

MEMORANDUM

FROM: NorthPoint Consulting Group, Inc.

TO: Lake County Community Development Department

RE: Projected Monthly and Annual Water Use for Osprey Farm

DATE: **Original: April 26, 2023**
Revised: January 28, 2026

Osprey Farm is proposing to permit commercial cannabis cultivation in accordance with the Lake County Zoning Ordinance (Article 27). The proposal is for a Type 13 Distribution License, (2) two Type 3 outdoor licenses and (1) one Type 1C outdoor license for a total 89,620 sq. ft. (2.1 acres) within a cultivation area of 112,000 sq. ft. (2.6 acres). The proposal includes the development of facilities appurtenant to outdoor cannabis cultivation including temporary hoop houses, ancillary immature plant propagation greenhouses, ancillary processing and temporary cannabis processing structures, facilities for drying and curing of harvested cannabis, storage sheds, and irrigation infrastructure.

The Ordinance 3106 Hydrology Report (dated April 2023 and revised January 2026) prepared for the project provides the proposed water demand for cannabis irrigation and is summarized below.

The CalCannabis Environmental Impact Report (CDFA, 2017) uses 6.0 gallons per day (gpd) per plant as an estimated water demand for cannabis cultivation. This is 1.0 gallon (gpd) per plant more than reported by Bauer et. el. (2015), who reported up to 5.0 (gpd) per plant (18.9 Liters/day/plant). Using the more conservative estimate of 6.0 gpd (CDFA, 2017), the demand is 3,000 gpd (2.1 gallons per minute [gpm]) per acre of canopy.

The estimate of 6.0 gpd is a largely conservative estimate for a large outdoor plant, measured in the driest period of the season. Another estimate that is used for outdoor cultivation is 1.2 to 14.7 gallons per canopy square foot per year (Ascent, 2017) which equates to 290-3,560 gpd per acre. Using the upper end of this range, and assuming 65% of the time the cultivation is in the vegetative state, 35% of the time in the flowering state, and the water use during the flowering period is about 1.7 times the water used during the vegetative state, the total estimated cannabis irrigation water demand is:

- Average Daily: 7,333 gpd
- Maximum Daily (Flowering Period): 10,071 gpd
- Yearly (cultivation will be a 120-day outdoor season):
 - 2.7 acre-feet per year (AFY) or 880,017 gallons per year (See Table 1 for the

projected monthly water use).

Table 1. Estimated projected monthly water use based on vegetative (65% or 78 days) and flowering (35% or 42 days) periods.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Irrigation (1,000 gal)	0	0	0	0	0	88	182	182	298	131	0	0	880



References

- Ascent. 2017. Draft Environmental Impact Report for the Amendments to Humboldt County Code Regulating Commercial Cannabis Activities. SCH# 2017042022 Commercial-Cannabis-Draft-EIR-20mb-PDF (humboldtgov.org)
- Bauer S, Olson J, Cockrill A, van Hattem M, Miller L, Tauzer M, et al. (2015). Impacts of Surface Water Diversions for Marijuana Cultivation on Aquatic Habitat in Four Northwestern California Watersheds. PLoS ONE 10(9): e0137935.
<https://doi.org/10.1371/journal.pone.0137935>
- CDFA (2017) CalCannabis Cultivation Licensing Program Draft Program Environmental Impact Report.State Clearinghouse #2016082077. Prepared by Horizon Water and Environment, LLC, Oakland, California. 484 pp.
- NorthPoint Consulting Group, Inc. (April 2023, Revised January 2026). Ordinance 3106 Hydrology Report and Drought Management Plan.



