# RESPONSES TO MAJOR COMMENTS ON THE CALENVIROSCREEN PUBLIC REVIEW DRAFTS

The Office of Environmental Health Hazard Assessment (OEHHA) and the California Environmental Protection Agency (Cal/EPA) released two public review drafts of the California Communities Environmental Health Screening Tool on July 30, 2102, and January 3, 2013. Public comments were received at a series of workshops held throughout the state, an Academic Expert Panel workshop, at two meetings of the Cumulative Impacts and Precautionary Approaches Work Group, and in written submissions. The table below represents a summary of major comments received during this period and responses. Comments were paraphrased and grouped into broad categories. The final version of CalEnviroScreen 1.0, which was released in April 2013, reflects the many comments received. The report and results are available at http://www.oehha.ca.gov/ej/ces042313.html .

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| 1. | General | Ready to support this document as ready to be used. | Comment noted |
| 2. | General | Replace "cumulative impact" with another term. | We have made an effort to clarify the terminology used in the report to avoid confusion with common uses of the term "cumulative impacts" in state statutes and regulations. As appropriate, the final report refers to "the pollution burdens and vulnerabilities" of communities rather than the "cumulative impacts" of pollution on communities. |
| 3. | General | Will the underlying data be disclosed so that people can do their own analysis? | OEHHA is releasing the results of the screening analysis as well as the percentiles and raw values for each of the individual indicators. The information will be available as a spreadsheet and as a Google Earth™ file that shows the boundaries of the ZIP codes. These types of data were also made available for the January 2013 draft report. |
| 4. | General | Work with Department of Water Resources on defining "disadvantaged communities". | We have incorporated the definition of disadvantaged communities contained in the relevant legislation (SB 535, De Leon, 2012) into the CalEnviroScreen report. |
| 5. | Maps | Appreciate Google Earth tool and recommend that it continue to be available. | Comment noted. |

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| 6. | Maps | In addition to releasing the *.kml* file for web viewing, it would be helpful to post the shape files (individual layers AND composite layers) to the Cal Atlas website (atlas.ca.gov). Can the maps be made available in ArcGIS format so that others can superimpose them on their own layers? | We plan to make the data available in different formats, including formats that may be used with ArcGIS and Google Earth™ software. |
| 7. | Maps | Interest from other departments on how they can use the maps for communicating CalEnviroScreen results; more intense colors would allow people to see the differences better. | We are working on how best to make this information accessible to the public and to different types of environmental decision-makers. We are selecting map views and colors to allow readers to broadly differentiate places with different scores. |
| 8. | Maps | Maps can mislead because they really only give a qualitative level of accuracy, not quantitative; sharp boundaries are not reflective of reality. | The analysis we have conducted in the CalEnviroScreen tool is intended to paint a broad picture of the burdens of environmental pollution and population vulnerability across the entire state. The results could be considered to be qualitative. Any analysis of this type requires selecting a geographic unit for purpose of analysis. These geographic units, no matter the scale, invariably have defined boundaries. We recognize that impacts from pollutants are not confined by these boundaries, so results should be considered to describe the different areas as a whole, rather than any particular location within the area. |
| 9. | Maps | Maps should provide more clarity and include more explanation. | We will continue to work on developing maps that are user friendly and easy to understand. |
| 10. | Maps | The maps produced by CalEnviroScreen are scientifically indefensible and will misinform and confuse. Maps imply that adverse health conditions are the result of exposure to pollution. | The screening tool identifies places that are relatively burdened with multiple sources of pollution, and account for populations that may be especially vulnerable to their effects. In the CalEnviroScreen report, we have tried to be very clear about how the results of the analysis should be interpreted. And we have stated that the result is not a health risk assessment that can be used to predict health outcomes. |

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| 11. | Maps | Worry that small, highly impacted communities won't be easily seen on large maps. | Along with the maps, we have released CalEnviroScreen results in the form of tables listing all the geographic areas. There are many small ZIP codes, and we have included some enlargements of these areas. We are also releasing the results online in the Google Earth or similar format to enable smaller areas to be seen clearly. |
| 12. | Maps | Would be helpful to know the indicator scores in the Google Earth™ map. | We have added indicator scores to the Google Earth™ map data. |
| 13. | Maps | Would be nice to see top 15% of ZIP Codes as well. | With the release of the entire set of data, it is relatively easy to identify those ZIP codes in the top 15% of scores. However, in order to keep the maps relatively simple, we are only presenting the top 5 and 6-10% as separate mapping results in the report. |
| 14. | Maps | Would like to see detailed maps for all communities in the top 10%, not just those selected for insets. | A Google Earth™ map has been provided to the public on the OEHHA website to assist with access to the information and scores statewide. |
| 15. | Method | Confounding factors should be removed from analysis. | With measures of health outcomes in particular, many "confounding" factors may reflect different types of population vulnerability. In many cases, understanding the extent to which multiple factors may contribute to the outcome is not well understood scientifically. In the screening method, we are attempting to take a more holistic view, not trying to identify single cause. For this reason, indicators that may represent a multiplicity of causes have been retained in the analysis unmodified. |
| 16. | Method | Data uncertainties and limitations are poorly characterized. Need more complete discussion of uncertainty, error and data gaps within the model. | We are aware that there are data gaps and uncertainties in the screening method. The report contains a section that identifies different types of data limitations and uncertainty. |

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| 17. | Method | Exposure does not necessarily imply that a community is unhealthy. Should compare levels to existing standards. | The screening tool has been developed to provide a way to compare different places across the state in relation to each other for a set of different measures related to pollution and the populations in those places. The model allows identification of places that have relatively high scores for a number of different sources of pollution and different measures of potential vulnerability. Since standards do not exist for many of these different metrics, we have elected to use this relative scoring model. |
| 18. | Method | How do the top areas identified by this tool compare to those identified by other tools like EJSM? | While no formal comparison has been performed we have provided the data online, making it possible for users to perform comparisons. |
| 19. | Method | OEHHA should report on analysis of the possible bias resulting from exclusion of data from monitors reporting less than 75% of expected observations. | The estimates for ozone and PM2.5 concentrations follow the data exclusion protocol established by the Air Resources Board. Overall, this results in less than 2% of data being excluded from monitoring results. Rural monitors were not disproportionately affected. Given the relatively small amount of data that is excluded, we expect little bias in the overall results. |
| 20. | Method | Seems like the tool has become so complex that its usefulness has actually decreased. | We have strived to make the tool as straightforward and useful as possible. Our continued refinement of the platform and our plan to reach out to the public should help make the use of this multifaceted tool simpler for the public and for decision-makers. |
| 21. | Method | Standardizing buffer distances implies that the effects of the hazards are the same across the board. | CalEnviroScreen is not a health risk assessment and should not be taken as a measure of health risk in proximity to hazards. Cal/EPA and OEHHA recognize that using ZIP codes as the geographic unit of analysis provides specific and fixed boundaries. Buffers were added to point locations for hazards out of concern that (1) there is some uncertainty in the databases about the location of the site itself and (2) potential impacts from sites in close proximity to boundaries would be lost in the analysis. |

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| 22. | Method | The built environment affects public health and should be taken into consideration. | Agreed. We acknowledge the importance of the built environment as a factor in human health. However, statewide data are not currently available to readily measure the impacts of the built environment. We may consider this factor in the future. |
| 23. | Method | The role of health-based standards is not taken into account; should compare communities to these standards not just amongst themselves. | We have incorporated some health-based information into the individual indicators. For example, toxic releases from facilities are weighted based upon the toxicity of the individual compounds that are released. For the pesticide use indicator, only pesticides of high toxicity and volatility were included in the measure. However, health-based standards are not readily applicable to other types of information included in the different indicators (e.g., impaired water bodies or cleanup sites), or their use would severely limit the amount of information that could be included. Discussions are ongoing as to how to integrate health-based information from other indicators, such as the drinking water quality indicator being developed. |
| 24. | Method | There is no need for a methodology to rank disadvantaged communities. | Cal/EPA identified a need to consider that communities across the state face differences in the burden of pollution and vulnerability in prioritizing the allocation of resources within the Agency. The development of this tool is a result of that need. Additionally, SB 535 requires Cal/EPA to identify disadvantaged communities, and therefore some objective methodology for comparing communities is needed. |
| 25. | Method | What will be the process to reconcile differences between EJSM and CalEnviroScreen if they exist? | CalEnviroScreen and the Environmental Justice Screening Method were developed for different purposes and feature different sets of data. Comparisons could be informative, but it is not necessary to reconcile differences. |

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| 26. | Method: Geographic Scale | Air basins would be better geographical unit than ZIP Codes. | We realize that there are many potential geographic scales that could be used to express these data. Over time, we will continue to evaluate the viability and appropriateness of alternative scales to support decision-making. One disadvantage of using air basins is that they are very large in area and would not allow the tool to look at pollution burdens and population characteristics in specific localities. |
| 27. | Method: Geographic Scale | Changing to the Census Tract scale analysis will help to normalize by population—need to assess whether that is what is desired. | We intend to evaluate CalEnviroScreen at the census tract scale in the coming year to determine the feasibility of representing many of the data sources at this scale. Census tracts are less variable regarding the size of the populations included. Thus, greater normalization of the population across the different geographic units is likely to be one change from analysis at that scale. |
| 28. | Method: Geographic Scale | Consider using number of sensitive individuals per unit area. Current methodology may bias results toward lower population ZIP codes. | The current method for the population indicators weights is based on overall population within the ZIP code. This removes the effect of larger or smaller ZIP code geographic areas. |
| 29. | Method: Geographic Scale | How can very small communities like mobile home parks in east Coachella Valley be captured? | The current version of CalEnviroScreen provides analysis at the ZIP code scale. Of course many communities such as a mobile home park are considerably smaller than that scale. As a screening tool, there is some blurring of distinctions between places at this level of resolution. We see a need for the screening tool to be improved at a higher level of resolution. However, there will also be an ongoing interest in using a screening tool to examine individual communities at a smaller scale than can be likely accomplished with a statewide screening. |
| 30. | Method: Geographic Scale | Is there a plan to enable regional rankings? This was recommended by a number of the members of the academic panel and would be a good addition to the current tool. | Regional analysis is feasible with the results provided in the statewide screen. However, at this point, the analysis will be limited to a comparison of ZIP codes across the entire state. |

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| 31. | Method: Geographic Scale | Regional boundaries are important but it is also important to make sure there are adequate data within those boundaries, for example, many places have poor data on air quality, and tribal lands are underreported. | We acknowledge there are still data gaps in reporting pollution sources, especially in rural areas and on tribal lands. As for tribal lands, Cal/EPA and OEHHA are aware that they face unique environmental justice burdens. It is an ongoing effort to ensure that the types of pollution hazards that occur on tribal lands are incorporated into the screening tool. |
| 32. | Method: Geographic Scale | Use census tracts rather than ZCTA; ZIP codes are too big. | We plan to evaluate indicators at the census tract level in future versions of the tool. |
| 33. | Method: Geographic Scale | Using the sums of facilities in a ZIP Code for the Environmental Effects indicators will over-weight large ZIP Codes because they can physically contain more facilities. Consider area of ZIP code for Cleanup Sites, TRI, Groundwater, Solid and Hazardous Waste Sites and Impaired Water Bodies indicators. Use density measure (divide by area) rather than number of sites or sources. | We have considered different ways to represent the data that is available about environmental hazards that are present in the different areas across the state. The current measure for many of these indicators is a weighted sum of the hazards/threats that are present in the area. Using this type of metric, rather than normalizing to geographic area, still provides an indication of the relative burden that factor presents to the area. Given the considerable discrepancy in size of the areas, we are also concerned that normalizing by geographic area would minimize the combined impacts, particularly in rural areas. |
| 34. | Method: Geographic Scale | Were special considerations taken for ZIP Codes that represent universities, prisons, etc.? | Certain places are classified as "group quarters" by the U.S. Census Bureau. These include college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories. Populations in these places are not in "households" by the U.S. Census Bureau definition. The measures used for the linguistic isolation and poverty indicators are limited to populations in households and do not include the populations in group quarters. The other census-derived indicators include both types of populations (age, race/ethnicity, and educational attainment). |

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| 35. | Method: Geographic Scale | ZIP codes are too disparate in area and population to be used as the basis for analysis. Large area of some ZIP codes may dilute the exposure ranking of pesticides that are applied to smaller areas within the ZIP code. | We are aware of issues that can arise because of differences in size of the geographic units selected for the analysis. However, for the purposes of this version of the screening tool, we have determined that the ZIP code is a useful scale of analysis. There is additional work that can be done to refine the analysis, such as moving to generally smaller geographic units, such as the census tract. However, that analysis requires additional time and resources, and will be done in future versions of CalEnviroScreen. |
| 36. | Method: Geographic Scale | ZIP Codes have arbitrary boundaries; you could use judgment and population distributions to extend ZIP Codes to more natural boundaries. | Any choice of scale for analysis will represent fixed boundaries, whether ZIP code or census tract or other. These will not align perfectly with more natural boundaries between communities. In future versions of the screening tool, we will address the need to define boundaries differently. |
| 37. | Method: Scoring | Analysis is qualitative, not quantitative. Percentiles are useful only to rank. Also, percentiles are inappropriate and ranking should be used instead. Normalized values are more appropriate than percentiles. | The percentile scores produced by CalEnviroScreen are used to rank geographic areas. We have included additional discussion of the scoring approach and its basis to the revised report. |
| 38. | Method: Scoring | Certain uses might require different scoring methods if variations are possible. | We are providing the data that were used to calculate the scores. This should enable others to calculate variations on the method we have used. We will also consider alternative approaches that may support different types of decision making in the future. |

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| 39. | Method: Scoring | The multiplication in the model is not justified because the indicators are correlated and there are other ways to set up the formula for the final score. | The model only multiplies the pollution burden score (based on environmental data) and the population characteristic score (based on demographic and health data). As the report explains, there are precedents in science for multiplying different factors of these types. However, we have presented alternative scoring approaches in a sensitivity analysis report that accompanies CalEnviroScreen. The results of the sensitivity analysis demonstrate the robustness of the model, since alternate models produced relatively small changes in identifying the areas of the state that are most impacted by pollution and population vulnerability. |
| 40. | Method: Scoring | Multiplying pollution burden and population characteristics is confusing, inappropriate. There is no evidence to show that pollution burden and population characteristics scores, when multiplied, have anything to do with environmental justice. | Research on health risks of environmental pollutants identifies socioeconomic status and sensitivity as effect modifiers that may amplify the risk. This suggests that multiplication is logical. A key environmental justice aspect to this work is that there are people and places that are disproportionately burdened by multiple sources of pollution and especially vulnerable to their effects. There are not currently many tools that allow the identification of such places across California that consider many of the wide range of health threats that exist. |
| 41. | Method: Scoring | No scientific justification was given for the range of the population vulnerability scores (1 -10), that are modulating pollution burden (through multiplication). | Additional language has been added to the report to further explain the implications of the scoring system. In the CalEnviroScreen scoring model, the Population Characteristics are considered to be a modifier of the Pollution Burden. In mathematical terms, the Pollution Burden is the multiplicand and Population Characteristics is the multiplier, with the CalEnviroScreen Score as the product. Because the final CalEnviroScreen score represents the product of two numbers, the final ordering of the communities is independent of the magnitude of the scale chosen for each (without rounding scores). That is, the communities would be ordered the same in their final score if the Population Characteristics were scaled to 3, 5, or 10, for example. Here, a scale up to 10 was chosen for convenience. |

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| 42. | Method: Scoring | OEHHA should describe the scoring process and calculations in detail. | We have expanded the description of the CalEnviroScreen method with the intent of making this description as clear as possible. See the example near the end of the report. |
| 43. | Method: Scoring | Percentile values shouldn't be used because data are not linear. | Many of the data sets incorporated into CalEnviroScreen are skewed. The use of percentiles provides a way to compare places to each other that does not require knowing how the data are distributed. Additional language has been added to the report on this subject. |
| 44. | Method: Scoring | Quantitative approach is inappropriate because no relationship exists among indicators. Use a qualitative method such as a "binning, matrix analysis, or ranking approach" with low, medium and high categories for pollution burden and population characteristics (3 × 3 matrix). Method needs less resolution, for example, use a 2 × 2 matrix suggested at academic workshop. | It is unclear what the commenter means by "no relationship" among indicators. The screening tool is a method for evaluating a broad picture of environmental burdens and population vulnerability, and we believe these should be considered together. We have selected a suite of indicators that provide information on different aspects of these two concerns. <br><br> We realize that there are alternatives to the method we are using. A matrix-type approach was explored in a sensitivity analysis. The matrix approach has a greater tendency to identify areas that are moderately high in both pollution burden and vulnerability, whereas the approach taken in CalEnviroScreen 1.0 identifies more areas that score high for either pollution burden or vulnerability. Using a less resolved matrix (2 × 2) will make it harder to identify a relatively small set of most-impacted communities (such as top 10%). Since the matrix method suggested in the comments has the effect of considering the pollution burden and population characteristics more separately, we have elected to continue with the combined method adopted in CalEnviroScreen 1.0. |

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| 45. | Method: Scoring | The model ranks results in lines between categories that may not actually exist. | To display results, areas are grouped, for example, by deciles for presentation. However places are represented by their percentile value until the final calculation of overall score, reducing the error associated with over-categorization. We believe that the ZIP codes that score highest in the CalEnviroScreen tool are among those most impacted by multiple sources of pollution and most vulnerable. For this reason, using the tool to select the highest scoring places for purposes of prioritization is appropriate. |
| 46. | Method: Scoring | Retention of decimal places implies that the method does not do a good job of distinguishing neighborhoods. | The decimal places are retained in the analysis for the purpose of calculating final scores and to provide an ordering of the results. |
| 47. | Method: Scoring | Scoring approach dilutes effect of high impacts. | The tool is not intended to identify extreme situations in any one medium, but to identify places facing burden from multiple sources. Extreme situations are still captured at the highest percentiles. Locations with acute or extreme exposures for several indicators would likely score high with the CalEnviroScreen tool. |
| 48. | Method: Scoring | The precision reported implies that there is more accuracy than is actually present in the data—quantitative numbers assigned to results of a qualitative analysis. | We believe that Cal/EPA and OEHHA have been transparent about the fact that the method produces a semi-quantitative measure that incorporates many sources of data. |
| 49. | Method: Scoring | Using percentiles to group data may lose acute/extreme situations. | It is true that assigning percentiles to the distributions minimizes the magnitude of differences in the extreme ends of the distribution (the tails). Extreme situations are still captured at the highest or lowest percentiles. This tool mainly captures places where there are multiple indicators that score highly, rather than identifying acute or extreme situations for any one factor. Places with acute or extreme exposures for several indicators would likely be identified as highly impacted areas. |

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| 50. | Method: Sensitivity Analysis | Would like to see a sensitivity analysis. | We have included sensitivity analyses results in the release of CalEnviroScreen 1.0. |
| 51. | Method: Weighting | Health impacts of exposures like ozone and PM 2.5 are known; maybe this information could be incorporated, for example, by weighting those indicators more heavily. | For future versions of the screening tool, we will consider different ways of weighting different indicators and the ways these differences can be justified. |
| 52. | Method: Weighting | PM2.5 should be weighted more than ozone (including a diesel indicator addresses this indirectly). | For this version of the screening tool, these two indicators have been weighted equally. Both have important human health effects. |
| 53. | Method: Weighting | The decision to give half-weight to the Environmental Effects indicators should be better explained. Even with the half-weighting, still seems like Environmental Effects are weighted too much. | Environmental effects indicators are associated with less-direct impacts on pollution burden than the exposure indicators and therefore were given half weight. The environmental effects component includes various aspects of environmental degradation and ecological effects. In addition to direct effects on ecosystem health, people may be limited in their use of ecosystem resources (e.g., eating fish or swimming in local rivers or bays). Also, living in an environmentally-degraded community can lead to stress, which may affect human health. In addition, the mere presence of a contaminated site can have tangible impacts on a community, even if actual environmental degradation cannot be documented. In future versions of the tool, the weighting may be revisited. |

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| 54. | Method: Weighting | Weighting should be evaluated and improved. The weights given in the "Population Characteristics" score should be evaluated again by the appropriate committee and discussed with the CIPA working group. Do a sensitivity analysis to look at weighting of pollution burden indicators. Why are they weighted by half? | We conducted a sensitivity analyses to evaluate how robust the results are to changes in weighting and indicator selection. The sensitivity analysis is being released with CalEnviroScreen 1.0. Overall, since there are a substantial number of indicators, eliminating individual indicators has relatively little impact on the overall results. The environmental effects indicator weighting is discussed in response to the comment above. |
| 55. | Pollution Burden Indicators | Collins Pine Company cogeneration emissions are making people in Chester area sick and dumping has polluted surface and groundwater. Why aren't we included in your list? | As a Toxic Release Inventory facility, Collins Pine Company is included in its ZIP code's score in the Toxic Releases from Facilities indicator. However, while a ZIP code may rank highly for one indicator, its total score is a reflection of multiple indicators of pollution and population vulnerability. So the presence of a single facility is unlikely to drive a score into the top 10% in the overall statewide results. Certain groundwater threats and impaired water bodies cited in state water board databases are currently included in the model. |
| 56. | Pollution Burden Indicators | If sliding scale is incorporated for sites that are already regulated, you should be sure to factor in chronic permit violations. | We agree that violation data is useful and important, and we have incorporated it for solid waste facilities. More broadly, we hope to incorporate similar information for more categories of data in the future. |
| 57. | Pollution Burden Indicators | Including cleanup sites in both Cleanup Sites and Groundwater Threats indicators leads to double-counting. | We have worked with the SWRCB and DTSC to minimize overlap. EnviroStor sites are not necessarily groundwater sites and GeoTracker sites are not necessarily cleanup sites. However, in cases in which a cleanup site poses the additional threat to groundwater, the site may be counted twice since there are multiple environmental concerns present. |
| 58. | Pollution Burden Indicators | Why are only two contaminants used to characterize air pollution? | We have used more than two contaminants to characterize threats from air pollution. These include ozone, PM2.5, diesel particulate matter, combined toxic releases from facilities (which covers a multitude of toxic air pollutants), and airborne pesticides. |

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| 59. | Pollution Burden Indicators: Air Quality | Air quality data are interpolated from only 100 monitoring stations statewide. The lack of air pollution monitors in rural areas results in a data gap. | We acknowledge that there are data gaps for ozone and PM2.5 in some areas of the state. We are investigating additional sources of data for future versions of the screening tool. |
| 60. | Pollution Burden Indicators: Air Quality | The 50 km distance from air monitoring stations should be justified scientifically. | Air quality estimates at locations less than 50 km from an air monitoring station were considered statistically reliable in the kriging interpolation. |
| 61. | Pollution Burden Indicators: Air Quality | Use kriging to extrapolate air quality data in areas with topography. | Kriging was performed on the ozone and PM2.5 air monitoring data to develop the indicator. We may consider other applications that consider topography in future versions of the tool. |
| 62. | Pollution Burden Indicators: Cleanup | Regarding EnviroStor site types and statuses: It is not possible to have a site type of 'awaiting evaluation' with a status of 'completed'; you should account for the fact that some combinations are not possible. | Yes, certain combinations of "site type" and "status" are unlikely to occur. If the combination does not occur in the data across the state, there will not be a contribution to any community (ZIP code) score. |
| 63. | Pollution Burden Indicators: Cleanup sites | Closed cleanup sites should be given low or no weight because they present little or no known risk. | We have reduced the weighting of closed sites in the revised model. |

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| 64. | Pollution Burden Indicators: Cleanup Sites | Don't understand why school investigations and border zone hazardous waste evaluations are excluded from the Cleanup Sites indicator. Impacts in communities near state, federal or tribal borders may not be reflected currently. | Proposed school sites that receive State funding for acquisition or construction are required to go through environmental review. Because these sites are not necessarily contaminated, they were not included in the indicator. Similarly, border zone evaluations in EnviroStor are sites that are near contaminated sites, but not necessarily contaminated themselves. Our tool relies primarily on state databases, however, so other sites that are in border areas are not readily included in the screening tool. We are aware that there are some reporting requirements for tribes to federal databases. However, many are not included in state databases. We will look into other sources of data for future versions. |
| 65. | Pollution Burden indicators: Cleanup sites | Inactive cleanup sites should not be given lower weight than active sites, since neglect may increase off-site movement of pollutants. | We will look into conditions at inactive cleanup sites to determine if an adjustment to the model is needed in future versions of the screening tool. |
| 66. | Pollution Burden Indicators: Diesel | Appreciate inclusion of Diesel Particulate Matter indicator. | Comment noted. |
| 67. | Pollution Burden Indicators: Diesel | Diesel particulate matter indicator doesn't include the impacts of San Diego region sea port or border ports of entry. | We have updated the diesel indicator. The Air Resources Board has provided us with statewide gridded estimates of diesel PM emissions as kilograms per day for on-road and non-road sources, which includes emissions in the San Diego region. |

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| 68. | Pollution Burden Indicators: Diesel | Would like to see further discussion of the appropriateness and weighting of Diesel PM indicator. Using 2 sources of diesel PM data could lead to inconsistencies and casts doubt on the accuracy of NATA data. Port and railyard data are not available online. Why were not all HRAs updated to reflect current diesel PM emissions? Recommend that OEHHA work with ARB and regional agencies to develop estimates of diesel impacts from these sources. | The data source for the diesel PM indicator has been updated. The data now come from the Air Resources Board's (ARB) statewide estimates of diesel PM emissions from on-road and non-road sources representing the same time period. Data from the National Air Toxics Assessment (NATA) are no longer used. |
| 69. | Pollution Burden Indicators: Diesel PM | Concern over use of NATA database for diesel PM—do not think the database was intended for this purpose | The diesel PM indicator has been updated and information from NATA has been removed. |
| 70. | Pollution Burden Indicators: Drinking Water | Develop drinking water indicator as soon as possible. Consider using DPR well monitoring data and other data sources, such as GAMA, to estimate water quality of private wells. Discuss the contribution of different environmental media. | We are working on a drinking water indicator and will consider and review appropriate data sources in its development. A draft document explaining the indicator and how it fits into CalEnviroScreen will be made available for public review. Once it has been finalized, the public will be able to access the data and identify the components of the indicator score. |
| 71. | Pollution Burden Indicators: Drinking Water | Drinking water contaminants vary by location. OEHHA should do a regional analysis to assess differences. | We are working on a drinking water indicator and will consider appropriate contaminants. A regional analysis is presently beyond the scope of the tool. |
| 72. | Pollution Burden Indicators: General | Airports should be included as a pollution source. | The model currently includes certain sources of diesel particulate pollution from airports. We hope to include more information on pollution from airport activity in the future. |

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| 73. | Pollution Burden Indicators: General | Appreciate use of buffer zones for all pollution burden indicators. | Comment noted. |
| 74. | Pollution Burden Indicators: General | CalEnviroScreen will help to prioritize mitigation in water contamination rather than that process just relying on the squeakiest wheel as was done previously. | Comment noted. Cal/EPA has provided additional guidance on the potential uses of the tool in CalEnviroScreen 1.0. |
| 75. | Pollution Burden Indicators: General | Diesel particulate matter is correlated with traffic density and PM2.5, and should be removed from the model. Including all 3 indicators overweighs (overcounts) mobile source emissions, which are not pertinent to most disadvantaged communities. Use only PM 2.5. | We feel these indicators are not duplicative because ozone and PM 2.5 are regional air quality indicators and diesel PM is a more localized issue. There are sources of PM 2.5 in regional air that are not traffic-related and there are impacts from traffic that are not fully captured by the diesel PM indicator. Further, disadvantaged communities are often located close to high traffic corridors and in places with relatively high diesel exhaust emissions, so it is highly relevant in the model. |
| 76. | Pollution Burden Indicators: General | Environmental effects indicators do not correlate with exposure. Using proximity as a measure of exposure assumes exposure where none may exist. The word "exposure" should be preceded by "potential" each time it is used. | The environmental effects indicators address various aspects of environmental degradation and ecological effects. They include direct effects on ecosystem health and people limited in their use of ecosystem resources (e.g., fishing or swimming locally). Also, living in an environmentally degraded community can lead to stress, which may affect human health and the mere presence of a contaminated site can have tangible impacts on a community, even if actual environmental degradation cannot be documented. Regarding the exposure indicators, those we have selected do relate to exposure or potential exposure. In the absence of direct measures of exposure we have chosen the best available data. In this we were advised by experts from U.S. EPA, DTSC, CalRecycle and DPR. We continue to look for additional data sources that could improve future versions of the tool. |

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| 77. | Pollution Burden Indicators: General | There is a large discrepancy of different risks posed by different indicators when compared to local air districts' annual list of risks based on AB 2588. | CalEnviroScreen was developed for a different purpose and features different sets of data than the local air districts' lists. Cal/EPA will continue to work with the local air districts to refine the tool. |
| 78. | Pollution Burden Indicators: General | Newer data should be used for air pollution indicators. | The data included in the tool were the most current data available at the time of analysis. Future versions will incorporate more recent data where available. |
| 79. | Pollution Burden Indicators: General | There are three air indicators and only one groundwater indicator. | Air exposures are considered an important contributor to adverse pollution-related health outcomes. There are fairly robust data sets that describe pollutants in air or pollutants that are emitted to air. The CalEnviroScreen model currently includes several data sets on certain threats to groundwater, pollutant discharges to surface water (Toxic Release Inventory) and water bodies that are designated as impaired by pollutants. We are also actively working on a measure of drinking water quality across the state. However, the databases to create the drinking water indicator are large and complex, so this indicator was not included in CalEnviroScreen 1.0. |
| 80. | Pollution Burden Indicators: General | Tool doesn't take into account local variables (geography, topography, winds, and altitude). Local government data are often more precise and would be more relevant than data used by CalEnviroScreen. | We agree that the factors identified in the comment are important determinants of how pollutants may distribute in the environment. CalEnviroScreen is based on data that are available statewide. Future versions of the tool are likely to incorporate at least some of this type of local information. |

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| 81. | Pollution Burden Indicators: General | Tribal lands aren't included in state databases and census data do not accurately represent tribes. Waste sites, cleanup sites and groundwater threats in these areas are underrepresented. Since tribes are not defined by ZIP code boundaries, maps should include tribal boundaries. | We know that there are gaps where data from tribal lands are concerned. If information is from a federal data source or selected state-managed databases, it has been included. We hope in future versions of the screening tool to be able to better address this gap in information. |
| 82. | Pollution Burden Indicators: Groundwater Threats | "Groundwater Threats" should be changed to "Groundwater Impacts". If only point sources are included in Groundwater Threats indicator, rename "Point-source threats to groundwater." Weighting appears arbitrary and needs more explanation. It should not be based on GeoTracker site types. | Non-point sources of pollution to groundwater are important and their inclusion is something that we will consider in future versions of the screening tool. We recognize that the indicator that we call "Groundwater Threats" does not include all such threats, but particularly those that arise from certain point sources. The weighting system for this indicator is based both on site type and site status. We felt that the weights selected for the indicator reflect a reasonable scaling of the threats posed by the different types of sites for the purpose of this screening tool. Additional information on the definitions of the different site types has been included in the report. |
| 83. | Pollution Burden Indicators: Groundwater Threats | Groundwater Threats and Impaired Water Bodies indicators don't include nonpoint sources such as agriculture, proximity to dairies, failing septic systems and natural sources of radon and arsenic in rural areas. | Only point source data from leaking underground fuel tanks and cleanups are included at this time. We are interested in examining if non-point sources of pollution can be reliably incorporated in the model in future versions. We acknowledge that the Groundwater Threats and Impaired Water Bodies indicators do not include information on nonpoint sources. We will evaluate available data to determine if these types of information can be included in a later version of the tool. We are actively working on developing an indicator of drinking water quality. |

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| 84. | Pollution Burden Indicators: Groundwater threats | Should provide definition of 'referred sites' for Geotracker data in document. | The description in the Groundwater Threats indicator has been updated to provide definitions for the different types of sites and statuses included in the indicator.<br><br>Sites are considered to be "referred" when they are sent to another state entity for follow-up. Referred, completed, and case-closed sites have been excluded from the analysis of the Geotracker database. There are only 11 referred sites in the database. |
| 85. | Pollution Burden Indicators: Impaired Water Bodies | Disagree with method used for Impaired Water Bodies summing number of pollutants. Recommend characterizing sites by how much standard was exceeded. Only impairments to swimming and fishing should be included. | The current form of the data does not allow us to characterize impaired water bodies based on standards or to categorize specific impairments. This is something that may be considered in future versions of the screening tool. |
| 86. | Pollution Burden Indicators: Impaired Water Bodies | Guidance should state that the tool does not capture surface water quality or beneficial uses. | We have included information on the quality of surface waters in the screening tool to the extent that it is captured in the Clean Water Act 303(d) list. These represent impairments to beneficial uses. |
| 87. | Pollution Burden Indicators: Impaired Water Bodies | How useful is noting proximity to an impaired water body if the water body in question isn't being used or doesn't pose an actual hazard? | The impairments to water bodies are drawn from the 303(d) list and represent impairments to beneficial uses of the water bodies. For this version of the screening tool, we did not distinguish between the types of beneficial use that were impaired, nor the types of pollutants causing the impairment. We will consider this type of refinement in future versions. |
| 88. | Pollution Burden Indicators: Impaired Water Bodies | The marijuana growing industry is an increasing source of toxic exposures. | Comment noted. |

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| 89. | Pollution Burden Indicators: Impaired Water Bodies | The subpopulation of people who catch and eat fish from polluted water bodies (e.g. the bay and delta) are not captured in this tool. | We acknowledge that some specific subpopulations are not explicitly captured in the tool. Future versions of the tool may consider different types of impairment to water bodies, for example, and its potential impact on these subpopulations. |
| 90. | Pollution Burden Indicators: Impaired Water Bodies | Would it make sense to split pollutants for impaired water bodies into two categories such as 'ecological impairments' and 'human health-related impairments'? | We have evaluated this option regarding categories of water body impairments. We find that there are not always clear distinctions between pollutants that pose threats to human health compared to those that threat ecosystems. For this version of the tool, we will continue to group these together in this indicator. |
| 91. | Pollution Burden Indicators: Ozone | Use state standard instead of federal standard for ozone. | The results of using either the federal standard (0.075 ppm) or state standard (0.070 ppm) for the calculation are substantially similar. Based on a recommendation of the ARB, we used the federal standard. |
| 92. | Pollution Burden Indicators: Pesticides | Complete statewide data on actual exposure to pesticides do not exist. Use DPR pesticide air monitoring data or pesticide illness reporting data where available instead of Pesticide Use Reporting data. | Current data on pesticides in air from monitoring are very limited compared to those for criteria air pollutants. Public information on pesticide illness surveillance is only available at the county scale, so this does not reflect a fine enough scale for the purposes of this screen. We have consulted with DPR and consider the pesticide use reporting to be the best available source of statewide data. We will continue to look for additional data sources in the future that may supplement or replace the use data. |
| 93. | Pollution Burden Indicators: Pesticides | Could expand pesticide subset to include those chemicals that might not be volatile but that adhere to soil, like maneb. | We will consider this type of expansion in future versions. |
| 94. | Pollution Burden Indicators: Pesticides | Disagree with assumptions of CHAMACOS study linking agricultural pesticide use with pesticide concentrations inside homes. | Comment noted. |

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| 95. | Pollution Burden Indicators: Pesticides | Hope that better data for non-production agriculture pesticide use is available for use at some point. | Comment noted. |
| 96. | Pollution Burden Indicators: Pesticides | Pesticide indicator does not include toxic but non-volatile compounds that can result in exposure through dust. Include at minimum Prop 65 listed pesticides and those that are identified in Clean Water Act and Groundwater Protection List. | In this version of CalEnviroScreen, we are continuing to include those pesticides of high volatility and toxicity, as described in the report. Proposition 65 pesticides are included. We will evaluate folding in additional types of pesticide threats in future versions of the screening tool. |
| 97. | Pollution Burden Indicators: Pesticides | Pesticide use is confusing and does not represent the urban South Coast Air Quality Management District. | We have excluded pesticide use for non-production agricultural uses because these data are only available at the county scale. We understand that urban pesticide use is not always captured in the Pesticide Use Reporting database. This is an important data gap, but one for which there are not readily available data. We will consider ways to address this data gap in future versions of the tool. |
| 98. | Pollution Burden Indicators: Pesticides | Specify exactly where pesticide use is causing unintended environmental damage and which pesticides and practices are involved. | Statewide data are not currently available that tell us where unintended environmental damage from pesticides is occurring. |
| 99. | Pollution Burden Indicators: PM2.5 | Air pollutants from wildfires and wood fires for heat are an important exposure in some rural areas. | Comment noted. Wildfires can be an important source of PM2.5 exposure in much of the state, especially fire-prone areas of Southern California. The PM2.5 indicator captures exposures from particulate pollution from wildfires and wood fires that occurred during the 3-year period from which the indicator value was calculated (2007-2009). Future updates of the tool will use the most recent data that are available. |

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| 100. | Pollution Burden Indicators: PM2.5 | PM2.5 indicator should only include concentrations above the federal or state standard. | The effects of PM2.5 exposure are primarily chronic, and it is likely that some fraction of the population is impacted at levels below the federal standard. Based on the recommendations of the ARB, we have chosen not to base the indicator on a standard. |
| 101. | Pollution Burden Indicators: Toxic Releases | Accidental releases should be included in Toxic Releases indicator, possibly through use of the California Accidental Release Prevention (CalARP) program data. | We will consider using CalARP or other accidental release data in future versions of the tool. |
| 102. | Pollution Burden Indicators: Toxic Releases | For toxic releases indicator, weight air emissions more than emissions to waterways. | The comment reflects concern that exposure pathways are less likely from discharges to water than from emissions to air. This is a valid concern, and something that we will try to address in future versions of the screening tool. Until we have additional information that suggests how this adjustment should be made with confidence, we are not changing the handling of the toxicity-weighted emissions in the indicator. It is worth noting that the Toxic Release Inventory data includes substantially more air emissions than discharges to water bodies. |
| 103. | Pollution Burden Indicators: Toxic Releases | Recommend using Risk-Screening Environmental Indicators (RSEI) instead of Toxic Release Inventory for toxic releases, although both Toxic Release Inventory and RSEI data exclude a wide variety of potential sources that could impact EJ communities. | We will consider using RSEI data in future versions of the tool. |
| 104. | Pollution Burden Indicators: Toxic Releases | Toxic Release Inventory data are limited and not subject to agency review. Statewide data measuring exposures to toxic releases do not exist. Use air district data or 2005 NATA rather than Toxic Release Inventory. | While Toxic Release Inventory data do not include every emission source, they are currently the best, most readily available data for our purpose. We plan to include other data sources when they become available. Toxic emissions are part of the pathway from source to exposure (see CalEnviroScreen Report). |

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| 105. | Pollution Burden Indicators: Traffic Density | Traffic density data are old. Newer data may be available from local metropolitan planning organizations. Data should be updated whenever new data are available. | We have used the most recent data that are readily available for the traffic metric that was selected. We will update the tool with new data as they become available and we have the capacity to perform the analysis. |
| 106. | Pollution Burden Indicators: Traffic Density | Traffic density does not reflect exposures because it does not include meteorology, location of receptors in relation to sources, or locally maintained roads. | We have updated the method portion of the Traffic Density indicator. Meteorology, receptor locations and air monitoring at locally maintained roads are not available statewide. |
| 107. | Pollution Burden Indicators: Waste | Are hazardous waste facilities, incinerators, and other significant sources of pollution located on tribal land reflected or counted in the tool? | Sources of pollution that report to federal databases that are part of CalEnviroScreen (such as the Toxic Release Inventory) include sources that may be located on tribal land. We recognize that some pollution sources that the state maintains do not contain corresponding information about sites on tribal land. We recognize this as an issue that deserves greater consideration in future versions of the screening tool. |
| 108. | Pollution Burden Indicators: Waste | Concern that lack of activity at a waste site does not necessarily mean lack of hazard. | We agree that this situation may occur. However, for the purpose of this screening tool, we have weighted facilities by the amount of waste processed and violations information, with the assumption that greater activity and violations present a greater potential hazard. |
| 109. | Pollution Burden Indicators: Waste | Consider differences between EnviroStor sites that pose a threat and those that don't; suggest that the indicator focuses on sites that are open. | We have made adjustments to the weighting matrix for the EnviroStor cleanup sites. Closed sites have been retained in the analysis – albeit at a lower weight than active sites – out of residual concern for the presence of hazards. Some sites types/statuses are now not included in the analysis. Please see the revised indicator description in the report for details. |

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| 110. | Pollution Burden Indicators: Waste | Explain the 250-meter buffer around waste facilities. It should be 250 meters from waste handling area, not from the property boundary. | The buffer that has been incorporated into the metric for waste facilities is around the geographic point identified in the database, not the perimeter of the facility. (Site perimeters were used only for federal Superfund sites for which the data are available.) The 250-meter buffer is aimed at accommodating some uncertainty as to the true location of the hazard at the site. If site boundary/perimeter information becomes available, we will incorporate it into the method, if feasible. |
| 111. | Pollution Burden Indicators: Waste | For EnviroStor, maybe a two-tiered system (open vs. closed) would be better because current system may actually be reflecting limitations of staff time or other departmental issues rather than environmental hazards. | We have adjusted the scoring matrix for sites from the EnviroStor database, as described in the revised report. We cannot exclude the possibility that there may be some bias in the data that results from limitations of staff time or other issues. However, we do not have a clear way to address this issue currently. We believe our current scoring approach is useful for the purpose of this screening tool. |
| 112. | Pollution Burden Indicators: Waste | How were waste sites geocoded? | Site location was drawn from the latitude and longitude provided in the database. If latitude and longitude were not provided, the addresses were geocoded in ArcGIS. |
| 113. | Pollution Burden Indicators: Waste | Object to inclusion of violations for solid waste sites but not for industrial facilities. An incorrect notice of violation cannot be appealed and overturned. | We will look into the availability of additional violation data at other types of facilities for future versions of the tool. The commenter has not provided information on the prevalence of incorrect violations, so it is difficult to establish whether this is a significant source of error in calculating the indicator. |
| 114. | Pollution Burden Indicators: Waste | Permitted solid waste facilities often have a ton of information while unpermitted facilities do not; sliding scale could be used to account for this; unpermitted places cannot have violations because there are no permits to violate. | The databases used to derive the Solid Waste indicator include unpermitted sites, such as illegal and abandoned sites. The weighting matrix proposed for these unpermitted sites reflects the relative concerns for each type. |

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| 115. | Pollution Burden Indicators: Waste | The vast majority of hazardous waste-handling facilities pose no significant increased risk to human health, public safety or the environment and should not be considered sources of pollution like LUSTs. Include only sites with history of non-compliance. | The inclusion of hazardous waste handlers and generators in the screening tool represents the potential for releases to occur, rather than known, ongoing releases. As described in the report, there is also some evidence of adverse health outcomes in proximity to such facilities. DTSC was consulted in determining the make-up of the hazardous waste site indicator. |
| 116. | Pollution Burden Indicators: Waste | Worried that waste sites and facilities are identified as triggering a rating factor—all these facilities have permits and are regulated; why is this happening for the waste industry but not for other industries? | Even though waste sites are highly regulated, studies have suggested impacts from waste sites in communities. Also, as explained in the final document, waste sites and facilities, as well as other sites covered by Environmental Effects indicators, can have tangible effects on a community even when no environmental degradation can be documented. Other industries are incorporated into different indicators. For example multiple industries are covered in the Toxic Releases indicator. |
| 117. | Population Characteristics indicator: Age | Age indicator is inconsistent with OEHHA's treatment of age elsewhere, such as in risk assessments. Age ranges used for children and elderly are inconsistent with other OEHHA screening tools. | Our aim was to capture and properly weight a vulnerable population. The goals are different from those of a risk assessment or other type of tool. We feel that the age boundaries selected in the indicator will provide a relatively good measure of the relative prevalence of children and elderly in the ZIP codes. |
| 118. | Population Characteristics indicator: Age | Explain why the age of children in the age indicator was changed from <5 to <10. | The relative percentage of children at either of these two age boundaries is very similar across different ZIP codes. The larger age range was incorporated to equalize the influence of the proportion of children in a community to the proportion of elderly in a community. |
| 119. | Population Characteristics Indicators | Census data undercounts seasonal agricultural workers and some rural communities. Rural areas and tribal lands may be underweighted because of lack of data or poor quality data. | We acknowledge that census results may have some bias from undercounting certain populations. However, in this version of the screening tool, we have excluded highly unreliable estimates in census data. |

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| 120. | Population Characteristics Indicators | Community health is governed by other factors, including lifestyle and personal environment. Residential crowding and access to health care from the census and infrastructure conditions that have environmental health implications should be included (sanitation, sidewalks, streetlights, housing quality). | We have selected indicators that are related to increased exposure or vulnerability to pollution and are represented by statewide databases. We believe these indicators adequately capture important population characteristics. We may consider other indicators, such as those related to the built environment, in a later version of the tool. |
| 121. | Population Characteristics indicators | In many of these areas, public works have not given the communities the infrastructure to thrive and this may be a key factor. | We realize that there are many factors involved in a community's environmental health. Access to public works is not currently considered in the screening tool model. |
| 122. | Population Characteristics Indicators | Low birth weight and asthma are tied to various pollution burden indicators so may be double-counted. | We recognize that there are relationships between these two health outcomes and pollutant exposures. However, in the January 2013 draft version and the final version of CalEnviroScreen 1.0, they are treated as indicators of population sensitivity, rather than an indicator of the burden of pollution. This change was a recommendation of the Academic Expert Panel. |
| 123. | Population Characteristics Indicators | Low birth weight indicator duplicates poverty indicator. | The population characteristics we have chosen include factors for which statewide data are available and that have an impact on vulnerability to health effects of pollutants. In addition, LBW is considered a key marker of overall population health and risk for health problems later in life. We do not believe that the low birth weight and poverty indicators are duplicative. Our sensitivity analysis found that low birth weight and poverty were not correlated. |
| 124. | Population Characteristics Indicators | Population indicators are redundant because they are all tied to poverty. | While there are correlations between some of the different socioeconomic indicators, they have all been included here to address different aspects of vulnerability. Other Population Characteristics indicators such as children/elderly and asthma emergency department visits do not correlate well with all socioeconomic indicators. |

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| 125. | Population Characteristics Indicators | There is no basis for using race/ethnicity or linguistic isolation as indicators. | The population characteristics we have chosen include factors for which statewide data are available and that indicate potential vulnerability to health effects of pollutants. The "Rationale" section of each indicator write-up describes the basis for concern regarding the vulnerability of these populations to pollutant exposures. |
| 126. | Population Characteristics indicators: Age | Weight children more than elderly by including children through age 17 or remove elderly from age indicator - do a sensitivity analysis and discuss the results. | For CalEnviroScreen 1.0, children (<10 years) and elderly (65 years) are considered equally. We will consider alternatives to this approach in future versions of the screening tool. |
| 127. | Population Characteristics indicators: Asthma | Use of ER visits for asthma may not be appropriate in rural areas. This should be addressed. Asthma data do not match the indicator rationale. | There is no statewide data for other potential indicators that might provide a better measure of asthma burden, such as statewide asthma prevalence at the ZIP code scale. We will continue to look for other data sources for future versions of the tool. Studies cited in the rationale support the use of the asthma indicator. |
| 128. | Population Characteristics Indicators: Education | Educational attainment as predictor of health is not substantiated in the text. | References cited in the rationale for the educational attainment indicator support the use of education levels as a predictor of health status and vulnerability to environmental effects of pollutants. |
| 129. | Population Characteristics Indicators: General | Tool does not distinguish between outcomes caused by socioeconomic status (SES) and those caused by pollution exposure. Vulnerability should be treated as independent of pollution exposure. Physical environmental conditions impact all people equally. SES is the primary factor in health disparities. | Population characteristics and pollution burden are treated separately by CalEnviroScreen and then combined to arrive at a final ranking for each ZIP code. Vulnerability to the effects of pollution is not uniform from one individual to another, and factors related to SES have an impact on resilience in the face of adverse conditions. Some of the scientific evidence for differences in health outcomes among different populations is reviewed in OEHHA's report, *Cumulative Impacts: Building a Scientific Foundation*, which is available on OEHHA's web site. |

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| 130. | Population Characteristics Indicators: General | Using Census data for the population characteristics describes homes, not necessarily where people spend most of their time. | We acknowledge that population mobility and the idea that people may move in and out of polluted conditions, whether throughout the day or year, is not currently well-represented by CalEnviroScreen 1.0. It is difficult to address quantitatively, too. We would like to hear ideas about how to address this issue in future versions of the screening tool. |
| 131. | Population Characteristics indicators: Linguistic Isolation | Definition of Linguistic Isolation indicator is confusing. Rephrase. | We agree that the language used to define the linguistic isolation metric is difficult to understand. However, this is the definition of "linguistic isolation" used by the U.S. Census Bureau and is an artifact of the way the metric is calculated. We left the language to make it clear that it is the same as the Census Bureau's measure of linguistic isolation, but provide additional explanation in the report. |
| 132. | Population Characteristics indicators: Linguistic Isolation | Linguistic isolation indicator may overweight Asians and Hispanics compared to African Americans. | There are differences between the populations that are captured by the linguistic isolation indicator. We have used both linguistic isolation and race/ethnicity indicators as a way of including multiple vulnerable populations. |
| 133. | Population Characteristics indicators: Linguistic Isolation | Pleased to see linguistic isolation indicator. | Comment noted. |
| 134. | Population Characteristics Indicators: Poverty | Poverty indicator should be adjusted for the variation in cost of living across California. Use Housing and Transportation Affordability Index either as part of poverty indicator or separately. | We will consider the feasibility and benefit of making this change in future versions of the screening tool. |

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| 135. | Population Characteristics Indicators: Poverty | Recommend using both poverty level and twice poverty level as population characteristics. | Twice the poverty is the standard metric used in states such as California where the cost of living is greater. We feel that twice the poverty level adequately addresses the subpopulation of concern. Finally, since the metric measures the proportion of individuals in households below twice the poverty level, it is likely that those ZIP codes also include the highest proportion of households below the poverty level. |
| 136. | Population Characteristics Indicators: Poverty | Use Self-Sufficiency Standard or housing cost burden data instead of, or in addition to, 200% of the federal poverty level. | We will evaluate this possible change in future versions. |
| 137. | Population Characteristics Indicators: Race/ Ethnicity | Race/ethnicity indicator does not include tribal populations. | Tribal populations are included in the Race/Ethnicity indicator. 'American Indian/ Alaska Native' is a race category in the census. |
| 138. | Population Characteristics: General | Narrative regarding vulnerability refers to one's vulnerability to pollutants only, which is a narrow view and sounds like a cause and effect relationship that may not be justified. | For the purpose of this screening tool, we are looking at indicators of population vulnerability for which there is concern for heightened response to environmental pollutants. We acknowledge that there are more expansive views of population vulnerability that include other factors. Because the purpose of the screening tool is to compare pollution burdens and vulnerabilities in localities throughout the state, the interpretation of vulnerability will remain the same. |
| 139. | Population Characteristics: New Indicators | Include regions most at risk for extreme weather, including extreme heat waves. | Vulnerability to weather phenomenon and changes in weather that may be related to climate change is an important subject that is not included in the current version of CalEnviroScreen. Future work and versions of the tool may examine this issue for possible inclusion. |

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| 140. | Socioeconomic Factors indicator: Linguistic Isolation | Have primary languages contributing to linguistic isolation been identified? Would providing materials in these languages fix this problem? | No, they have not been identified in the screening tool. However, the household languages that are contributing to linguistic isolation in a specific ZIP code (or other geographic unit) are available from the American Community Survey. |
| 141. | Socioeconomic Factors indicator: Race/ethnicity indicator | 'Race/ethnicity' indicator is a complicated variable; much variation in burden exists between different ethnicities. | Yes, we agree that race/ethnicity is complicated and a challenge to represent as a single measure. However, in conjunction with socioeconomic indicators, we feel it is useful. The 2010 report, *Cumulative Impacts: Building a Scientific Foundation,* identified that certain health outcomes in response to pollution may be influenced by race. |
| 142. | Socioeconomic Factors indicator: Race/ethnicity indicator | Explain definition for 'Race/ethnicity' indicator better. | The text to this indicator has been revised in the report to clarify the definition. |
| 143. | Socioeconomic Factors indicators: vulnerability | Vulnerability relates to socioeconomic factors, like lack of access to health care, in addition to exposure to pollutants. | We realize that there are likely to be other important vulnerability factors, including access to health care. We believe that the suite of indicators related to socioeconomic status presents a broad picture of population vulnerability, especially as it relates to potential vulnerability to the harmful effects of pollution. |
| 144. | Process | Emphasize that CalEnviroScreen should not be used for California Environmental Quality Act (CEQA) or any other land use decision-making purpose; specify how it should not be used. | Please refer to the CalEnviroScreen 1.0 report for additional information on this point. |

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| 145. | Process | CalEnviroScreen should be used for CEQA analysis, even though it doesn't substitute for site-specific analysis of a project's cumulative impacts. If results generated by CalEnviroScreen are pertinent to the environmental setting, lead agencies must disclose and consider them in describing that setting. This should be stated. | Please refer to the CalEnviroScreen 1.0 report for additional information on this point. |
| 146. | Process | Recommend public comment period for any changes to the tool. | Transparency and public input into government decision making and policy development are the cornerstones of environmental justice. We held two public comment periods prior to finalizing CalEnviroScreen 1.0. We are committed to continued public participation and input, and will provide ample opportunities for public input before when we develop future versions of the tool. |
| 147. | Process | Concerned with the limited notice of public workshop, deadline for comments and lack of outreach. | Comment noted. We carried out an extensive outreach effort over the years that CalEnviroScreen 1.0 has been under development because it is important that stakeholders and interested parties participate in the development process. As a result of this outreach effort, we learned a lot about the business groups, local governments and non-governmental organizations that are interested in this tool, and their overall opinions and concerns about it. This will help us develop outreach plans in the future to help ensure full participation by all interested groups and individuals in the development of upcoming versions of the tool. |
| 148. | Process | It appears that OEHHA is seeking some way to ensure that CalRecycle and DTSC are involved, thus solid waste and hazardous waste facilities are used as Environmental Effects indicators. | When selecting pollution burden indicators, the criteria considered included a range of factors, including whether or not the indicator relates to issues that may be actionable by Cal/EPA. |

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| 149. | Process | CalEnviroScreen will enable "greenlining" rather than "redlining". | Cal/EPA will continue to work with local and regional governments to further explore the applicability of CalEnviroScreen for other uses including the possibility of helping to identify and plan for opportunities for sustainable development in heavily impacted neighborhoods. These areas could also be targeted for cleaning up blight and promoting development to bring in jobs and increase stability. As an example, the tool could assist efforts to develop planning and financial incentives to retain jobs and create new, sustainable business enterprises in disproportionately impacted communities. Of course, it will be important to work with organizations such as economic development corporations, workforce investment boards, local chambers of commerce, and others to develop strategies to help businesses in the identified areas thrive and to attract new businesses and services into the identified areas. |
| 150. | Process | If CalEnviroScreen is used for CEQA it could drive investment away from needy communities and stigmatize them ("redlining"). Special interest groups could use tool for their own purposes and reduce development and investment in poor communities. Specify that tool should not be used for redlining or to define "bright line impact zones." | Redlining has been defined as the action or practice of a financial institution refusing to grant a loan or insurance to an area considered to be of significant financial risk, or offering these services at prohibitively high rates. The federal government's guidance on the Fair Housing Act (Title VIII of the Civil Rights Act of 1968) defines it as the practice of denying a creditworthy applicant a loan for housing in a certain neighborhood even though the applicant may otherwise be eligible for the loan. <br><br> CalEnviroScreen does not propose any new programs or regulatory requirements, and would not have any impact on existing state and federal laws and regulations prohibiting redlining. The tool identifies areas with varying degrees of environmental burdens and vulnerabilities, and is intended to create a starting point for transformative policies and investment in burdened communities across the state. Pursuant to SB 535, one key use of CalEnviroScreen will be to identify disadvantaged communities for investments from the state's Greenhouse Gas Reduction Fund. |

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| 151. | Process | Tool should not be used for risk assessment. | We agree. The tool's output should not be used for a focused risk assessment of a given community or site. This is stated in the guidance in the final document. |
| 152. | Process | Tool may be appropriate for SB 535 and similar programs. | We agree. CalEnviroScreen will inform Cal/EPA's implementation of the mandate to identify disadvantaged communities contained in SB 535. The bill requires Cal/EPA to identify disadvantaged communities based on geographic, socioeconomic, public health, and environmental hazard criteria. |
| 153. | Process | CalEnviroScreen should not be the only determinant of SB535 funding. Funding should not be based entirely on this tool because it doesn't adequately represent tribal communities. | The investment plan developed and submitted to the Legislature pursuant to AB 1532 (John A. Pérez), Chapter 807, Statutes of 2012, must allocate 25 percent of available proceeds from the carbon auctions under California's Global Warming Solutions Act of 2006 to projects that will benefit disadvantaged communities, and at least 10 percent of the available moneys directly in such communities. However, the remaining proceeds are not required to be allocated to disadvantaged communities. |
| 154. | Process | Specify exactly where CalEnviroScreen is appropriate and inappropriate. | Please see the discussion in the guidance that is part of the final CalEnviroScreen 1.0 document. |
| 155. | Process | Tool should be made adaptable for use by local governments and for regional ranking in addition to statewide ranking. | Cal/EPA and OEHHA will continue to maintain a dialogue with interested local government agencies on how they can use the tool appropriately. In addition, we will consider ways to adapt the tool for use by local governments and other purposes in future versions. |
| 156. | Process | An interactive online version of the tool would be useful to decision makers and the public. It would be helpful to allow users to add anecdotal neighborhood level data. | We will consider adapting the tool for this purpose in future versions. |

| No. | Category | Comment | Response to Comment |
|---|---|---|---|
| 157. | Process | Tool should not be used for permitting, enforcement, regulatory guidance or rule making. Tool should not be used by local governments. Potential uses of tool should be limited. | Please refer to the CalEnviroScreen 1.0 report for additional information on this point. |
| 158. | Process | Cal/EPA should test the tool internally within the agency's boards, department and office before releasing for public use. | Cal/EPA's intention has always been to make the tool and the data sources it uses available to the public. Input from the Cal/EPA boards and departments have been critical in shaping the tool. |
| 159. | Process | Avoid placing limits on use of the tool at this time. | Please refer to the CalEnviroScreen 1.0 report for additional information on this point. |
| 160. | Process | CalEnviroScreen results are not appropriate for assigning responsibility for environmental or public health effects, mandating mitigation or investment or proof of harm. Studies cited in the report do not provide evidence for cause and effect. | The tool is not a risk assessment or a health outcome study and is not intended to identify responsible parties or to determine mitigation measures. The scientific studies cited in the report provide support for the choice of metrics used in the tool, and provide evidence of associations between environmental or population factors and health outcomes. |