Blue Whales
Blue Skies

2026 Blue Whales and Blue Skies Program
Statewide Expansion Overview

On October 24, 2025, California Assembly Bill 14, "Coastal resources: Protecting Blue Whales and Blue Skies Program" (AB-14) was signed into law[1], authorizing statewide expansion of the voluntary Vessel Speed Reduction (VSR) program to reduce air pollution, the risk of fatal vessel strikes on whales, and harmful underwater acoustic impacts.

The statewide VSR zone and season will be in effect from April 22 through December 31, 2026 for all oceangoing vessels ≥300 gross tons.

The Protecting Blue Whales and Blue Skies Program (BWBS) is committed to a science-based, collaborative, and adaptive program that delivers meaningful conservation outcomes while respecting the complexities and economic pressures of maritime operations. This document provides context for the 2026 statewide voluntary VSR program, including how input shaped the 2026 program and the data-driven rationale for the program design.

It includes an overview of:

- The stakeholder engagement and industry consultation process
- Program adjustments made in response to industry input
- The data, science, and rationale supporting statewide expansion and season timeline extension

As context for this information and the program design, BWBS is a **voluntary program**, and:

- Safety of navigation is paramount and always at the discretion of the vessel operator
- The program does not direct routing decisions
- Communications focus on positive recognition of participation
- There is no penalty for not participating
- Individual company performance is not publicly disclosed

1. Stakeholder Engagement and Consultation on Statewide Expansion

The statewide expansion represents an iterative process shaped by ongoing engagement with industry and agency and other organization partners.

[1] Assembly Bill-14 Coastal Resources: Protecting Blue Whales and Blue Skies Program

Between October 2025 and March 2026, BWBS worked to share information, gather input, and refine the program:

- **October 2025**: Assembly Bill 14 was signed into law, expanding the BWBS program statewide effective January 1, 2026.
- **November 2025**: BWBS Program participants and the broader shipping industry were notified of the statewide expansion through press releases and public communications.
- **December 2025-January 2026**: Input was solicited on the proposed expansion of the VSR zone and potential season adjustments. Feedback was solicited and collected through:
    - Online surveys distributed directly to trade associations, program participants, as well as the broader shipping community
        - 14 participating shipping lines responses received
    - A paid feature article in Maritime Executive
    - A BWBS newsletter circulated to over 1,000 maritime industry contacts
    - LinkedIn communications
- **January 2026**: Briefings were held with port partners and coastal air district agencies to share early concepts and gather feedback.
- **February 2026**: A detailed briefing document was shared outlining a proposed statewide VSR zone and season, along with the supporting data on whale distribution, air quality, and vessel traffic patterns. The document also summarized key themes from industry survey responses. The briefing was distributed to a range of maritime and government stakeholders, including:
    - Shipping Trade Associations
    - Marine Exchanges
    - U.S. Navy, U.S. Coast Guard, and U.S. Environmental Protection Agency (EPA)
    - Ocean Protection Council

  Virtual meetings were hosted with each group to review the proposal and discuss the underlying data and operational considerations. Key takeaways from these discussions:
    - Federal agency partners did not raise concerns with the proposed 2026 VSR Zone or season.
    - Marine Exchanges were neutral but provided constructive input on zone design and navigational and operational considerations.
    - Ocean Protection Council staff expressed support for the proposal.
    - San Diego County Air Pollution Control District and Northern Sonoma County Air Pollution Control District joined as new BWBS partners, reflecting continued alignment on air quality goals.
- **March 2026**: Additional discussions with Shipping Trade Associations led to adjustments on the proposed VSR zone, timeline, and award recognition tiers.

2. 2026 Program Adjustments Based on Industry Feedback

Several key elements of the 2026 program were refined in response to industry input:

Zone Design
The offshore boundary of the proposed 2026 VSR zone was reduced and the zone extent was adjusted to better align with vessel transit patterns. A larger potential VSR zone that covers additional important whale habitat and air quality areas will not be advanced at this time, allowing for more industry evaluation and discussion.

Season Start Date
A proposed season start date of April 1 was adjusted to April 22 to provide vessel operators with additional time to incorporate zone updates into voyage plans.

Relaxed and Expanded Recognition Structure
Acknowledging that the 2026 VSR Zone is a notable expansion, BWBS updated the award tiers to recognize effort to cooperate across a wider range of operating scenarios:

- Blue Sky: 30-49% (previously 50-69%)
- Gold Level: 50-74% (previously 70-89%)
- Sapphire Level (Whale Tail Awardees): 75-89% (previously 90-100%)
- Star Sapphire (Whale Tail Awardees): new category for participants that achieve cooperation rates of 90% or above.

3. Scientific and Data-Driven Rationale for Statewide Expansion and Season Timeline Extension

Whale Conservation Considerations - Statewide Expansion

Since 2007, decisions made on the VSR zone design reflect the best available data on whale distribution and risk. To inform the spatial extent of the VSR zone, BWBS relies on data from several sources, including 1) visual sightings data from aerial[2] and ship-based surveys, 2) habitat suitability models[3] and predicted density models[4], and 3) regional Biologically Important Areas[5], which represent critical feeding habitat for species of concern.

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[2] Anastasia Kunz, Ryan Freedman, Jessica Morten, Sean Hastings "Aerial Monitoring of Endangered Whales in the Santa Barbara Channel to Enhance and Inform Whale Conservation," Western North American Naturalist, 85(2), 185-192, (9 May 2025)
[3] Anna C. Nisi *et al.*, Ship collision risk threatens whales across the world's oceans. *Science* **386**, 870-875(2024). DOI:10.1126/science.adp1950
[4] Abrahms B, Welch H, Brodie S, et al. Dynamic ensemble models to predict distributions and anthropogenic risk exposure for highly mobile species. Divers Distrib. 2019;25:1182–1193. https://doi.org/10.1111/ddi.12940
[5] Calambokidis J, Kratofil MA, Palacios DM, Lagerquist BA, Schorr GS, Hanson MB, Baird RW, Forney KA, Becker EA, Rockwood RC and Hazen EL (2024) Biologically Important Areas II for cetaceans within U.S. and adjacent waters - West Coast Region. Front. Mar. Sci. 11:1283231. doi: 10.3389/fmars.2024.1283231

The available data shows that:

- Endangered and threatened whale presence is not limited to nearshore areas off California (see Figure 1 below)
- Several Biologically Important Areas for whale areas extend farther offshore of the 2025 VSR zone boundaries (see Figure 2 below)

Figure 1. Biologically Important Areas (BIAs) for Blue, Fin, and Humpback Whales

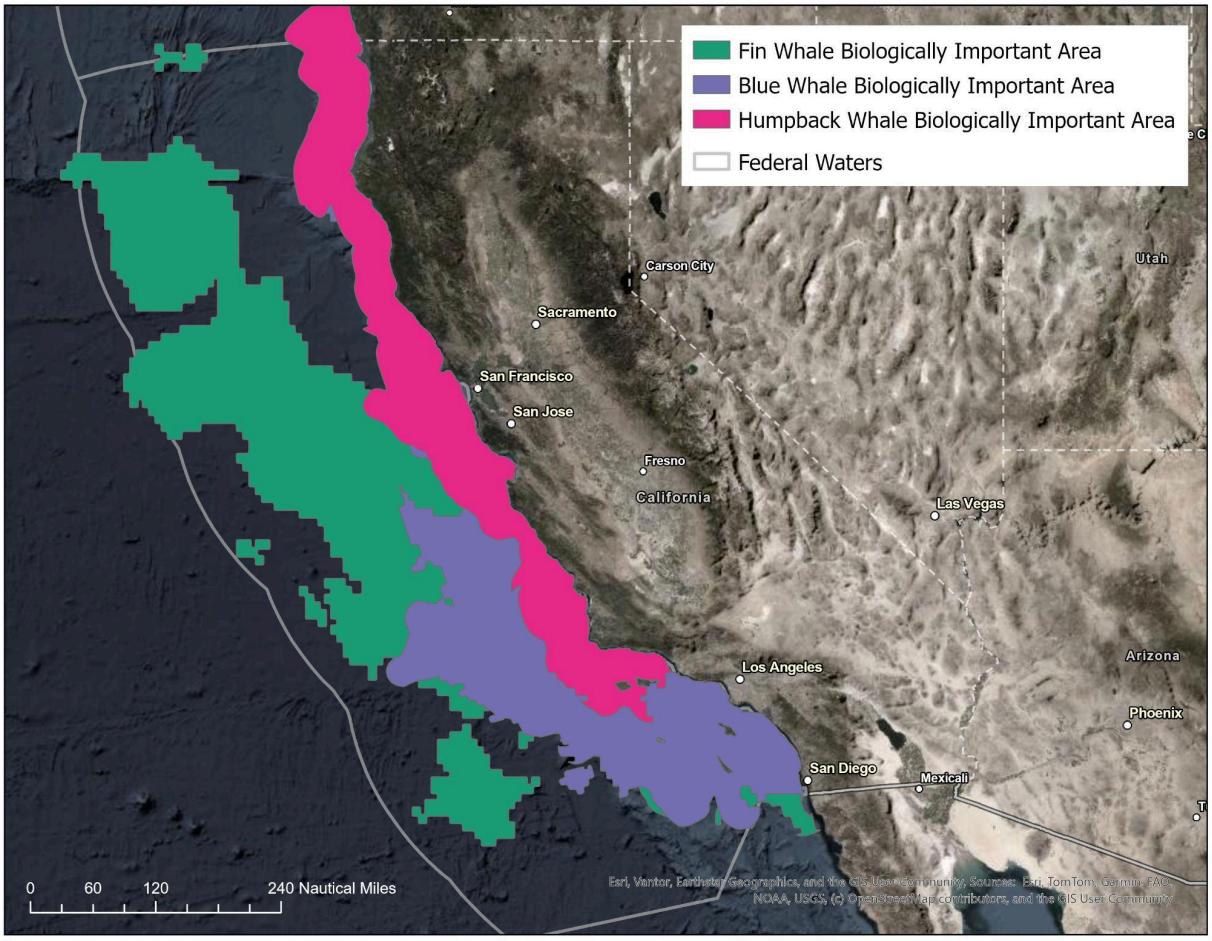
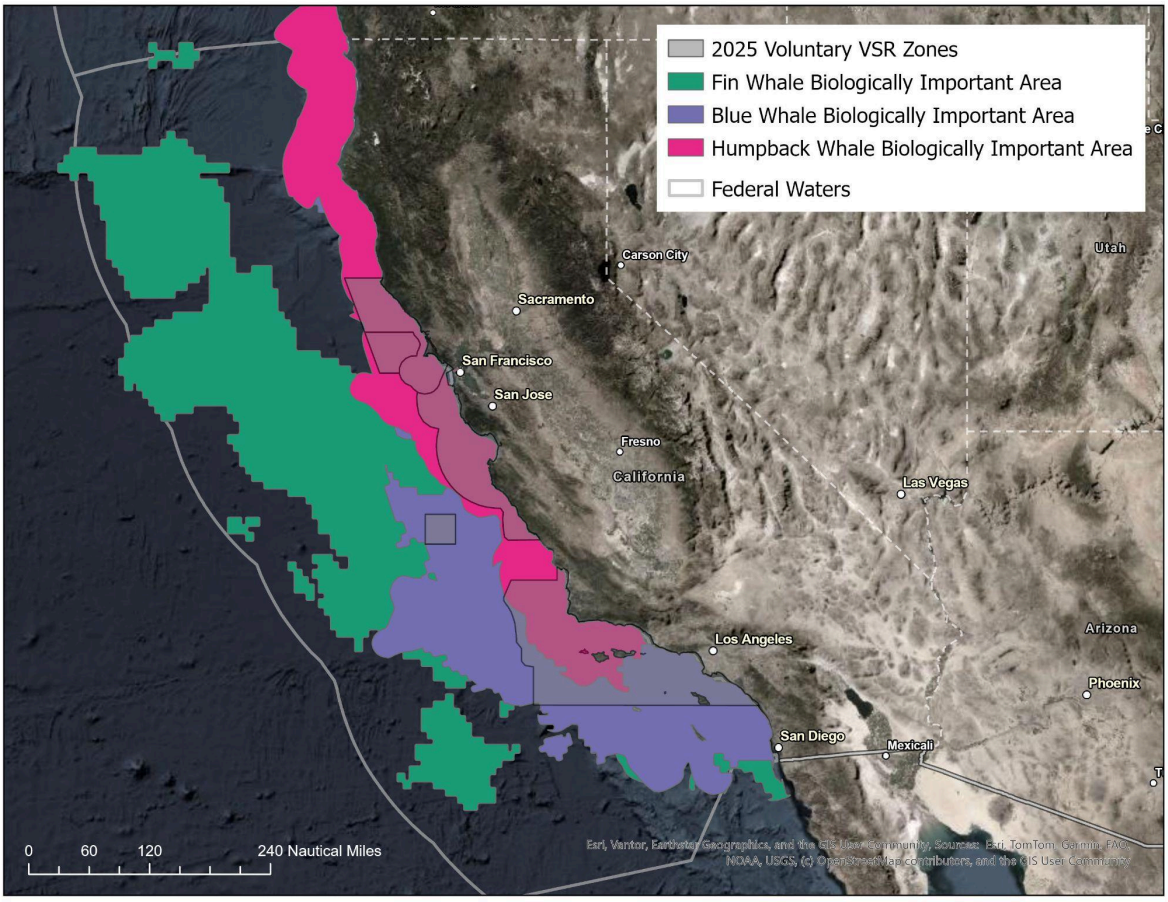


Figure 2. 2025 VSR Zones with BIAs for Blue, Fin, and Humpback Whales



We have observed:

- Some vessel routes shifted just outside the VSR zones (see Figure 3 below)
- Vessel speeds just outside the VSR zones increased (see Figure 4 below)
- This can unintentionally displace risk to whales rather than reduce it (see Figure 5 below)

Figure 3. Change in Cargo and Tanker Distribution and Density, May-December 2022 vs. May-December 2024

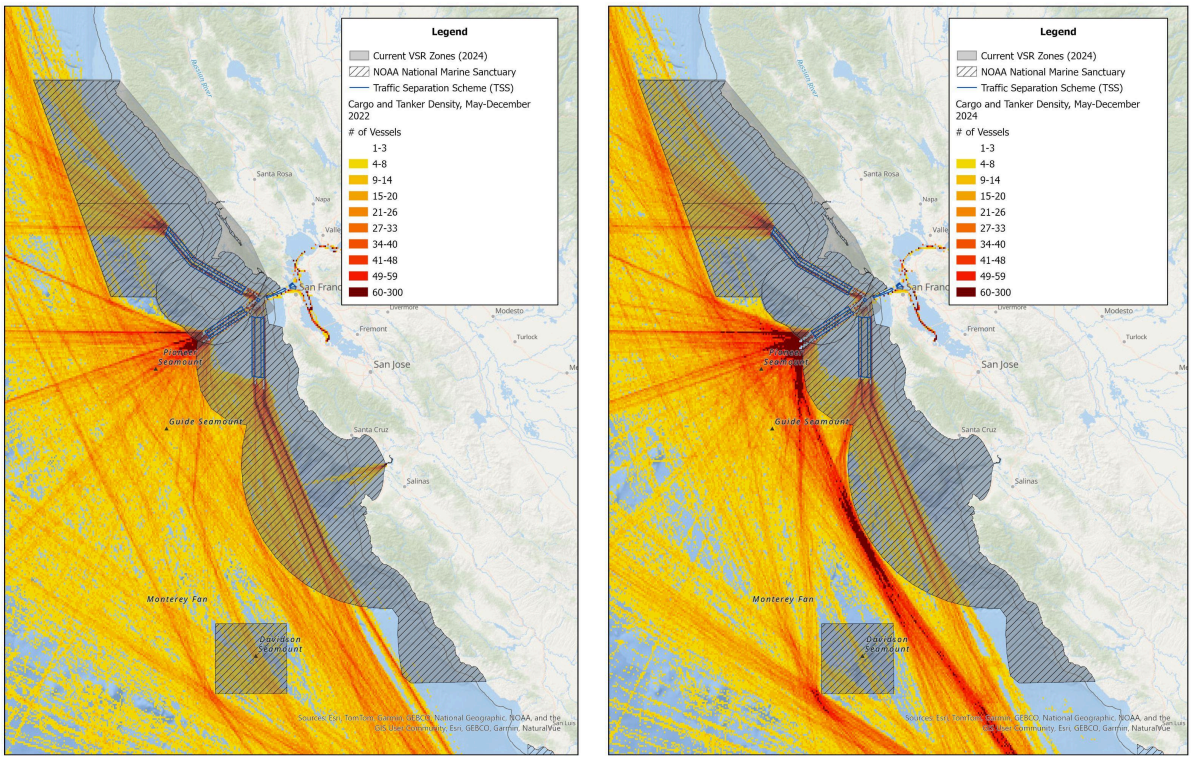


Figure 4. Speed Analysis of Cargo and Tanker Vessel Data Inside and Offshore of the Central California VSR Zone before and after VSR implementation

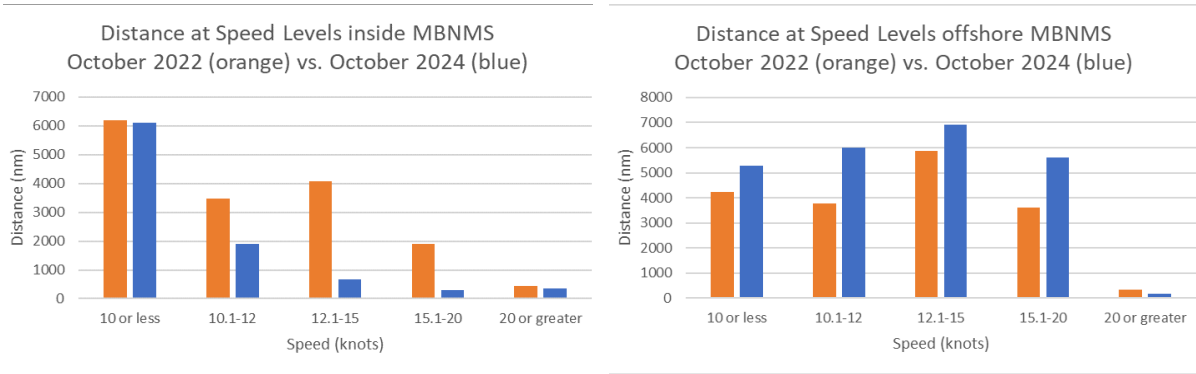
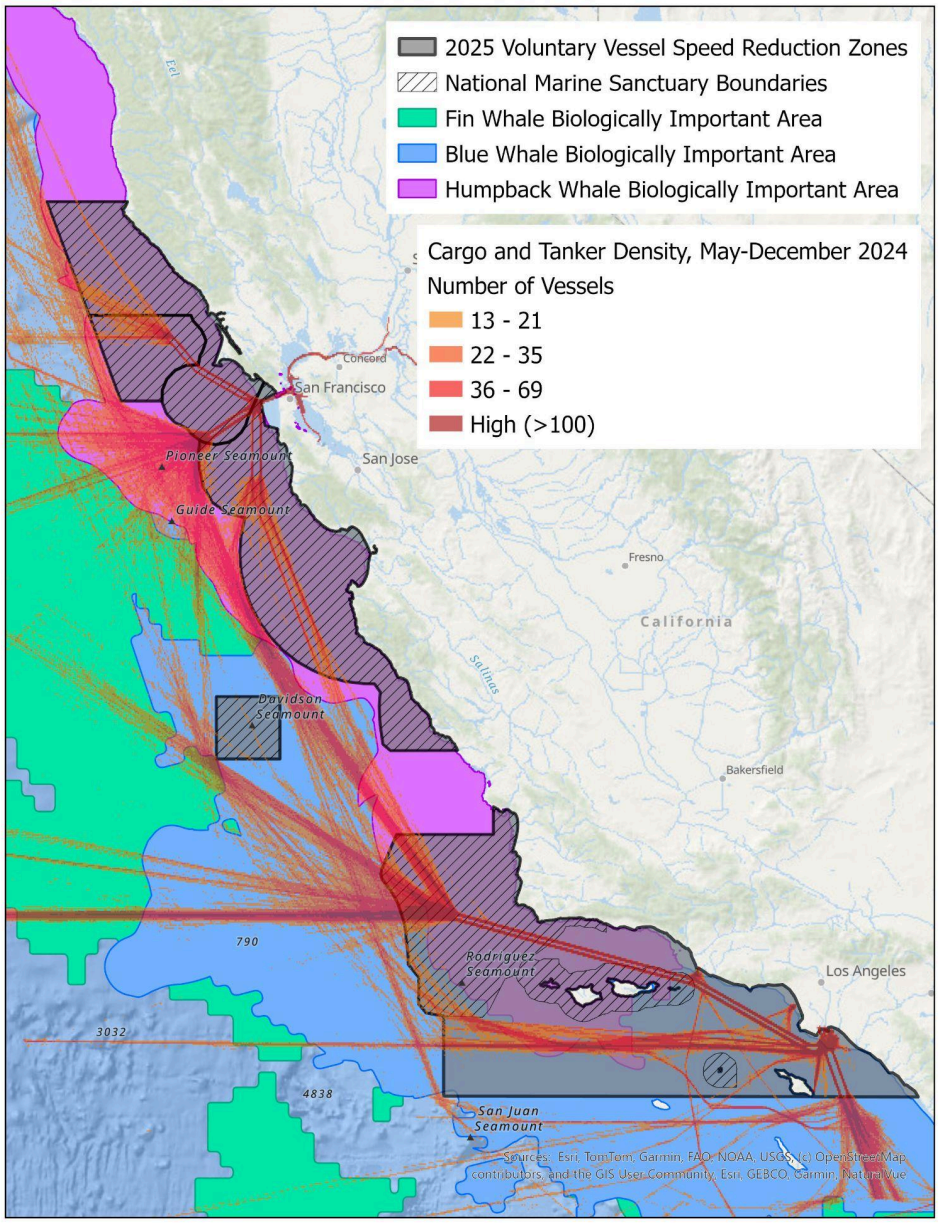


Figure 5. Cargo and Tanker Density and Biologically Important Areas



A broader, continuous zone helps:

- Provide more consistent coverage of important whale habitat (see Figure 6 below)
- Reduce the likelihood for route adjustment around zone boundaries (see Figure 7 below)

Figure 6. 2026 Statewide VSR zone with Biologically Important Areas Endangered Whales

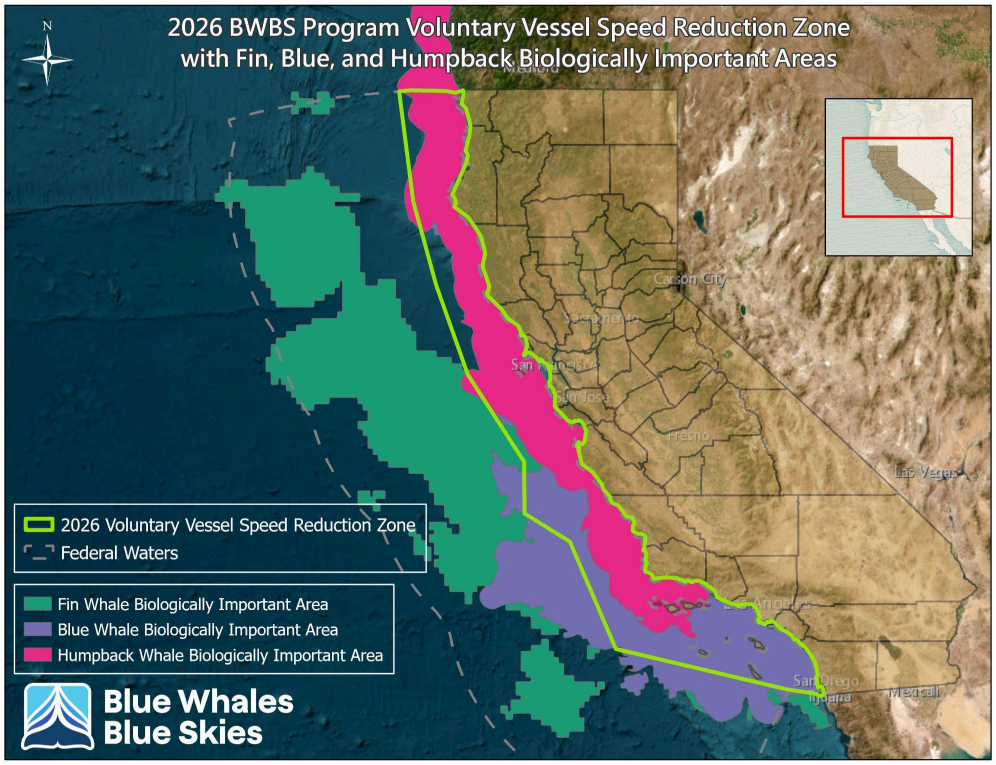
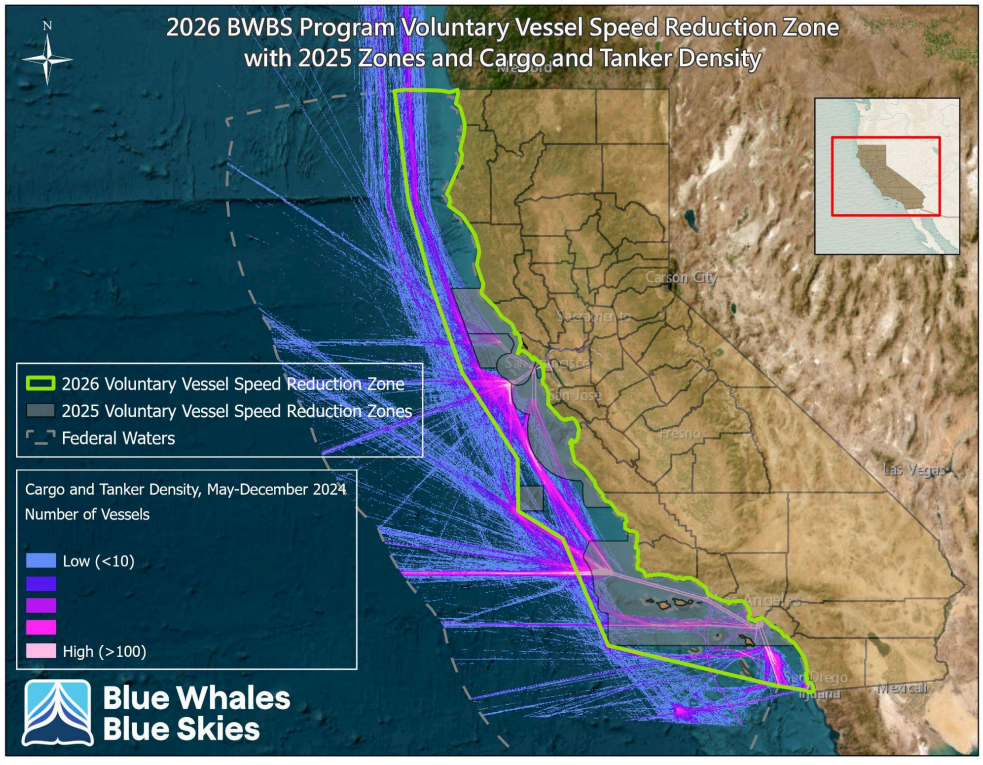


Figure 7. 2026 Statewide VSR zone and Cargo and Tanker Density



Whale Conservation Considerations - Season Extension

Historically, voluntary VSR requests have been aligned with established whale presence patterns. Since 2015 in the San Francisco region and, beginning in 2022 in Southern California, the program has operated on a May 1 start date, reflecting a typical seasonal arrival of blue, fin, and humpback whales to California feeding grounds.

More recent data shows that whale presence in California is shifting in both timing and duration:

- Whales are arriving earlier in the spring, with increasing detections in April (see Figure 8 below)
- Seasonal presence is lasting longer into late fall and early winter[6]
- These trends are particularly evident for humpback whales, though they apply across multiple species[5]
- These changes are linked to changing ocean conditions and prey availability, which heavily influence when and where whales are feeding.[7]

Figure 8. Number of Days Per Month with 5 or More Endangered Whale Sightings from Whale Alert and SpotterPro in the Southern California Region, 2019-2025

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019	0	3	11	15	13	20	22	18	6	7	3	1
2020	0	3	3	1	3	3	4	12	12	11	7	1
2021	1	0	4	10	14	15	10	7	15	16	12	1
2022	3	3	4	15	11	11	6	9	16	15	16	2
2023	0	0	4	18	23	25	22	9	21	14	13	8
2024	1	11	10	10	13	21	25	10	12	15	11	7
2025	0	3	6	24	23	17	23	26	18	11	19	13

Number of days with 5 or more whales sighted:

No days with whales sighted OR x no data
1-5 days with 5+ whales sighted
6-10 days with 5+ whales sighted
11 - 15 days with 5+ whales sighted
16 - 20 days with 5+ whales sighted
21 - 25 or more days with 5+ whales sighted

[6] Szesciorka, A.R., Ballance, L.T., Širović, A. et al. Timing is everything: Drivers of interannual variability in blue whale migration. Sci Rep 10, 7710 (2020). https://doi.org/10.1038/s41598-020-64855-y

[7] Ingman K, Hines E, Mazzini PLF, Rockwood RC, Nur N, Jahncke J (2021) Modeling changes in baleen whale seasonal abundance, timing of migration, and environmental variables to explain the sudden rise in entanglements in California. PLoS ONE 16(4): e0248557. https://doi.org/10.1371/journal.pone.0248557

Based on these updated patterns, a longer VSR season reflects when whales are actually present in areas of high vessel activity:

- A season start of April 1 through December 31 is supported by the data (see Figures 9-12 below)
- For 2026, the program will begin on April 22 to allow for additional time for voyage planning and operational adjustments.

Figure 9. Humpback, Fin, and Blue Whale Alert Sightings off of California, By Month January 2020 - December 2025

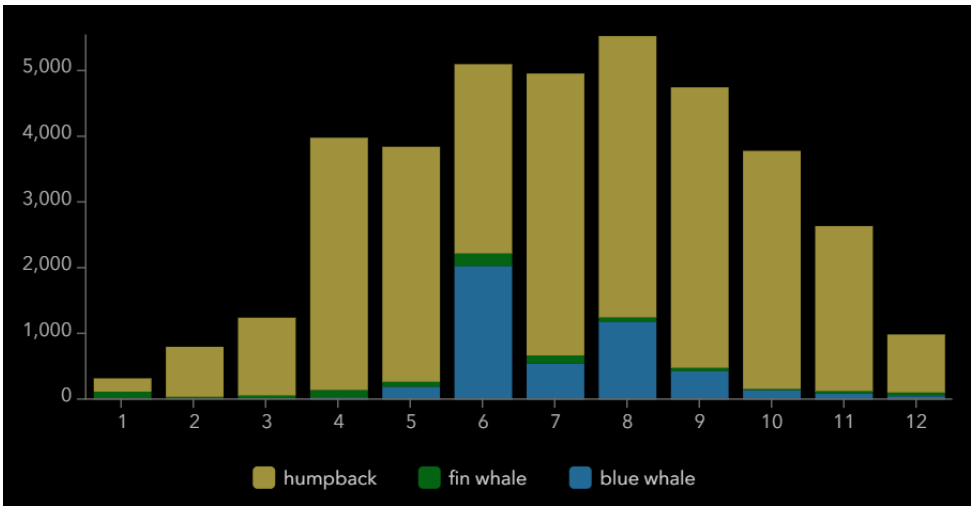


Figure 10. Semi-Monthly Normalized Whale Alert and SpotterPro Sightings for the San Francisco Region, 2019-2025

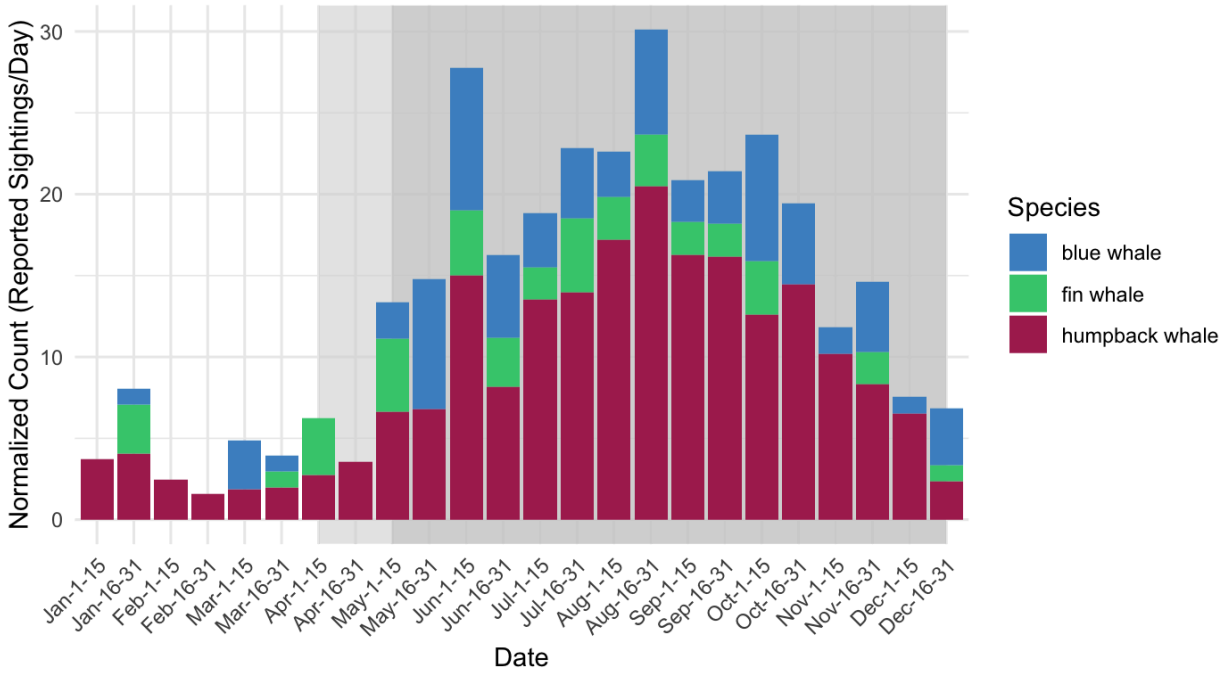


Figure 11. Semi-Monthly Normalized Whale Alert and SpotterPro Sightings for the Monterey Region, 2019-2025

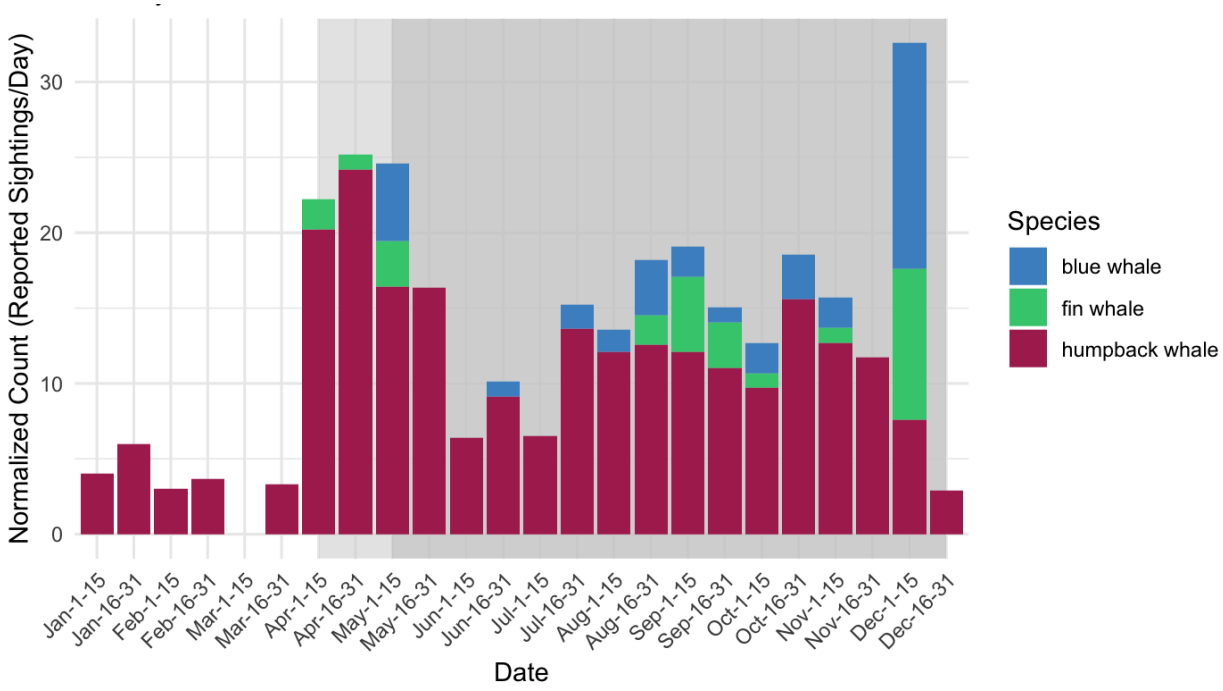
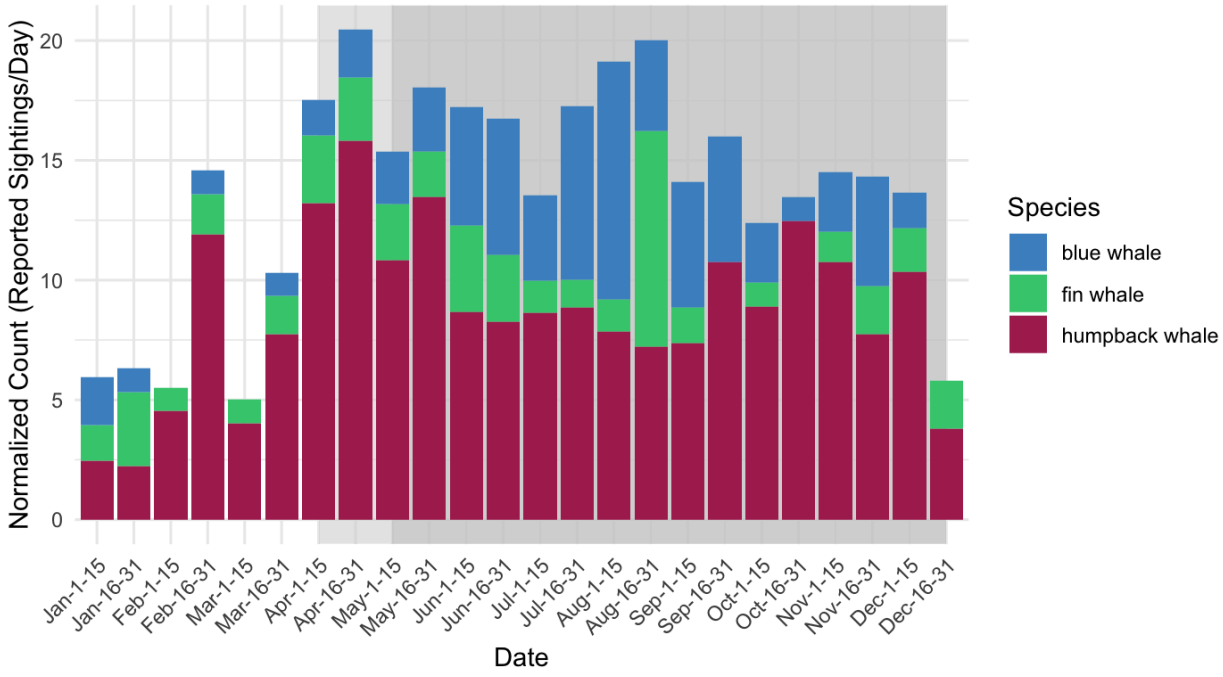


Figure 12. Semi-Monthly Normalized Whale Alert and Spotter Pro Sightings for the Southern California Region, 2019-2025



Air Quality Considerations - Statewide Expansion

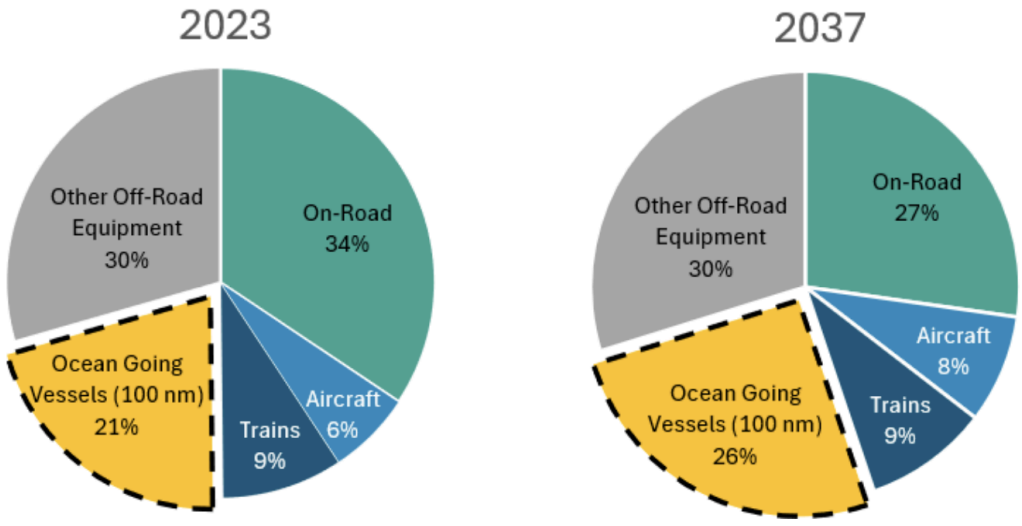
Air quality is a critical co-benefit of BWBS, particularly for coastal communities along California.

For several decades, the California Air Resources Board (CARB) and regional air district agencies have tracked how emissions from oceangoing vessels operating offshore can impact air quality on land. Due to prevailing wind patterns along the California coast, emissions released offshore are regularly transported inland, contributing to pollution in coastal, and even some inshore, communities.

The State of California defined California Coastal Waters (CCW), an offshore area where emissions are most likely to affect onshore air quality. Rather than a fixed distance from shore, CCW boundaries are based on meteorological conditions and typically extend 40-70 nautical miles from shore. Air quality modeling has shown that emissions generated within this zone contribute to ozone pollution and other air pollution in California (see Figure 13 below). As a result, CCW has been incorporated into state regulatory frameworks to help address transport-related air pollution. While CARB also tracks vessel emissions out to 100 nautical miles from shore, the CCW boundary is generally considered the most relevant area for targeting emission reductions that directly impact coastal communities.

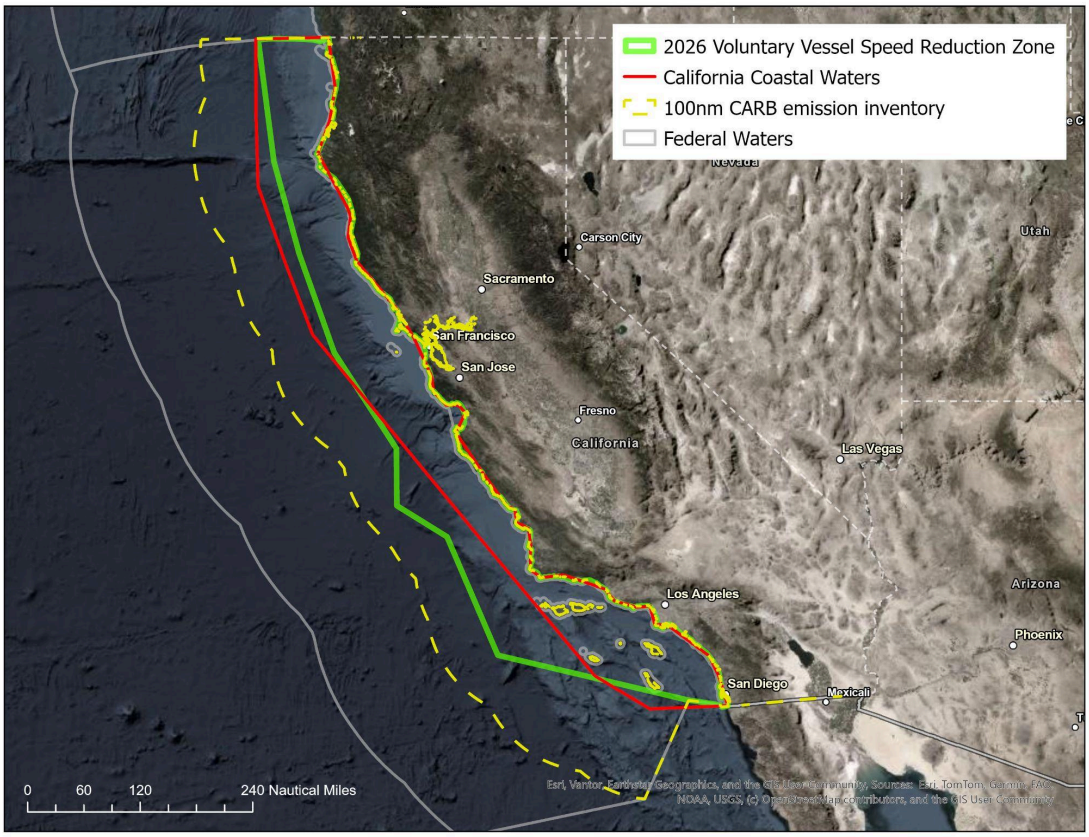
The 2026 VSR zone is designed to closely align with this CCW footprint, focusing effort where emissions reductions are most likely to have meaningful air quality benefits (see Figure 14 below).

Figure 13. Statewide Mobile Source NOx Emissions Contributions by Sector, 2023 and 2037[8]



[8] CARB_2025_OGV_Documentation_ADA.pdf

See Figure 14. 2026 Statewide VSR Zone with California Coastal Waters



Air Quality Considerations - Season Extension

Most ozone standard exceedances occur during the April-October "ozone season," when vessel emissions (NOx and VOC) combine with heat and sunlight to form ozone pollution (see Figure 15 below).

Figure 15. Ozone Concentrations for Calendar Year 2025

Air Basin	Max 8-hour Ozone Concentration (ppb) for 2025 Calendar Year											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
North Coast	39	44	47	48	63	49	48	44	47	43	38	44
SF Bay Area	43	46	57	53	59	52	54	57	62	61	44	45
North Central Coast	46	48	51	53	62	60	59	59	57	61	47	46
South Central Coast	57	53	56	69	79	70	65	77	71	66	60	49
South Coast	56	68	71	87	93	112	106	107	98	76	75	56
San Diego	56	70	66	78	86	87	73	78	66	69	64	54

* Retrieved from AQMIS on 1/22/2026. https://www.arb.ca.gov/aqmis2/aqmis2.php

However, emissions reductions are important year-round. In addition to ozone, air district agencies must also address fine particulate matter (PM2.5), which poses significant risks to human health. PM2.5 levels often increase during the winter months, meaning vessel emissions can contribute to air quality impacts outside of peak ozone season as well.