

IV. Workgroup Recommendations

SECTION A: Develop Common Understandings

1) A chronological history of key Coffin Butte Landfill topics

A) History of Solid Waste, Disposal, and Materials Management in Benton County

1. A brief history of communities in the Coffin Butte/Tampico Ridge area

Themes:

- Residents of North Benton County repeatedly displaced, mistreated, misrepresented and ignored by outside interests
- Cultural resources threatened by landfill expansion
- County's conservation commitments; conservation and outdoor recreational lands impacted by landfill expansion.

Indigenous people

Coffin Butte and Tampico Ridge are part of the homeland of the Kalapuya people, represented today by citizens of the Confederated Tribes of the Grand Ronde Community of Oregon, and of the Confederated Tribes of Siletz Indians. [add more here on current situation, treaty rights and cultural concerns of the Tribes based on consultation]

The Kalapuya managed lands in this area as prairie and oak savanna, using traditional agricultural methods including annual burning to maintain camas and other food and medicinal plants. Examples of these culturally important plants can still be found in prairie/savanna remnants around the neighborhood, including on the portion of Coffin Butte currently under state ownership, as part of E.E. Wilson Wildlife Area.

Ridgeline trail system

A system of ridgeline trails (see historical documents by Zybach) connected from the Willamette Valley all the way to the Oregon coast had its eastern end at the north end of Tampico Ridge. This was likely an important route for trade, by which people starting from annual encampments in the Willamette Bluffs area near the Luckiamute-Willamette confluence could travel to exchange goods with coastal communities in the Yaquina, Siletz, and Alsea areas.

Local residents have observed cultural items including obsidian spear points along the ridgeline, particularly in the vicinity of an artesian spring that still flows year-round, near the north end of the ridge. Thus far no surveys for cultural/archaeological resources have been conducted on the land proposed for landfill expansion at the north end of Tampico Ridge.

Arrival of European-Americans

European-American presence in the area began in the early 1800s. One of the first visitors to record their experiences was the Scottish botanist David Douglas, who traveled south along the west side of the Willamette Valley in late 1826, documenting the native plants along the way. Douglas' journals indicate that he passed through the Coffin Butte neighborhood on October 5, 1826, camping beside a small wooded creek due east of Mt. Jefferson (likely Soap Creek), and near where he could glimpse the tops of two other peaks (likely two of the Three Sisters which are visible from the slopes of Coffin Butte and Tampico Ridge).

Numbers of European-American settlers increased dramatically in the 1840s as wagon trains began to travel west, initially along the Oregon Trail and by 1846, also on the Applegate Trail. A section of the Applegate Trail crossed from the Willamette Valley into Soap Creek Valley via the topographic saddle at the south end of Tampico Ridge, along the current route of Tampico Road.

Letitia Carson: An early Black pioneer

One of the earliest settlers in the area was Letitia Carson, a Black woman, formerly enslaved, who traveled to Oregon from Missouri with her Scottish immigrant husband David Carson in 1845, giving birth to a daughter along the way. The Carsons settled on a 640-acre claim near the present-day intersection of Tampico Road and Soap Creek Road, on land which is now mainly part of OSU's Soap Creek Beef Ranch. The Applegate Trail passed right through the Carsons' claim. Letitia Carson ran a successful farm stand, selling produce to later migrants headed for Kings Valley and the Dallas area farther north in Polk County.

Following David Carson's untimely death in 1853, a wealthy pro-slavery Corvallis landowner, Greenberry Smith took control of the Carsons' property, selling their land, cattle, and even personal belongings at public auction, pocketing the proceeds for himself.

[https://www.tillamookheadlightherald.com/community_paid/offbeat-oregon-neighbor-s-theft-ofwidow-and-orphans-home-was-too-much-for-jury/article_9e5bee8e-1b77-11ea-a436-27f1f68d91de.html]

Letitia Carson left Benton County in favor of the Cow Creek Valley in Douglas County, where she started all over and successfully homesteaded for a second time. More of her remarkable story can be found in this article by the Salem Statesman Journal (which also includes a photo of the current landfill less than a mile away, looming over a team of OSU archaeologists as they investigate the area of her homestead):

[<https://www.statesmanjournal.com/story/news/local/2022/06/20/letitia-carson-legacy-project-honorsoregon-only-black-homesteader-pioneer-juneteenth/65361235007/>]

Forced relocation of Kalapuya and other Indigenous people to reservations at Grand Ronde and Siletz

[need more text here; mention Fort Hoskins]

Soap Creek community

[Need more here on the later history of the Soap Creek Valley, including stagecoach routes along the Territorial Road, and the historic Soap Creek Schoolhouse].

Historic town of Tampico

[need more text here, note plaque at intersection of Tampico and Soap Creek Roads]

Historic town of Wellsdale

[add text here; including Rohner family farm on Coffin Butte]

Historic town of Palestine

[add text here]

Town of Airlie

[add text here]

Camp Adair period 1942-1945

[add text here: Eviction of farm families, relocation of cemeteries, construction of Camp Adair, psychiatric imprisonment of legendary blues singer Howling Wolf in 1943

[<https://www.counterpunch.org/2019/05/24/the-army-aint-no-place-for-a-black-man-how-the-wolf-gotcaged/>]

Exploitation of Coffin Butte as crushed rock quarry, then later as army dump; ditching of natural stream courses]

Post-war military presence

[Conversion of Camp Adair to a prisoner-of-war camp for captured German and Italian soldiers; early Cold War period and BOMARC missile project]

Reestablishment of farming and residential communities

[Farmland for returning GIs; establishment of OSU research forests and Soap Creek Beef Ranch in 1948; conversion of Adair Village to a residential community]

Growth of North Benton County

[Growth of North Albany, Adair Village, and Lewisburg; rural residential development; currently home to >10,000 people who live within 7 miles of the landfill; North Benton County Advisory Council discontinued by county planners since 2008(?)]

Conservation , preservation, and outdoor recreation

Establishment of E.E. Wilson Wildlife Area including Coffin Butte Annex: Per acre, most intensively used wildlife area in state of Oregon.

Establishment of Willamette River Greenway including Luckiamute State Natural Area

Oregon Conservation Plan and Benton County's (forgotten?) commitments in area

Tension between the landfill and the community surrounding the landfill

Presented below are:

- (i) major themes that emerged from a review of the timeline*
- (ii) a detailed timeline of events (1910-2022)*

(i) Major Themes

This section begins with major themes which direct your attention to specific time periods for more detailed review.

Solid waste management in Benton County had been an ongoing challenge for residents, business, and local governments from 1910-1975. The Corvallis area had experienced extensive illegal dumping and improper storage of solid waste materials. The Corvallis riverfront and Benton County roads were particularly impacted by illegal dumping. One issue leading to illegal dumping was that solid waste collection services were not regulated until 1925 at which point, in response to some haulers dumping waste materials improperly or illegally, a city license was required to haul garbage. Many residences did not take advantage of garbage hauling services and either chose to haul materials to dump sites themselves or illegally dump the materials. Another major issue was the city dump sites, which were challenging to locate, maintain, and inform the public about.

Pests and environmental quality issues led the City of Corvallis to search for improved methods and locations for garbage disposal. Garbage was dumped at various riverfront sites in Benton County and Linn County. From 1940-1967, garbage was generally burned at dump sites. From 1967-present, garbage has typically been landfilled, using “sanitary landfill” practices of covering solid waste materials daily.

Major Theme Summary

- Unsanitary/nuisance garbage and dumping conditions – 1910-1950
- Pest issues (rats and flies) with solid waste – 1948-1951
- Illegal dumping – 1912-1973
- Search for disposal sites – 1910-1975
 - o Dump site search – 1910-1950
 - o Incinerator search – 1922-1933, 1950-1953
 - o Landfill site search – 1970-1975

(ii) Detailed Timeline of Events (1910-2022)

#	Date	Highlights	Source
1	1910	Garbage in Corvallis was to be dumped along the Willamette river banks adjacent to the Crystal Lake Cemetery. Much of the garbage ended up dumped along the road leading to Crystal Lake Cemetery.	(Corvallis Gazette-Times (Corvallis, Oregon) 10 May 1910, Tue Page 1). (Corvallis Gazette-Times, n.d.)
2	1910	The city council instructed the public to dump garbage across the Willamette river on city property in a specific section of gravel bar.	(Corvallis Gazette-Times (Corvallis, Oregon) 10 May 1910, Tue Page 1).
3	1911	Marys River Flat ferry to transport garbage across the Willamette.	(Corvallis Gazette-Times (Corvallis, Oregon) 15 May 1911, Mon Page 3)
4	1912	County Judge orders that county roads should not be used for garbage dumping, warning any teamsters that violate the order of arrests and fines.	(The Weekly Gazette-Times (Corvallis, Oregon) 20 Dec 1912, Fri Page 9)
5	1916	High waters wash away dump heap at the east approach of the Willamette steel bridge	(Corvallis Gazette-Times (Corvallis, Oregon) 11 Feb 1916, Fri Page 3)
6	1919	City No longer has a designated place to dump garbage	(Corvallis Gazette-Times (Corvallis, Oregon) 09 Apr 1919, Wed)
7	1919	Corvallis city council secured a “depression” in John Beach property across the Willamette River to dump garbage, as a 5 year contract.	(Corvallis Gazette-Times (Corvallis, Oregon) 06 May 1919, Tue)
8	1922	Beach gravel pit filled, further dumping forbidden. State forbids dumping on river banks.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Sep 1922, Tue Page 1)
9	1922	Looking into another John Beach property contract for another dumping hole.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Sep 1922, Tue Page 1)
10	1922	Looking into the unlikely possibility of incinerator.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Sep 1922, Tue Page 1)

11	1924	Eastside road from Corvallis to Albany (Linn County) experiences extensive illegal roadside dumping.	Corvallis Gazette-Times PAGE 2 Corvallis, Oregon Thursday, February 14, 1924
12	1925	City dump in poor condition due to poor dumping practices. City looks in to licensing garbage gatherers.	(Corvallis Gazette-Times (Corvallis, Oregon) 13 Jan 1925, Tue Page 1)
13	1925	License required for garbage hauling in Corvallis.	Corvallis Gazette-Times PAGE 1 Corvallis, Oregon Tuesday, January 20, 1925
14	1925	City desires a suitable dump ground, more than ½ mile from a county road. Some garbage haulers refuse to provide services, and trash accumulates on private property.	Corvallis Gazette-Times Page 1 Corvallis, Oregon Tuesday, April 07, 1925
15	1925	City finance researching options for incinerator	(Corvallis Gazette-Times (Corvallis, Oregon) 05 May 1925, Tue Page 4)
16	1925	City dumping grounds past Fischer's flouring mill (no organics allowed).	(Corvallis Gazette-Times (Corvallis, Oregon) 05 May 1925, Tue Page 4)
17	1925	Garbage dump in the river bank at the foot of Washington street.	(Corvallis Gazette-Times (Corvallis, Oregon) 05 May 1925, Tue Page 4)
18	1927	City dump is included in city budget in 1927+	(Corvallis Gazette-Times (Corvallis, Oregon) 07 Dec 1928, Fri Page 9)
19	1928	Old automobiles not allowed in city dump or to be dumped in the river, and Chevrolet agent is advised to find private dump ground for vehicles.	(Corvallis Gazette-Times (Corvallis, Oregon) 22 May 1928, Tue Page 1)
20	1930	Milk bottles end up in garbage dumps, impacting the dairy industry. 20,000 bottles sent to the dump monthly in one Oregon city.	(Corvallis Gazette-Times (Corvallis, Oregon) 30 Dec 1930, Tue Page 1)
21	1933	Proposal for incinerator to be constructed in between Corvallis and Albany, and proposal for both cities to draft and adopt ordinances allowing garbage to be disposed in the incinerators.	Corvallis Gazette-Times PAGE 1 Corvallis, Oregon Monday, August 21, 1933

22	1933	City uses a dump site south of Corvallis along the Willamette river.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Sep 1933, Tue Page 1)
23	1933	Cooperative incinerator proposal abandoned, and council orders a garbage study/investigation.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Sep 1933, Tue Page 1)
24	1936	Plans to change city dump location from the river bank near Kiger Island to a new location. Proposed site in the hills two miles north of Corvallis along the highway running north past the old airport site. Residents of the area protested.	(Corvallis Gazette-Times (Corvallis, Oregon) 22 Sep 1936, Tue Page 1)
25	1937	Illegal dumping continues, possibly due to lack of knowledge about the dump site, located just south of Kiger Island Road east of Pacific Highway. Illegal dumping can result in a fine.	(Corvallis Gazette-Times (Corvallis, Oregon) 07 May 1937, Fri Page 2)
26	1940	City dump site inspected by State sanitation authority, found hogs illegally consuming garbage outside of state regulations. City ordered to follow regulations.	(Corvallis Gazette-Times (Corvallis, Oregon) 07 May 1940, Tue Page 1)
27	1940	City of Philomath dump site on Peak Road.	(Corvallis Gazette-Times (Corvallis, Oregon) 11 May 1940, Sat Page 7)
28	1940	Hogs removed from Corvallis Dump site, and all garbage ordered to be burned.	(Corvallis Gazette-Times (Corvallis, Oregon) 21 May 1940, Tue Page 8)
29	1941	National Defense program "Save Aluminum" campaign, along with fewer salvageable materials in dump, made it less profitable for the care-taker of the dump site.	(Corvallis Gazette-Times (Corvallis, Oregon) 05 Aug 1941, Tue Page 1)
30	1942-1945	Landfilling/disposal at Coffin Butte first began in the 1940s by the Army as part of waste disposal for Camp Adair. Waste was placed in a quarry on the southwest flank of Coffin Butte, where the landfill operated as an open burn dump (referred to as the "Closed Landfill"). Wastes were received in that area until approximately 1975, when VLI purchased the Coffin Butte site. Subsequent landfill development progressed eastward across the site.	(Benton County & Valley Landfills, Inc., 2002)
31	1942-1945	Camp Adair also operated three incinerators at a site near the intersection of Camp Adair Rd. and NW Independence Hwy.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Mar 1952, Wed Page 4)
32	1943	Some garbage from Camp Adair military operation sent to City Dump site.	(Corvallis Gazette-Times (Corvallis,

			Oregon) 22 Apr 1943, Thu Page 1)
33	1944	Corvallis purchased 225 acres of Fulton Farm south of Corvallis near 99W as possible future dump site, selling 154 of the acres.	(Corvallis Gazette-Times (Corvallis, Oregon) 18 Jul 1944, Tue Page 1)
34	1945	– In response to high volume of tin cans in the garbage, monthly county tin-can collection quotas for each county set by state of Oregon salvage committee for the war effort: five tons/month for Benton County.	(Corvallis Gazette-Times (Corvallis, Oregon) 02 Jan 1945, Tue Page 6)
35	1945	Waste paper is also requested and collected to be salvaged for the war effort. Collected separately in tied bundles with regular garbage collection.	(Corvallis Gazette-Times (Corvallis, Oregon) 08 Jan 1945, Mon Page 6)
36	1945	City enters into contract with City Garbage company for maintenance of the city dump grounds.	(Corvallis Gazette-Times (Corvallis, Oregon) 03 Apr 1945, Tue Page 5)
37	1947	Alsea residential garbage dump established on Frances Kay property, dumping garbage off the high bridge toward Lobster on the Kay place.	(Corvallis Gazette-Times (Corvallis, Oregon) 13 Mar 1947, Thu Page 10)
38	1947	Dump site to raise rent, City investigates option of using Fulton Farm property as dump or requiring collectors to establish their own dump site.	(Corvallis Gazette-Times (Corvallis, Oregon) 16 Dec 1947, Tue Page 2)
39	1948	City approves Two year Franchise with Corvallis Disposal Company, where the company would exclusively haul material from residents and businesses, and would furnish its own dump site.	(Corvallis Gazette-Times (Corvallis, Oregon) 06 Jan 1948, Tue Page 1)
40	1948	Corvallis to vacate the city dump site beginning April 1, 1948.	(Corvallis Gazette-Times (Corvallis, Oregon) 06 Jan 1948, Tue Page 1)
41	1948	Rat population at the dump site was extremely high, requiring long term extermination.	(Corvallis Gazette-Times (Corvallis, Oregon) 06 Jan 1948, Tue Page 1)
42	1948	Revision of Corvallis Garbage Ordinance, regulating garbage collection, banning burning, and setting rates for collection and dumping.	(Corvallis Gazette-Times (Corvallis, Oregon) 09 Jul 1948, Fri Page 1)
43	1949	Willamette Grange filed complaints of illegal dumping along county roads, and requested that the city re-establish a free dump site.	(Corvallis Gazette-Times (Corvallis, Oregon) 08 Mar 1949, Tue Page 4)

44	1949	Garbage dumps still present on the river front	(Corvallis Gazette-Times (Corvallis, Oregon) 15 Mar 1949, Tue Page 2)
45	1949	Leaf collection offered to city residents for a limited time through Corvallis Disposal Company as part of college homecoming bonfire event. As part of the event, Corvallis Disposal Company offered reduced rates for collection and self-hauling	(Corvallis Gazette-Times (Corvallis, Oregon) 17 Oct 1949, Mon Page 1)
46	1949	Corvallis Disposal Company disposal site located at the dump site near Kiger Island.	(Corvallis Gazette-Times (Corvallis, Oregon) 17 Oct 1949, Mon Page 1)
47	1949	Corvallis Disposal Company purchase Philomath Disposal Company, and added to the company's operation for providing services to a "radius of from three to five miles in all directions from Corvallis"	(Corvallis Gazette-Times (Corvallis, Oregon) 08 Nov 1949, Tue Page 5)
48	1949	City Garbage Company changes name to Corvallis Disposal Company.	(Corvallis Gazette-Times (Corvallis, Oregon) 08 Nov 1949, Tue Page 5)
49	1950	New dump site being opened near Coffin Butte, planning for free public dumping. The dump site south of Corvallis had poison spread to exterminate rats, with an estimated population of 200,000 rats at the site.	(Corvallis Gazette-Times (Corvallis, Oregon) 28 Feb 1950, Tue Page 1)
50	1950	Farms and residents in the area concerned about smoke, rodents and drainage	(Corvallis Gazette-Times (Corvallis, Oregon) 15 Mar 1950, Wed Page 8)
51	1950	North Benton Farm Bureau voted to build an incinerator at the Coffin Butte site or finding other garbage disposal options.	(Corvallis Gazette-Times (Corvallis, Oregon) 01 Apr 1950, Sat Page 5)
52	1950	DA warns of illegal dumping along public roads, encouraging the community to use the free public dump site at Coffin Butte.	(Corvallis Gazette-Times (Corvallis, Oregon) 05 Apr 1950, Wed Page 6)
53	1950	Extensive illegal dumping on Goodnight Lane	(Corvallis Gazette-Times (Corvallis, Oregon) 17 May 1950, Wed Page 6)
54	1951	Linn county creates objective to secure public dump grounds for some communities that were unserved.	(Corvallis Gazette-Times (Corvallis, Oregon) 18 Apr 1951, Wed Page 11)
55	1951	Flies become a public health issue, and Benton County Health calls for clean-up of garbage dumps.	(Corvallis Gazette-Times (Corvallis,

			Oregon) 20 Jun 1951, Wed Page 12)
56	1951	<p>Garbage Disposal Report by F.J. Burgess, junior Sanitary Engineer for Oregon in response to complaints received by the state, citing</p> <ul style="list-style-type: none"> - several roadside dumps around Corvallis, - garbage accumulation at residences and businesses, - nuisance conditions at Monroe city dump, requiring two feet of earth cover and closure to further dumping - recommends compulsory collection, - The Camp Adair incinerators used by Oregon State college is the only fully adequate garbage disposal facilities in the county, - recommends incineration of city waste is trialed and studied, - The old south Corvallis dump site is hazardous and requires two feet of earth cover as well as an insect control program, - the Coffin Butte site meets state standards but has rodent and insect issues, - Calls for a need for a complete garbage storage, collection, and disposal program for Benton County. 	(Corvallis Gazette-Times (Corvallis, Oregon) 31 Jul 1951, Tue Page 4)
57	1951	To combat garbage issues, County Health Dept offers possible options of a joint three-county incinerator operation at Camp Adair incineration plant (suitable for 30,000 residents), or using the "sanitary fill" method of disposal, which had been seen as impractical due to the wet conditions.	(Corvallis Gazette-Times (Corvallis, Oregon) 06 Oct 1951, Sat Page 2)
58	1951	Quarry site of Coffin Butte dump is seen to reduce ground water seepage.	(Corvallis Gazette-Times (Corvallis, Oregon) 06 Oct 1951, Sat Page 2)
59	1951	Enforcement problem with the City of Corvallis' garbage ordinance, leading to rat issues.	(Corvallis Gazette-Times (Corvallis, Oregon) 06 Oct 1951, Sat Page 2)
60	1951	Municipal compost systems are studied and reported in other jurisdictions in the country.	(Corvallis Gazette-Times (Corvallis, Oregon) 24 Oct 1951, Wed Page 11)
61	1951	Benton County develops reputation for being "tough" on illegal dumping, which shows to make progress in slowing the rate of illegal dumping	(Corvallis Gazette-Times (Corvallis, Oregon) 29 Nov 1951, Thu Page 1)
62	1952	County explores option to use incinerators at Camp Adair, one of which used by the college, and two are available of	(Corvallis Gazette-Times (Corvallis,

		the total three incinerators. The county also explores the option to have compulsory garbage collection ordinances passed in the county and city, due to some not subscribing to collection services and contributing to illegal dumping.	Oregon) 19 Mar 1952, Wed Page 4)
63	1953	County staff urge towns to develop their own garbage disposal programs to address the expected population growth, and growing concerns for disease outbreaks associated with sanitation.	(Corvallis Gazette-Times (Corvallis, Oregon) 28 Jan 1953, Wed Page 1)
64	1953	County explores acquisition of Camp Adair incinerators, under supervision of the General Service Administration.	(Corvallis Gazette-Times (Corvallis, Oregon) 25 Feb 1953, Wed Page 7)
65	1954	Corvallis Disposal has 4000 subscribers and eight garbage trucks (three "packer-type"), servicing the Corvallis area, Philomath, Adair. "Open dump", burn dump at Coffin Butte maintained with constant fire. Packer-type trucks compact the materials, reducing odor and escaping debris, and are considered cutting edge for the time, and Corvallis Disposal uses these trucks more than other areas in Oregon (including Portland, Eugene, Salem). Corvallis Disposal requests customers do not separate waste for ease of handling.	(Corvallis Gazette-Times (Corvallis, Oregon) 28 Apr 1954, Wed Page 11)
66	1954	Oregon State College operated burn dump at 35 th and Philomath Road.	(Corvallis Gazette-Times (Corvallis, Oregon) 23 Nov 1954, Tue Page 5)
67	1955	Sheriff warns that state law prohibits loads to leak or spill, for those who haul to Coffin Butte, after receiving a number of complaints.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Jan 1955, Wed Page 6)
68	1955	City newly acquired depot property.	(Corvallis Gazette-Times (Corvallis, Oregon) 17 Feb 1955, Thu Page 4)
69	1955	West river bank off of First street in Corvallis has extensive dumping.	(Corvallis Gazette-Times (Corvallis, Oregon) 11 Apr 1955, Mon Page 5)
70	1955	West river bank from Corvallis Lumber company (south) to one mile north generally used as illegal garbage dump, with the largest accumulation immediately south of Van Buren bridge (junk vehicles, debris). Beautification committee planning to clean up the riverfront.	(Corvallis Gazette-Times (Corvallis, Oregon) 02 Jun 1955, Thu Page 1)
71	1956	Willamette park (future park site adjacent to water treatment plant, formerly "Hout's Grove", experiences frequent illegal dumping.	(Corvallis Gazette-Times (Corvallis, Oregon) 29 Mar 1956, Thu Page 7)

72	1956	Warnings that Illegal dumping and litter in Willamette park will result in prosecution, and warning signs to be placed on the property.	(Corvallis Gazette-Times (Corvallis, Oregon) 17 May 1956, Thu Page 6)
73	1956	Monroe City Dump continues operation.	(Corvallis Gazette-Times (Corvallis, Oregon) 11 Oct 1956, Thu Page 1)
74	1956	Corvallis City offers free leaf load delivery to Corvallis residents for compost piles.	(Corvallis Gazette-Times (Corvallis, Oregon) 09 Nov 1956, Fri Page 2)
75	1957	Local Goodwill accepting and recycling old and unusable materials.	(Corvallis Gazette-Times (Corvallis, Oregon) 11 Oct 1957, Fri Page 4)
76	1957	Smoke and Odor nuisance caused the State Air Pollution Authority to issue abatement orders to eight refuse and garbage dumps north of Corvallis.	(Corvallis Gazette-Times (Corvallis, Oregon) 17 Dec 1957, Tue Page 11)
77	1957	Coffin Butte dump location is difficult for some to find due to the disappearance of signage on highway 99W.	(Corvallis Gazette-Times (Corvallis, Oregon) 21 Dec 1957, Sat Page 2)
78	1958	City Sanitation Superintendent requests improvement to city dump grounds.	(Corvallis Gazette-Times (Corvallis, Oregon) 10 Jul 1958, Thu Page 6)
79	1958	State offers to pay for dumping garbage on the Monroe dump grounds.	(Corvallis Gazette-Times (Corvallis, Oregon) 11 Aug 1958, Mon Page 5)
80	1958	Garbage and franchise ordinances approved for City of Corvallis, making the franchise with Corvallis Disposal Company non-exclusive, and other haulers may obtain a license.	(Corvallis Gazette-Times (Corvallis, Oregon) 08 Sep 1958, Mon Page 6)
81	1959	Corvallis Sand and Gravel property contained illegal trash dump along the Willamette river.	(Corvallis Gazette-Times (Corvallis, Oregon) 02 Jun 1959, Tue Page 7)
82	1961	Oregon State Highway Department warns of the potential removal of "litter barrels" along highways, due to household trash and illegal dumping.	(Corvallis Gazette-Times (Corvallis, Oregon) 10 Apr 1961, Mon Page 5)
83	1961	State highway litter law enforced.	(Corvallis Gazette-Times (Corvallis,

			Oregon) 29 Jun 1961, Thu Page 12)
84	1961	Salem dump site, Salem Sanitary Service Co, exploring new dump site options after ordered to cease burning by State Sanitary Authority for air quality reasons.	(Corvallis Gazette-Times (Corvallis, Oregon) 29 Jun 1961, Thu Page 12)
85	1961	OSU Dump site located west of 35 th street at Washington Way.	(Corvallis Gazette-Times (Corvallis, Oregon) 14 Jul 1961, Fri Page 13)
86	1962	Starker requests garbage fills at strategic points in the county due to illegal dumping near Summit, Alsea, and Mary's Peak.	(Corvallis Gazette-Times (Corvallis, Oregon) 13 Jun 1962, Wed Page 1)
87	1964	Effort to extend garbage collection to all areas of the county. Alsea and Blodgett-Summit areas are without services. Junction City firm serves Monroe-Bellfountain area, Albany firm serves up to Independence road. New larger steel bins offered for commercial accounts.	(Corvallis Gazette-Times (Corvallis, Oregon) 16 Mar 1964, Mon Page 7)
88	1964	T.J. Starker works with county to identify eight locations of dumps for clean-up: Prairie Mountain Rd, Mary's Peak road south of Blodgett, West of Summit, east of Hoskins, at Wren hill, South of Glenbrook, along the Blodgett-summit highway, and at Summit near Nashville Junction. Corvallis Disposal plans to clean up dump sites.	(Corvallis Gazette-Times (Corvallis, Oregon) 16 Mar 1964, Mon Page 7)
89	1964	Beautify Corvallis week clean-up campaign, Corvallis Disposal offers free debris collection and free self-hauling to Coffin Butte.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 May 1964, Tue Page 3)
90	1964	Alsea Valley gets garbage collection services for first time, as Corvallis Disposal company extended its services. An effort by Benton County to decrease illegal dumping.	(Corvallis Gazette-Times (Corvallis, Oregon) 03 Oct 1964, Sat Page 1)
91	1967	Editorial on local air pollution. Photo of Coffin Butte burn dump.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Jul 1967, Wed Page 5)
92	1967	County Court and City work towards planning a landfill operation at Coffin Butte instead of burning.	(Corvallis Gazette-Times (Corvallis, Oregon) 07 Sep 1967, Thu Page 1)
93	1967	Sanitary landfill operation at Coffin Butte	(Corvallis Gazette-Times (Corvallis, Oregon) 14 Dec 1967, Thu Page 4)
94	1968	Mid Willamette Valley Air Pollution Authority orders Corvallis Fire Department to deny further burning permits to	(Corvallis Gazette-Times (Corvallis,

		Evans Products, as Oregon law prohibited open burn dumps. Coffin Butte meets state standards, but still burns Demolition materials as permitted.	Oregon) 22 Jan 1968, Mon Page 4)
95	1969	Monroe Dump site closed by the Mid-Willamette Air Pollution Authority. Transfer station arranged at dump site through Corvallis Disposal Co.	(Corvallis Gazette-Times (Corvallis, Oregon) 09 Dec 1969, Tue Page 1)
96	1970	Disposal ordinance for collection franchise being drafted.	(Corvallis Gazette-Times (Corvallis, Oregon) 08 Sep 1970, Tue Page 1)
97	1970	Landfilling proving to be a challenge for Corvallis Disposal Co, with seepage at Soap Creek. Landfill has 5-6 year lifespan, with another landfill site being explored. Corvallis Disposal Company says recycling may be shipped to Portland, and regional disposal necessary as recycling catches on.	(Corvallis Gazette-Times (Corvallis, Oregon) 08 Sep 1970, Tue Page 1)
98	1970	Marion County Regional Solid Waste Plan being drafted.	(Corvallis Gazette-Times (Corvallis, Oregon) 08 Sep 1970, Tue Page 1)
99	1970	Blodgett Transfer station (operating from 1968-1970) closed due to construction.	(Corvallis Gazette-Times (Corvallis, Oregon) 20 Jun 1970, Sat Page 15)
100	1971	Blodgett-Summit area provided collection services, and Lobster Valley is only area not served for solid waste collection. Corvallis Disposal Co. has the largest share of customers, with Albany Disposal Co serving North Albany and Harrisburg Sanitation Co. serving Monroe.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Mar 1971, Fri Page 5)
101	1971	10 year expected lifespan at Coffin Butte. Demolition waste going to a Linn County site (no organics allowed). Leaching is major issue at Coffin Butte, so Corvallis Disposal dug trenches to catch storm water and keep it away from the landfill. Catch basin lake constructed and pumped regularly as well. Not enough volume to justify large scale recycling separation at Coffin Butte, but a future regional facility north would help.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Mar 1971, Fri Page 5)
102	1971	Approximately 11 established dumping sites in Benton county, and many residential junk piles. County proposed Solid Waste Ordinance to help reduce unlicensed dump sites.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Mar 1971, Fri Page 5)
103	1971	County entered into 5-county study of regional solid waste collection and disposal options. 1969 state study finds 4.5 lbs/person/day wasted in person, 1,647,221 tons/year.	(Corvallis Gazette-Times (Corvallis, Oregon) 19 Mar 1971, Fri Page 5)

104	1971	Benton County adopted the Solid Waste Franchising and Nuisance Abatement Ordinance (Ordinance #1).	(Ordinance #1)
105	1971	BOC grants Solid Waste Disposal Site Franchise to Corvallis Disposal Company (expiring 12/31/74), allowing continued use of Coffin Butte Landfill.	(Corvallis Gazette-Times (Corvallis, Oregon) 26 Nov 1971, Fri Page 1)
106	1972	Corvallis Disposal Company merges with Spady-Redfield Corp. (Albany Sanitation Co). Albany has a landfill operation 1.5 miles from Albany on the Calapooia River. "Granger Site" proposed as possible regional landfill site Off Hwy 20 across from Independence Road (Hector Property), with a 99 year lease option. DEQ to review application by Corvallis Disposal, with concerns for leachate and Willamette river proximity.	(Corvallis Gazette-Times (Corvallis, Oregon) 26 Aug 1972, Sat Page 1)
107	1973	1973 – Oregon DEQ makes decision on disposal and treatment of waste from OSU Dairy and Animal Disease Isolation Research Facility.	
108	1973	1973 – Granger landfill site delayed for further study by the Chemeketa Solid Waste Management Board (Benton, Linn, Polk, Marion, Yamhill). Coffin Butte scheduled to close once another site is found, due to water pollution to a stream and poor soil conditions. Granger landfill site may require moving two Willamette river intake plants.	(Corvallis Gazette-Times (Corvallis, Oregon) 01 Feb 1973, Thu Page 2)
109	1973	Polk County using Coffin Butte landfill after fire at its dump site.	(Corvallis Gazette-Times (Corvallis, Oregon) 01 Feb 1973, Thu Page 2)
110	1973	Chemeketa Region Solid Waste Management Plan in development	(Corvallis Gazette-Times (Corvallis, Oregon) 26 Feb 1973, Mon Page 3)
111	1973	Benton County calls for increased recycling effort	(Corvallis Gazette-Times (Corvallis, Oregon) 05 Mar 1973, Mon Page 4)
112	1973	Albany Public Info Meeting for Chemeketa Region Solid Waste Plan, proposing to close 14 disposal sites in the region, and establish four regional landfill sites. Proposed possibility of Resource Recovery Center at Granger Site. County Planning opposes the Granger site due to use of dwindling farm land resource, and the site is on a floodplain.	(Corvallis Gazette-Times (Corvallis, Oregon) 14 May 1973, Mon Page 1)
113	1973	Coffin Butte landfill expected to close by 1975, due to difficulties with wind, soil, and daily covering. The challenging dichotomy of increasing rates to cover transportation costs of further disposal sites, and the increased illegal dumping due to the higher rates. State goal of 90% reclaimed garbage by 1982.	(Corvallis Gazette-Times (Corvallis, Oregon) 21 May 1973, Mon Page 4)

114	1973	Further study of the Granger site feasibility required	(Corvallis Gazette-Times (Corvallis, Oregon) 16 Jun 1973, Sat Page 1)
115	Prior to 1974	The Coffin Butte Landfill operated within the land use laws of Benton County	(Benton County & Valley Landfills, Inc., 2002).
116	1974	Chemeketa Region Solid Waste Management Program releases a plan for the region's waste management.	(Stevens, Thompson & Runyan, Inc., 1974a)
117	1974	Coffin Butte Landfill was operated by Corvallis Disposal Company. In 1974, Corvallis Disposal Company applied for and was granted a Conditional Use Permit. That permit was finally granted by action of the Benton County Board of Commissioners on May 15, 1974.	(Benton County & Valley Landfills, Inc., 2002)
118	1974	The 1974 approval had allowed all landfill activities, including but not limited to the placement of solid waste, on 184 acres north of Coffin Butte Road.	(Benton County & Valley Landfills, Inc., 2002)
119	1974	Benton County constructed and operated the Lobster Valley Transfer Station on County property, which was successful in its attempt to reduce illegal dumping of garbage in the rural and forested areas of Lobster Valley. The site was operated as a free service to the area's residents, however, over time the site was used heavily by residents of other areas taking advantage of the limited monitoring. This increased the cost to the county.	
120	1975	VLI purchased the Coffin Butte site.	(Oregon Department of Environmental Quality, 2005)
121	1977	Since 1975, VLI has filled in Cells 1A and 1, with most waste being placed in Cell 1 beginning in 1977.	(Oregon Department of Environmental Quality, 2005)
122	1977	The "Closed Landfill" was officially capped with soil and closed.	(Oregon Department of Environmental Quality, 2005)
123	1977	One of the conditions of the 1974 approval was that a "Solid Waste Management Plan for Benton County" (Waste Control Systems, Inc., 1977) be submitted for review to the Planning Commission. This condition was met on March 29, 1977. From then until 1983, Coffin Butte Landfill was operated in compliance with the approved Management Plan.	(Waste Control Systems, Inc., 1977)
124	1980	Benton County has a Solid Waste Advisory Council (SWAC) which reviews the operations of the landfill, and other matters of public interest. The Solid Waste Advisory Council, hereinafter referred to as SWAC), has continually monitored the operations of VLI since 1980.	

125	1980	The Solid Waste Franchising and Nuisance Abatement Ordinance (Ordinance #1), was amended to be the Nuisance Abatement Ordinance (Ordinance #1A).	(Ordinance #1A)
126	1980	The Solid Waste Management Ordinance (Ord. 23) was adopted, and separated from the Solid Waste Franchising and Nuisance Abatement Ordinance (Ordinance #1).	BCC 23
127	1981	Coffin Butte Landfill Franchise issued by the Board of Commissioners, for a duration of 25 years (subject to change).	1981 Landfill Franchise Agreement (M-32614-81)
128	1981	Residential door-to-door recycling is offered to customers in the City of Corvallis by Corvallis Disposal Co.	
129	1982	Corvallis Disposal Co. proposed to provide Residential door-to-door recycling services to customers within the Benton County franchise.	
130	1983	1983 - VLI applied to Benton Co. for the creation of a Landfill Zone, other amendments to the Comprehensive Plan and the application of the new Landfill Zone to the Coffin Butte Landfill within Benton County. After hearings before the Planning Commission and the Board of Commissioners, the requests were granted. (PC-83-7, LD-83-40, LD-83-41)	(Benton County & Valley Landfills, Inc., 2002)
131	1983	The 1983 approval added 10 more acres for landfill activities, including but not limited to the placement of solid waste, north of Coffin Butte Road, or a total of 194 acres. Non landfill activities such as leachate treatment and irrigation were allowed south of Coffin Butte Road. The 1983 approval specifically did not allow for the placement of solid waste south of Coffin Butte Road.	(Benton County & Valley Landfills, Inc., 2002)
132	1983	Activities continued under the 1983 approval until 1995.	
133	1984	Lobster Valley Solid Waste Transfer Station Closed by BOC approval and without significant opposition, due to needed repairs to the facility not being cost effective, and franchised collection services offered to area residents. (Order adopted March 21, 1984).	Board Order adopted March 21, 1984)
134	1988	Cell 1A no longer used for disposal. Cell 1A (approximately 4 acres) primarily handled waste from Teledyne Wah Chang and was not used for disposal after 1988.	(Oregon Department of Environmental Quality, 2005)
135	1988	LD-88-11 Lot Line adjustment approved.	LD-88-11
136	1992	Oregon DEQ begins a series of groundwater investigations to further characterize the hydrogeology and groundwater quality down gradient of inactive and active areas of the landfill where volatile organic compounds had been detected, in response to a number of Oregon Department of Environmental Quality (DEQ) solid waste permit requirements.	(Oregon Department of Environmental Quality, 2005)
137	1992	Benton County BOC Order establishing the Disposal Site Advisory Committee (DSAC)	Board Order April 1, 1992

138	1993	1993 – Cell 2B constructed, and placement of waste in Cell 1 stopped.	(Oregon Department of Environmental Quality, 2005)
139	1993	Cell 1 (approximately 30 acres) has a clay bottom liner and leachate collection system that conveyed the leachate to an adjacent holding pond.	(Oregon Department of Environmental Quality, 2005)
140	1994	In 1994 and 1995, VLI submitted applications to Benton Co. Those applications would have expanded the allowed activities south of Coffin Butte Road. Because of opposition at that time, VLI withdrew its applications. (PC-94-10, PC-94-11, PC-94-12)	(Benton County & Valley Landfills, Inc., 2002)
141	1994	A conditional use permit for a 2.2 megawatt power generation facility was approved by the Development Department. The facility would utilize the gas generated from the decomposing refuse in the landfill as the fuel source (PC-94-03).	(PC-94-03)
142	1994	Covered Loads Ordinance went into effect, with two separate fees for covered and uncovered loads brought to the landfill.	
143	1996	Since 1996, Benton Co. has signed the Land Use Compatibility Statements, indicating to DEQ that the landfill was being operated in compliance with Benton County Ordinances.	(Benton County & Valley Landfills, Inc., 2002)
144	1997	A conditional use permit to expand the generating capacity of the existing electric generation plant that is served by the gas produced at the Coffin Butte Landfill was approved by the Community Development and Parks Department. Phase I of the expansion would increase the capacity of the plant from the current 2.2 MW to 5 MW and Phase II would increase the capacity to 10 MW (S-97-58).	(S-97-58)
145	1998	Lane County meets with Benton County SWAC to explain how Lane County waste is being brought to Coffin Butte Landfill for favorable rates, impacting Lane County's solid waste system. (Oct 8 th , 1998 BOC Meeting).	(Oct 8 th , 1998 BOC Meeting)
146	1999	PC-99-6, CUP approval for quarrying operations on VLI property	PC-99-6
147	1999	Lane County requests Benton County to require monthly reports of Lane County users of the landfill, so that Lane County may accurately impose a System Benefit Fee to those haulers who bring Lane County waste to Coffin Butte Landfill.	
148	2000	VLI, the owner and operator of the landfill facility commonly known as the Coffin Butte Landfill, and was acquired by Allied Waste Industries.	(Benton County & Valley Landfills, Inc., 2002)
149	2000	Approval from DEQ was granted in 2000 based upon the LUCS statement, DEQ has reviewed and found that the	(Benton County & Valley Landfills, Inc., 2002)

		operations of the landfill are in compliance with the state law.	
150	2002	Benton County Waste Recovery Plan for 2005-2009, prepared as required by HB 3744 (ORS 459A.101 (6) (d))	(Benton County, 2002)
151	2002	Memorandum of Understanding between Benton County and Valley Landfills, Inc. relating to Land Use issues.	(Benton County & Valley Landfills, Inc., 2002) , D15286, 01-00048
152	2002	A Conditional Use Permit for landfilling of an area on VLI property that will be excavated for mining of mineral and aggregate resources Approved by the Planning Commission with Conditions (also known as the West Triangle Expansion). The proposed area consists of 1.43 acres adjacent to the existing quarrying and landfill operation, and is designed to fulfill the reclamation plan for the previously approved quarry on this site. (PC-02-07)	(PC-02-07)
153	2003	A Conditional Use Permit for excavation and landfilling of 9.45 acres adjacent to the existing landfill operation, approved by planning commission with conditions. This portion of the landfill would represent an addition to the existing, previously approved, Landfill Site Zone (also known as the East triangle) (PC-03-11).	(PC-03-11).
154	2003	Oregon DEQ Solid Waste Reduction Grant Application for OSU Beverage Container Redemption Center, not approved.	
155	2005	First year that haulers (Allied Waste) offered to submit annual reports as a way to keep the county informed (not a requirement).	
156	2005	Record of Decision for Coffin Butte Landfill prepared by Oregon DEQ, presenting the selected remedial action to address the presence of volatile organic compounds (VOCs).	(Oregon Department of Environmental Quality, 2005)
157	2006	Wren Recycling depot closed due to illegal dumping and contamination.	
158	2006	Rural Recycling Meeting at the Wren Community Center (12/5/06)	
159	2007	Implementation of an automated co-mingle cart collection system for curbside recycling	
160	2007	Oregon DEQ Solid Waste Reduction Grant Application for First Alternative Co-Op South Corvallis Community Recycling Depot, not approved.	
161	2008	Allied Waste and Republic Services merged.	
162	2008	Oregon DEQ Solid Waste Reduction Grant Application for Benton Furniture Share (BFS) not approved.	
163	2009	Oregon DEQ Solid Waste Reduction Grant Application for Benton Furniture Share (BFS) not approved.	
164	2009	Oregon DEQ Solid Waste Reduction Grant Application for Benton Habitat for Humanity Deconstruction Materials Clearinghouse not approved.	

165	2009	Oregon DEQ Solid Waste Reduction Grant Application for Uncovered Loads, not approved	
166	2011	Benton County Wasteshed Waste Recovery Plan Update and 2011 Technical Review of Waste Recovery Policies and Programs, as required by Oregon Administrative Rule 340-090-0040 (7)	(Benton County, 2011)
167	2011	Conditional Use Permit for the construction of a new public recycling and refuse transfer facility at Coffin Butte Landfill. The request also includes enhancements to the stormwater conveyance and detention system, as well as a container and drop box storage area, and a landfill construction staging and storage area in FC zone – approved by Planning Commission with conditions (LU-11-016).	(LU-11-016)
168	2013	Conditional Use Permit for "minor additions and modifications" at Coffin Butte Landfill to change the location of a construction staging and storage area in the vicinity of the existing office structure, approved by the Planning Commission with conditions (LU-13-061).	(LU-13-061)
169	2014	School Lab Cleanout	
170	2015	Alteration of a nonconforming use to continue and enhance a stormwater treatment facility in the Exclusive Farm Use Zone, associated with Coffin Butte Landfill, approved by the Community Development Department with conditions (LU-15-001).	(LU-15-001)
171	2018	\$2/month/customer recycling fee added to address increased contamination standards in recycling markets.	
172	2021	Conditional Use Permit to expand Coffin Butte Landfill. Republic Services proposed: to create a new disposal cell for the Coffin Butte Landfill which will extend from the current cell south of Coffin Butte Road; close Coffin Butte Road to public traffic (vacate the right-of-way*) so the new cell can cover the road; relocate a replacement roadway (for landfill and quarry traffic only) around the area of the new disposal cell; relocate the leachate ponds south of Coffin Butte Road, and move some other structures. Closing Coffin Butte Road will likely require improvement of at least one other roadway in the area to accommodate increased traffic—potentially Tampico Road or Wiles and Robison Roads, denied by the Planning Commission and the appeal was withdrawn by the applicant (LU-21-047).	(LU-21-047)

2. Description of the site

a. Geological setting

The bedrock of Coffin Butte and Tampico Ridge is mainly of basalt formed by underwater volcanoes on the seafloor during the Eocene (~50 million years ago). These were originally formed as "pillow lavas" similar to what can be seen along the coast of Hawai'i, when lava from erupting volcanoes flows into the sea.

These rocks, along with other marine volcanic rocks and sediments, eventually became part of the Oregon Coast Range, as they were scraped off the top of the slab of oceanic crust sliding below the western edge of North America. This process is continuing today as what we now call the Cascadia Subduction Zone.

These rocks are considered part of the Siletz River Volcanics formation. Similar rocks belonging to this formation can be found in most of western Benton County, but Coffin Butte and Tampico Ridge are the easternmost exposures.

A good place to see this rock is in the old ODOT quarries along Coffin Butte Trail (now part of E.E. Wilson Wildlife Area). In these exposures, the rock is highly fractured, with extensive alteration indicating past circulation of water through the basalt.

Local sediments come mainly from near the end of the last ice age, when the Willamette Valley was flooded repeatedly by waters surging down the Columbia River from the Missoula Floods, from 15,000 to 13,000 BC. Coffin Butte and Tampico Ridge formed a peninsula on the western shoreline of "Lake Allison," the temporary lake that formed periodically during these floods. As this lake gradually drained out through the Columbia River, it left behind silt deposits.

These silts (mapped as the "Willamette Silts" by OSU geologist Ira S. Allison in 1953) are the source of the fertile soils in much of what today is prime Willamette Valley farmland. On the Coffin Butte site, prior to landfill construction these silts were found to the east of the topographic saddle between Coffin Butte and Tampico Ridge. On the west side of the saddle are younger alluvial sediments, deposited by Soap Creek as it flowed out of the hills and mountains which are now part of OSU's McDonald-Dunn research forests. Earthquake hazards on a regional scale are mainly related to the threat of a "subduction zone megathrust" earthquake on the Cascadia Subduction Zone, which can produce quakes of magnitude 9.0 or greater. Geologic evidence indicates that seven "great" earthquakes have occurred on this system in the past 3500 years, on intervals ranging from 210 to 910 years. The last of these occurred around 9 PM on January 26, 1700 AD, based on records of a tsunami that struck Japan 10 hours about later.

Recent studies indicate a 10% to 14% probability that the Cascadia Subduction Zone will produce an event of magnitude 9.0 or higher in the next 40 years. The risk could be as high as 37% for earthquakes of magnitude 8.0 or higher. Such a quake would be expected to produce very violent shaking that could last as long as four minutes.

In addition to the well-known risk of a major earthquake on the Cascadia Subduction Zone, there may also be a risk associated with the Corvallis Fault, which has been mapped within two miles of Coffin Butte (passing through the new Calloway Creek subdivision just south of Adair Village, and continuing

northeast at least as far as the intersection of Camp Adair Road and Independence Highway). Currently it is not known whether this fault is still active, but geologists have urged for this to be considered as a concern for any structures near the fault.

b) Climate

The general climate of Benton County has been described in previous county documents, such as the county's Prairie Species Habitat Conservation Plan <https://www.co.benton.or.us/parks/page/prairie-species-habitat-conservation-plan>

Willamette Valley portions of the county, including Coffin Butte, are influenced by a maritime climate with wet mild winters and moderate dry summers. Precipitation is mainly rainfall, with some snow accumulation in the foothills and mountains.

Coffin Butte and Tampico Ridge, along with nearby areas of McDonald/Dunn Forest, are part of an area of relatively high annual rainfall compared to most other parts of eastern Benton County. Maps produced by the PRISM project at Oregon State University:

https://prism.oregonstate.edu/projects/gallery_view.php?state=OR

show that these ridges are in a zone with average annual precipitation of 50 to 65 inches per year. This is significantly wetter than downtown Corvallis, and more comparable to Coast Range areas such as Blodgett.

The relatively wet climate results in part from Coffin Butte being in a gap between the rain shadows cast by Chintimini (Marys Peak) to the south, and Bald Mountain (Monmouth Peak) to the north. By far most of this precipitation comes as rain in the cooler months from October through April, with ice storms (freezing rain) and snow possible during the winter months.

c) Surface water

Coffin Butte and the north end of Tampico Ridge are in the Soap Creek watershed, which is part of the larger Luckiamute River watershed that includes Kings Valley in NW Benton County, as well as much of Polk County as far north as Falls City.

Streams flowing off of the west side of these two ridges join Soap Creek directly in the vicinity of Coffin Butte Road and Wiles Road.

[a map of the local hydrologic features would be very useful here]

Water flowing eastward off of these ridges have been substantially modified by ditching in conjunction with the construction of Camp Adair during the early 1940s. The main flow passes through "Toketie Marsh" (a remedial wetland constructed by Valley Landfills Inc. to compensate for destruction of existing ponds higher up on Coffin Butte) and thence through a culvert into the former stream which was ditched to form the waterway now known as "the canal" on E.E. Wilson Wildlife Area.

This "canal" continues east through the feature known as the "Canal Pond," from which some water is pumped annually into a popular fishing pond. East of there the canal passes just north of the Pacific Recycling Center (PRC), where it receives surface runoff from the PRC area. East of the wildlife area and the PRC, it continues as mainly as a ditched stream until it reaches Independence Hwy at Springhill

Drive. There the stream turns north to join the lower part of Soap Creek, about a mile before Soap Creek flows into the Luckiamute River at Luckiamute State Natural Area. The Luckiamute River in turn reaches its confluence with the Willamette River about a mile beyond where Soap Creek flows in.

The south end of Tampico Ridge is part of a watershed divide between the Soap Creek watershed to the west, and the Calloway Creek / Bowers Slough drainage which joins Frazier Creek northeast of Corvallis, and flows into the Willamette River near Bowers Rock State Park.

d) Groundwater

Groundwater in the area is poorly understood, particularly in the bedrock underlying Coffin Butte and Tampico Ridge. Household and agricultural wells around these ridges mainly tap into fractured zones in the basalt, but there have been no investigations to determine the lateral extent of these zones, or how they might be connected to fractures in the bedrock closer to the landfill site.

Groundwater patterns in the unconsolidated sediments adjacent to the landfill (chiefly Willamette silts east of the topographic saddle, and recent alluvium west of the saddle) are much more well understood, based on a network of mostly shallow monitoring wells. These show that groundwater movement away from the current landfill site in these shallow sediments is mainly in the direction of the topographic gradient.

One household well in sediments west of the landfill, on the former Helms home site, hydraulically down gradient of an area with contaminated groundwater, was decommissioned under DEQ supervision (updated 9/14/22). Contaminants have also been found in excess of regulatory limits in monitoring wells on the east side of the landfill.

e) Vegetation

As summarized in the county's Prairie Species Habitat Conservation Plan:

<https://www.co.benton.or.us/parks/page/prairie-species-habitat-conservation-plan>

prior to settlement most of the Willamette Valley portions of Benton County were an open expanse of native upland and wet prairies, riparian areas, and oak savanna. Reconstructions of vegetation at the time of the earliest land surveys (1850s) show oak woodland and oak savanna as the main habitats on Coffin Butte and Tampico Ridge, with upland prairie and some wetlands in the surrounding areas of lower elevation.

Photos from the Ben Maxwell Archive (Salem City Library) from the early 1940s, just prior to the construction of Camp Adair, show a pastoral landscape with mainly open savanna habitats still maintained by grazing along the ridges, open pastures in the saddle area, and cropland in the surrounding lowland areas, with riparian vegetation along the creeks.

A remnant of this oak savanna habitat can still be seen on the portion of Coffin Butte accessible to the public via the Coffin Butte Trail (E.E. Wilson Wildlife Area). Native wildflowers including Menzie's larkspur, Tolmie's mariposa-lily ("cat's ear"), tough-leaved iris, fawn lily, spring-gold, coralroot and camas bloom in spring alongside of native prairie/savanna grasses including Roemer's fescue, California oatgrass and blue wildrye.

Private lands along Tampico Ridge also include stands of legacy oak woodlands which have recently been the focus of oak woodland restoration projects, including research on oak ecology, tree stress physiology, biodiversity, and climate change by a group from Western Oregon University in Monmouth: <https://www2.wou.edu/nora/woutv.video.viewer?pvideoid=1754>

Other portions of Coffin Butte and Tampico Ridge closer to the landfill site have become more heavily forested with Douglas-fir and big-leaf maple as dominant species. In some cases the Douglas-firs grew in naturally following the cessation of fire and grazing, while in other areas these are monocultural plantations.

Adjacent public lands on the east side of Hwy 99W are managed by Oregon Department of Fish & Wildlife (ODFW). These lands include about 200 acres of native prairie restoration plus marshes and riparian corridors with native Oregon ash as a tree main species. Lowlands on landfill-owned properties elsewhere around the landfill are a mix of cropland with recently constructed remedial wetlands to manage runoff, plus riparian growth along Soap Creek. One wetland area was planted with hybrid poplars as part of an unsuccessful plan to treat landfill leachate by phytoremediation.

Several areas are infested with invasive species, including yellow flag (iris) in the older remedial wetland ("Toketie Marsh"), reed canarygrass, bulbous canarygrass (Harding grass), meadow knapweed, Himalaya blackberry and teasel in disturbed or unmanaged areas around the edges of the active landfill and quarry sites. Bamboo has been spreading along Soap Creek from the vacated Helms home site now owned by VLI.

f) Wildlife and conservation

The entire area around the landfill has been identified by Benton County as areas of high priority for conservation actions to benefit key species in Benton County. The saddle area between Coffin Butte and Tampico Ridge is shown on county maps as part of a wildlife corridor connecting from the edge of the Coast Range (Dunn Forest) to the west to riparian habitats of E.E. Wilson Wildlife Area to the east, and beyond there all the way to the Willamette River at Luckiamute State Natural Area and Willamette Bluffs.

[add more text on Great Blue Heron rookeries]