apcd air pollution control district
SANTA BARBARA COUNTY

Agenda Item: G-3
Agenda Date: June 20, 2024
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Board Agenda Item

TO: Air Pollution Control District Board

FROM: Aeron Arlin Genet, Air Pollution Control Officer

CONTACT: Alex Economou, Planning Division Manager, (805) 979-8333

SUBJECT: Update on Vessel Speed Reduction Program

RECOMMENDATION:

Consider recommendations as follows:

1) Receive an update on the Vessel Speed Reduction (VSR) program; and

2) Delegate authority to the Air Pollution Control Officer to sign the Memorandum of Agreement (MOA) between the California Marine Sanctuary Foundation, the Santa Barbara County Air Pollution Control District, and the Ventura County Air Pollution Control District for a Climate Pollution Reduction Grant (CPRG).

BACKGROUND:

Large ocean-going vessels that travel along the California coastline and into California's ports are a major source of air pollution, as they emit significant amounts of nitrogen oxides (NOx) and other pollutants. Over the long term, international rules will require cleaner engines on newly built vessels, which will reduce NOx emissions from this sector. However, fleet turnover in this industry does not happen quickly, and it is expected to take at least 10 years to phase out most of the older, dirtier engines. In the meantime, the marine shipping sector continues to be the largest source of ozone precursor emissions in Santa Barbara County.

Since 2014, the District and partners have implemented the Protecting Blue Whales and Blue Skies VSR program for immediate air quality and whale protection benefits. This voluntary program asks operators to decrease their vessel speeds to 10 knots or less, which increases the fuel efficiency of most vessels and reduces emissions of multiple air pollutants, including NOx,

greenhouse gases (GHGs), particulate matter (PM), and toxic air contaminants. Reducing NOx emissions through voluntary incentives is a critical part of the District's strategy to help prevent exceedances of the state and federal ozone standards. Reducing vessel speeds also lowers the risk of fatal ship strikes on endangered whale populations and reduces ocean noise that can interfere with whale communication, navigation, and feeding.

DISCUSSION:

The following topics related to the District's VSR program will be covered in this section:

1) 2023 VSR Program Results;
2) 2024 VSR Program Launch;
3) Assembly Bill 2298 – Statewide Voluntary VSR & Sustainable Shipping Program; and
4) EPA's Climate Pollution Reduction Grant (CPRG)

2023 VSR Program Results

The 2023 VSR Program was implemented successfully from May 1 to December 15, 2023, which is the time period that coincides with peak ozone levels as well as the presence of blue, humpback, and fin whales near the California coast. The program continues to focus on large container ships and auto carriers since these ships have higher speeds and generate more emissions, but the 2023 Program also invited bulk & general cargo vessels and tankers to register. Participation included 709 vessels operated by 33 different shipping companies. There were 327 container ships, 213 auto carriers, 115 bulk & general cargo vessels, and 54 tankers. The 2023 Program encompassed approximately 90% of the container ships and auto carriers operating within the VSR zones.

All participating vessel operators were asked to voluntarily slow to 10 knots or less in the VSR zones, and Automatic Identification System (AIS) receivers were used to track the speeds of each vessel during the season. Depending on the company's level of cooperation (calculated as the percent of distance travelled at 10 knots or less for their entire fleet), companies were ranked in award categories.

For the 2023 Program, 13 companies achieved the Sapphire award level (85-100% cooperation), 10 companies achieved Gold (60-84% cooperation), and 10 companies achieved Blue Sky (35-59% cooperation). The shipping companies that participated in the 2023 Program and their award levels are listed below in Table 1:

Table 1: Company Awards for the 2023 VSR Program

Award Level	Containership and Auto Carrier companies	Bulk & General Cargo and Tanker companies
Sapphire (85-100%)	• MSC • CMA CGM • OOCL • ONE • Hapag-Lloyd • Yang Ming • Swire Shipping • NYK-RoRo • Wallenius Wilhelmsen	• CSL Americas • Ningbo* • OSG Ship Management* • D'Amico Tankers*
Gold (60-84%)	• Maersk • Wan Hai • Cosco • Evergreen • Mol ACE • "K" Line • Hyundai Glovis	• Stolt Tankers* • Navquim Ship Management* • Scorpio Group*
Blue Sky (35-59%)	• Hyundai Merchant Marine	• Pacbasin • Pan Ocean* • Swire Bulk • Euronav* • Synergy Maritime* • SMT Shipping* • Shih Wei Navigation* • Kobe Shipping* • Unisea Shipping*

* Signifies that the company is new to the BWBS program.

In addition to the existing VSR zones in Southern California and the San Francisco Bay Area, the 2023 Program included the newly formed Monterey Bay VSR zone. Along with the new VSR zone being created, the Monterey Bay National Marine Sanctuary, Monterey Bay Air Resources District, and San Luis Obispo County Air Pollution Control District have joined the Protecting Blue Whales and Blue Skies program as new partners.

The 2023 Program also pivoted from providing financial incentives to the companies (e.g. $2,000 - $20,000 per company depending on the award tier and fleet size) to focusing on additional recognition efforts for the participating companies. This decision was made based on the success of prior VSR seasons, in which most of the financial incentives were generously declined by the companies in order to help maintain the program and recognition efforts in future years. Even without the financial incentives, the program continues to grow as it focuses on the value of positive media coverage and marketing campaigns for participating companies, as well as drawing industry and public awareness to the VSR program.

Outreach for the 2023 Program included various news releases issued by the partners, social media posts, a program fact sheet that highlights the participating companies, and articles and advertisements in trade and business journals. The Port of Hueneme hosted a World Oceans Day event on June 11, 2024, which included an award ceremony for the 2023 VSR Program. Physical awards were handed out to the companies that attended the event and the remaining awards are being mailed to the participating companies that weren't able to attend. Photos from the Port of Hueneme awards ceremony will be used in future recognition materials.

Since 2022, the program has also maintained a Brand Ambassador component. Any company that ships with one or more of the VSR program participants is eligible to become a Brand Ambassador. Ambassadors help advocate for more sustainable shipping and are committed to

reducing air pollution, regional GHGs, underwater noise, and ship strikes on endangered whales. To date, eight companies and the Port of Hueneme have become Brand Ambassadors for this program.

As shown in Attachment A, the emission benefits for the 2023 Program are 1,256 tons of NOx and 45,784 metric tons of GHGs. These numbers represent an approximate 27% reduction in NOx pollution and GHG emissions from the ships that voluntarily participated in the program, as compared to baseline conditions. For comparison, the 2023 NOx reductions are equivalent to converting 800,000 passenger vehicles to zero emissions for a single year. Program partners have also quantified the whale protection and noise reduction benefits of the 2023 Program. Point Blue, a conservation science institute, estimated that the risk of fatal ship strikes was reduced by 58%, and the Scripps Whale Acoustics Laboratory estimated a reduction in ocean noise by 5.4 decibels per transit.

2024 VSR Program Launch

The 2024 VSR program launched on May 1 and will run through December 15, 2024 in the Southern California Region. The 2024 Program will be similar to prior years, except the duration will be extended to December 31, 2024 in the San Francisco and Monterey Bay regions due to the continued presence of whales in those zones. As of June 10, 29 shipping companies have enrolled in the program, showing that the companies continue to participate without the financial incentives. Additional information and materials related to the 2024 VSR Program, as well as the previous programs, are available on the Program's website at www.bluewhalesblueskies.org.

Assembly Bill (AB) 2298 – Protecting Blue Whales and Blue Skies Program

AB 2298 was introduced in February 2024 by Assemblymember Gregg Hart. This bill would codify the state legislature's support for the existing Protecting Blue Whales and Blue Skies program - which is a partnership between coastal California air districts, national marine sanctuaries, marine sanctuary foundations, and several other nonprofit organizations and environmental groups - and set a path for its expansion to a statewide voluntary VSR program along the entire California coast. If passed, the bill would build upon the existing Protecting Blue Whales and Blue Skies program in order to reduce air pollution, the risk of fatal vessel strikes on whales, and harmful underwater acoustic impacts.

The District has been working with the Protecting Blue Whales and Blue Skies program partners to help urge the passage of AB 2298, as it would provide additional support for continuing and expanding the emission-reduction impacts from the current VSR program. The bill has unanimously passed through the Assembly Committee on Water, Parks, and Wildlife, the Assembly Committee on Natural Resources, the Assembly Committee on Appropriations, the Assembly Floor, and is currently in the Senate where it has unanimously passed through the Senate Natural Resources and Water Committee and has been referred to the Senate Environmental Quality Committee on June 19.

Climate Pollution Reduction Grant (CPRG)

The EPA's Climate Pollution Reduction Grant (CPRG) program provides funding to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution. The CPRG program is a two-phased

grant program that provides funding of $250 million for non-competitive planning grants and $4.6 billion for competitive implementation grants. The County of Ventura received funds through EPA's CPRG planning grant and developed a Priority Climate Action Plan (PCAP). Since reducing ocean-going vessel speeds helps reduce greenhouse gas emissions and other harmful pollutants, the County of Ventura included the Protecting Blue Whales and Blue Skies VSR program as a priority measure in their PCAP. As a result of being included in the PCAP, the VSR program became eligible to receive EPA CPRG implementation grant funds, and the Ventura County Air Pollution Control District submitted an application to the EPA in March 2024 requesting approximately $14 million in grant funding over a 5-year period to help expand the VSR program statewide, with potential for future scalability along the entire West Coast of the United States.

Since the Protecting Blue Whales and Blue Skies VSR program represents a unique partnership among various California Air Districts, National Marine Sanctuaries, and nonprofit organizations, a Memorandum of Agreement (MOA) is necessary to outline the roles and responsibilities of each agency that plans to significantly contribute work efforts for the CPRG. Attachment B to this Board Letter contains the "Protecting Blue Whales and Blue Skies CPRG Workplan" and Attachment C contains the MOA. Execution of the MOA is required by the EPA for Ventura County Air Pollution Control District's implementation grant application to remain eligible for funding from the CPRG program.

Staff recommends that your Board delegate authority to the Air Pollution Control Officer to sign the CPRG MOA between the California Marine Sanctuary Foundation, the Santa Barbara County Air Pollution Control District, and the Ventura County Air Pollution Control District.

FISCAL IMPACT:

District staff time spent implementing the 2023 VSR program was included in the District's adopted budget for Fiscal Year (FY) 2023-24 and staff time spent implementing the 2024 VSR program is included in the District's proposed budget for FY 2024-25. The District receives compensation for staff time spent implementing the VSR program through a California Air Resources Board Supplemental Environmental Project (SEP) Oversight Agreement managed by Ventura County Air Pollution Control District. The SEP program allows community-based projects to be funded from a portion of the penalties received during settlement of state enforcement actions. The approximate revenue for the District's portion of the 2023 VSR program is $56,000 and the budgeted revenue for the 2024 VSR program is $70,520.

If the CPRG implementation grant application is awarded by the EPA, additional funding will be available to cover staff costs from the District as well as other costs for the program partners for a 5-year period.

ATTACHMENTS:

A. VSR Program Summary: 2014 to 2023.
B. Reducing Ocean-Going Vessel Speeds - Protecting Blue Whales and Blue Skies CPRG Workplan.
C. Memorandum of Agreement Between the California Marine Sanctuary Foundation, the Santa Barbara County Air Pollution Control District, and the Ventura County Air Pollution Control District for a Climate Pollution Reduction Grant.

ATTACHMENT A

VSR Program Summary: 2014 to 2023

June 20, 2024

Santa Barbara County Air Pollution Control District
Board of Directors

260 San Antonio Road, Suite A
Santa Barbara, California 93110

Attachment A:
VSR Program Summary: 2014 to 2023

Program Year	2014	2016	2017	2018	2019	2020	2021	2022	2023
VSR Zone	Santa Barbara Channel		Santa Barbara Channel & San Francisco Bay Region			Southern California & San Francisco Bay Region			+ Monterey Bay NMS
Vessel Applicability	Containerships & Auto Carriers							+ Bulk	+ Tankers
# Companies	7	10	11	12	15	16	18	23	33
# Vessels	14	25	44	295	349	482	545	671	709
Slow-speed Distance (nautical miles)	2,700	5,000	12,630	46,026	99,019	181,306	179,530	268,377	375,437
Overall Fleet Cooperation	--	--	--	36%	55%	60%	64%	78%	81%
NOx Reductions (tons)	12.4	25.6	84	266	536	748	650	921	1,256
Regional GHG Reductions (metric tons)	535	1,005	2,630	8,668	17,026	24,258	22,201	32,604	45,784
Ocean Noise Reduction * (Decibels (dB) / transit)	--	--	--	1.0	--	2.3	4.1	4.6	5.4
Ship Strike Risk Reduction **	--	--	--	--	--	35%	50%	44%	58%

* Represents the decrease in noise from participating vessels in the Southern California Region.
** Represents the proportional decrease in risk from participating vessels and not absolute estimates of mortality avoided.

ATTACHMENT B

Reducing Ocean-Going Vessel Speeds - Protecting Blue Whales and Blue Skies CPRG Workplan

June 20, 2024

Santa Barbara County Air Pollution Control District
Board of Directors

260 San Antonio Road, Suite A
Santa Barbara, California 93110

Reducing Ocean-Going Vessel Speeds Protecting Blue Whales and Blue Skies CPRG Workplan

Table of Contents

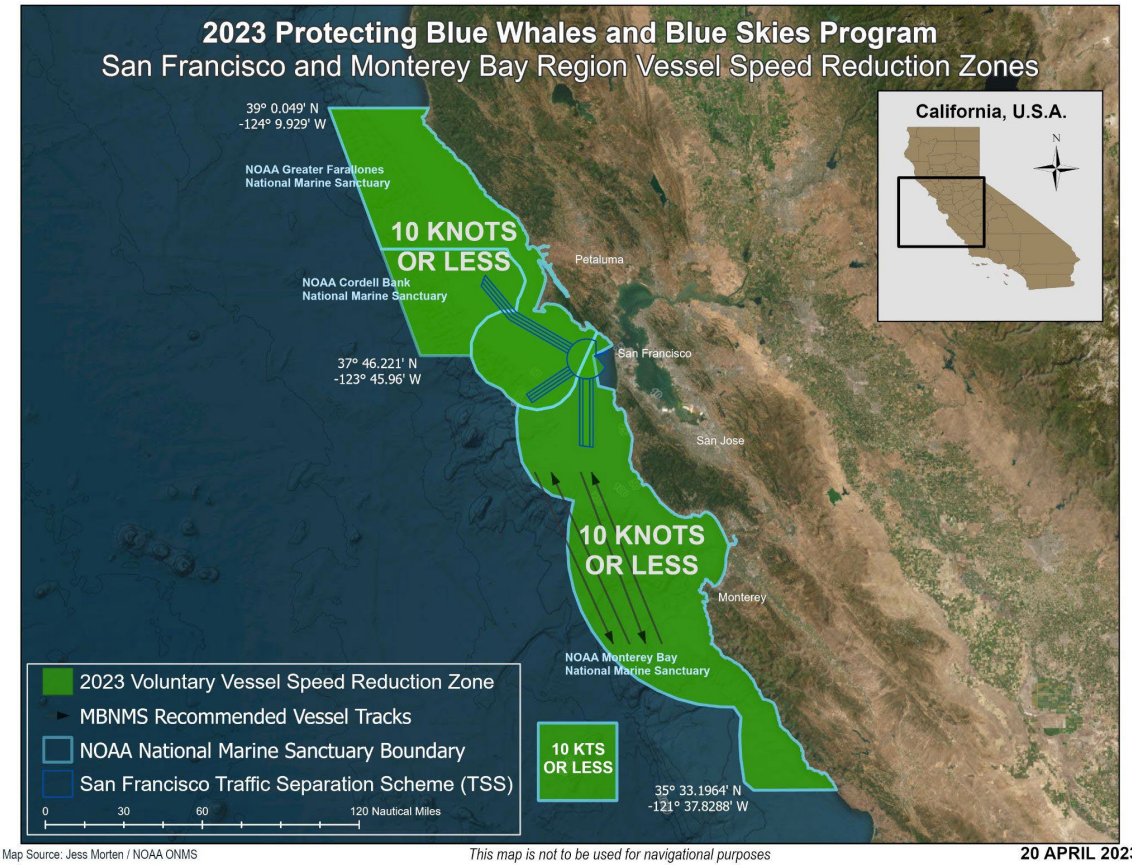
1. Overall Project Summary and Approach

a) Description of GHG Reduction Measures

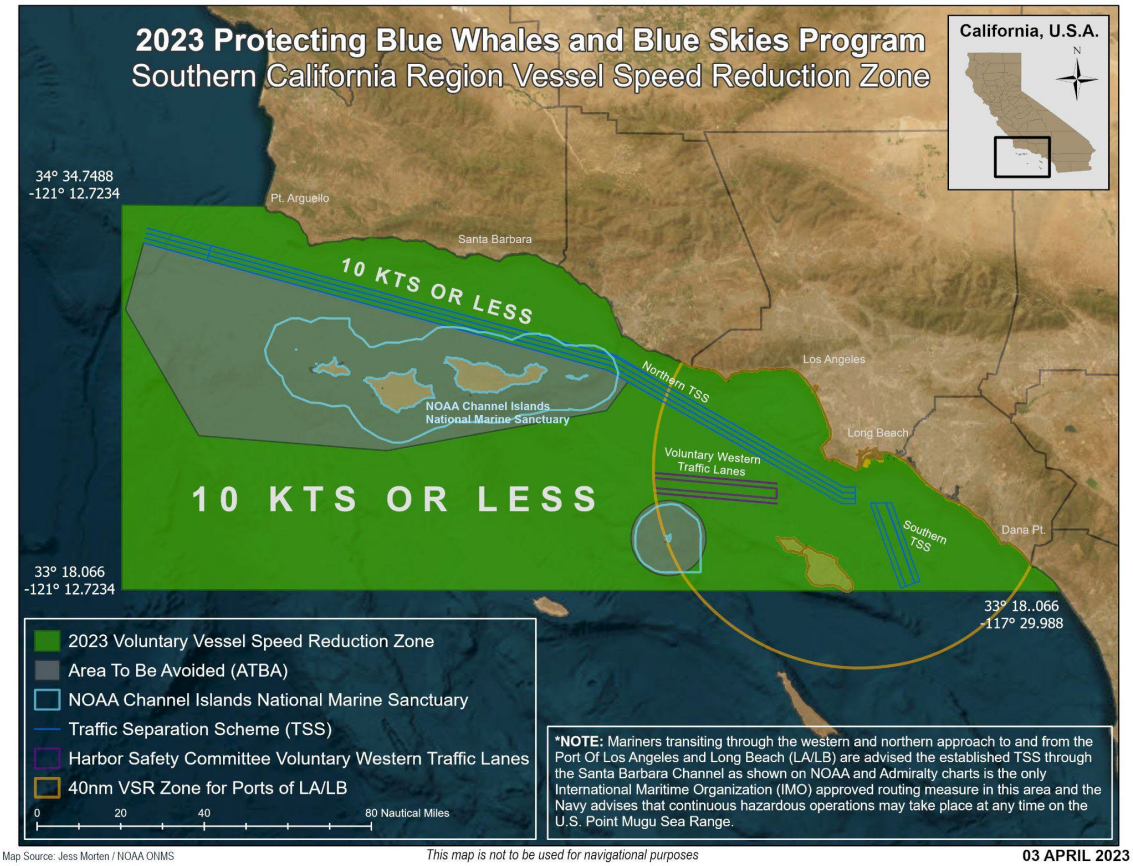
Help us help the whales and coastal communities by supporting the Protecting Blue Whales and Blue Skies (BWBS) program. California's coastal waters are a superhighway of large commercial vessels that contribute to adverse impacts on endangered whales and other marine life, including in the form of collisions – known as ship strikes – and through introduced underwater noise. In addition, the black plumes of engine exhaust from the vessels on the superhighway include greenhouse gas (GHG) emissions, criteria pollutants, and toxic air contaminants that blow ashore, causing health problems like asthma and cancer in the coastal communities, and contributing to regional ozone formation. After nine years of implementation, the BWBS program, an incentive-based effort, has engaged and enrolled large global shipping lines to motivate them to reduce speeds in key areas off of the California coast to reduce air pollution, underwater noise, and the risk to whales. Now, as a result of this effort, instead of racing to get to port first, enrolled vessels in the BWBS program reduce speeds and earn awards and positive recognition for their willingness and efforts to operate more sustainably.

Ocean-going vessels (OGV) fall within the Transportation Sector of CARB's 2022 Scoping Plan, which accounts for 40% of California's 2019 GHG inventory. The BWBS program is an existing incentive-based program that goes above and beyond the OGV actions called for in CARB's Scoping Plan, yielding additional emission reduction benefits. Over the last 9 years of implementation, the BWBS program has scaled from a 2014 pilot program that targeted 14 vessels across 7 shipping lines operating in the Santa Barbara Channel to over 700 vessels across 33 shipping lines during the 2023 season, operating in key areas across Southern, Central, and Northern California (the BWBS program website is linked here). **Figure 1: Vessel Speed Reduction Zones** below shows the vessel speed reduction (VSR) zones that are currently part of the BWBS program.

Figure 1: Vessel Speed Reduction Zones



Map Source: Jess Morten / NOAA ONMS *This map is not to be used for navigational purposes* **20 APRIL 2023**



Map Source: Jess Morten / NOAA ONMS *This map is not to be used for navigational purposes* **03 APRIL 2023**

The BWBS program was included in the Thousand Oaks-Oxnard-Ventura Metropolitan Statistical Area's (MSA) Priority Climate Action Plan (PCAP) dated March 2024. Specifically, **Measure T-3** below highlights the GHG reduction measure associated with the BWBS program as stated in the PCAP.

Measure T-3: Leverage federal funds to expand the existing Reducing Ocean Going Vessel Speeds - Protecting Blue Whales and Blue Skies (BWBS) program to decrease greenhouse gas emissions associated with vessel speeds, reduce the risk of fatal ship strikes to endangered whale species and support the recovery of whale populations, which have been shown to be important global players for mitigating climate change through significant contributions to carbon storage and sequestration.

> **T-3.1:** Open BWBS program enrollment to all ocean-going vessels that transit the coastal waters off of California and potential for scalability to the whole west coast of the United States.
>
> **T-3.2:** Expand the current geographic scope of the BWBS program to include all areas of the California coast out to approximately 50 nautical miles.
>
> **T-3.3:** Expand the timeline of the program from seasonal (mid-May to December) to year-round.
>
> **T-3.4:** Initiate discussions between the BWBS program partners and other coastal states regarding implementation of vessel speed reduction programs in their jurisdictions.
>
> **T-3.5:** Expand corporate outreach to recruit additional cargo owners, such as manufacturers and retail outlets, to increase the demand-side pressure on ocean going vessel operators to participate in the BWBS program.

The known risks of the expansion of the BWBS program include:

- Since BWBS is a voluntary incentive program, there is a risk that some shipping lines operating OGV in the region will choose not to participate, limiting the overall effectiveness of the program. However, over the last 9 years of program implementation, the BWBS program has successfully increased participation from shipping lines and expanded the number of vessels enrolled in the program.
- Lack of funding to support analytics of program's co-benefits and to support public relations incentives and recognition of participating shipping companies.

The BWBS partners include the following key agencies and organizations:

- Coastal California air districts: Santa Barbara County Air Pollution Control District, Ventura County Air Pollution Control District, Bay Area Air Quality Management District, San Luis Obispo County Air Pollution Control District, and Monterey Bay Air Resources District
- National Marine Sanctuaries: Channel Islands, Cordell Bank, Greater Farallones, and Monterey Bay
- Non-profit organizations: California Marine Sanctuary Foundation, Point Blue Conservation Science, Benioff Ocean Science Laboratory (a center for applied marine conservation at the University of California, Santa Barbara), and Scripps Whale Acoustics Lab

b) Demonstration of Funding Need

The BWBS program has been funded through various sources since 2014, but the partners have not identified a stable source of funding for implementation of the program in future years. Previous funding has been provided through CARB's Supplemental Environmental Project (SEP) awards, a supplemental EPA grant to Ventura County Air Pollution Control District through the EPA 105 Grant program, private donations from The Volgenau Foundation, and donations from three marine sanctuary foundations.

Federal funding has also been provided by the National Oceanic and Atmospheric Administration's (NOAA) Office of National Marine Sanctuaries for staffing support for the program. In-kind support in the form of staff time and technical assistance has been provided by all of the program partners, including NOAA Marine Sanctuaries, California air districts, and non-profit organizations.

A grant award that would fund the BWBS program for 5 years would allow the partners to direct efforts toward making the program self-sustaining rather than seeking funds each year, as is currently the case. The BWBS program is currently eligible for CARB SEP funding and any SEP awards would be used to supplement the CPRG funding.

In addition to measurable emission reductions achieved by reducing OGV speeds, vessel speed reduction also reduces the risk of fatal ship strikes to endangered whale species and supports the recovery of whale populations, which have been shown to be important global players for mitigating climate change through significant contributions to carbon storage and sequestration.

c) Transformative Impact

The BWBS program is readily expandable to other parts of the California coastal waters given the resources and local partners. A statewide vessel speed reduction program could cut GHG emissions significantly as part of a comprehensive effort to reduce emissions from OGV. CPRG funding will allow the BWBS program to expand statewide and provide funds to expand outreach and develop partnerships with interested state and local agencies outside of California. Since vessel speed reduction is a behavioral change that reduces GHG emissions, no advanced technology or retrofits to OGV are necessary and the emissions reductions can happen immediately.

In addition to measurable emission reductions achieved by reducing OGV speeds, vessel speed reduction also reduces the risk of fatal ship strikes to endangered whale species and supports the recovery of whale populations, which have been shown to be important global players for mitigating climate change through significant contributions to carbon storage and sequestration.

2. IMPACT OF GHG REDUCTION MEASURES

a) Existing GHG Reductions

For a detailed summary of the methodology used in the air emissions calculations, please see the technical appendix included in this application. Emission benefits for each VSR season are estimated by looking at the difference in emissions between each participating vessel at its baseline speed and the actual emissions based on the VSR compliant speed observed during the season. For the first few years of the program, containerships and auto carriers were invited to participate if the historic, baseline speed of the specific vessel within the Santa Barbara Channel or San Francisco Bay Area zones was high.

At that time, limited funds were available for financial incentives, and so the focus of the program was on reducing the speed of the fastest ships in the region based on transit-specific data for the prior years.

However, with the expansion of the 2018 BWBS program to include all vessel activities under an enrolled company, the time intensive process of determining emission reductions based on historical transit-specific speeds of each vessel was no longer practical. The "fleet-based" methodology accounts for the normal operating speed of all vessels within a ship sector based on the 2016 and 2017 baseline "non-VSR speeds."

For the Santa Barbara Channel and San Francisco Bay Area regions, Automatic Identification System (AIS) data was obtained for vessel activities within each zone for calendar years 2016 and 2017. Vessel activities within the months of May through November were removed to prevent any bias from previous BWBS programs and from the NOAA requests for all vessels 300 gross tons or larger to slow down to 10 knots or less.

In 2020, the BWBS program expanded to include the Port of Los Angeles (POLA) and Port of Long Beach (POLB) 40 nautical mile VSR zone in Southern California. Permission was obtained to analyze the 2016 and 2017 calendar year Marine Exchange (MarEx) vessel speeds, which are based on AIS data, to help establish BWBS baseline speeds in these zones. Since these Ports have existing VSR programs to slow down to 12 knots or less, and the programs have been in effect year-round since 2001 with a high level of cooperation, no months were excluded from the baseline speed calculations for this zone.

In 2022 and 2023, the BWBS program expanded to include the three National Marine Sanctuaries in the San Francisco Bay Area. For these zones, a similar AIS analysis was performed using 2017 calendar year data. Data in the months of May through November were removed for the Cordell Bank and Greater Farallones NMS to prevent any bias from the NOAA requests to slow down to 10 knots or less. The Monterey Bay NMS did not participate in the NOAA requests in 2017, and so no data was excluded from the analysis for the MBNMS zone.

Table 1: Existing BWBS Program Results (2014 to 2023) below shows the results of the BWBS program from 2014 to 2023. As shown, the GHG emission reductions have grown over time, with a total GHG reduction of 45,785 metric tons in 2023 and total GHG reduction of 154,716 metric tons since the start of the BWBS program. Moreover, oxides of nitrogen (NOx) reductions have increased over time with a NOx reduction of 1,256 tons in 2023 and total NOx reduction of 4,498 tons since the start of the BWBS program. These reductions would be expected to continue as the BWBS program continues to expand. Additional notable benefits include an ocean noise reduction of 5.4 decibels and a 58% reduction in ship strike risk in 2023.

The BWBS partners intend to use CPRG funding as a bridge to support program expansion as the partners build a sustainable funding structure. The BWBS program will reduce emissions immediately and can continue to support emission reductions in the long term.

Table 1: Existing BWBS Program Results (2014 to 2023)

Program Year	2014	2016	2017	2018	2019	2020	2021	2020	2023
VSR Zone	Santa Barbara Channel Region		Santa Barbara Channel Region & San Francisco Bay Region			Southern California Region & San Francisco Bay Region			
# of Companies	7	10	11	12	15	16	18	23	33
# of Vessels	14	25	44	295	349	483	545	684	710
Slow-Speed Distance (nautical miles)	2,700	5,000	12,630	46,026	99,019	181,306	179,530	266,148	375,437
Overall Fleet Cooperation	--	--	--	36%	55%	60%	64%	78%	81%
NOx Reductions (tons)	12.4	25.6	84	266	536	748	650	921	1,256
Regional GHG Reductions (metric tons)	535	1,005	2,630	8,668	17,026	24,258	22,201	32,604	45,785
Ocean Noise Reductions (decibels)*	--	--	--	1.0	--	2.3	4.1	4.6	5.4
Ship Strike Risk Reduction**	--	--	--	--	--	35%	50%	44%	58%

* Represents the decrease in noise from participating vessels in the Southern California Region.
** Represents the proportional decrease in risk from participating vessels and not absolute estimates of mortality avoided.

b) Magnitude of GHG Reductions from 2025 through 2030 and 2025 through 2050

Baseline emission factors were adjusted throughout the analyzed timeline based on anticipated program changes, availability of improved technologies, and CARB's 2021 Ocean-Going Vessels Emissions Inventory. Anticipated program changes include extending the VSR season over time and assuming increased participation rates from enrolled companies, as well as increasing the number of companies enrolled in the program. It was also assumed that vessels would transition to lower carbon fuels (such as LNG) or other technologies with decreased carbon emissions, in accordance with the International Maritime Organization's (IMO) 2050 GHG Strategy. GHG calculation spreadsheets and supportive sources have also been provided in this application. **Table 2: Future Emission Reductions from BWBS Program**, shows the projected GHG reductions from 2025 through 2030 and 2025 through 2050. As shown, GHG reductions would be 766,100 metric tons from 2025 through 2030, and 3,861,168 metric tons from 2025 to 2050. Moreover, NOx and fine particulate matter ($PM_{2.5}$) reductions would be 21,016 tons and 87 tons respectively, from 2025 to 2030.

Table 2: Future Emission Reductions from BWBS Program

Pollutant	Timeline	
	2025-2030	2025-2050
GHG (metric tons)	766,100	3,861,168
NOx (tons)	21,016	TBD
$PM_{2.5}$ (tons)	87	TBD

c) Cost Effectiveness of GHG Reductions

The cost effectiveness of the GHG emissions reductions from the BWBS program is very favorable at $18.76 per metric ton, based on the grant request of $14,374,322 and the estimate of 766,100 metric tons of GHG emissions reduced from 2025 through 2030. However, this does not reflect the full benefits of the BWBS program from a climate, air pollution, or public health perspective.

The ocean captures about 31 percent of all carbon dioxide emissions, removing carbon from the atmosphere that would otherwise continue to trap heat and increase temperatures. Blue carbon, or carbon captured by ocean ecosystems includes:

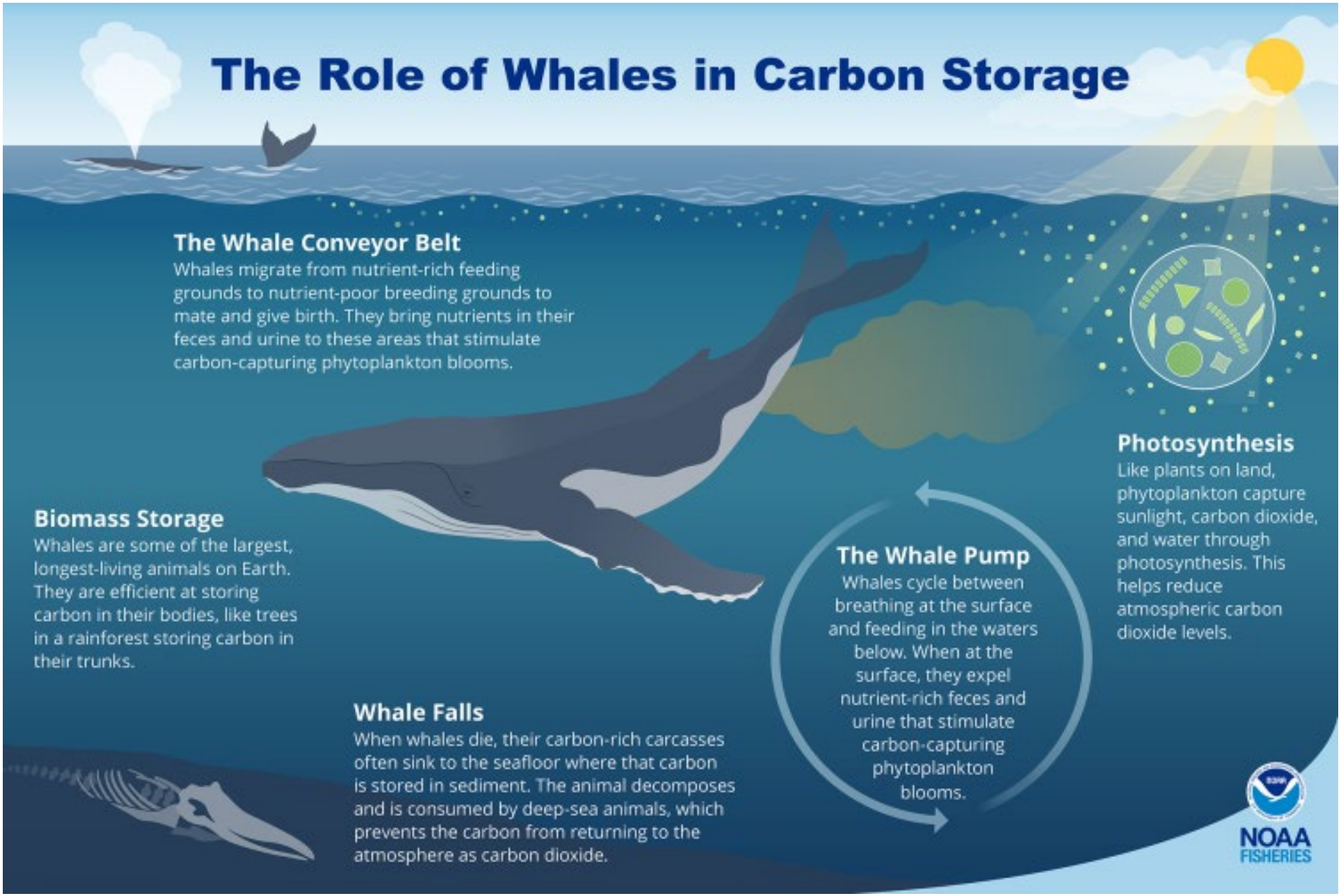
- Carbon absorbed by aquatic plants, algae, and phytoplankton;
- Carbon stored in the bodies of living animals; and
- Carbon sequestered in deep-sea sediments.

Scientists believe whales contribute to all three of these carbon storage mechanisms (see https://www.fisheries.noaa.gov/feature-story/whales-and-carbon-sequestration-can-whales-store-carbon). They likely supported even greater amounts of blue carbon storage before their populations were depleted by commercial whaling prior to the commercial whaling moratorium in 1985. Conserving and recovering whale populations can mitigate climate change by increasing blue carbon capture. The ship strike risk reduction resulting from slowing OGVs, especially if expanded to the whole California coast and beyond, will help endangered whales recover their populations and increase their climate mitigation impacts. One whale can capture an average of 33 tons of carbon dioxide over its lifespan. A live oak tree, one of the most efficient carbon-capturing tree species, captures roughly 12 tons of carbon dioxide over a maximum 500-year lifespan. **Figure 2: The Role of Whales in Carbon Storage**, shows how whales affect carbon storage.

The public health benefits from slowing OGVs and reducing emissions in coastal waters are also significant. OGVs contribute a growing portion of the NOx inventory in coastal communities due to their unregulated emissions. While criteria and toxic air pollutant emissions from stationary sources, on-road vehicles, and off-road equipment have been steadily reduced by state and local regulations, OGV emissions have grown due to increased ship traffic. The BWBS program has demonstrated its great public health benefits by reducing NOx emissions by 1,256 tons and fine particulate matter ($PM_{2.5}$) emissions by 5.2 tons in 2023. The NOx emissions reductions are directly benefiting ozone attainment efforts in some of the areas with the worst air quality in the country, such as San Diego, Los Angeles, and Ventura counties in California. The reduction in $PM_{2.5}$ emissions has a direct public health benefit in coastal areas, some of which are considered disadvantaged or low-income communities.

Using the same growth and estimation methodology for criteria pollutants as used for GHG emissions reductions, the BWBS program will reduce NOx and $PM_{2.5}$ emissions by 21,103 tons from 2025-2030. The proposed funding will result in a cost effectiveness of $681 per ton of criteria pollutants alone. This is quite favorable on its own and demonstrates the extremely valuable co-benefits generated by the BWBS program. It should be noted that NOx emissions reductions estimated at $39,000 per ton are considered cost-effective as best available retrofit control technology for stationary sources in Ventura County, California. The combined emissions reductions, including GHG and criteria pollutants, from 2025 through 2030 is estimated at 785,249 metric tons. The direct cost effectiveness of the proposed grant funding is $18.31 per metric ton of emissions reductions, including GHG, NOx, and $PM_{2.5}$.

Figure 2: The Role of Whales in Carbon Storage



3. Environmental Results – Outputs, Outcomes, and Performance Measures

a) Expected Outputs and Outcomes

As detailed in **Table 1** previously, results from the 2023 BWBS program (latest data available) showed the following:

- 33 global shipping companies participated.
- Total VSR distance: 375,437 nautical miles.
- Air pollution (NOx) reduced by 1,256 tons.
- Regional GHG emissions reduced by 45,785 metric tons.
- Ocean noise reduced by 5.4 decibels/transit on average.
- Risk of ship strikes to endangered whales reduced by 58%.
- The 2023 season results can also be viewed on the BWBS program website here.

Expansion of the program to a larger number of OGVs across a wider geographic extent with a CPRG grant would increase these outputs and outcomes significantly. In addition, the BWBS program currently supports an estimated three full-time equivalent positions at partner organizations to administer the program. A CPRG grant would support an estimated six full-time equivalent positions at a technical, scientific degree level or higher.

b) Performance Measures and Plan

The performance of the program can be evaluated based on several criteria:

- Percentage of the OGV operators and ships that transit the speed reduction zones that are enrolled in the program.
- The number of nautical miles traveled by operators and ships at 10 knots or less.
- The estimated reduction in GHG emissions when compared to baseline speeds of the participating OGVs.
- Estimated co-benefits, especially reduction in emissions of fine particulate matter and NOx.
- Estimated reduction in risk to endangered whales as a result of slower ship speeds.
- Estimated reduction in anthropogenic ocean noise as a result of slower ship speeds.

Note that the current BWBS program evaluates all of these performance measures each year.

Ship speeds are tracked using AIS data. All OGVs are required by International Maritime Organization regulations to transmit AIS data while not in port. AIS data near the U.S. coastline is collected by NOAA and transmitted to the BWBS partners through a cooperative agreement. Scientifically robust methods, in collaboration with analytical partners at Starcrest Consulting LLC, Scripps Institution of Oceanography, and Point Blue Conservation Science, are used to estimate GHG and other air pollution emissions reductions, ocean noise reductions, and the reduced risk of ship strikes on endangered whales.

c) Authorities, Implementation Timeline, and Milestones

The list below details the current Federal, local, and contracted entities currently involved in the BWBS program:

Federal Agencies	NOAA's Office of National Marine Sanctuaries, NOAA National Marine Fisheries Service, Channel Islands National Marine Sanctuary, Cordell Bank National Marine Sanctuary, Greater Farallones National Marine Sanctuary, and Monterey Bay National Marine Sanctuary
Local Agencies	Santa Barbara County Air Pollution Control District, Ventura County Air Pollution Control District, Bay Area Air Quality Management District, San Luis Obispo County Air Pollution Control District, and Monterey Bay Air Resources District
Current Contractors	California Marine Sanctuary Foundation (CMSF), Starcrest Consulting Group LLC, Point Blue Conservation Science, Benioff Ocean Science Laboratory (a center for applied marine conservation at the University of California, Santa Barbara), Scripps Whale Acoustics Lab

If awarded CPRG funding, the BWBS program would expect to utilize that funding during the 2025 to 2030 timeframe. As an already established program, incorporating the funding into the existing BWBS program would be seamless and can be utilized as soon as it's available. Moreover, the BWBS program is already capable of tracking and analyzing multiple parameters of success including GHG and criteria air pollutant reductions, ship strike risk reductions, and ocean noise reductions. As such, the BWBS will continue to successfully monitor these milestones if awarded CPRG funding.

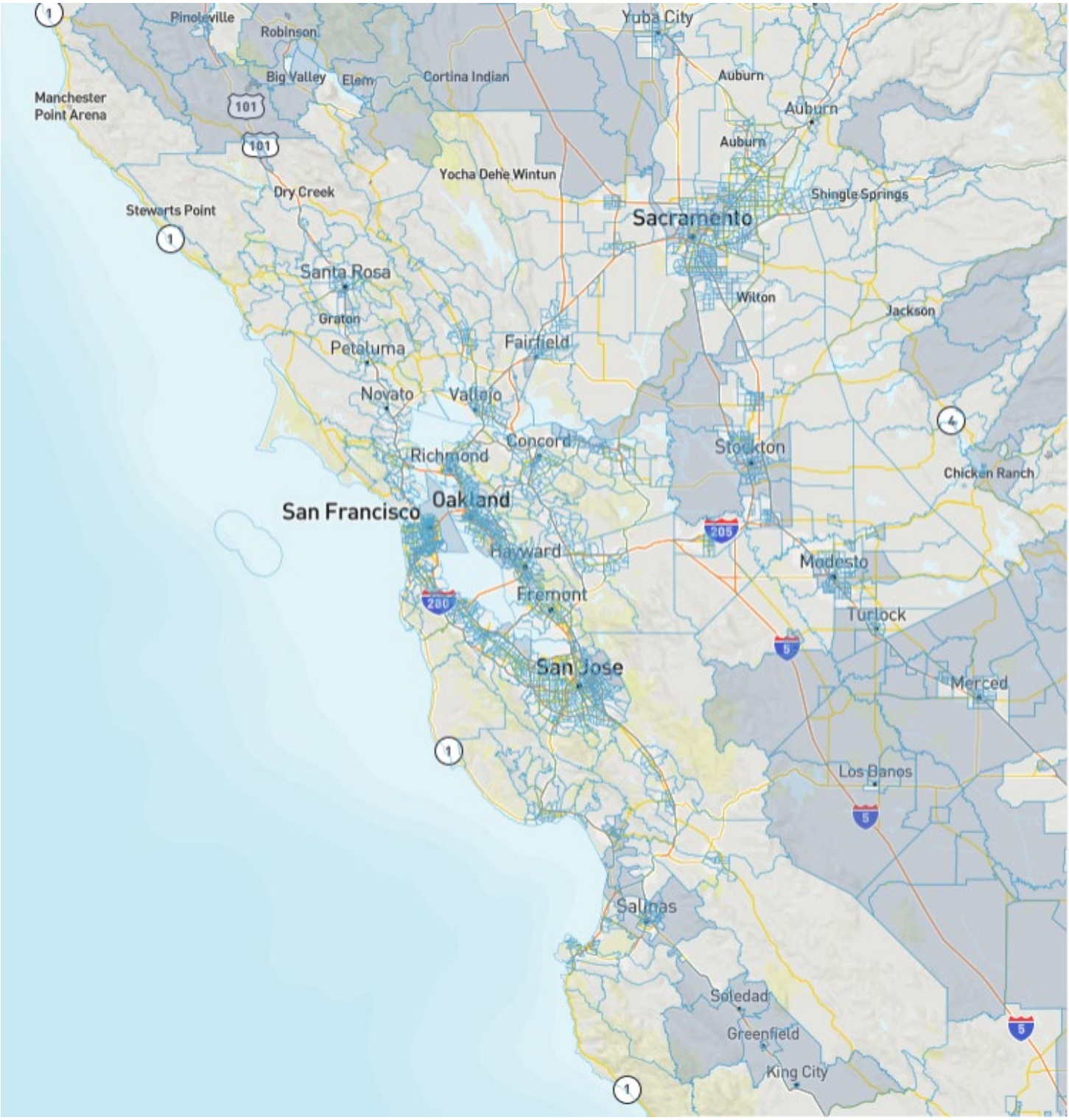
4. LOW-INCOME AND DISADVANTAGED COMMUNITIES

a) Community Benefits

The existing BWBS program reduces GHG emissions as well as criteria pollutant emissions of NOx, diesel particulate matter (DPM), particulate matter less than 2.5 microns ($PM_{2.5}$), and sulfur oxides (SOx) that blow onshore from the shipping lanes and negatively impact disadvantaged and low-income communities along the coast. In addition, the NOx emission reductions reduce ozone concentrations far inland due to prevailing onshore winds in many California communities.

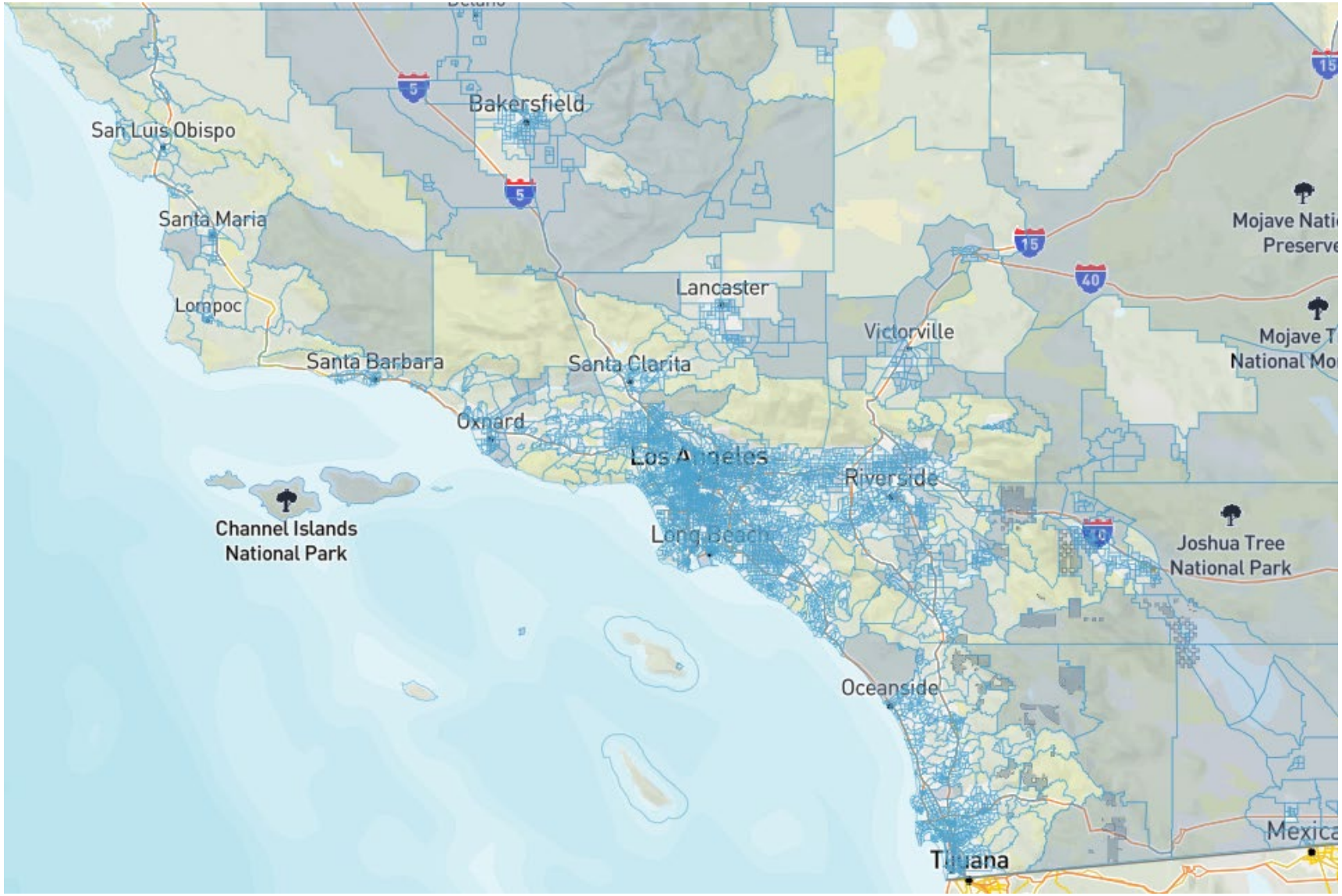
If awarded CPRG funding, the emission reduction benefits from the existing program would be expanded from the areas in proximity to the current VSR zones to all coastal California communities. Therefore, the emission reductions would benefit some of the most polluted areas in the State, including Los Angeles, San Diego, and Ventura Counties, which are classified as serious or worse federal ozone nonattainment areas. The $PM_{2.5}$ emission reductions will also benefit these communities and others such as those in the San Francisco Bay Area, which are also classified as federal $PM_{2.5}$ nonattainment areas. **Figure 3: Disadvantaged Communities - San Francisco Bay Region** and **Figure 4: Disadvantaged Communities – Southern California Region,** below shows the disadvantaged communities throughout California (shaded in blue) that could benefit from emission reductions from the BWBS program. A spreadsheet listing these disadvantaged census tracts from the Climate & Economic Justice Screening Tool is also included in this application.

Figure 3: Disadvantaged Communities - San Francisco Bay Region



Source: Climate & Economic Justice Screening Tool

Figure 4: Disadvantaged Communities - Southern California Region



Source: Climate & Economic Justice Screening Tool

b) Community Engagement

To engage community members, NOAA's Office of National Marine Sanctuaries maintain community-based advisory groups, known as Sanctuary Advisory Councils, that are established to provide advice and recommendations to the superintendents of the sanctuary sites on resource management issues. Throughout the history of the implementation of the BWBS program, Channel Islands, Cordell Bank, Greater Farallones, and Monterey Bay National Marine Sanctuaries have engaged Sanctuary Advisory Council stakeholders – representing interests such as research, conservation, education, tourism, maritime industry, agency partners, tribal representatives, and members of the public – to provide feedback and advice to BWBS program staff on the creation and expansion of the program.

Moving forward, to continue to engage community members in these efforts, NOAA partners and the BWBS program will continue to engage the Sanctuary Advisory Councils on the format and implementation of the program. A proposed new sanctuary site in central California, known as the Chumash Heritage National Marine Sanctuary, also provides opportunities for expanded engagement with tribal communities on this climate and conservation effort in future years.

5. MARKETING

Part of the BWBS program includes marketing efforts to help incentivize shipping companies to continue participating in the program or consider joining the program. The marketing, outreach and advertising campaign is designed to increase the visibility of the shipping company participants and Ambassadors to recognize their engagement. Advertising sources have been selected to reach the audiences most relevant to shipping participants and Ambassadors. The campaign uses a combination of press releases, print and digital advertisements, sponsored features, online promotion, and social media to reach targeted audiences. The 2023 Season Campaign Report summarizing the marketing efforts of 2023 can be found here and is summarized below.

The 2023 season campaign was extremely successful. The campaign used a combination of print and online display ads, online "banner" ads, newsletter ads, and social media ads with a common theme and design. Separate ad messages were created for the overall BWBS program and for the Ambassador initiative. Half-page ads were placed in Maritime Executive and Pacific Coast Business Times. Page dominant, or "island" ads were placed in Long Beach Business Journal, and a premium full-page ad was featured on the inside front cover of Bay Nature. BWBS ads ran in every issue of the PMSA's West Coast Trade Report. Online ads that link to the BWBS website were placed with Supply Chain Dive, gCaptain, Maritime Executive, Long Beach Business Journal, Long Beach Post, Pacific Coast Business Times, San Francisco Business Times, and Bay Nature. Social media on news sites accompanied many of the ads, and BWBS ran LinkedIn advertising. Sponsored news features were coordinated with select media outlets, where a feature story was placed and promoted about BWBS or the Ambassador initiative. Ambassadors are encouraged to announce their participation via press releases, social media, website, and annual sustainability reporting.

In 2023, the BWBS program issued four press releases to California and shipping industry media contracts. Each press release appeared on more than 200 news sites. Moreover, news stories appeared on over 900 news sites totaling over 25 million impressions. BWBS was also featured in 180 ads totaling over 30 million impressions. The campaign also received approximately 50,000 LinkedIn impressions and approximately

7,500 website visits. If awarded CPRG funding, these marketing campaigns would be able to continue their success and expand to include additional ads and news stories.

6. JOB QUALITY

The BWBS program currently supports an estimated three full-time equivalent positions across partner organizations to administer the program. The requested CPRG funding would support an estimated six full-time equivalent positions at a technical, scientific degree level or higher.

In addition, the BWBS program contributes to needs for expanded staff capacity at participating shipping lines focused on biodiversity protection and Corporate and Social Responsibility.

7. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a) Authoritative Regulations

The following statutes and directives provide the project partners the authority to implement the BWBS program:

- California Health and Safety Code Division 26 - Air Resources, Part 3 - Air Pollution Control Districts, Chapter 1 - General Provisions, Section 40004, states: A district may sponsor, coordinate, and promote projects that will lead to the prevention, mitigation, or cure of the adverse effects of air pollution, including the adverse health effects of air pollution.
- The National Marine Sanctuaries Act (NMSA) 16 U.S.C. 1431 authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as national marine sanctuaries.
- 16 U.S.C. 1431 sec. 301 (b) The purposes and policies of this chapter are:
    - (3) to maintain the natural biological communities in the national marine sanctuaries, and to protect, and, where appropriate, restore and enhance natural habitats, populations, and ecological processes;
    - (7) to develop and implement coordinated plans for the protection and management of these areas with appropriate Federal agencies, State and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas;
    - (8) to create models of, and incentives for, ways to conserve and manage these areas, including the application of innovative management techniques.

b) Past Performance

Past performance of the BWBS program has shown incredible success at reducing GHG and criteria air pollutants, as well as reducing ship strike risk and ocean noise pollution. As detailed in **Table 1** previously, results from the 2023 BWBS program (latest data available) showed the following:

- 33 global shipping companies participated.
- Total VSR distance: 375,437 nautical miles.
- Air pollution (NOx) reduced by 1,256 tons.

- Regional GHG emissions reduced by 45,785 metric tons.
- Ocean noise reduced by 5.4 decibels/transit on average.
- Risk of ship strikes to endangered whales reduced by 58%.
- The 2023 season results can also be viewed on the BWBS program website here.

c) Reporting Requirements

As discussed previously, the BWBS program analyzes the success of each VSR season on an annual basis and provides those results on the BWBS website.

d) Staff Expertise

A summary of key staff who participate in the BWBS program is included under *Other Attachments* in this application. Since the initial pilot program in 2014, the program has grown from slowing 14 vessels a total of 2,700 nautical miles in the Santa Barbara Channel to 33 carrier fleets achieving over 375,437 slow-speed nautical miles in the Southern California region and approaches to the San Francisco Bay in 2023. As the program has grown, cost-effectiveness has improved, and the program has received national and international recognition.

The air districts have extensive experience implementing SEP awards and managing air quality incentive programs such as the Carl Moyer Memorial Air Quality Standards Attainment Program, the Community Air Protection Program, and other local programs. The NOAA Marine Sanctuaries have experience implementing vessel speed reduction programs. CMSF is skilled at developing, fostering, and managing public-private partnerships to achieve program success. As the program has grown, the implementing agencies have also pulled in other companies and research organizations with specialized skill sets and tools to evaluate air quality and whale protection benefits. For example, Starcrest Consulting Group has calculated air emissions benefits, and the Scripps Whale Acoustics Laboratory and the Point Blue Conservation Science organization have assessed whale protection benefits related to ocean noise and whale strikes. In addition, the Benioff Ocean Science Laboratory has joined the partnership and provides near-real-time ship cooperation data and monthly reports to enrolled carriers so that the carriers can track their performance and identify opportunities to improve.

8. BUDGET

A detailed budget spreadsheet has been included in this application. **Table 3: Proposed BWBS Budget by Year**, shows a summary of the proposed 5-year budget for the BWBS program if awarded CPRG funding. As shown, the total CPRG-funded budget for the BWBS program over 5 years would be approximately $14,374,322. This does not include an estimated $260,424 in in-kind labor support contributions from various project partners to run the program during the 5-year project period. See spreadsheet 'In-Kind Contributions calcs_VCAPCD.xlsx' under *Other Attachments* in this application for more detail regarding in-kind contributions.

Table 3: Proposed BWBS Budget by Year

CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
TOTAL PERSONNEL	$774,000	$822,375	$870,750	$919,125	$967,500	**$4,353,750**
TOTAL FRINGE BENEFITS	$172,080	$182,835	$193,590	$204,345	$215,100	**$967,950**
TOTAL TRAVEL	$65,135	$65,265	$65,395	$65,525	$65,655	**$326,975**
TOTAL EQUIPMENT	$6,800	$0	$0	$0	$0	**$6,800**
TOTAL SUPPLIES	$45,500	$45,500	$45,500	$45,500	$45,500	**$227,500**
TOTAL CONTRACTUAL	$1,330,000	$1,330,000	$1,330,000	$1,330,000	$1,330,000	**$6,650,000**
TOTAL OTHER	$50,340	$50,340	$50,340	$50,340	$50,340	**$251,700**
TOTAL DIRECT	*$2,443,855*	*$2,496,315*	*$2,555,575*	*$2,614,835*	*$2,674,095*	***$12,784,675***
TOTAL INDIRECT	$305,925	$311,371	$317,744	$324,117	$330,490	**$1,589,647**
TOTAL FUNDING	$2,749,780	$2,807,686	$2,873,319	$2,938,952	$3,004,585	**$14,374,322**

ATTACHMENT C

Memorandum of Agreement Between the California Marine Sanctuary Foundation, the Santa Barbara County Air Pollution Control District, and the Ventura County Air Pollution Control District for a Climate Pollution Reduction Grant

June 20, 2024

Santa Barbara County Air Pollution Control District
Board of Directors

260 San Antonio Road, Suite A
Santa Barbara, California 93110

MEMORANDUM OF AGREEMENT
BETWEEN THE CALIFORNIA MARINE SANCTUARY FOUNDATION, THE SANTA BARBARA COUNTY AIR POLLUTION CONTROL DISTRICT, AND THE VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT
FOR A CLIMATE POLLUTION REDUCTION GRANT
FOR THE MARINE VESSEL SPEED REDUCTION INCENTIVE PROGRAM
KNOWN AS "PROTECTING BLUE WHALES AND BLUE SKIES"

This Memorandum of Agreement (MOA) is entered into between the California Marine Sanctuary Foundation (CMSF), the Santa Barbara County Air Pollution Control District (SBCAPCD), and the Ventura County Air Pollution Control District (VCAPCD), collectively referred to as "the Parties," for fiscal sponsorship and collaboration on funds awarded through the Environmental Protection Agency's (EPA) Climate Pollution Reduction Grant (CPRG) Program. The Parties applied for CPRG Program funding for the Marine Vessel Speed Reduction Incentive Program (VSR Program), known as "Protecting Blue Whales and Blue Skies," which targets ocean-going vessels transiting the Santa Barbara Channel; approaching and leaving the Ports of Hueneme, Los Angeles, and Long Beach; transiting the Monterey Bay National Marine Sanctuary; and entering and leaving the San Francisco Bay.

RECITALS

(a) The purpose of this MOA is to enter into a formal agreement between the Parties to outline the responsibilities of the Parties and agree on a framework to expend awarded funds from EPA's CPRG Program for the VSR Program.

(b) Since 2014, the VSR Program has created seasonal and predictable slow speed zones along the coast of California. This program helps participating shipping companies protect endangered whales, reduce fuel use and regional greenhouse gas emissions, and improve air quality.

(c) The VSR Program is run by a unique partnership of federal and local government agencies, foundations, and environmental nonprofits. The VSR Program team independently verifies cooperation rates of participating cargo ship operators, quantifies the benefits of participation, and provides recognition of program participants to encourage the adoption of sustainable shipping practices across the globe. CMSF is proficient at developing, fostering, and managing public-private partnerships to achieve program success. VCAPCD and SBCAPCD have extensive experience implementing Supplemental Environmental Project (SEP) awards and managing air quality incentive programs. As the program has grown, the implementing agencies have also partnered with other companies and research organizations with specialized skill sets and tools to evaluate air quality, ocean ecology, and whale protection benefits.

(d) CMSF is a California nonprofit corporation dedicated to enhancing the understanding and protection of ocean and coastal resources. CMSF staff has successfully managed incentive funds for the VSR Program in 2018, 2019, 2020, 2021, 2022, and 2023. CMSF contributes expertise, resources, and staffing to manage incentive funds, including making payments to qualifying vessel owners (direct financial incentives were discontinued in 2023) and funding positive public relations efforts for the VSR Program.

(e) SBCAPCD is a California public agency responsible for adopting the plans, policies, regulations, grant programs, and other measures necessary to attain and maintain federal and state air quality standards in Santa Barbara County. SBCAPCD is a founding partner of the Protecting Blue Whales and Blue Skies initiative and has been involved in the VSR Program since planning began for the 2014 pilot program. SBCAPCD regularly promotes vessel speed reduction from ocean-going vessels and encourages the expansion of the VSR program. SBCAPCD dedicates staff time to the VSR Program to accurately assess and quantify the cooperation rate of participating companies and the air pollution and greenhouse gas emissions reductions from ocean-going vessels that participate in the VSR Program. SBCAPCD also conducts public outreach related to the VSR Program.

(f) VCAPCD is a California public agency responsible for adopting the plans, policies, regulations, grant programs, and other measures necessary to attain and maintain federal and state air quality standards in Ventura County. VCAPCD has been involved with the VSR Program since its inception in 2014. VCAPCD dedicates staff time to the VSR Program by acting as the liaison between the VSR Program and the California Air Resources Board's SEP group and has facilitated over $4 million in funding for the program. VCAPCD staff regularly oversee budgetary tasks related to the VSR Program and work on initiatives to promote the program.

(g) The successful collaboration of this coalition has greatly benefited the VSR Program by bringing together a multi-disciplinary group of organizations with a common goal to improve air quality, reduce whale strikes, and overall improve the coastal communities within California. The benefits of this collaboration and the VSR Program have resulted in a decrease of 4,498 tons of oxides of nitrogen (NOx) emissions and 154,716 metric tons of greenhouse gas (GHG) emissions. Additionally, ship strike risk to whales has decreased by up to 58% and ocean noise has decreased by up to 5.4 decibels.

AGREEMENT

NOW, THEREFORE, the Parties, based on the foregoing RECITALS and the valuable considerations set forth below, agree to the following terms and conditions if awarded funds through the EPA's CPRG Program:

1. Lead Applicant. VCAPCD shall act as the lead applicant for the CPRG Program and accepts full responsibility for effectively carrying out the full scope of work and the proper financial management of the CPRG grant. VCAPCD agrees that, at a minimum, its fiscal control and accounting procedures will be sufficient for tracking grant funds to a level of expenditure adequate to establish that such funds have not been used in violation of State or federal law or this MOA. Unless otherwise prohibited by State or local law, VCAPCD further agrees that it will maintain separate Grant award accounts in accordance with generally accepted accounting principles. VCAPCD roles include, but are not limited to, the following:
    a. Participate in meetings of the Parties and other contributing agencies and organizations to guide activities of all contributors to the VSR Program.
    b. Provide executive leadership and management resources as needed to effectively guide the implementation of the VSR Program.
    c. Promote vessel speed reduction from ocean-going vessels and encourage and implement the expansion of the VSR Program.
    d. Act as liaison with EPA regarding grant disbursements and fiscal management of CPRG grant funds and any other funds awarded to VCAPCD for the VSR Program.
    e. Coordinate collection of information, prepare, and submit all reports required by EPA as part of the CPRG grant agreement.
    f. Participate in development of statements and materials supporting public outreach and publicity related to the VSR Program.
    g. Conduct public outreach and publicity related to the VSR Program.
2. SBCAPCD Role and Funds. SBCAPCD acknowledges that SBCAPCD will be accountable to VCAPCD for the proper use of EPA funding through the CPRG Program and successfully implementing the VSR Program. VCAPCD shall authorize expenditure of grant funds for reimbursement of SBCAPCD staff time in response to invoices from SBCAPCD in accordance with the attached budget and any subsequent amendments thereto. SBCAPCD roles include, but are not limited to, the following:

a. Participate in meetings of the Parties and other contributing agencies and organizations to guide activities of all contributors to the VSR Program.
b. Provide executive leadership and management resources as needed to effectively guide the implementation of the VSR Program.
c. Purchase equipment, supplies, and data subscriptions necessary to implement the VSR Program in accordance with the attached budget and any subsequent amendments thereto, with expenses reimbursable from grant funds upon submission of an invoice to CMSF.
d. Promote vessel speed reduction from ocean-going vessels and encourage and implement the expansion of the VSR Program.
e. Dedicate staff time to the VSR Program to accurately assess and quantify the cooperation rate of participating companies.
f. Dedicate staff time to the VSR Program to accurately assess and quantify the air pollution and greenhouse gas emissions reductions from ocean-going vessels that participate in the VSR Program.
g. Participate in development of statements and materials supporting public outreach and publicity related to the VSR Program.
h. Conduct public outreach and publicity related to the VSR Program.
i. Collect, organize, and submit information to VCAPCD as needed to support preparation of all reports required by EPA as part of the CPRG grant agreement.

3. CMSF Role and Funds. CMSF acknowledges that CMSF will be accountable to VCAPCD for the proper use of EPA funding through the CPRG Program and successfully implementing the VSR Program. CMSF will use funds in accordance with requirements in the CPRG grant awarded by EPA, the attached budget, and any subsequent amendments thereto. Funds not liquidated by the deadline in the CPRG grant agreement between EPA and VCAPCD must be returned within ninety (90) days to VCAPCD. CMSF roles include, but are not limited to, the following:
    a. Participate in meetings of the Parties and other contributing agencies and organizations to guide activities of all contributors to the VSR Program.
    b. Provide executive leadership and management resources as needed to effectively guide the implementation of the VSR Program and develop a sustainable operating model for the VSR Program beyond grant funding.
    c. Establish and implement fiscal control and accounting procedures sufficient for tracking grant funds to a level of expenditure adequate to establish that such funds have not been used in violation of state or federal law or this MOA.

d. Purchase equipment, supplies, and data subscriptions necessary to implement the VSR Program using grant funds in accordance with the attached budget and any subsequent amendments thereto.
e. Establish contracts with leading experts in Automated Information Systems (AIS) analysis, analysis of air pollution emissions from ocean going vessels, whale mortality risk analysis, noise reduction benefit analysis, and real-time carrier performance analysis and manage payments of grant funds in accordance with the attached budget and any subsequent amendments thereto.
f. Contract for legal services for CMSF as required to support implementation of the VSR Program in accordance with the attached budget and any subsequent amendments thereto.
g. Promote vessel speed reduction from ocean-going vessels and encourage and implement the expansion of the VSR Program.
h. Dedicate staff time to the VSR Program to accurately assess and quantify the cooperation rate of participating companies.
i. Dedicate staff time to the VSR Program to recruit and manage participants in the VSR Program, i.e. ocean-going vessel operators.
j. Dedicate staff time to the VSR Program to corporate outreach and public engagement to recruit and manage participants in the VSR Program's "Ambassador" initiative, i.e. cargo owners, port operators, logistics companies, freight forwarding companies, and other organizations with an interest in sustainable shipping.
k. Participate in development of statements and materials supporting public outreach and publicity related to the VSR Program.
l. Conduct public outreach and publicity related to the VSR Program.
m. Collect, organize, and submit information to VCAPCD as needed to support preparation of all reports required by EPA as part of the CPRG grant agreement.
n. Perform additional tasks needed as the VSR Program expands through implementation of the CPRG such as liaison with additional agencies outside the current geographic scope of the VSR Program.

4. Compliance with law, regulations, etc. The Parties agree that they will, at all times, comply with and require any subcontractors to comply with all applicable federal, State and local laws, rules, guidelines, regulations, and requirements.
5. Contact information. For any notices required under this MOA, the Parties shall use the following contact information.

CMSF:
Robert Mazurek, Executive Director
California Marine Sanctuary Foundation
99 Pacific Street, Bldg 455
Monterey, CA 93940-2470
robert@californiamsf.org
(831) 242-0565

SBCAPCD:
Alex Economou, Division Manager
Planning Division
Santa Barbara County Air Pollution Control District
260 N. San Antonio Road, Ste. A
Santa Barbara, CA 93110
EconomouA@sbcapcd.org
805-979-8333

VCAPCD:
Tyler Harris, Division Manager
Planning, Rules, and Incentives Division
Ventura County Air Pollution Control District
4567 Telephone Road, Ste. 200
Ventura, CA 93003-5665
tyler@vcapcd.org
805-303-3661

The Parties may change their contact information by providing at least 7 days' written notice to the other parties.

6. Termination by the Parties. This MOA shall be effective on the date it is fully executed by the Parties. As lead applicant, VCAPCD may terminate this MOA by providing 30 days written notice to the other Parties. SBCAPCD and CMSF may terminate their participation in this MOA for cause by providing 30 days written notice of termination to the other parties. The remaining parties shall make all reasonable efforts to continue performance under the CPRG Program and shall amend this MOA and budget as necessary.
7. Automatic Termination. This MOA shall automatically terminate upon termination of VCAPCD's grant agreement with EPA for CPRG Program funds. VCAPCD will notify the Parties within 3 business days upon learning that VCAPCD's grant agreement with EPA for CPRG Program funds will be terminated for any reason.
8. Amendments. This MOA may only be amended in writing executed by the Parties.

***

IN WITNESS WHEREOF, CMSF, SBCAPCD, and VCAPCD have executed this MOA on the dates set forth below.

CALIFORNIA MARINE SANCTUARY FOUNDATION

By _____ Date: _____

Robert Mazurek
Executive Director

SANTA BARBARA COUNTY AIR POLLUTION CONTROL DISTRICT

By _____ Date: _____

Aeron Arlin Genet
Director and Air Pollution Control Officer

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

By _____ Date: _____

Ali R. Ghasemi, P.E.
Air Pollution Control Officer/Executive Officer

Memorandum of Agreement for a Climate Pollution Reduction Grant
for the Marine Vessel Speed Reduction Incentive Program
known as "Protecting Blue Whales and Blue Skies"
June 20, 2024

This Memorandum of Agreement for a Climate Pollution Reduction Grant is by and between the California Marine Sanctuary Foundation, the Santa Barbara County Air Pollution Control District, and the Ventura County Air Pollution Control District

APPROVED AS TO FORM:

RACHEL VAN MULLEM
Santa Barbara County Counsel

By _____
Jennifer Richardson (May 31, 2024 10:46 PDT)
District Counsel

APPROVED AS TO FORM:

BETSY M. SCHAFFER, CPA
Auditor-Controller

By _____
Deputy

Protecting Blue Whales and Blue Skies Marine Vessel Speed Redution Incentive Program
Climate Pollution Reduction Grant Proposed 5-Year Budget

BUDGET BY YEAR							
COST-TYPE	**CATEGORY**	**YEAR 1**	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**	**TOTAL**
Direct Costs	**Personnel** (Note: shaded rows listed at fully burdened rates so fringe and indirect costs not calculated separately, funds not managed by CMSF)						
	Ventura County APCD Division Manager (200 hours at $238/hour fully burdened rate, with salary increase)	*$47,600*	*$50,575*	*$53,550*	*$56,525*	*$59,500*	*$267,750*
	Santa Barbara County APCD Division Manager (120 hours at $292/hour fully burdened rate, with salary increase)	*$35,040*	*$37,230*	*$39,420*	*$41,610*	*$43,800*	*$197,100*
	Santa Barbara County APCD Air Quality Engineer (400 hours at $220/hour fully burdened rate, with salary increase)	*$88,000*	*$93,500*	*$99,000*	*$104,500*	*$110,000*	*$495,000*
	Santa Barbara County APCD Public Information Officer (160 hours at $186/hour fully burdened rate, with salary increase)	*$29,760*	*$31,620*	*$33,480*	*$35,340*	*$37,200*	*$167,400*
	CMSF Leadership and strategy (600 hours, Executive, with salary increase)	*$72,000*	*$76,500*	*$81,000*	*$85,500*	*$90,000*	*$405,000*
	CMSF Marine Resource Protection Specialist (1200 hours, carrier and OGV owner interface, data analysis, with salary increase)	*$96,000*	*$102,000*	*$108,000*	*$114,000*	*$120,000*	*$540,000*
	CMSF Program Coordinator (2080 hours, project management, outreach, web content, with salary increase)	*$135,200*	*$143,650*	*$152,100*	*$160,550*	*$169,000*	*$760,500*
	CMSF Corporate and Public Engagement (4160 hours, outreach, public relations, direct engagement with cargo owners and freight forwarders, with salary increase)	*$270,400*	$287,300	$304,200	$321,100	$338,000	*$1,521,000*
	TOTAL PERSONNEL	***$774,000***	***$822,375***	***$870,750***	***$919,125***	***$967,500***	***$4,353,750***
	Fringe Benefits						
	CMSF Full-time employees @ 30% of salary	*$172,080*	*$182,835*	*$193,590*	*$204,345*	*$215,100*	*$967,950*
	TOTAL FRINGE BENEFITS	***$172,080***	***$182,835***	***$193,590***	***$204,345***	***$215,100***	***$967,950***
	Travel						
	Conferences and direct corporate engagement: 25 trips per year - airfare and fees $600 round trip	*$15,000*	*$15,000*	*$15,000*	*$15,000*	*$15,000*	*$75,000*
	Conference registration fees: 6 conferences per year, $3,000 registration fees (2 attendees at $1,500 each)	*$18,000*	*$18,000*	*$18,000*	*$18,000*	*$18,000*	*$90,000*
	Hotel - $200 per night, 60 nights per year	*$12,000*	*$12,000*	*$12,000*	*$12,000*	*$12,000*	*$60,000*
	Per Diem $70/day, 60 days per year, increase $2/year	*$4,200*	*$4,320*	*$4,440*	*$4,560*	*$4,680*	*$22,200*
	Ground Transportation and parking, $100 per day, 60 days	*$6,000*	*$6,000*	*$6,000*	*$6,000*	*$6,000*	*$30,000*
	Mileage for local travel, 500 miles @ $0.67/mile, increase $0.02/year	*$335*	*$345*	*$355*	*$365*	*$375*	*$1,775*
	Award Ceremony: Partners Travel Reimbursement - 12 partners travel, average $800 reimbursement	*$9,600*	*$9,600*	*$9,600*	*$9,600*	*$9,600*	*$48,000*
	TOTAL TRAVEL	***$65,135***	***$65,265***	***$65,395***	***$65,525***	***$65,655***	***$326,975***
	Equipment						
	2 Laptop Computers @ $2,700 each	*$5,400*					*$5,400*
	2 mobile phones for business use @ $700 each	*$1,400*					*$1,400*
	TOTAL EQUIPMENT	***$6,800***	***$0***	***$0***	***$0***	***$0***	***$6,800***
	Supplies and Data Subscriptions						
	IHS Markit Maritime Portal Subscription (with later year increase)	*$6,500*	*$6,500*	*$7,150*	*$7,150*	*$7,800*	*$35,100*
	Gatehouse Data Subscription (with later year increase)	*$24,000*	*$24,000*	*$26,400*	*$26,400*	*$29,000*	*$129,800*
	Marine Exchange of Sourthern California Data Subscription (x2, CMSF and SBCAPCD, with later year increase)	*$6,000*	*$6,000*	*$6,600*	*$6,600*	*$7,200*	*$32,400*
	Marine Exchange of Alaska Data Subscription (with later year increase)	*$12,000*	*$12,000*	*$13,200*	*$13,200*	*$14,400*	*$64,800*
	Cell phone service (with later year increase)	*$2,400*	*$2,400*	*$2,640*	*$2,640*	*$2,880*	*$12,960*
	TOTAL SUPPLIES AND DATA SUBSCRIPTIONS	***$50,900***	***$50,900***	***$55,990***	***$55,990***	***$61,280***	***$275,060***
	Contractual						
	Advertising and Publicity of Program Results	*$750,000*	*$750,000*	*$750,000*	*$750,000*	*$750,000*	*$3,750,000*
	Awards and Recognition Events	*$40,000*	*$40,000*	*$40,000*	*$40,000*	*$40,000*	*$200,000*
	AIS Analysis and Air Emission Reduction Calculations	*$120,000*	*$120,000*	*$120,000*	*$120,000*	*$120,000*	*$600,000*
	Whale mortality risk reduction analysis	*$90,000*	*$90,000*	*$90,000*	*$90,000*	*$90,000*	*$450,000*
	Acoustic analysis and noise reduction benefit determination	*$90,000*	*$90,000*	*$90,000*	*$90,000*	*$90,000*	*$450,000*
	Benioff Ocean Science Laboratory: *Near-real-time AIS data analysis, carrier performance and benefits reporting*	*$240,000*	*$240,000*	*$240,000*	*$240,000*	*$240,000*	*$1,200,000*
	TOTAL CONTRACTUAL	***$1,330,000***	***$1,330,000***	***$1,330,000***	***$1,330,000***	***$1,330,000***	***$6,650,000***
	OTHER						
	Legal Services (currently received pro bono)	*$50,340*	*$50,340*	*$50,340*	*$50,340*	*$50,340*	*$251,700*
							$0
	TOTAL OTHER	***$50,340***	***$50,340***	***$50,340***	***$50,340***	***$50,340***	***$251,700***
	TOTAL DIRECT	*$2,449,255*	*$2,501,715*	*$2,566,065*	*$2,625,325*	*$2,689,875*	*$12,832,235*
Indirect Costs	**Indirect Costs**						
	CMSF Indirect Cost - 12% of funds managed by CMSF	*$306,662.00*	*$312,107.00*	*$319,174.00*	*$325,547.00*	*$332,642.00*	*$1,596,132*
							$0
	TOTAL INDIRECT	***$306,662***	***$312,107***	***$319,174***	***$325,547***	***$332,642***	***$1,596,132***
TOTAL FUNDING		***$2,755,917***	***$2,813,822***	***$2,885,239***	***$2,950,872***	***$3,022,517***	***$14,428,367***