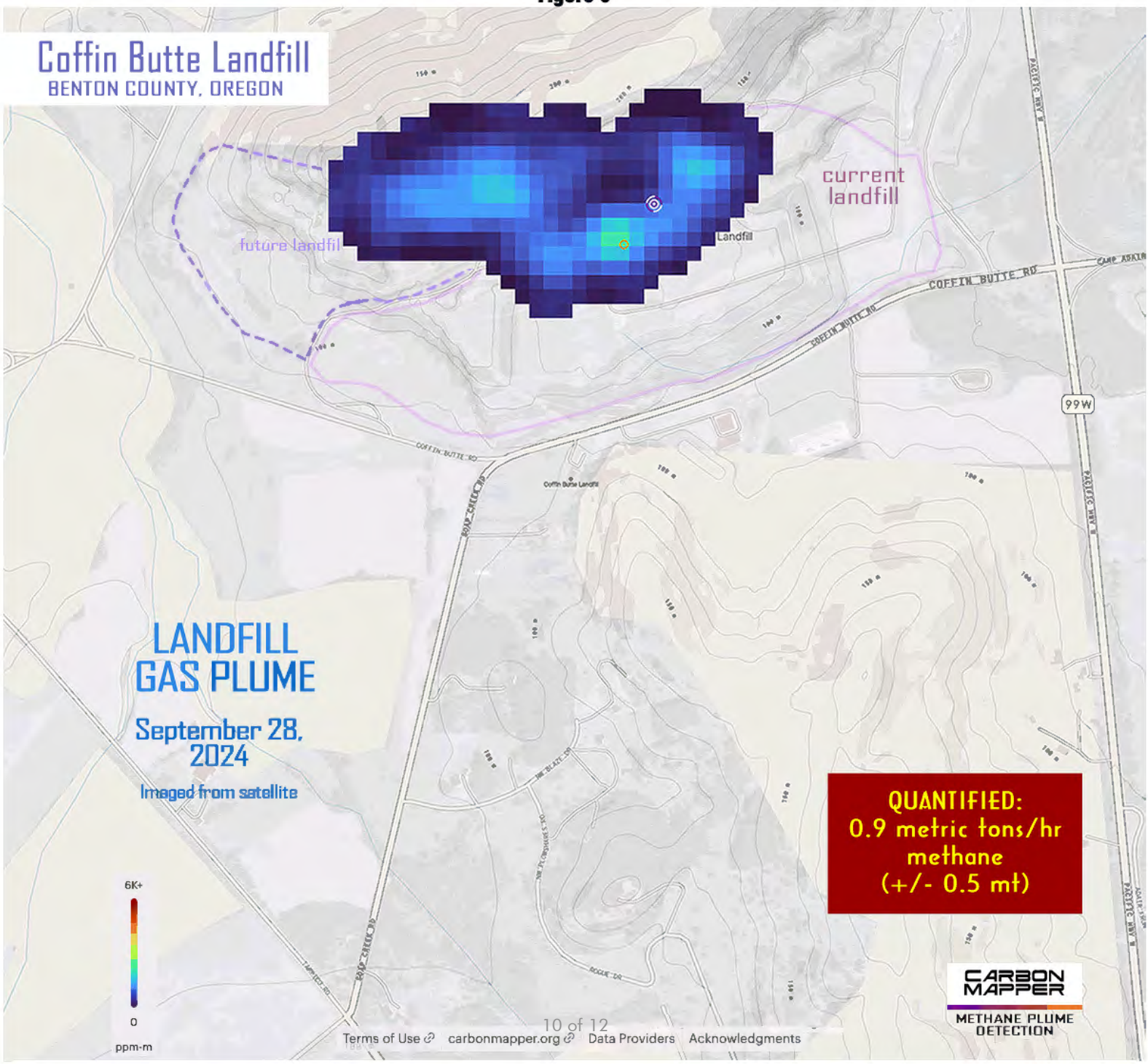
Figure 5


CARBON MAPPER
METHANE PLUME DETECTION
Coffin Butte Landfill
BENTON COUNTY, OREGON
Plume 13
ORIGIN GROUP: D
current landfill
COFFIN BUTTE RD
99W
NOT YET QUANTIFIED
6K+
0
ppm-m
1/4 mile
1/2 mile
Global Airborne Observatory
JUL 22, 2023, 19:15:26 UTC
Terms of Use
carbonmapper.org
Data Providers
Acknowledgments

2. CARBON MAPPER FINDINGS AT COFFIN BUTTE LANDFILL, SEPTEMBER 2024: SATELLITE SURVEY, SOURCE EMISSION RATE

Fourteen months later, Carbon Mapper surveyed Coffin Butte Landfill again, this time by satellite (see Figure 6). The origin point for this plume is Group B, the same origin area as five other plumes previously. Taking all observations into account, Carbon Mapper now updates the Source Emission Rate for Coffin Butte Landfill to be 1.6 metric tons of methane an hour, plus or minus 0.6 metric tons, which is roughly 3 metric tons of landfill gas an hour, plus or minus 1.1 metric tons.

Figure 6



3. CARBON MAPPER, SB 726 AND THE FUTURE OF COFFIN BUTTE LANDFILL

Beginning about 8 years ago, Carbon Mapper was part of a strong action program against climate polluters in California; Carbon Mapper worked hand in hand with the California Air Resources Board (CARB) to identify the major sources of greenhouse gas emissions in the state and secure action to remediate their pollution. Last month, Carbon Mapper announced a new program with CARB to detect and curtail California's greenhouse gas emissions, leveraging Carbon Mapper's partnership with the Planet Labs PBC network of observation platforms on satellites. Observation by satellite enables much more frequent monitoring, as satellites pass over a landfill several times a day. By precisely attributing emissions to a specific facility and tracking them over time, Carbon Mapper's data supports direct mitigation action on the ground – either by voluntary or enforcement action.

Oregon is taking the first step to follow California, with the introduction of Senate Bill 726 in state government. SB 726 calls on the Environmental Quality Commission to require landfills such as Coffin Butte Landfill to use advanced methane detection technology such as satellite monitoring, airflight monitoring, drones or remote direct monitoring technology to yield emission rates and locations of their point sources for methane emissions.

So one day, possibly as early as next year, the people of Oregon may also begin to have frequent independent monitoring of landfill gas emissions, and begin to get a picture of a landfill's impact on air quality and the global climate. But right now, we have no such picture. Especially for Coffin Butte Landfill, which has:

- an ongoing EPA investigation into its landfill gas emissions. The EPA issued a request for the landfill's records of environmental compliance in January, but the landfill has twice asked for extensions to the deadline to deliver those documents, so the investigation has effectively stalled;
- no current Title V Air Quality Permit. DEQ took up the landfill's application for a new permit late last year, after sitting on it for many years, but that process stalled when the landfill's application was found to be incomplete;
- received two Enforcement Alerts from the EPA, sent out widely to landfills warning them about infractions of monitoring and reporting regulations seen at landfills during recent EPA inspections;
- lost the institutional knowledge to respond. The landfill's Environmental Manager, Ian Macnab, resigned last fall, shortly after the landfill received the EPA Enforcement Alerts in September.

Again, the Commission's focus is on actual impacts, and if actual impacts cannot be known or have not been shown, the applicant has failed their Burden of Proof and the application should be denied.

To approve a Conditional Use Permit for a land use, the Planning Commission must make a finding that the proposed land use will not significantly impact other land uses, or the character of the area, or public facilities, services, etc. As Sean McGuire has said, the meaning of the words used here, such as "significant," "adjacent," and "area," are not defined: each Planning Commissioner has power to evaluate the application based on their own interpretation of what those words should mean in this context. This is a key element to the Planning Commission's discretionary power in its decision. It's in ENRAC's purview to advise the Planning Commissioners of what you feel is "significant" in light of the landfill's impacts, of what the "area" is that is being affected by the landfill, and so on, and what is necessary for the applicant to succeed with their Burden of Proof regarding our air, water, and other natural resources, and our local and global environment.

NOTES

Carbon Mapper is a 501c3 nonprofit focused on using remote sensing technology to pinpoint and quantify methane and CO2 emissions of individual facilities, to enable science-based decision-making and direct mitigation. carbonmapper.org

Since 2016 Carbon Mapper has done surveys to identify point sources of greenhouse gas emissions, including those at landfills, especially in California. And these facility-level surveys have gotten results. “Airborne surveys of methane plumes spewing from landfills, power plants and oil fields in California have led to palpable reductions in leaks of the potent greenhouse gas,” the state's air regulator and a non-profit group said (link). “The results of the study are a sign that one of the first in a growing number of efforts to deploy space-age technology to locate big sources of methane, an odorless colorless gas, is succeeding.”

The direct measurements done by Carbon Mapper have also been instrumental in refocusing climate action on landfills as a priority, because they have shown that the EPA’s greenhouse gas reporting system was significantly underestimating these emissions (link), and that landfills are a bigger contributor to global climate change than was previously thought (link). Surveys in California showed that a relatively small number of landfills had an outsized impact: “The largest methane emitters in California are a subset of landfills, which exhibit persistent anomalous activity.” (link)

According to the EPA, “super emitters” are sources that spew at least 100 kilograms of methane per hour. So Coffin Butte Landfill is a super emitter 16 times over. A super super emitter, if you will.

March 21, 2025: The non-profit organization Carbon Mapper and its partner Planet Labs PBC announce they will help the State of California leverage remote sensing technology to reduce methane emissions and tackle climate change. “Studies by Carbon Mapper and other research teams consistently show that high-emission events occurring at a subset of facilities in the energy, waste, and agriculture sectors contribute disproportionately to regional emissions. By precisely attributing those emissions to specific facilities or infrastructure and tracking them over time, Carbon Mapper's data can support direct mitigation action on the ground.” (link)

This document prepared by Ken Eklund, using Carbon Mapper and other data sources. I am past Chair of the Disposal Site Advisory Committee of Benton County, and a resident of North Benton County. I live approximately 5 miles from Coffin Butte Landfill. All errors are mine. Email: futureeverything@writerguy.com

– version: April 4, 2025 –

SOLID WASTE IN BENTON COUNTY FAQ

June 26, 2024

LANDFILL

Who owns and operates Coffin Butte Landfill?

Republic Services, Inc. (operating as Valley Landfills, Inc.) owns and operates Coffin Butte Landfill. Benton County does not own or operate this landfill.

When will Coffin Butte Landfill reach its estimated capacity?

The Benton County Talks Trash (BCTT) Workgroup estimated the Coffin Butte Landfill is expected to reach its permitted capacity between 2037 and 2039. Republic Services plans to apply for a Conditional Use Permit to expand the landfill.

How many landfills are there nearby?

There are seven regional landfills in Oregon and two in Washington near the Oregon state line. Three landfills are located west of the Cascades. Oregon's landfills can be found here: oregon.gov/deq/ghgp/pages/landfill-methane-emissions-reduction.aspx

Can Benton County stop Coffin Butte Landfill from accepting solid waste from outside the county or region?

No, Benton County cannot stop the landfill from accepting waste from outside the County or region. The U.S. Supreme Court ruled that prohibiting outside waste would violate the Commerce Clause of the U.S. Constitution.

What does the "regional landfill" designation mean?

A regional landfill, as defined by Oregon Revised Statute (ORS) 459.005(23), receives more than 75,000 tons of solid waste per year from outside its immediate service area. Coffin Butte Landfill has met this definition since 1993.

Oregon Major Disposal Sites

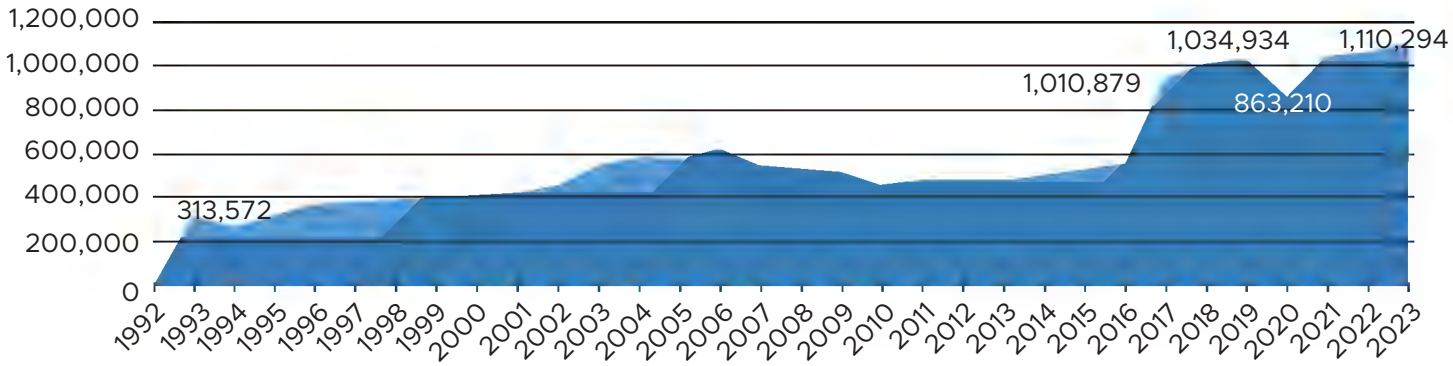
REGIONAL

1. Finley Buttes Regional, *Waste Connections*
2. Columbia Ridge Regional, *Waste Management*
3. Roosevelt (WA) Regional, *Republic Services*
4. Wasco County Regional, *Waste Connections*
5. Riverbend Regional, *Waste Management (closing in 2 years)*
6. Coffin Butte Regional, *Republic Services*
7. Dry Creek Regional, *Rogue Disposal*

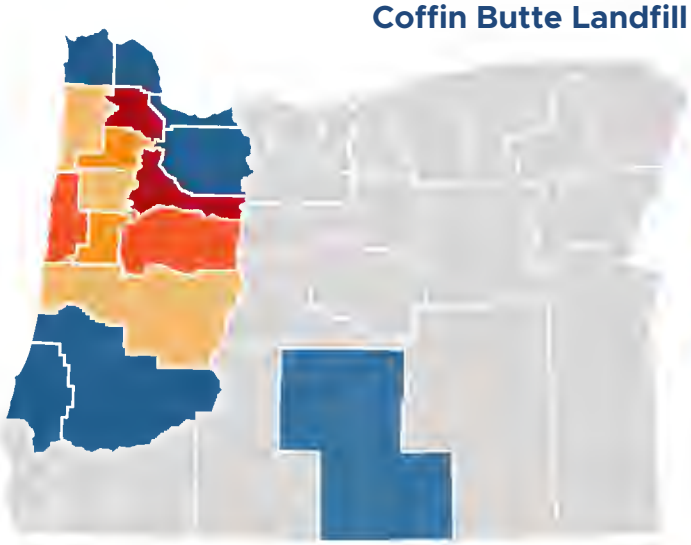
IN-COUNTY

8. Short Mountain, Lane County
9. Roseburg, Douglas County
10. Knott, Deschutes County *(closing in 5 years)*
11. Reworld Marion, Covanta Holding Corp

Coffin Butte Annual Tons (from all sources)



Coffin Butte Landfill Sources of Waste 2023



>15%	Washington, Marion
11 - 15%	Linn, Lincoln
6 - 10%	Benton, Yamhill
1 - 5%	Tillamook, Polk, Lane
Cumulatively <1%	Clatsop, Columbia, Multnomah, Clackamas, Coos, Douglas, Lake

COFFIN BUTTE LANDFILL OPERATIONS AND IMPACTS

What is Coffin Butte Landfill's service area?

In 2023, Coffin Butte Landfill accepted waste from 16 counties. Benton County contributes about 10% of the landfill's annual waste.

How much revenue does the landfill generate for Benton County?

In 2021, the landfill generated $2 million in franchise fees for Benton County's General Fund and is projected to increase to $3.5 million by 2024. These funds support various public services, including safety, health, and community services.

The total estimated General Fund budget that was originally adopted for 2023-25 was $146,564,540.

Decisions to approve or deny land use permits at the landfill are not revenue-based decisions.

What is the environmental impact of the landfill?

Federal and State regulations are essential for safeguarding the health of our communities and environment. Proper waste containment and closure procedures protect ecosystems and groundwater quality.

The landfill must comply with DEQ and EPA regulations on emissions and waste management.

What is Benton County doing about landfill methane and greenhouse gases?

While Benton County does not directly regulate landfill emissions, it recognizes the impact that landfill gasses have on the community living near the landfill and the earth in terms of climate change.

What is the impact of Coffin Butte Landfill on surrounding counties?

The landfill provides essential waste management services for Benton County and the region by supporting efficient waste management for several Oregon cities and counties.

What are the main types of materials landfilled at Coffin Butte?

Commonly landfilled materials include construction and demolition debris, compostable materials, packaging, curbside recyclables, and miscellaneous inorganics. Over half of these materials could be recycled, composted, or used for energy recovery.

What steps is Benton County taking to improve solid waste management?

The County is developing a Sustainable Materials Management Plan (SMMP) and promoting changes to support sustainable materials management. The aim is to minimize landfill use and maximize recycling and reuse of materials.

60% OF OREGON'S GARBAGE COULD BE RECYCLED, COMPOSTED, OR USED TO GENERATE ENERGY

15%	Food
15%	Wood
15%	Paper
14%	Misc. Inorganics
12%	Plastic
5%	Metal
4%	Asphalt Roofing
4%	Textiles
3%	Carpet
3%	Gypsum
2%	Yard Debris
2%	Furniture & Mattresses
2%	Misc. Organics
2%	Glass
1%	Electronics
1%	Hazardous Materials

LANDFILLED MATERIALS BY TYPE:

- **Compostable: 49%**
- **Construction and Demolition: 20%**
- **Packaging: 17%**
- **Curbside Recyclables: 12%**
- **Other: 2%**

LANDFILL GOVERNANCE

Who has the authority to make decisions about the landfill?

The landfill's operations are subject to a complex web of federal, state, and local regulations, in addition to decisions made by the landfill operator.

FEDERAL REGULATIONS:

Resource Conservation and Recovery Act (RCRA): Administered by the Environmental Protection Agency (EPA), the RCRA sets the framework for the proper management of hazardous and non-hazardous solid waste. Key provisions include:

Subtitle C: Governs hazardous waste from its generation to its disposal, commonly referred to as "cradle-to-grave" management. This includes requirements for waste generators, transporters, and treatment, storage, and disposal facilities (TSDFs).

Subtitle D: Focuses on non-hazardous solid waste, establishing criteria for municipal solid waste landfills (MSWLFs). These criteria cover design, operation, groundwater monitoring, and closure requirements to protect human health and the environment.

EPA Standards: These standards ensure landfills incorporate protective measures like liners, leachate collection systems, and gas monitoring to prevent environmental contamination.

STATE REGULATIONS:

Oregon Department of Environmental Quality (DEQ): The DEQ enforces state regulations and standards for solid waste management, including the permitting and oversight of landfills. Key responsibilities include:

Permitting: Issuing permits for landfill operations, which detail specific conditions and requirements that the landfill must follow.

Inspections and Monitoring: Conducting regular inspections and monitoring to ensure compliance with environmental standards.

Enforcement: Taking enforcement actions against non-compliant facilities, which can include fines, operational restrictions, or even closure orders.

Waste Reduction Programs: Implementing state-wide initiatives to promote recycling, composting, and waste reduction.

COUNTY AUTHORITY:

Benton County Board of Commissioners (BOC) and County Departments: The BOC plays a critical role in local land use decisions affecting the landfill. Their responsibilities include:

Conditional Use Permits (CUPs): When appealed from the Planning Commission, the BOC reviews and makes the final decision on CUP applications for landfill expansions or significant operational changes. These permits impose specific conditions to mitigate potential impacts on the community and environment.

Land Use Planning: Ensuring landfill operations align with the County's comprehensive land use plan and zoning regulations.

Public Hearings and Community Involvement: Facilitating public hearings and soliciting community input on landfill-related decisions to ensure transparency and address public concerns.

Solid Waste Ordinances: Benton County has ordinances that govern solid waste management within its jurisdiction, including regulations on waste collection, recycling, and disposal.

Benton County Planning Commission: Their duties include:

Reviewing Land Use Applications: Assessing, recommending, or making decisions on CUP applications and other land use requests related to the landfill that consider factors like environmental impact, traffic, and compatibility with surrounding land uses.

Community Engagement: Engaging with the public with land use hearings to gather input and ensure that community concerns are considered in decision-making processes.

POTENTIAL LANDFILL EXPANSION

What happens if Republic Services applies for a landfill expansion?

If Republic Services or any other entity applies for a landfill expansion, the application will undergo the same review process as other Conditional Use Permit (CUP) applications. This involves a thorough evaluation by County planning staff that considers factors such as environmental impact, traffic implications, and community feedback. The process is designed to ensure transparency and provide opportunities for public input and provide approval or denial of the application.

What does the Benton County Planning Commission do?

The Benton County Planning Commission plays a critical role in the County's land use planning and development processes. They review CUP applications and other land use proposals, assess their compliance with County regulations, and consider the impacts on the community. The Planning Commission decides whether to approve or deny CUP applications. If appealed in a timely manner, the Benton County Board of Commissioners make the final decision on the appeal. The Commission also helps develop and update County planning policies and regulations to guide sustainable development and growth in the County.

What factors are considered during the review of a Conditional Use Permit application?

County staff evaluate CUP applications based on criteria outlined in the zoning code, including the project's compatibility with surrounding land uses, potential impacts on the environment, transportation infrastructure, and public health and safety. They also assess proposed mitigation measures and design standards to ensure the project meets all necessary requirements.

How long does the Conditional Use Permit process typically take?

The timeline for processing a CUP application varies depending on the complexity of the project, the completeness of the application, and other factors. County staff provide an estimated timeline and keep applicants informed throughout the process to ensure clarity.

Are there any additional resources or expertise considered during the application process?

Yes, applicants are encouraged to seek professional expertise, such as engineering, planning, or environmental consulting services to support their application. This helps ensure that accurate and comprehensive information is provided that facilitates a thorough review by County staff and decision-makers.

What is a Pre-Application Meeting?

A Pre-Application Meeting is an opportunity for applicants to meet with staff from various County divisions and state partners to receive valuable feedback on more complex projects before completing the final application. These meetings are not public meetings or official application submissions but serve to guide applicants in preparing a more robust and complete application.

Where can I find more information about the Conditional Use Permit process in Benton County?

For more information about the CUP process, including application requirements, zoning regulations, and contact information for County planning staff, visit Benton County's Land Use and Planning website or contact the County planning office directly. This resource provides comprehensive details and support for applicants and community members interested in land use and planning processes.

BENTON COUNTY TALKS TRASH (BCTT) INITIATIVE

How has Benton County coordinated with the community and partners about solid waste management?

The Benton County Talks Trash (BCTT) Workgroup was a collaborative initiative aimed at addressing community concerns about the Coffin Butte Landfill. It sought to facilitate thoughtful dialogue, gather diverse perspectives, and develop actionable recommendations to improve waste management practices in Benton County.

The BCTT Workgroup involved community members and partners that developed a Final Report that identified 218 findings and recommendations for a sustainable solid waste future.

Who made up the BCTT Workgroup?

The workgroup included a variety of partners such as local government officials, waste management professionals, environmental advocates, community members, and industry representatives.

How did the BCTT Workgroup engage with the community?

The workgroup engaged with the community through regularly scheduled public meetings, forums, tours, and workshops. These events allowed community members to express concerns, ask questions, and receive updates on waste management practices. Site visits helped workgroup members and the public gain a firsthand understanding of landfill operations.

What types of research and data analysis did the BCTT Workgroup conduct?

The workgroup collaborated with environmental scientists, waste management experts, and regulatory agencies.

The workgroup collected data on landfill capacity, waste diversion rates, and environmental monitoring. This data was analyzed to inform policy recommendations and identify areas for improvement.

What are some of the outcomes and achievements of the BCTT Workgroup?

Key achievements include improved communication between partners, historical context of Coffin Butte, a library of previous decisions, estimated life of the landfill, process changes influenced by workgroup recommendations, and increased public awareness about waste management.

A specific outcome was the recommendation to create a regional Sustainable Materials Management Plan (SMMP), which the County is currently developing.

SUSTAINABLE MATERIALS MANAGEMENT PLAN

What is the Sustainable Materials Management Plan (SMMP) and how is it being developed?

The SMMP aims to identify opportunities and reduce negative impacts across the lifecycle of materials. The plan development will involve problem identification, information gathering, solution making, and securing endorsements and buy-in. Benton County is working with consultants and partners to create a regional, action-oriented plan.

Why did the Board of Commissioners dissolve the Solid Waste Advisory Council (SWAC)?

The SWAC was replaced by the regional SMMP Task Force to better address the evolving needs of regional materials management planning.

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Benton County Land Use Application Process *Quasi-Judicial*

Pre-Application Meeting with applicant and agency partners | **REQUIRED** | Applicant meets with neighbors | **OPTIONAL**

Applicant Enhances Application Based On Comments

Applicant Submits Application

Staff has 30 Days to deem application **complete OR incomplete**

If Complete:
Staff begins the clock to complete process in 150 days or less

If Incomplete:
Applicant has opportunity to submit modified info in 30 days or less

If no new info

Staff Review

Send application to agency referral partners (2-3 weeks review)

Notice to public with tentative hearing dates (4-8 weeks)

Post legal notices (10-14 days)

Staff Report Development Intake comments from professionals and public (2 weeks)

Recommend Approval

Recommend Approval with conditions

Recommend Denial

Applicant revises or withdraws
Or
Proceed with rec for denial

Planning Commission

Review | Public Hearing | Decision

Approval | Approval with conditions | Denial

All parties may appeal (10 days)

Applicant revises and resubmits
Or
Request public hearing to proceed

No Appeal: decision stands (1 year to meet conditions)

Appealed: planning committee and modified staff report to BOC, repeat hearing and notice process (4-8 weeks)

BOC

Review | Public Hearing | Decision

Appeal to LUBA

Approval (1 year to meet conditions)

Modify or table pending more info

Denial

Appeal to LUBA

Applicant Receives Permit

Applicant proceeds to apply for development permit with Public Works

- Applicant responsibility
- Staff
- Planning commission and BOC

REPUBLIC SERVICES

Sustainability in Action

Date: June 27, 2024

Re: 2024 CUP Proposed Application – Executive Summary

In this document you will find a detailed summary of our proposed expansion application for Coffin Butte Landfill. It is the culmination of more than two years of active listening and understanding, dialogue and consideration, and planning that incorporates feedback from various community stakeholders wherever possible.

We present it to you today for further review and feedback.

Highlights of this proposal include:

- An expansion that is **50 percent smaller** than the 2021 proposal;
- **Improving Coffin Butte Road;**
- **Increased transparency, communication,** and community responsiveness;
- **Improved vegetative screening** along major travel corridors;
- Containing the Landfill's working face and disposal area to the Landfill Site (LS) zone; and
- Continuous, **reliable disposal capacity** while the County aligns on a solid materials management plan (SMMP).

Coffin Butte Landfill believes our CUP request, as currently written, is responsive to many of the items that were debated during the BCTT process. Without question, that process helped find considerable common ground among stakeholders and gave us greater understanding of the community's preferences and concerns.

In addition, we believe this application ensures a sustainable and cost-effective path for providing safe and reliable waste disposal for Benton County and its residents.

Expansion size and capacity

The 2024 CUP application will propose an expansion that would add approximately six years of life to Coffin Butte. By contrast, the 2021 application sought an expansion that would have yielded 12 years. When combined with the not yet accessible airspace in the quarry, the total estimated life at Coffin Butte would be approximately 18 years. A few items of note:

- Coffin Butte Landfill estimates that there is **currently less than a year of life** in the cell currently being used for waste disposal operations (this is known as Cell 5E).
- Knife River is actively removing the rock from the quarry on an accelerated timeframe, per an agreement with Coffin Butte.
- Industry best practice is to start working on an expansion project when there is 10-12 years of life remaining at a site. This is a prudent timeframe given that it takes an average of three years to construct disposal cells in accordance with state regulations and permitting. The local land use process typically takes at least that long – and frequently longer.

Due to very real capacity limitations, we are constructing a small cell in the quarry to serve as a bridge until the airspace requested in this CUP application is permitted and ready to meet the community's disposal needs. We anticipate that cell will be ready for waste disposal by the end of 2024.

Coffin Butte Road

The 2024 expansion proposal not only leaves Coffin Butte Road intact but proposes widening the existing roadway by constructing a left-turn lane for trucks and adding bike lanes.

- In recent years, we heard considerable feedback that any potential closure of Coffin Butte Road would limit residents' entrance and egress, especially in the event of an evacuation due to wildfire. In addition, this application includes a vegetative buffer corridor along Coffin Butte. (See below.)
- The application will propose an improved roadway to ensure a smooth flow of traffic for residential vehicles and Landfill customers. Trucks entering the disposal site would queue in a new left hand turn lane, and bike lanes would be added as an additional safety and aesthetic feature.
- The cost of all roadway improvements would be paid for by Coffin Butte Landfill.

Increased transparency and communication

Republic Services pledges to provide timely and transparent communication to Benton County and its residents about the CUP application, future inspections, and key landfill operational activities. Coffin Butte Landfill is committed to rebuilding trust via improved public outreach.

- We acknowledge that the flow of information to the public during the 2021 CUP application process was not as robust as desired and left many residents feeling that their voices had not been heard.
- We plan to hold a series of public open houses, timed first to the 2024 CUP pre-application meeting, and then again, in late summer. During these events, we will listen, whenever possible respond to community questions, and most importantly, consider feedback during the pre-application phase. The time and location of the open houses will be advertised in newspaper and radio ads, via direct mailers and e-mail notifications.
- Community outreach will continue throughout the process.
- We have updated the Coffin Butte website – www.coffinbuttelandfill.com – with this executive summary and highlights of the proposed expansion . We have also installed a portal on the website, whereby residents can submit feedback on the application. Similar functionality allows residents the ability to report odor or other operations concerns which is routed in real time directly to the site team.

Increased Vegetation and Landfill Site designation

The proposed application would limit the Landfill's working face and disposal operations to parcels of land that are already designated as a Landfill Site (LS) zone. In addition, Coffin Butte Landfill agrees to increase vegetative screening at the Landfill.

- The vegetative screening, which includes additional trees, will mitigate the visual impacts of the Landfill to major transportation corridors adjacent to the site, including Hwy 99.
- Unlike the 2021 application, no portion of the Landfill's working face or supporting infrastructure will be located on any parcels of land currently zoned for other uses. All parcels are currently owned by Coffin Butte.

Compliance and DEQ's role

The proposed application will focus primarily on the land use criteria that must be met to approve the CUP.

- Any CUP approval at the county level would require Coffin Butte to subsequently construct, maintain, and operate future waste disposal cells in adherence to the environmental standards set for by the Oregon Department of Environmental Quality.
- Coffin Butte has been, and remains, in compliance with its environmental and operational permits and continues to work proactively with its regulatory partners.
- Coffin Butte proactively takes corrective actions as needed – just as it did after the June 2022 EPA methane inspection. To the best of my knowledge, the EPA remains satisfied with our response and to date, no notices of violation or fines have been issued.
    - Likewise, an October 2023 OSHA inspection yielded three infractions. Two of the issues (an improperly sized chain attaching a canister to a wall, and water on the floor) were corrected while inspectors were still on site.
    - The remaining items, which we were notified of in April, involved monitoring for the potential for respiratory hazards. OSHA requested that we conduct additional respiratory safety training for employees, including that we have masks and respirators available for their use. That training has been completed.
    - In addition, we have taken the voluntarily step of hiring a third-party industrial hygienist to conduct air monitoring around the Landfill. Based on their recommendations and findings, and in coordination with our regulatory partners, we will provide whatever additional training and/or PPE is necessary to our employees.
- It should be noted that some of the most heavily discussed and debated BCTT topics (methane, air quality, groundwater, PFAS, wildfire and earthquake risk) fall under the purview of the Oregon Department of Environmental Quality and the EPA and are not expressly part of County criteria or the CUP/land use process. Nevertheless, we address them in our Burden of Proof application in the spirit of the BCTT process and maintain that we have been – and continue to be – in compliance with our regulatory permits.

Sustainability in Action

We look forward to continued engagement and dialogue throughout this CUP process and stand ready to answer County, community, and other stakeholder questions.

Sincerely,

Bret Davis
General Manager, Coffin Butte Landfill
Republic Services/Valley Landfills Inc.

COFFIN BUTTE *Landfill*

REPUBLIC SERVICES

2024 Expansion Request – Highlights

OVERVIEW

Coffin Butte Landfill's new expansion proposal is the culmination of more than two years of active listening and understanding, dialogue and consideration, and planning that incorporates feedback from various community stakeholders wherever possible.

Key Aspects of the Proposal

- A **50 percent smaller expansion** than the 2021 proposal (6 years versus 12)
- Protecting and **improving Coffin Butte Road** with new bike lanes
- **Increased transparency, communication** and community responsiveness
- Improved vegetative screening along major travel corridors
- Containment of the landfill's working face and disposal area to the Landfill Site (LS) zone
- Continuous, **reliable and affordable disposal capacity** while the County aligns on a solid materials management plan (SMMP)

The new expansion proposal allows for continuous, reliable disposal capacity while the county aligns on a solid materials management plan. Please sign up for news updates or reach out to us with questions or comments at **CoffinButteLandfill.com**.

COFFIN BUTTE LANDFILL and the EPA: a timeline

2021
Community Concerns

Republic Services submits an application to expand Coffin Butte Landfill. There is widespread public outcry, including letters to Oregon's national Representative and Senators stating concerns with the landfill's gas emissions. These congresspeople pass along these community concerns to the Environmental Protection Agency (EPA). In November the Planning Commission denies Republic's application, citing questions about Coffin Butte's landfill gas emissions as part of their decision. [1]

2022
Early June
Republic pre-inspection

The EPA schedules an inspection of Coffin Butte Landfill. Prior to this announced inspection, Republic performs its own inspection of the landfill, which covers almost all of the landfill's surface. This self-inspection finds 6 minor leaks, which they remediate ahead of the EPA visit.

2022
June 23
EPA inspection; multiple violations, indications of substantial plumes

The EPA inspects Coffin Butte Landfill. This inspection covers only a small percentage of the landfill's surface, but finds 61 violation-level gas leaks, many of them major; 21 were 20 times above the violation level or more. Many of these findings are landfill gas emerging from leak clusters or broad areas of the landfill surface. The inspector notes that several of the leaks showed high concentrations several feet away or above the leak itself, indicating substantial landfill gas plumes being created. [2]

The Republic employee observing this inspection does not dispute the findings; he notes that he would not have checked many of the leak locations, that he would have spent less time monitoring, and otherwise would have carried out the inspection using interpretations of the testing protocol that would have enabled him to not report the leaks. [3]

2023
July 13-22
Carbon Mapper overflights, plume detection

In 2023 the EPA teams up with the climate science non-profit Carbon Mapper to conduct a national survey of landfills. The project surveys four Oregon landfills over a 10-day period from an airplane equipped with an advanced methane detector. Coffin Butte Landfill stands out with the most number of plumes detected (16), the greatest number of plume origin points (4), the largest plumes, and a persistence rating of 100%. (This rating means that the landfill was observed to be leaking landfill gas above the EPA's super-emissions level every time it was surveyed.) [4]

2023
August 17
EPA prioritizes landfill emissions reductions for 2024-27

The EPA announces its National Enforcement and Compliance Initiatives for 2024-2027. One of the NECI goals is, through enforcement actions, to measurably reduce methane emissions in the landfill sector. Every four years the EPA selects these enforcement and compliance priorities so that, across administrations, "the agency and its state partners can prioritize resources to address the most serious and widespread environmental problems facing the United States." [5]

2024
May 1
EPA enforcement process underway

In EPA budget hearings, Senator from Oregon Jeff Merkley asks Michael Regan, head of the EPA, about what action the EPA is taking with Coffin Butte Landfill, given the severity of the problems found in the 2022 EPA inspection. Regan assures the Senator that legal action is underway: “it is an active enforcement situation.” [6]

2024
June 23
Second EPA inspection; multiple violations, strong odor

The EPA stages an unannounced inspection of Coffin Butte Landfill. Purpose: “to identify potential compliance concerns with Clean Air Act regulations, specifically the National Emission Standards for Hazardous Air Pollutants.” [7]

As in 2022, the EPA inspection covers only a small portion of the landfill’s surface. It finds 41 violation-level leaks, many of them major; 18 were 20 times above the violation level or more. One is a gas wellhead that is uncapped (open to the atmosphere), leaking landfill gas at approximately 230 times the violation level. The EPA inspectors note a strong landfill gas odor. Republic representatives do not dispute the findings. [8]

2024
August
Call for EPA action

All of Oregon’s national congresspeople – Representative Hoyle and Senators Merkley and Wyden – sign a letter urging the Environmental Protection Agency to thoroughly and expeditiously complete its investigation into the emissions problems at Coffin Butte Landfill. [9]

2024
August
High landfill gas emissions rates

Carbon Mapper continues to process the data acquired in its aerial surveys, and releases quantifications for the rate of landfill gas emissions observed at Coffin Butte Landfill. Those estimations include a very high immediate rate (landfill gas leaking at over 10 metric tons an hour, plus or minus 3.2 metric tons) and a high net rate (over 3 metric tons of landfill gas leaking per hour throughout the 10-day observation period, plus or minus 1.2 metric tons). This net rate of emissions for Coffin Butte Landfill is roughly twice the average level of other super-emitting landfills surveyed by Carbon Mapper nationally. [10]

2024
September
Carbon Mapper methane plume

Carbon Mapper surveys Coffin Butte Landfill again, this time using a Tanager satellite. The survey shows shows a super-emitting methane plume with an estimated emissions rate of almost 2 metric tons of landfill gas per hour. This plume has the same origin point as plumes seen in Carbon Mapper's 2023 aerial survey, suggesting that this origin point is a persistent or continuous source of landfill gas emissions. [11]

2024
September
Two EPA enforcement alerts for non-compliant landfill gas emissions monitoring

The EPA issues two enforcement alerts for municipal solid waste landfills, a group that includes Coffin Butte Landfill. These enforcement alerts target landfill operators who (1) through improper monitoring techniques and other methods, fail to maintain the integrity of the landfill cover and gas collection systems, and (2) through improper classification of waste and other accounting deviations, underreport their emissions of landfill gas. The EPA issues these enforcement alerts in response to its recent landfill inspections, where these infractions were observed. [12] [13]

2024
October
Resignation of landfill's Environmental Manager

Ian Macnab, the Environmental Manager at Coffin Butte Landfill, resigns.

2025
January 16
EPA subpoena of landfill's monitoring and accounting records

The EPA serves a subpoena on Republic Services for records of gas collection and monitoring operations at Coffin Butte Landfill, as part of a legal action titled "U.S. EPA vs Republic Services." The subpoena is "pursuant to Section 114 of the Clean Air Act," which authorizes the EPA to require Republic to submit records "for the purpose of determining whether any violations of the Clean Air Act have occurred." The Clean Air Act regulates emissions from landfills to control air pollution, particularly methane and other harmful gases; the EPA enforces these regulations to reduce environmental and health impacts associated with landfill emissions. [14]

The records requested include wellhead monitoring data, surface emissions monitoring reports, gas collection system operating and compliance data, maps of areas exempted from monitoring, and other information sets relevant to the enforcement alerts issued in September. The subpoena requires a signed certification that the records provided are true, accurate and complete, with the possibility of fines or imprisonment for submitting false information. The subpoena sets a March 22 deadline for receipt of the records.

2025
March 22
No further information

At this time, we have no further information from Republic or the EPA about the status of the subpoena or the legal action.

In summary, the evidence indicates that the EPA has had cause to investigate Coffin Butte Landfill for environmental violations and that investigation has now moved into possible enforcement.

prepared by
Ken Eklund
futureeverything@writerguy.com
408-623-8372

Accompanying documents

ENRAC - Planning Commission Findings and Decision 2021.pdf
The Planning Commission's decision to deny LU-21-047, the application to expand Coffin Butte Landfill filed in 2021, and its findings regarding that application

ENRAC - EPA Jun 2022 CBL Inspection Report - Heinz.pdf
The 2022 EPA Field Inspection Report for Coffin Butte Landfill (text only, no images)
Lead: Daniel Heinz, Environmental Scientist, Air Toxics Enforcement Section, EPA

ENRAC - EPA Jun 2024 CBL Inspection Report - Conley.pdf
The 2024 EPA Field Inspection Report for Coffin Butte Landfill
Lead: Sara Conley, Air Enforcement Officer, Air Enforcement Section, Enforcement and Compliance Division, EPA

ENRAC - EPA Subpoena CBL January 2025.pdf
The 2025 EPA Region 10 Subpoena of Coffin Butte Landfill records filed by Morgan Jencius, Manager, Air and Land Enforcement Branch, Enforcement and Compliance Assurance Division, EPA

Endnotes

[1] "Bad air quality: People living in areas with poor air quality does pose serious interference with livability. Risk of health concerns is likely with the landfill expansion; enough so nearby residents speak out about it. Some residents point to increasing cancer clusters in their neighborhood and suggest that poor air quality may be responsible. One nearby resident pointed to studies in Europe that tied poor air quality in the proximity of landfills to bad health issues. The applicant noted they cannot control all of the releases of VOCs or hydrogen sulfide and these gases are understood to be potent carcinogens. The applicant did not address the long-term effects of those gases in varying concentrations in different weather situations but the Planning Commission certainly heard from people that they can smell these."
– Planning Commission Findings and Decision 2021

[2] See EPA Jun 2022 CBL Inspection Report.pdf

[3] An example: "When [EPA Inspector] Daniel Heins was monitoring at leachate cleanouts, [Republic Environmental Technician] Phil Caruso stated that he does not monitor at these and that they are not fully penetrating the cover. Daniel Heins responded that it was likely that many of these ultimately did penetrate the cover, especially in areas of thinner intermediate cover, and that regardless he recommended checking these as they were proving to be repeated sources of extremely elevated emissions, many over an order of magnitude above the surface methane standard. Phil Caruso stated that he was not required to monitor these."
– EPA Jun 2022 CBL Inspection Report, p. 4

[4] Publicly available data at carbonmapper.org. Search for "Monmouth OR" in the Data Portal to find the plume images and survey records for Coffin Butte Landfill

[5] "EPA Announces Federal Enforcement Priorities to Protect Communities from Pollution: New priorities tackle modern challenges including climate change, PFAS, coal ash, air toxics, drinking water contamination, and chemical accidents, all with a focus on achieving environmental justice" (link)

[6] Sen. Jeff Merkley to Michael Regan, EPA Administrator. May 1, 2024; timestamp 1:52:52 (link)

[7] See EPA Jun 2024 CBL Inspection Report.pdf

[8] "We traversed a section of the southwest side of the landfill moving from one penetration to another and monitoring surface emissions along the way. I noticed that when the wind was blowing from the west there was an odor that smelled like landfill gas. There were a number of exceedances, readings of 500 ppm methane or larger, coming from holes or tears in the cover material. I noted that there were a number of plants growing out of the cover material at the top of the western side of the landfill in the area along the edge of Cell 3 and Cell 5. Some of the plants were between 1.5 to 3 feet tall."

– EPA Jun 2024 CBL Inspection Report

[9] "Wyden, Merkley, Hoyle call for EPA investigation into Coffin Butte Landfill," Tracy Loew, *Salem Statesman Journal*, August 8, 2024 (link)

[10] See publicly available data at carbonmapper.org

[11] See publicly available data at carbonmapper.org

[12] "Enforcement Alert: EPA Finds MSW Landfills are Violating Monitoring and Maintenance Requirements. EPA investigations find municipal solid waste landfill operators are failing to properly conduct compliant monitoring and maintenance of gas collection and control systems" (link)

[13] "Enforcement Alert: EPA Finds MSW Landfills are Violating Landfill Gas Emission Rate Calculation Requirements. MSW landfill operators fail to include wastes from total degradable waste-in-place and properly sample landfill gas, resulting in underreported emissions" (link)

[14] See EPA Subpoena CBL January 2025.pdf. Highlighting mine. Some notes:

- The first two pages of the PDF, the "Wolters Kluwer" part, is a legal process notification sent by CT Corporation, Republic's registered agent in Oregon, to Republic Services in Phoenix. CT Corporation received the legal process on Republic's behalf. CT Corporation is notifying Republic that they are involved in a legal action ("EPA vs. Republic Services") brought by the EPA about Coffin Butte Landfill.
- CT Corporation has identified the EPA document that follows (the "EPA Region 10" part) as a subpoena, although the EPA titles it an "Information Request." As subpoenas do, the document is seeking action: namely, for Republic to supply the requested information, or else incur penalties. The subpoena states the EPA will use the information to determine whether any violations of the Clean Air Act have occurred.
- The EPA notes that it may use the supplied information in administrative, civil or criminal proceedings. It also notes failure to make a timely response, or to supply untruthful information, may incur civil or criminal penalties.

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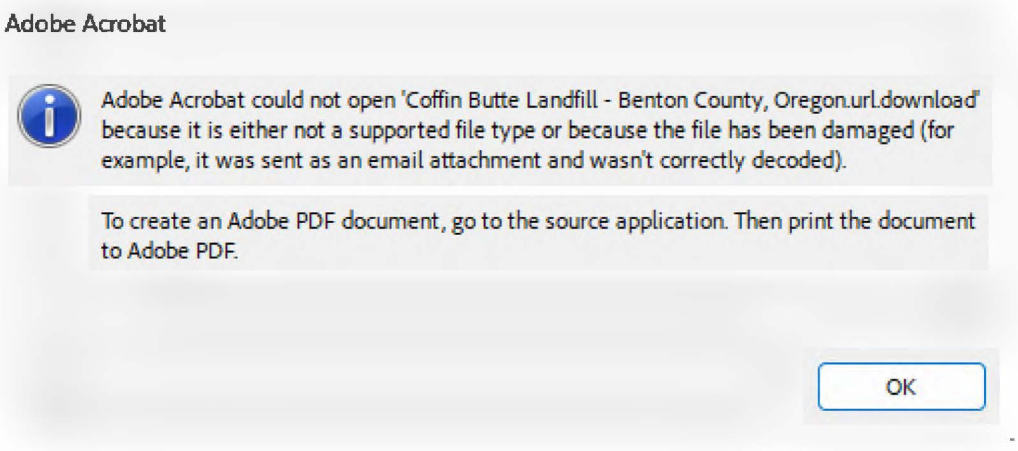
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Adobe Acrobat could not open 'Coffin Butte Landfill - Benton County, Oregon.url.download' because it is either not a supported file type or because the file has been damaged (for example, it was sent as an email attachment and wasn't correctly decoded).
To create an Adobe PDF document, go to the source application. Then print the document to Adobe PDF.
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statesman journal

Methane leaks at Coffin Butte Landfill in Oregon pose 'potential safety concern,' EPA says

e so high during an inspection that instruments could not measure them.

Tracy Loew
Salem Statesman Journal

Published 5:01 a.m. PT Oct. 20, 2023

Key Points

- Methane is a greenhouse gas that's more potent than carbon dioxide and a major contributor to climate change.
- EPA did not publicly release its inspection findings
- Waste disposal company Republic Services is considering significant expansion of the landfill

Coffin Butte Landfill is leaking methane at levels that exceed state and federal limits and what the landfill has publicly reported, a U.S. Environmental Protection Agency inspection has found.

Landfills are among the nation's largest sources of methane, a greenhouse gas that's more potent than carbon dioxide and a major contributor to climate change, according to the EPA.

EPA measured methane exceeding regulatory limits 61 times during its June 2022 inspection of the landfill. Twenty-one of those exceedances measured at more than 10,000 parts per million, or 20 times the 500 ppm limit set by Oregon and the EPA.

In addition to contributing to climate change, the levels measured could cause health problems for neighbors, and in some cases were high enough to potentially cause an explosion and fire, said Lisa Arkin, of the Eugene-based environmental group Beyond Toxics.

Coffin Butte, located off Highway 99W north of Corvallis, is operated by Republic Services, the second-largest waste disposal company in the U.S. The landfill is an integral part of Marion County's solid waste disposal system.

The inspection report noted there were so many exceedances that the inspector ran out of marking flags. In some cases, levels were so high instruments could not measure them. And multiple exceedances were measured several feet in the air, "indicating substantial landfill gas plumes," according to the report.

Coffin Butte and local Republic Services officials acknowledged an interview request from the Statesman Journal but did not respond to any questions.

“While we have differing perspectives on the testing protocols and analyses from the EPA’s inspections in 2022, the EPA’s observations were addressed," Melissa Quillard a spokeswoman for Republic Services' media relations office in Phoenix said in an emailed statement.

"The landfill was already in the process of expanding the gas collection system at the time of the EPA inspection, which has since been completed. We added additional cover soil in some areas, added soil along the edge of tarps, patched small holes in a liner system, and strengthened seals around gas collection piping," she said.

EPA did not publicly release its inspection findings. Beyond Toxics, working with the climate group Industrious Labs, received a copy of the report in response to a request under the federal Freedom of Information Act.

The groups have since filed a complaint about the excessive methane emissions with EPA’s environmental violations tip line. Their complaint included photos taken by neighbors living near the landfill of holes and tears in tarps covering the landfill, which can allow methane to leak.

The findings come as Republic Services is considering a significant expansion of the landfill, which currently is permitted for 178 acres.

Coffin Butte Landfill's role in Marion County’s solid waste system

Much of Marion County’s garbage is burned at the Covanta municipal waste incinerator in Brooks.

About a quarter of the garbage burned at Covanta ends up as ash, which is trucked to Coffin Butte, to be used as “alternative daily cover.” Landfills are required to cover their active area at the end of each day to control vectors, fires, odors, blowing litter and scavenging.

About half of Coffin Butte's leachate — rainwater that trickles through the ash and garbage, picking up contaminants — then is trucked to the city of Salem’s wastewater system, where it’s treated and discharged to the Willamette River. The other half is treated by the city of Corvallis, which also discharges to the Willamette.

Salem began taking the landfill’s leachate in 2012. During the three years between January 2020 and December 2022, the city was paid $1.28 million to treat 42.6 million gallons of leachate from Coffin Butte, as well as a Republic Services' garbage transfer station in Benton County.

Salem also processes leachate from LRI Landfill in Graham, Washington, and Recology Organics compost facilities in Aumsville and North Plains.

Marion County garbage that doesn't go to Covanta is taken to Coffin Butte, as is garbage from West Salem residents, who live in Polk County.

According to the landfill's most recent annual report, Coffin Butte accepts more waste from Marion County than from any other county it serves. In 2021, the landfill accepted 326,000 tons of waste from Marion County, 143,000 tons from Linn County, 115,000 tons each from Benton and Lincoln counties, and 73,000 tons from Polk County.

Oregon's new landfill rules strictest in nation

Coffin Butte, along with other landfills, operates a gas capture system for the methane, which is created as organic waste decomposes. The landfill partners with PNGC Power to generate 5.66 megawatts of power from gas collected on site, providing enough electricity for about 4,000 homes.

In October 2021, the Oregon Department of Environmental Quality Commission adopted new rules regulating landfill gas emissions. Oregon now has the strictest monitoring and methane reduction standards in the nation.

But landfill operators are basically on an honor system to test and report, said Katherine Blauvelt, of Industrious Labs.

"The landfill has to follow through and conduct effective monitoring," Blauvelt said. "That, in a nutshell is the real problem that this (EPA inspection report) is highlighting."

EPA questions Republic Services' monitoring

EPA environmental scientist Daniel Heins expressed concerns in the report about Republic Services' monitoring procedures.

In its monitoring reports, the company reported finding a total of six methane exceedances. Some reports had zero exceedances.

That compares with the 61 exceedances the EPA inspector found, "with 26 exceedances at gas collection wells that Republic should have specifically been monitoring on a quarterly basis," Heins wrote.

"Many flagged exceedances represented clusters of exceedances at multiple points or broad areas of exceedances," he wrote.

Heins found an area where a tarp was visibly inflated with and leaking landfill gas.

"Along the top of this section of tarp ... every post or tarp hole Daniel Heins monitored exceeded the surface methane standard, with readings of up to 7% (methane) shown before the instrument maxed out," the report reads.

Heins noted "such an accumulation of flammable gas creates a potential safety concern."

Heins was accompanied by Republic Services environmental specialist Phil Caruso. Neither could identify any place where the wind could be lifting the tarps, but Republic officials later “disputed that the tarps were inflated with landfill gas, claiming that the wind has blown them up,” according to the report.

Heins also found methane exceedances in areas of the landfill that are supposed to be under final closure and sealed, so that nothing can escape.

The inspection was pre-scheduled, and EPA had offered Republic Services the opportunity to take its own readings to check EPA’s monitoring results. Republic officials responded that it was company policy not to do so, according to the report.

“Phil Caruso did not dispute any of the readings, though noted that he would not have checked many of the exceedance locations, that he would have spent less time monitoring, or that he would have considered a higher location to be 'the ground' when placing his probe 5 to 10 centimeters above the ground per the surface emissions monitoring regulations,” Heins wrote in the report.

Further action on monitoring methane

EPA requested additional information from the company, but it’s unclear what further action the agency has taken.

"EPA is still in the process of evaluating compliance at the Coffin Butte Landfill based, in part, on the inspection report you referenced," EPA Region 10 spokesperson Sam Lovell said in an email to the Statesman Journal.

"EPA works closely with state and local Clean Air Act permitting agencies on these and other issues, and the agency will continue coordinating with Oregon DEQ regarding any next steps at this landfill," Lovell said.

Blauvelt said she filed a FOIA request with the EPA for additional legal documents associated with the case and was told none were available.

DEQ spokesman Dylan Darling referred specific questions about the report's findings to the EPA.

But, he said, "As part of DEQ’s new landfill rules and regulations, the company has indicated to DEQ that it is working on expanding its collection-and-control system. The company continues to provide monthly and semiannual reports to DEQ as required under their Title V air permit."

Advocates say Oregon and the EPA should require better methane monitoring with off-the-shelf technology such as drones or satellites.

“You can deploy technology that will act as reconnaissance and spot these super-emitter events, significant methane leaks, and then fix them,” Blauvelt said.

“We can use technology to at least overcome this baseline issue, which is we have no way of knowing whether you’re living next to a landfill that has really significant issues,” she said.

Tracy Loew covers the environment at the Statesman Journal. Send comments, questions and tips:tloew@statesmanjournal.com or 503-399-6779. Follow her on Twitter at@Tracy_Loew

EPA Resource Conservation and Recovery Act

Coffin Butte Expansion Proposal

ENRAC Bylaws (online)

Disposal Site Advisory Committee

https://gazettetimes.com/news/local/government-politics/article_2b071485-8972-5653-bd75-5d75ced5e30c.html

ALERT FEATURED TOP STORY

Corvallis to stop accepting chemical soup from Coffin Butte Landfill

Ella Hutcherson
Oct 24, 2024

By the end of 2025, the city of Corvallis will no longer accept polluted liquid runoff from Coffin Butte Landfill at its water treatment facilities as a normal practice.

Republic Services, which owns the landfill north of Corvallis, has sent so-called leachate to Corvallis since 1997. After treatment, it's released into the Willamette River.

Leachate is a liquid formed when rainwater trickles through waste in a landfill, picking up chemicals and other pollutants. These can include PFAs, a group of widely used, long-lasting chemicals found in different consumer, commercial and industrial products. They are known as

“forever chemicals,” and an EPA study from 2021 identified PFAs in 95% of surveyed landfills’ leachate.

During the 2022-23 water year, the Coffin Butte Landfill produced 29.7 million gallons of leachate, as stated in its annual report.

People are also reading...

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2. **Corvallis traffic stop ends with arrest of man police say had handgun, meth**
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The permit

A media representative of Republic Services told Mid-Valley Media via email that it currently sends about half of Coffin Butte's leachate to Corvallis's wastewater treatment plant.

According to Oregon Department of Environmental Quality Public Affairs Specialist Dylan Darling, leachate that is transported out has been split fairly evenly between Corvallis and Salem in the last few years, though some has also been stored at the landfill.

Republic Services is able to send leachate to Corvallis under a permit with the city, City Manager Mark Shepard said at the Monday, Oct. 21 City Council meeting. That permit expires at the end of 2025.

A bulldozer, surrounded by a flock of scavenging birds, moves trash at the peak of Coffin Butte Landfill. The city of Corvallis this week decided to no longer accept leachate, chemical-laden water, from the landfill at its water treatment plant.

Jess Hume-Pantuso, Mid-Valley Media (File 2023)

As city staff contemplated the permit, Shepard said, they approached Republic Services with concerns about PFAs and other issues. That's when they learned Republic officials don't plan to renew its permit to discharge in Corvallis.

It's not yet clear exactly where Coffin Butte Landfill will redistribute its leachate once Corvallis is no longer a repository.

"We intend to transport this leachate to a different facility with potentially larger capacity to allow for additional efficiencies and durable disposal solutions," a Republic Services media representative said via email.

Public pushback

Community members have expressed **ongoing concern** about the city's acceptance of leachate. In January 2023, semi-retired environmental and municipal engineer Mark Yeager **delivered testimony** to City Council regarding his trepidation.

"The Corvallis wastewater treatment plant provides essentially no treatment," Yeager said. "Conventional wastewater treatment plants, like yours, are not designed, nor do they have the technology, to remove the leachate's complex suite of chemical pollutants.

“I am concerned because **discharge of these chemicals** into the Willamette River has impacts on wildlife through bio-accumulation and recreational uses such as swimming, boating and fishing,” he said. “It also impacts downstream drinking water systems that include Adair Village, Wilsonville, Sherwood, Tualatin Valley Water, that rely on the Willamette River as their source of supply.”

At the Monday meeting, councilors were pleased to hear the news that the contaminated liquid's flow into Corvallis has an end date.

“I want to thank community members who have come and talked to us about this,” Councilor Gabe Shepherd said, “and staff (for) being receptive to that.”

Even without a permit, there may be circumstances in which Republic sends leachate to Corvallis, for example, during natural disasters, Shepard said. This would warrant a policy discussion and decision to be worked through with both City Council and Republic Services.

Comes with a cost

There is also a lost revenue component that will impact wastewater rates for customers. According to the staff memo, over the last three fiscal years, the city has received approximately $900,000, $600,000 and $750,000 in revenue by accepting leachate.

As a result of this loss in revenue, wastewater charges are expected to increase between 5% and 6%.

“We will work through that here over the next year,” Shepard said, adding that between now and the end of 2025, the city will be coordinating with Republic Services to wind down and ultimately phase out the acceptance of leachate.

Related story:

'Complex chemical stew': Leachate concerns in Corvallis
Cody Mann

More Corvallis news

By Ella Hutcherson

Corvallis Benton County Economic Development

Strategic Plan 2021-2023

1 LOOKING BACK, LAUNCHING FORWARD

As the FY 2021-2023 begins, so does the road to recovery from the COVID-19 pandemic. Over the past year, Benton County has faced an unprecedented and unpredictable economic crisis. With record high unemployment rates not seen since the Great Depression, many businesses were forced to close, not knowing if, or when, they would be able to open again. The Corvallis-Benton County Economic Development Office (EDO) quickly pivoted, serving in the Emergency Operations Center (EOC), standing up local grant programs, and finding new and creative ways to reach and assist businesses in our region. Now that vaccination rates are rising and the pandemic is waning, we can begin the hard work ahead of recovery and resiliency.

In the previous Strategic Work Plan, we quoted Albert Einstein, "In the middle of every difficulty lies opportunity," not knowing the extent to which this statement would ring true. In this strategic work plan, we look back at what went well, where we were challenged and what lessons we learned to launch forward.

THE EDO TEAM

Kate Porsche, Economic Development Manager

Kate has been with the EDO since February 2018. She has worked in local government on economic development and urban renewal projects for 15 years and serves as past president of OEDA.

Jerry Sorte, Economic Development Supervisor

Jerry came to the EDO in February 2019 with experience in economic and community development from across Oregon and other states. He works with the Climate Action Advisory Board (CAAB).

Heather Stevens, Economic Development Specialist

Heather started with the EDO in February 2019 with previous experience serving the local business community. She leads communication and outreach for the office and works with the Imagine Corvallis Action Network.

Kathryn Duvall, Economic Development Specialist

Kathryn has been with the EDO since March 2020. She works with the Climate Action Advisory Board (CAAB) and with Spanish speaking business owners in the community. She studied public policy at OSU.

2 | LENSES THROUGH WHICH WE WORK

The EDO is committed to creating a better, stronger community in partnership with local businesses and Benton County residents.

All our work is done with the following concepts in mind:

Diversity, Equity, Inclusion and Belonging (DEIB)
The EDO is uniquely positioned to address this challenge in our local business communities. We will work to dismantle the systems, policies, and procedures that perpetuate structural racism, inequities, and different forms of discrimination based on power, privilege and accessibility. We will focus on inequities with a goal of establishing a sense of belonging, where community members will be respected, valued, and able to participate in power structures that affect them.

The Environment
The EDO will take bold steps and be an active leader in addressing the threats of climate change, both through our work within the business community and with the Climate Action Advisory Board. The EDO will work to promote projects that mitigate and prevent the production of harmful emissions in order to create a healthier, more sustainable future for Benton County residents.

2040 Visions
The EDO will further the City of Corvallis' Imagine Corvallis Vision 2040 and Benton County's 2040 Thriving Communities Initiative by committing to projects that aim to diversify the economy, stimulate entrepreneurship, nurture small businesses and balance growth with livability. These documents help form the guiding principles of the work we do in the EDO and are a consideration in all projects that we undertake.

3 | FOCUS AREAS

Our 2021-2023 focus areas were chosen after careful scrutiny and much discussion, not just internally, but with our partners, and with external consultants. We see these focus areas as a springboard to creating space for businesses to grow and thrive in Benton County and foster prosperity in a way that aligns with the economic trends we are seeing locally and across the nation.

* Indicates connection to the 2040 vision ^ Indicates item is also in 20-21 City SOP

#1 Revitalize, support, and grow existing businesses

Continue assistance to hardest hit businesses, sectors, and business owners

- Explore grant and loan opportunities
- Complete after-action report on COVID emergency with regional partners and business community.*
- Elevate downtown businesses and support downtown organizations, such as DCA^
- Assess business programming established during COVID-19 for potential post-COVID continuance (ex. BROW program, Fitness in the Park, waiving parking requirements)

Photo Credit: Thistledown Photography

Support and grow traded sector businesses

- Continue business retention and expansion efforts through on-site visits, email, and phone call check-ins
- Work closely with businesses in target sector groups to help them through permitting and project processes
- Hosting annual *Based in Benton County Tour*, and other events bringing awareness and networking to local target industries and groups

Focus Areas Continued

Bolster businesses in target and emerging sectors (food & beverage; agriculture & agritourism; science, research & technology)

- Cultivate local food hub with a focus on business development
- Create connections between agriculture and local and regional businesses
- Assist County in fostering agritourism by removing barriers and red tape
- Support commercialization of research ideas
- Conduct gap analysis/asset mapping

Create and Strengthen Emergency Planning for Businesses*

- Host annual emergency preparedness planning seminars for businesses*
- Convene quarterly meetings with regional emergency planning professionals to continue building business recovery and resilience to natural disasters
- Consider possible business certification for emergency preparedness

#2: Champion Policies that Create a Pro-Business Environment

Manage economic development tools to incentivize business improvement and growth

- Manage South Corvallis Urban Renewal District, including program to support southtown businesses
- Support creation of Adair Village Urban Renewal District
- Explore additional Oregon zone designations (strategic investment zone and renewable energy development zone)

Focus Areas Continued

Improve regulatory environment

- Champion process, code, and policy improvement – includes semi-annual cross-departmental project review

#3: Expand Buildings and Infrastructure

Annex Airport Industrial Park

- Annexation of the Airport Industrial Park (AIP) into the city limits, including refining of process for development at AIP^

Support Industrial Zoning and Land Use Study

- Work with community development on industrial zoning and land-use study

Cultivate manufacturing space

- Explore through market study the feasibility of a research industrial park^
- Meet with developers about the creation of possible space^
- Explore biotech incubator space and emerging artificial intelligence hub

#4: Strengthen Outreach and Communication

Create a marketing plan

- Draft and implement marketing plan to act as a roadmap for outreach to businesses and community at large.
- Utilize and build social media platforms

Collate information for businesses

- Develop and launch a centralized online portal that provides information for all businesses expanding, landing, or growing in Benton County
- Explore, with partners, the creation of a Benton County business database

#5: Spark Entrepreneurship and Innovation

Support entrepreneurial ecosystem through partner organizations

- Oversee the contracts with entrepreneurship partners
- Bring stakeholders together twice per year to ensure cross collaboration and communication and avoid duplication in resources, programming, and events^

4 | BUILDING BACK BENTON

In our 2019-2021 Strategic Work Plan, we outlined challenges for economic development in Benton County. These challenges became increasingly apparent through the COVID-19 pandemic, but as we emerge, there is an opportunity to rebuild and reimagine a local economy that serves *all* community members and enhances prosperity for businesses both large and small.

Manufacturing

Challenge: With the loss of manufacturing jobs through the late 90s and early 2000s, Benton County saw a loss in high wage jobs and a decrease in economic resiliency.

Opportunity: Manufacturing jobs numbers are not likely to return to their 1998 peak in the near future, so the EDO is looking towards other sectors to be the economic drivers of Benton County. Along with our partners, the EDO is supporting programs that foster entrepreneurship in our emerging sectors. We are following state and national economic trends, as well as local opportunities to make the most of the skills, labor, and capital in our area. A diversified economy with well paying jobs is important to economic resilience and growth.

Industrial Space

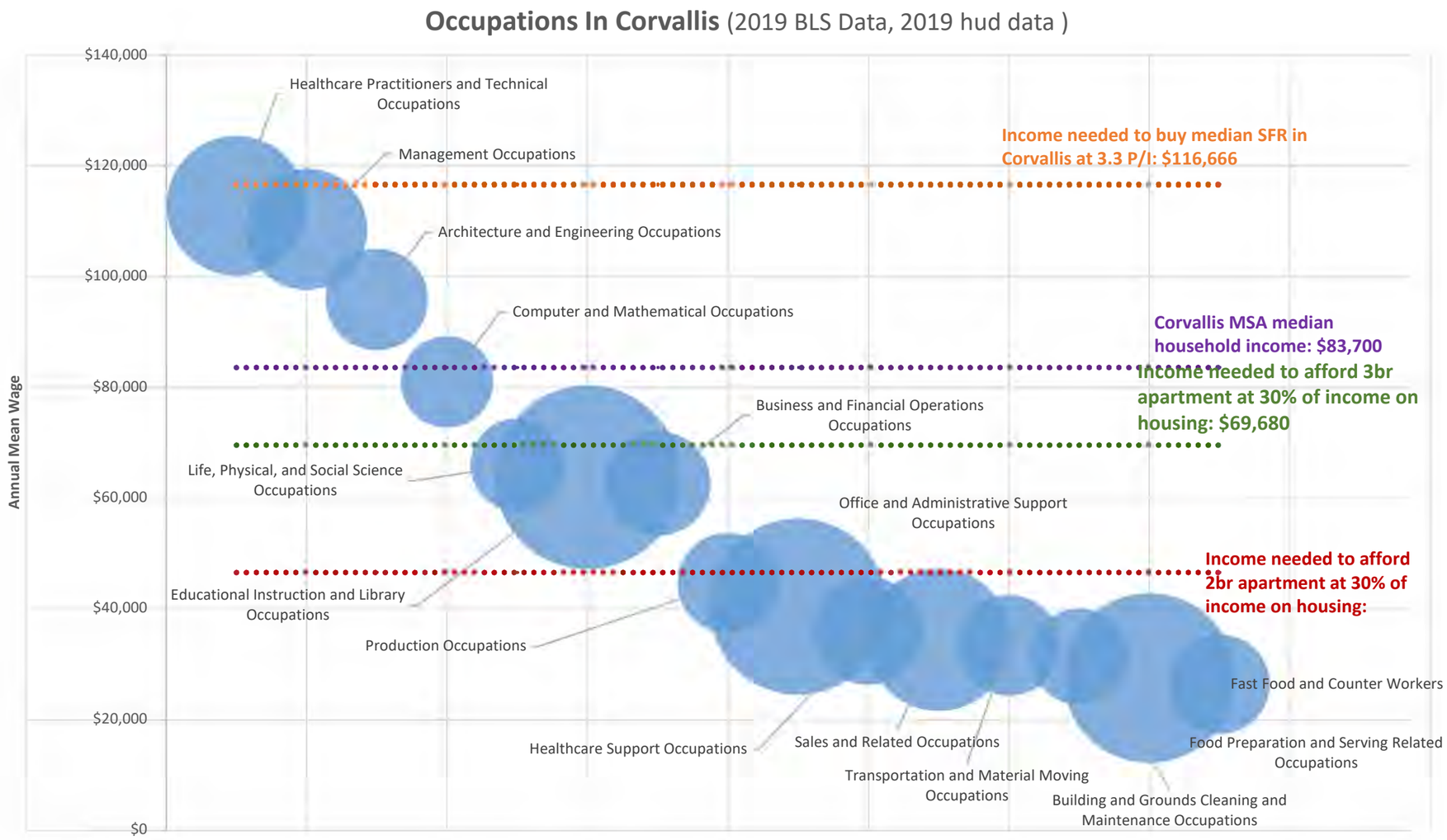
Challenge: Benton County businesses, and prospective Benton County businesses, continue to report difficulty in finding space. This is especially apparent for manufacturing businesses, including biotech companies and OSU spinouts.

Opportunity: Emerging from the pandemic, many businesses are exploring more work-from-home opportunities for their employees. This may create an opportunity to renovate traditional office space into flex manufacturing space, and/or shared wet-lab space, or other opportunities Additionally, with the critical ED tool of Urban Renewal underway in South Corvallis, and potential funding from state and federal agencies, there is an opportunity for the creation of a local food hub, connecting farms and food/ beverage startups to the regional and state supply chain network.

Wetlands

Challenge: Wetlands continue to be an issue for development all over the Willamette Valley, not just in Benton County. Mitigation is expensive and time consuming, two obstacles that make it virtually impossible to develop and simply not economically sustainable or attractive to businesses. Wetlands consume much of the buildable lands inventory, making the inventory much smaller than it appears.

Opportunity: The EDO continues to serve on the Cascades West Council of Governments Regional Wetland Consortium. The group is currently spearheading a legislative effort that would direct Business Oregon to study the impact of laws related to wetlands and economic development and to provide results of the study by September 15, 2022.



This graph shows the relationship between incomes by sector and housing costs in Corvallis MSA. In order to buy a single family home at the median home price, a buyer would need to earn $116,666 in household income at a 3.3 price/income ratio, which is higher than recommended P/I ratios of previous generations.

Building Back Benton Continued

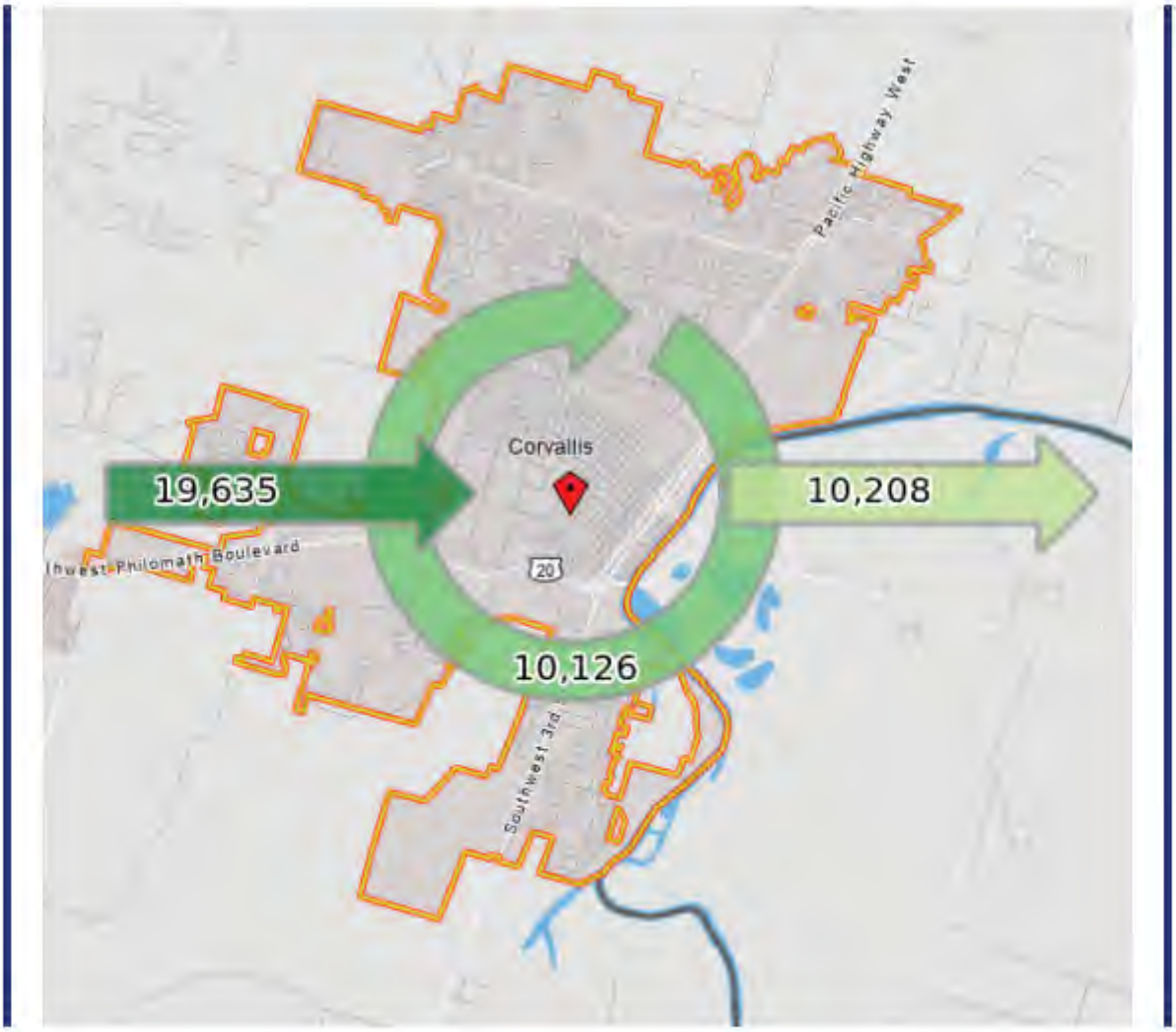
Downtown Vitality

Challenge: Downtowns are a glimpse into the overall health of a community's economy. Even prior to the pandemic, there was growing concern about the vibrancy and health of Corvallis' downtown. Downtowns continue to face rapid changes in retail practices, parking challenges, and vacancies, which is true for all downtowns in the County.

Opportunity: In the past year, Corvallis' downtown added an attractive museum, a lively food truck pod, and street café program that further secured the area as a key economic driver for Benton County. The EDO recently contracted with an OSU School of Public Policy class to conduct surveys, analysis' and case studies that have given the EDO and DCA implementable projects to increase the areas vitality and visibility. Additionally, Adair Village's potential Urban Renewal District would be centered on creating a downtown from scratch and Monroe is also exploring plans to increase the economic vitality of their downtown.

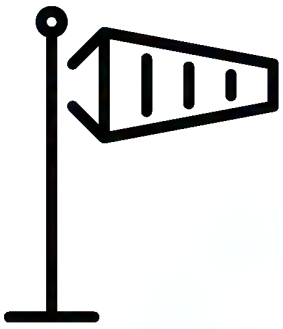
Commuting Patterns for Corvallis

Source: OnTheMap.org, 2018



5 | WINDSOCKS WE'RE WATCHING

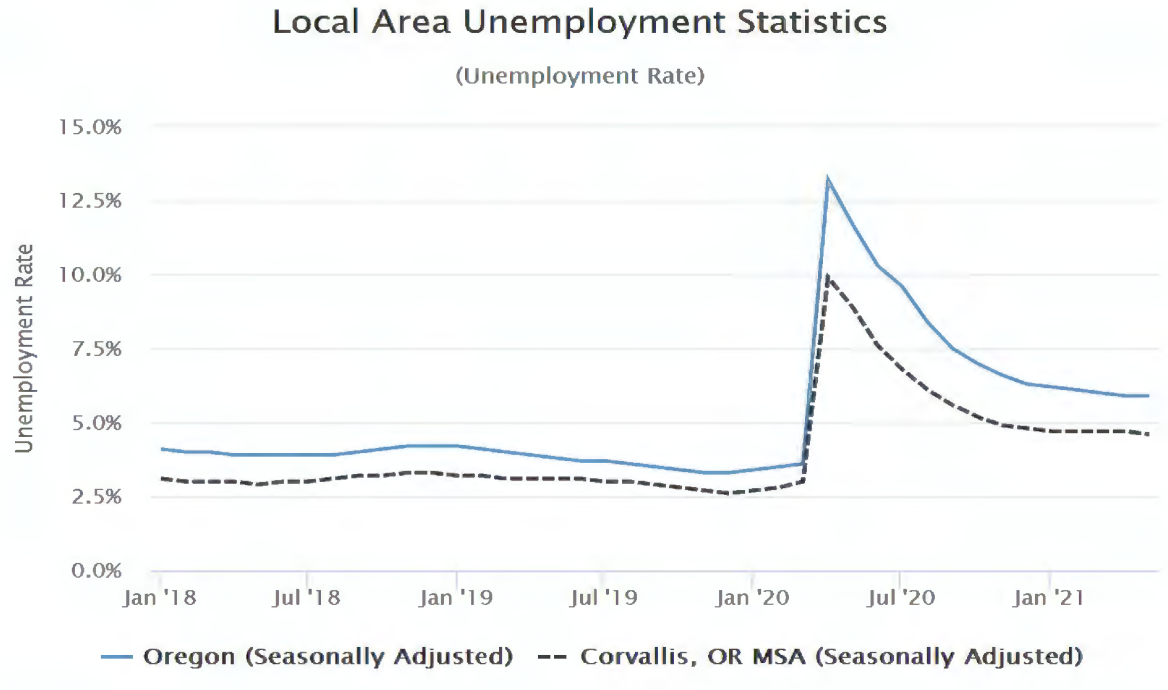
Windsock - /ˈwin(d)säk/ a light, flexible cylinder or cone mounted on a mast to show the direction and strength of the wind, especially at an airfield.



Credit: Zlatko Najdenovski

Our team has been thinking about "which way the wind is blowing" as we think about our work and continue our efforts in economic recovery. The following is a list of some of the data we follow as indicators of the economic conditions in our area:

- Changes in average local wage
- Unemployment rates and comparables
- Job growth in target industry sectors
- Local numbers of accommodation bookings
- Local growth in food and beverage and retail spending



Source: Oregon Employment Department Qualityinfo.org