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September 15, 2014

Honorable Matt Rodriquez
Secretary, Cal EPA
California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814

Mary Nichols
Chairman, California Air Resources Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Secretary Rodriquez and Chairman Nichols:

On behalf of the Northern Sierra Air Quality Management District (NSAQMD), I am responding to the California Air Resources Board's request for comments on "CalEPA's identification of disadvantaged communities for priority investments of Auction Proceeds."

First, I would like to apologize for submitting comments on the last day of the comment period. The amount of material to review is substantial given the amount of time in which to review it, and given the resource challenges of small rural air districts. These comments have not been thoroughly reviewed by NSAQMD's Air Pollution Control Officer due to time constraints, and are my comments as the manager of planning for the NSAQMD.

General Comments

Cap and Trade funds ("auction proceeds") expenditure is to be partly directed by the data contained within the CalEnviroscreen spreadsheet-based prioritization tool, per SB 535. The final scores yielded by CalEnviroscreen are derived from a combination of numerous parameters. As a whole, the methodology yields the highest final scores for urban areas with small census tracts and intensively agricultural areas. In many ways, it is clearly skewed against disadvantaged communities that happen to be located in rural census tracts, particularly in mountainous areas with an abundance of federally owned land.

There are mountainous rural towns with high levels of pollution, high unemployment and high poverty, but they are outscored in CalEnviroscreen by urban and agricultural census tracts that have much lower unemployment and poverty rates. This is because of the number and types of indicator categories included, and because the census tract level is not adequate for identifying disadvantaged small towns in rural districts with high levels of pollutant exposure.

The final CalEnviroscreen score is based on 19 indicators. Census tracts are ranked for each indicator. This method of ranking is one of the main flaws in the CalEnviroscreen scoring system. For example, ozone and PM 2.5 tend to be slightly higher in areas where the census tracts are smaller (denser population, as in Los Angeles), and all tracts are ranked to get percentiles, so nonattainment areas that have only slightly lower ozone and PM concentrations get knocked way down on the scale. Instead of ranking all census tracts, they should be weighted by the percent their concentrations are of the highest value in the State. Speaking more broadly, small differences in pollution or socioeconomic conditions can make a huge difference in rank and, thus, overall score. The basic tenet of the CalEnviroscreen ranking system that every tract has to be placed on a scale of 1 to 100 for every attribute is unnecessary, and artificially exaggerates minor differences.

Half of the pollution burden indicators related to waste and water quality. A low score in two or three of them makes it almost impossible for a tract to rank in the highest-scoring 5%. By including so many water quality-related parameters, uplands and mountain counties are almost guaranteed to score lower than downstream urban and irrigated sites.

The indicator weighting system makes unemployment and poverty equal in importance to typically urban and agricultural characteristics such as linguistic isolation and production-agriculture pesticide use. Only 3 of the top-scoring 399 tracts (5%) are in the bottom 40% for both linguistic isolation and pesticides. In other words, if a tract is not heavily agricultural or heavily non-English speaking, it is very unlikely to rank in the top 5%. Due to the choice of indicators, rural areas, especially mountainous ones, are marginalized.

More than 97% of the top-scoring 5% of census tracts, including all of the top 165, are in the South Coast or San Joaquin Valley air districts. Certainly, those areas have a number of disadvantaged communities, but there are seriously disadvantaged communities in rural areas that are overlooked by the CalEnviroscreen methodology and, particularly, its final score formulation.

Some of the methodologies (e.g. Diesel Exposure) break down in large census tracts with a lot of public land, which are typical of mountainous rural areas. Whenever a category parameter is divided by the area of the census tract, it is diluted by the presence of forest land or rangeland and the results are skewed so as to lower the score for that area. This results in artificially low scores for disadvantaged communities that are isolated in rural areas with large census tracts. Also, the indicator categories with buffer zones favor small census tracts by allowing scores to be largely shared among adjacent tracts, whereas rural areas with large census tracts do not see much score inflation from buffer zones. In addition, the methodology slightly favors more populated census tracts; the top-ranking 5% of tracts average approximately 300 more people than the bottom-ranking 5%.

CalEnviroscreen is based on a ranking system in which every census tract gets a score for every category of indicator, so one area with only very slightly better air quality than another area can end up scoring a whole lot lower. The water pollution methodologies favor urban areas. The presence of a single pollutant (things like elevated water temperature, low dissolved oxygen and sediment count as "pollutants") raises the score of hundreds of miles of a waterway (or canal), but the concentrations are ignored. Downstream aquatic environments get all the pollutants from all of their tributaries, while rural areas that tend to be nearer the headwaters can have high concentrations of one or two real pollutants but the methodology marginalizes them. Downstream communities and small census tracts consistently score higher. Urban areas also tend to do more water quality monitoring, and monitor for more parameters, than rural areas, so they are more likely to identify and record the presence of pollutants. Further, there's no rationale for which pollutants are included in the drinking water methodology (e.g. mercury, a frequent and serious contaminant in many mountain counties, is ignored).

The choice of factors that are not included also works against rural areas in some ways. Some factors that relate to the degree in which a community is disadvantaged but which are not included in CalEnviroscreen include the cost of home heating; geographic isolation (relates to employment opportunities in light of job skills); and the amount of per capita public assistance/business assistance/environmental improvement money already expended in the census tract. Also, it appears that toxic and criteria residential wood burning emissions, biomass disposal burning emissions, biogenic emissions and wildfire emissions are not considered in the CalEnviroscreen methodology.

Indicator Categories

Following is a discussion of some of the indicator categories, with comments on their respective methodologies.

OZONE & PM 2.5

As mentioned previously, these should not be placed on a 1 to 100 scale. That approach results in areas with only slightly lower pollution concentrations receiving a disproportionately much lower score.

Also, the ozone ranking method was to average the amounts an area was over the standard from 2009-2011 data. Cities tend to have larger peaks, but then the ozone drops off in the late afternoon, whereas rural areas have smaller peaks that last longer, and the 24-hour concentration (as well as the annual concetration) is often higher in rural areas. This peak-oriented approach clearly favors urban areas over transport-impacted rural areas.

Regarding PM2.5, it is not clear in the methodology if data from exceptional events are included.

DIESEL PARTICULATE MATTER

Data from rail yards that were chosen by the State to be thoroughly emission-inventoried are included, whereas other rail yards are simply treated as rail lines. Also, since no adjustment was made for ambient temperature, which affects idling decisions, increased idling in colder rail corridors is unaccounted for.

Diesel emissions are based on a single day in July. However, people idle their diesel trucks in cold counties for extended periods during the winter for personal warmth and to keep the engines warm. Also, snow removal equipment and longer transportation times in winter in mountain communities are not accounted for. There should be a coldness factor because all of the idling regulations exempt idling for necessary warmth.

The relative extent of an area's emission inventory is a major source of error. Rural districts do not have the staff to enter smaller sources into CEIDARS or update them regularly, so they do not show up in CEPAM and are missed by the methodology (or in some cases spread throughout a county, regardless of whether areas are inhabited or not). Also, some districts are much more diligent about area-wide emission reporting than others. Thus, the methodology favors well-funded air districts that receive money from many funding sources that rural mountain counties do not receive money from, including Section 105 grants. It also favors nonattainment areas that have had to take a closer look at their emissions than attainment/unclassified areas, which tend to be rural.

The on-road portion is a function of population density and does not make sense in a tract with national forest land and private timber land. Almost all of the tract's emissions may be in a small, disadvantaged community but they are diluted by having an overall low total due to uninhabited areas.

DRINKING WATER CONTAMINANTS

Mercury is a potent water contaminant found in mountainous rural areas where gold mining occurred. It should be included in the list of contaminants selected for inclusion in the drinking water scoring. Also, it is not clear why the methodology does not account for potency of the various chemicals.

PESTICIDE USE

This obviously works against rural mountain counties. Giving this category full scoring value makes it unlikely that mountain counties will finish in the highest priority funding group, since mountain counties have little or no reported agricultural pesticide use. Only pesticides used in "production-agriculture" are counted. Pesticides and herbicides used in forest management, invasive species control, golf course management, roadside vegetation control, under power lines and along train tracks are ignored.

Also, daily pesticide exposure from food should be used to dim the influence of pesticide application locations (giving all areas a starting point above zero). People still

get pesticides in their food regardless of where they live, especially in cold rural areas with short growing seasons and limited access to naturally grown vegetables.

The methodology does not indicate if herbicides and fungicides are included as pesticides. This should be clarified.

TOXIC RELEASES FROM FACILITIES
Since the Toxic Release Inventory (TRI) is the only source of data for this indicator, smaller sources and their localized impacts are ignored. Only sources in certain industry sectors with 10 or more employees that manufacture or process more than 25,000 lbs., or use more than 10,000 lbs., of TRI-listed chemicals have to report to the TRI.

TRAFFIC DENSITY
This indicator appears to double-count on-road DPM emissions. It also arguably double-counts low birth weight (the report states that low birth weight is associated with traffic density).

This metric clearly works against large census tracts (rural areas), in spite of the fact that a high percentage of the residences and businesses are located adjacent to highways. Also, the inclusion of a150-meter spillover buffer from adjacent tracts obviously results in higher scores for locations where tracts are small.

CLEANUP SITES
This indicator is also a function of diligence on the part of public officials, which is related to staffing levels and budgets. There are rural areas where nobody has ever looked for leakage from underground storage tanks. Toxic sites are usually discovered through soil analyses associated with development or facility upgrades, which are less common in rural areas and less closely monitored.

Where census tracts are close together, multiple tracts get points for each site because of the 1,000-meter (.6-mile) radius.

It is not clear in the methodology if this might double-count Groundwater Threats.

Cleanup sites on Federal land are not reported to the DTSC EnviroStor state database that is used, so most mine-related cleanups (frequently located on federal land) are missed.

GROUNDWATER THREATS
It appears that at least some of the Cleanup Sites from the previous indicator are also included in this indicator. If that is not the case, then the methodology should make that clear. Nonetheless, it would make sense to combine Cleanup Sites and Groundwater Threats.

Again, the 1-km buffer favors small census tracts. It seems odd that tracts get credit for groundwater threats even where drinking water comes from elsewhere, whereas many wells in rural areas (which are typically not monitored for groundwater contaminants) are contaminated but missed by the methodology.

HAZARDOUS WASTE GENERATORS AND FACILITIES
By only including hazardous waste generators producing over 1,000 kg (2,205 lbs) of hazardous waste per month, small businesses (which predominate in rural areas) that can have localized effects are ignored.

IMPAIRED WATER BODIES
Again, the mountain counties are discriminated against. This metric, which includes canals, obviously favors downstream locations and is biased by watershed size. For example, Headwater A may have one pollutant, while Headwater B may have another. When they join to form Waterway C, it then has 2 pollutants, doubling its priority. The number of pollutants listed in each stream, lake or canal is the most important factor. One bad result at one time during one year can result in 303(d) listing for more than 1,000 miles of stream.

"Pollutants" in the database that's used include water being outside the optimal temperature range for a given fish species, sediment, excessive nutrients, certain bacteria, low dissolved oxygen, turbidity and other things that aren't generally thought of as pollutants and are poor indicators of human exposure to pollution. There is little quality control in sample collection, and the number of samples, sampling frequency and pollutants tested for vary widely from one water body to the next. It is not surprising that a lot of canals are impaired, being completely artificial habitats, but the health effects of things like sediment, low dissolved oxygen and elevated temperatures on the health of people living within a kilometer of these canals is dubious.

Also, it is not clear in the methodology why certain waterways were given larger buffers (e.g. Sacramento/San Joaquin River Delta waterways, "the Los Angeles River and Imperial Valley canals and drainage ways," and lakes/bays greater than 25 sq. km).

ASTHMA
People living farther from a hospital (such as in rural areas) are less likely to go there for asthma. Poorer people and uninsured people are also less likely to go to hospitals. It is uncertain how these factors might affect the CalEnviroscreen scores.

LOW BIRTH WEIGHT
Births with PO boxes (rural areas) as opposed to known residential addresses were excluded. Also, data for places with few births (such as small, isolated communities) were "smoothed," pushing them closer to the state average. Conversely, places with many births (typically big cities) were unaffected by the smoothing.

EDUCATIONAL ATTAINMENT and LINGUISTIC ISOLATION
The Educational Attainment indicator uses a traditional American high school diploma as the cut-point for being educated. Therefore, areas with heavy immigrant populations end up appearing less educated, even if they have been well educated in a different educational system in their home countries.

Educational Attainment and Linguistic Isolation tend to go hand-in-hand. Most tracts that score high in one also score high in the other. Again, the methodology favors intensively agricultural areas and international neighborhoods (typically found in big cities).

Also, using a high school degree as the standard for educational attainment favors urban areas, where there are numerous trade opportunities for young people as alternatives to finishing high school. However, in reality it may make more sense to use a bachelor's degree or higher as the bar for attaining a meaningful education. A high-school diploma isn't enough to prevent people from being disadvantaged.

POVERTY & UNEMPLOYMENT
These indicators should receive a greater share of importance for purposes of SB535. They should be weighted more heavily than the other indicator categories for the purpose of identifying disadvantaged communities.

Example: Portola, California
Portola, California is a relatively isolated community in Plumas County. It is in the pending federal PM2.5 Portola Valley Nonattainment area (to be finalized in December, 2014), and is the only incorporated city in Plumas County. Census bureau statistics indicate that Portola's unemployment rate is 26.87% (equal to the 98.65 percentile of census tracts). 56% of the population lives below double the federal poverty level, and job opportunities are scarce. House values are low and heating costs are high. There are few local public assistance programs, and very little funding available to improve environmental or employment conditions. Only 11.7% of people in Portola attended school past high school, as opposed to the state average of 30.5%. Portola is clearly a disadvantaged community.

Portola is among the coldest cities in California, with a 6-month winter average daily low of 22 degrees Fahrenheit, and natural gas is not available there. As a result, many residents use wood to heat their homes, which is the main reason for the pending nonattainment status. Wintertime inversions trap smoke against the valley floor, where most of the population resides, creating a grey pall over the town that can last for months. The population has been declining for many years.

In the center of Portola is one of the State's 32 rail yards, and the coldest, but since it is not thoroughly inventoried and the tract it's in is huge, the tract only scores in the 1.26 percentile for Diesel PM. In addition, many residents drive older-model diesel vehicles that idle extensively during cold weather, and high-emitting logging trucks are common

on the main road through town. Snow removal equipment and snowmobiles are also prevalent. These types of things are not captured by the CalEnviroscreen tool, which bases its diesel emissions on a single day in July.

Portola is located within a very large census tract that is primarily national forest land, with a substantial portion of private forest land and vacant chaparral as well. It is at the headwaters of a river, so the Impaired Water Bodies parameter is not inflated by having multiple contributing streams or a large watershed area.

Being in a resource-challenged rural air district, Portola's emission inventory does not include all diesel generators and other types of small, more area-wide sources that have been inventoried in larger air districts with a history of federal nonattainment issues.

Additional Recommendations

Rely on information from CalEnviroscreen, but do not rely entirely on the final score. Apportion some of the available funds to communities that are simply economically disadvantaged and are nonattainment (or newly nonattainment) for one or more criteria pollutants.

In light of the inequities inherent in the CalEnviroscreen tool, rural air districts should receive a portion of the funding to allocate toward greenhouse gas and other climate pollutant prevention, reduction and sequestration projects, within the parameters of all relevant legislation. They should be allowed to allocate monies with an emphasis toward benefitting communities that those districts have identified as being disadvantaged.

There should be an indicator of how much public assistance money is already being directed to each census tract, at least under programs intended to assist disadvantaged communities.

Conclusion

Rural air districts tend to have very limited staff and capital resources, and have largely been unable to maintain a seat at the table during the GGRF policy formulation and decisions to date, particularly with all of the relevant public meetings being held in large, heavily populated air districts.

Nonetheless, rural areas, particularly those that are heavily forested, have tremendous potential for decisions about carbon storage and resource utilization to make a significant difference in the climate pollutant balance, especially on a per-capita basis. Sound forest management decisions can be the make-or-break on climate change, from reducing large wildfire events to carbon sequestration opportunities to black carbon reduction programs. Rural areas without natural gas and with an abundance of firewood are poised to reduce black carbon generation meaningfully through woodstove

change-out programs and the development of alternatives to open burning. From a climate change perspective, it is important to empower disadvantaged rural communities to reduce their emissions of climate pollutants.

The CalEnviroscreen Guidance document's Guidance from the Secretary section cautions on page iii, "Finally, it is important to remember that CalEnviroScreen provides a broad environmental snapshot of a given region. While the data gathered in developing the tool could be useful for decision makers when assessing existing pollution sources in an area, more precise data are often available to local governments and would be more relevant in conducting such an examination."

Thank you for your consideration of these comments.

Sincerely,

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