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# **URBAN FORAGING IN EAST BAY REGIONAL PARK DISTRICT**

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## **POLICY PROPOSAL: AMMEND EAST BAY REGIONAL PARK DISTRICT ORDINANCE TO ALLOW FORAGING OF NON-NATIVE, INVASIVE SPECIES**

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**Foraging:** the act of finding and harvesting wild foods usually at no cost

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109 EDIBLE SPECIES IN EAST BAY WITH ONLY 4 TOXIC SPECIES<sup>1</sup>

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### **Potential Stakeholders:**

- East Bay Residents
- Food Security Advocates
- Nutrition Education Programs
- Environmental Justice Advocates
- Occupational Health Advocates (related to pesticide exposure reduction)
- Forest and Parks Service
- Master Gardeners
- Parks Managers

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## **URBAN FORAGING- AT THE INTERSECTION OF SOCIAL AND ENVIRONMENTAL JUSTICE, FOOD SECURITY, AND URBAN PLANNING**

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Currently under California penal code section 384a it is illegal to “willfully or negligently cut, destroy, mutilate, or remove plant material that is growing upon public land or upon land that is not his or hers.”<sup>ii</sup> Though certain permits are available to foragers, mostly for mushrooms, in state parks, the East Bay Regional Park District and other state land is completely off limits punishable with up to \$1000 fine or 90 days in jail<sup>ii</sup>.

This prohibition is contrasted with use of pesticides to curtail weed development on public land; many of these non-native, invasive species are edible and offer a vitamin rich source of supplementary nutrition. This is especially pertinent in areas where fresh vegetables aren’t accessible or costly; Alameda County has an estimated 232,040 food insecure individuals that could greatly benefit from urban foraging<sup>iii</sup>. These no cost sources of micronutrients help prevent chronic diseases like diabetes and obesity all while managing invasive species populations<sup>iv</sup>.

### **ACCESSIBLE SOURCE OF HIGH QUALITY NUTRIENTS**

Berkeley Open Source Food (BOSF), a research and advocacy collective, maps the availability and seasonal abundance of wild and feral edible plants. Through their walks in South Bay low-income neighborhoods, at each site they observed up to 500 servings per plant varietal. Previous studies outside of California compared the superior micronutrient content of wild foods compared to store bought versions.<sup>v</sup> BOSF nutritional testing results showed foraged dandelion has twice as much calcium and fiber and 2.5 times as much Iron as store-bought dandelion; additionally, mallow is high in Calcium while nasturtium and curly dock are rich in vitamin A<sup>1</sup>.



Non-Native, Invasive, edible  
Oxalis



Calcium Rich Mallow



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## SUMMARY

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Policy change permitting foraging of non-native, invasive species in East Bay Regional Park District would allow for the legal consumption of highly nutritious food while contributing to necessary park maintenance with decreased pesticides. Integrating signage and education could target high priority species and food insecure communities. This is a great opportunity to further connect citizens to their local green spaces with programming and community events while insuring only non-native, invasive species are foraged. This incremental policy change could allow for future conversations about expanding foraging options and land usage to further improve access to nutrient dense foods.

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**ADDRESSING SAFETY CONCERNS:** BERKELEY OPEN SOURCE FOOD TESTS SOIL AND TISSUE FOR TOXICITY AND NUTRITIONAL CONTENT. SOIL AND TISSUE SAMPLES HAVE SHOWN UNDETECTABLE LEVELS OF PESTICIDES, INCLUDING GLYPHOSATE, AND OF PCBS.<sup>i</sup>

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## PART OF INTEGRATED PEST MANAGEMENT

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In 2015, Individual volunteers logged in over 8,000 hours of removal attempting to mitigate the invasive species population in East Bay Regional Parks<sup>vi</sup>. Though fire management and manual removal are utilized, herbicides are commonly deployed for park maintenance. Since integrated pest management (ipm) plans are supposed to utilize ecologically compatible practice, human consumption of non-native, invasive species through foraging would help alleviate pesticide usage while benefiting East Bay Residents.

Diphacinone (lbs)	Triclopyr (gal)	Glyphosate (gal)	Oryzalin (gal)
643	40	100	53

*East Bay Regional Park District Pesticide Totals for 2015<sup>vi</sup>*

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## POTENTIAL CONCERNS: SAFETY AND OVER-FORAGING

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While some pose concern for over-foraging, it would be near impossible to over-forage non-native, invasive species unlike ramps in the Northeast or certain mushroom varieties. This is especially true for species like dandelion and oxalis that seem omnipresent. Regardless of rampant availability of many invasive species, in order to preserve conservation plans of native flora, it is crucial to incorporate education on over harvesting and land traversing to avoid trampling. To have a concrete plan will allow park managers to embrace foraging within their IPM.



The East Bay Regional Park District: 120,931 acres in 65 parks, including over 1,250 miles of trails<sup>vi</sup>



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<sup>i</sup> Soil & Plant Test Results. (n.d.). Retrieved March 19, 2017, from <https://forage.berkeley.edu/tests/>

<sup>ii</sup> General Provisions-Plants and Driftwood, California State Parks, § 4306 (CCR. Stat. 2016).

<sup>iii</sup> Gundersen, C., A. Dewey, A. Crumbaugh, M. Kato & E. Engelhard. Map the Meal Gap 2016: Food Insecurity and Child Food Insecurity Estimates at the County Level. Feeding America, 2016.

<sup>iv</sup> [http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2014/CA\\_AllCounties\\_CDs\\_MMG\\_2014.pdf](http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2014/CA_AllCounties_CDs_MMG_2014.pdf)

<sup>v</sup> Trichopoulou, A., Vasilopoulou, E., Hollman, P., Chamalides, C., Foufa, E., Kaloudis, Theophilou, D. (2000). Nutritional composition and flavonoid content of edible wild greens and green pies: A potential rich source of antioxidant nutrients in the Mediterranean diet. *Food Chemistry*, 70(3), 319-323. doi:[http://dx.doi.org/10.1016/S0308-8146\(00\)00091-1](http://dx.doi.org/10.1016/S0308-8146(00)00091-1)

<sup>vi</sup> Beitz, P., Brierley, C. (2016) Annual IPM & Pesticide Use Report 2015. IPM Department East Bay Regional Park District. <http://www.ebparks.org/Assets/files/2015+Ann+PUR+160630+Final.pdf>

Images:

<http://thesmartergardener.com/wp-content/uploads/2014/03/Bermuda-buttercup-Oxalis-pes-caprae.jpg>

<http://www.ediblewildfood.com/images/mallow-pictures/mallow-picture.jpg>

<http://www.ebparks.org/Assets/files/parks/district/District-Map-2250w.gif>