ANNUAL REPORT TO THE CALIFORNIA LEGISLATURE FOR THE YEAR 2009

THE CALIFORNIA OIL TRANSFER AND TRANSPORTATION EMISSION AND RISK REDUCTION PROGRAM 2004 to 2009

Prepared by the California State Lands Commission
April 2010

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EXECUTIVE SUMMARY

The Oil Transfer and Transportation Emission and Risk Reduction Act of 2002, Public Resources Code Sections 8780 through 8789, (Act) established the California Oil Transfer and Transportation Emission and Risk Reduction (OTTER) program under the direction of the California State Lands Commission (CSLC). The Act requires the CSLC to file a report with the legislature summarizing the information collected under the program. The copy of the Act is in Appendix A.

The OTTER program collects data related to the "internal shipment of oil" by marine vessels between facilities in the San Francisco Bay area and the Los Angeles/Long Beach area as defined by the Act (§ 8782(d)). The legislature found that current, accessible and accurate data regarding oil transportation is critical to having adequate information of the potential environmental quality, public health, and environmental justice consequences that must be analyzed. The information can be used by state and local agencies, for environmental impact reports and statements, emergency response planning, permit issuance, and air quality mitigation efforts. It also declared that tracking trends in internal shipment of oil is necessary to promote public safety, health, and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment in order to protect and to preserve the ecological balance of California's coastal zone, coastal waters, and coastal economy.

To gather the necessary data as defined in the Act the CSLC was directed to develop the "Oil Transfer and Transportation Emission and Risk Reduction (OTTER) Form" to be completed by the owner of the oil involved in the internal shipment of oil. The form was developed and has been used by the responsible parties. The OTTER Form can be found in Appendix B.

The CSLC is required to aggregate the OTTER information and provide it to the legislature in the form of annual reports for the years 2004 through 2009. The report is to discuss trends, provide specific information on air emissions and vessel types used as well as the number of transfers related to the shutdown of refineries.

This is the sixth and final in a series of annual reports to the legislature. The first through sixth annual reports to the California Legislature were prepared in April 2005, 2006, 2007, 2008, 2009, and 2010 respectively. These reports can be accessed at: http://www.slc.ca.gov/Division_Pages/MFD/MFD_Programs/OTTER/OTTER.html

OTTER report forms for the year 2009 indicate:

Total number of internal voyages:	367
Number of voyages from San Francisco Bay Area to Los Angeles/Long Beach:	267
Number of voyages from Los Angeles/Long Beach to San Francisco Bay Area:	84
Number of voyages from Ellwood to Long Beach:	12
Number of voyages from Ellwood to San Francisco Bay Area:	4

Total volume of crude oil shipped as internal shipments:	941,917 barrels
Total volume of refined oil shipped as internal shipments:	36,819,574 barrels

All but one internal shipment of crude oil in 2009 was from the Ellwood marine terminal, off the Coast of Santa Barbara County. The lone internal shipment of crude not originating in Santa Barbara, originated in the San Francisco Bay area.

Total air emissions resulting from internal shipments of oil:

Nitrogen Oxide (NO_x) emissions:	1,089.04 short tons
Hydrocarbon (HC) emissions:	60.50 short tons
Particulate Matter (PM) emissions:	64.94 short tons
Carbon Monoxide (CO) emissions:	170.16 short tons

During the year 2009, there were no internal shipments reported due to refinery breakdowns.

The Act also required CSLC to report the amount and location of ballast discharge in the event that Sections 71200 through 71271 of the Public Resources Code are repealed. The Marine Invasive Species Act of 2003 has been reauthorized and it enhances the state's program to prevent the introduction of non-indigenous aquatic nuisance species through vessel's ballast water discharges. This report therefore contains no information regarding the discharge of ballast.

The key indicators of this program are summarized in the table below. The key indicators in percentages from 2009 are compared with all other program years:

Key indicators in percentages (%)	**2004 to 2009**	**2005 to 2009**	**2006 to 2009**	**2007 to 2009**	**2008 To 2009**
Number of voyages	0.55	-11.78	-3.67	6.38	1.10
Volume of oil shipped as internal shipment	10.83	-6.02	2.34	27.01	2.60
No_x emissions	-8.09	-12.20	-18.82	-11.86	-7.01
HC emissions	0.88	-5.25	-11.74	1.35	2.97
PM emissions	-21.84	-12.37	17.14	59.50	5.43
CO emissions	-3.27	5.99	-14.81	-14.89	-10.2

Number of Voyages; from 2004 to 2009, has risen 0.55%, from 2005 to 2009, has fallen 11.78%, from 2006 to 2009, fell 3.67%, from 2007 to 2009, rose 6.38%, and from 2008 to 2009, rose 1.10%.

Volume of oil shipped as internal shipment; from 2004 to 2009, has risen 10.83%, from 2005 to 2009, has fallen 6.02%, from 2006 to 2009, rose 2.34%, from 2007 to 2009, rose 27.01%, and from 2008 to 2009, rose 2.60%.

No_x emissions; from 2004 to 2009, has fallen 8.09%, from 2005 to 2009, fell 12.20%, from 2006 to 2009, fell 18.82%, from 2007 to 2009, fell 11.86%, and from 2008 to 2009 fell 7.01%.

HC emissions; from 2004 to 2009, has risen 0.88%, from 2005 to 2009, fell 5.25%, from 2006 to 2009, fell 11.74%, from 2007 to 2009, rose 1.35%, and from 2008 to 2009, rose 2.97%.

PM emissions; from 2004 to 2009, has fallen 21.84%, from 2005 to 2009, fell 12.37%, from 2006 to 2009, rose 17.14%, from 2007 to 2009, rose 59.50%, and from 2008 to 2009, rose 5.43%.

CO emissions; from 2004 to 2009, has fallen 3.27%, from 2005 to 2009, rose 5.99%, from 2006 to 2009, fell 14.81%, from 2007 to 2009, fell 14.89%, and from 2008 to 2009, fell 10.2%.

There was an increase in the number of internal shipments in 2009 in comparison to the previous year. There was a 10.20 percent decrease in the CO; while the No_x, fell by 7.01%; the HC increased at 2.97%, and the PM at a 5.43% increase reflected the changes from the previous year.

There was a 1.10% increase in the number of internal shipments by sea in 2009 in comparison to the data of 2008. This translated to 3.17% decrease in the voyages of tank ships and 2.0% increase in the voyages of barges. In 2008 tank ship voyage duration averaged 38.44 hours and barge voyages averaged 65.18 hours between San Francisco Bay area and Los Angeles/ Long Beach area. In 2009 the average time was 37.81 hours and 62.94 hours respectively. The usage of tank ships during ocean voyages more than doubled from 2007 to both 2008 and 2009, while the average voyage times for tank ships fell in both 2008 and 2009. This increased use of tank ships correlates to the observed rise in PM of slightly over 161% since 2007, while the coastal voyage (barges) PM fell by slightly more than 42%. The PM for ocean voyages (tank ships) in 2009 from 2008 increased to 20.82%. The OTTER program does not capture specific data that could reveal the reason for change in voyage durations. Total emissions generated are primarily determined by the duration of the voyage and type and size of the engines used.

All tank ships and some barges sail more than 25 miles from the coast. Most of the barges sail 12 to 15 miles from the coast using the internationally recognized Santa Barbara Channel Traffic Separation Scheme. In 2009, 75% of the internal shipments were 12 to 15 miles from the coast and 25% of the shipments were more than 25 miles from the coast.

The data reveals that approximately 83.38% of internal shipments of oil were by barge and 16.62% were by tank ship in the year 2009. There was a twofold increase in the use of tank ships from the year 2007 and a steady trend in the use of barges during internal shipments. The observed trend in the increased usage of tank ship voyages was thought to be due to reporting anomalies from 2007 however, looking at the data seems to indicate that the use of tank ships during the program span has not revealed any particular pattern, as the use of tank ships has actually decreased 35% from 2004 to 2009. The actual use of barges has increased to almost 13%, from 2004 to 2009.

The OTTER form does not capture information regarding tank ships and tugs that have been retrofitted with new engines and the usage of cleaner fuels. The emissions during loading and unloading of oil from the tank vessels are not reported on the form. There are often delays waiting at anchorage for the availability of shore tank capacity, or dock space and this information is also not captured on the report form.

In conclusion the OTTER program captures data about a small segment of air emissions along the coast of California. The trend shows, that the majority of internal voyages are taking place by barges, 12 to 15 miles from the coast, rather than by tank ships which sail more than 25 miles from the coast. The overall emissions trend reveals that PM emissions are directly proportional to the use of tank vessels.

The OTTER Act authorized the staff of the California State Lands Commission to collect this data from 2004 to 2009. On December 31, 2009 the OTTER program ended as it reached its statutory sunset date. This is the sixth and final annual report of the OTTER program presented to the California State Legislature.

PURPOSE OF THE PROGRAM

The Oil Transfer and Transportation Emission and Risk Reduction Act of 2002, Public Resources Code Sections 8780 through 8789, (Act) established the California Oil Transfer and Transportation Emission and Risk Reduction (OTTER) program under the direction of the California State Lands Commission (CSLC). The Act requires the CSLC to develop a program to implement the requirements of the Act.

The purpose of the OTTER program is to collect data related to the internal shipments of oil by marine vessels between the San Francisco Bay area and the Los Angeles/Long Beach area. The legislature found that current, accessible and accurate data regarding oil transportation is critical to having adequate information of the potential environmental quality, public health, and environmental justice consequences that must be analyzed. The information can be used by state and local agencies, for environmental impact reports and statements, emergency response planning, permit issuance, and air quality mitigation efforts. It also declared that tracking trends in internal shipments of oil is necessary to promote public safety, health, and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment in order to protect and to preserve the ecological balance of California's coastal zone, coastal waters, and coastal economy.

To gather the required data as defined in the Act, the CSLC was directed to develop the “Oil Transfer and Transportation Emission and Risk Reduction Form” to be completed by the owner of the oil or a designated responsible party engaged in the internal shipment of oil. The form was developed and has been used by the oil owners and responsible parties. The CSLC is required to aggregate the OTTER information and provide it to the legislature in the form of annual reports for the years 2004 through 2009.

INFORMATION REQUIREMENTS

The Act required the CSLC, in consultation with the industry, to develop an Oil Transfer and Transportation Emission and Risk Reduction Form for owners of oil or designated responsible parties to report information regarding the volume and types of oil, the routes and duration of voyages and the estimated quantities of air emissions associated with the internal shipments of oil.

Specifically, the Act requires that the form contain the following:

(1) The name, address, point of contact, and telephone number of the responsible party.

(2) The name of the vessel transporting the oil.

(3) The type and amount of oil being transported.

(4) The source of crude oil.

(5) The name and location of any terminal that loaded the vessel.

(6) The name and location of any terminal that discharged the tanker or barge.

(7) The dates of travel and the route.

(8) The type of engine and fuel used to power the tanker or barge-towing vessel.

(9) The estimated amount and type of air emissions. To the extent practicable, the emissions' factors developed by the United States Environmental Protection Agency shall be used to estimate the amount of air emissions. The form shall be designed to ensure that charter vessel air emissions are not counted more than once.

(10) An indication of whether the reason for the internal shipping of oil was due to a temporary shutdown or partial shutdown of a key refinery facility.

(11) On and after January 1, 2004, if Division 36 (commencing with Section 71200) is repealed pursuant to Section 71271, the amount of any ballast discharged and the location of the discharge. (This requirement was not invoked as The Marine Invasive Species Act of 2003 reauthorized and enhanced the state's program to prevent the introduction of nonindigenous aquatic nuisance species through vessel's ballast water discharges).

Prior to the commencement of the reporting of internal shipments of oil, CSLC staff, in consultation with a Technical Advisory Group of industry participants, developed the OTTER form which is shown in Appendix B. Details of the collaboration with industry for development of the OTTER reporting form can be found in the first annual report for the year 2004.

VOYAGE ROUTES

The Act requires the reporting of vessel routes. Tank ships and barges typically travel on routes that are prescribed distances from shore based upon agreements between the oil industry and state government agencies. Most barges travel in the internationally designated Traffic Separation Scheme (TSS) in the Santa Barbara Channel and travel up the coast. On these voyages, tank barges are generally 12 to 15 nautical miles offshore. Most tank ships and some barges travel at a distance greater than 25 miles offshore. For simplicity of reporting it was decided to use the designation "S" for vessels utilizing the Santa Barbara Channel TSS. For the others, "O" is used to designate an offshore voyage. If a different type of route is used, it is to be reported by a notation to the OTTER Form.

THE OTTER RECORD

The information received by CSLC is entered into an electronic spreadsheet. At the end of each quarter, the information is aggregated and entered into a table. At the end of the year, the table enables staff to prepare the mandated annual report to the legislature. It also allows staff to compare quarterly and annual trends in the internal shipments of oil.

REPORT TO THE LEGISLATURE

The Act requires the CSLC to submit a report to the legislature and to make the report available to other parties requesting it. Annual reports are to be filed with the legislature on or before April 1, each year for the years 2004 to 2009.

The Act requires the Annual Reports to include, at a minimum, the following:

(1) A description of any trends in the total number of trips by oil type, amount of shipment, and source of oil.

(2) The number of transfers due to refinery shutdowns.

(3) The location of air emissions and ballast discharge, and the type of vessel used during those events.

(4) A discussion of any other pertinent issues that the Commission determines should be included.

STATISTICS FOR 2009

ANNUAL SUMMARY 2009 – VOYAGES

Total number of internal shipment voyages:	367
Number of voyages from San Francisco Bay to Los Angeles/Long Beach:	267
Number of voyages from Los Angeles/Long Beach to San Francisco Bay:	84
Number of voyages from Ellwood to Long Beach:	12
Number of voyages from Ellwood to San Francisco Bay:	4
Number of offshore voyages (O) : > 25 nautical miles from land	93
Number of coastal voyages (S): 12 to 15 nautical miles from land	274

The following table is a compilation of all submitted OTTER information for Calendar Year 2009. The table gives the annual statistical data of the OTTER program.

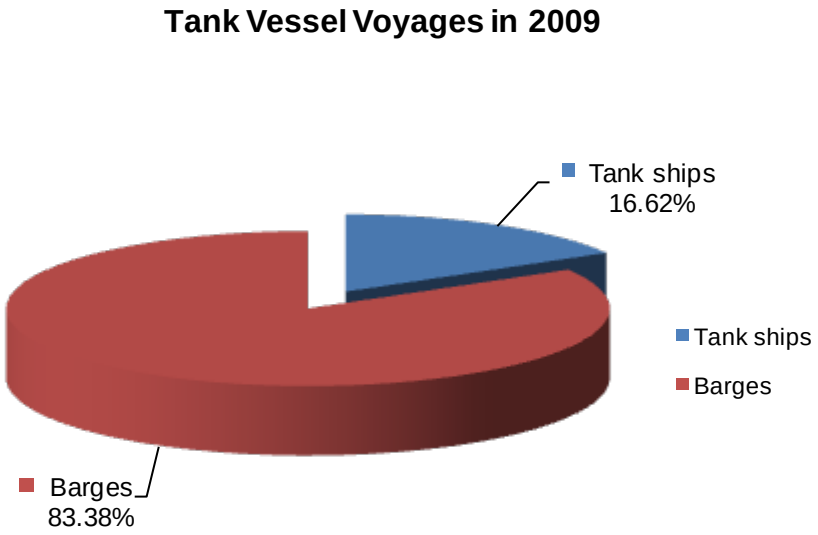
ANNUAL OTTER REPORT 2009

ANNUAL STATISTICS TABLE

Items	1st. Quarter	2nd. Quarter	3rd. Quarter	4th. Quarter	Aggregate Year 2009
Total number of internal shipments of oil	112	91	70	94	367
Number of internal shipments by tanker	18	16	10	17	61
Number of internal shipments by barge/tug	94	75	60	77	306
Number of barrels of crude oil shipped	163,212	214,516	325,869	238,320	941,917
Number of barrels of refined oil shipped	11,164,970	9,049,989	6,706,548	9,898,067	36,819,574
Number of barrels of other oil shipped	0	0	0	0	0
Total NO_x emissions in short tons	374.73	235.83	198.60	279.88	1,089.04
Total HC emissions in short tons	19.84	13.07	11.16	16.43	60.50
Total PM emissions in short tons	21.32	16.36	10.62	16.65	64.94
Total CO emissions in short tons	57.12	32.10	34.32	46.62	170.16
NO_x emissions 25 miles from coastline in short tons	52.90	28.77	68.24	122.42	272.33
NO_x emissions 12 to 15 miles from coastline in short tons	321.84	207.05	130.36	157.45	816.70
HC emissions 25 miles from coastline in short tons	5.32	3.24	5.75	10.41	24.72
HC emissions 12 to 15 miles from coastline in short tons	14.52	9.82	5.41	6.01	35.77
PM emissions 25 miles from coastline in short tons	14.26	11.78	7.55	13.39	46.99
PM emissions 12 to 15 miles from coastline in short tons	7.06	4.57	3.06	3.25	17.95
CO emissions 25 miles from coastline in short tons	7.95	1.92	7.96	12.92	30.75
CO emissions 12 to 15 miles from coastline in short tons	49.16	30.18	26.36	33.70	139.40
No. of internal shipments because of refinery shutdowns	0	0	0	0	0

INTERNAL SHIPMENTS BY VESSEL TYPE (2009)

Total number of internal shipment voyages:	367
Voyages by tank ships:	61
Voyages by barges:	306

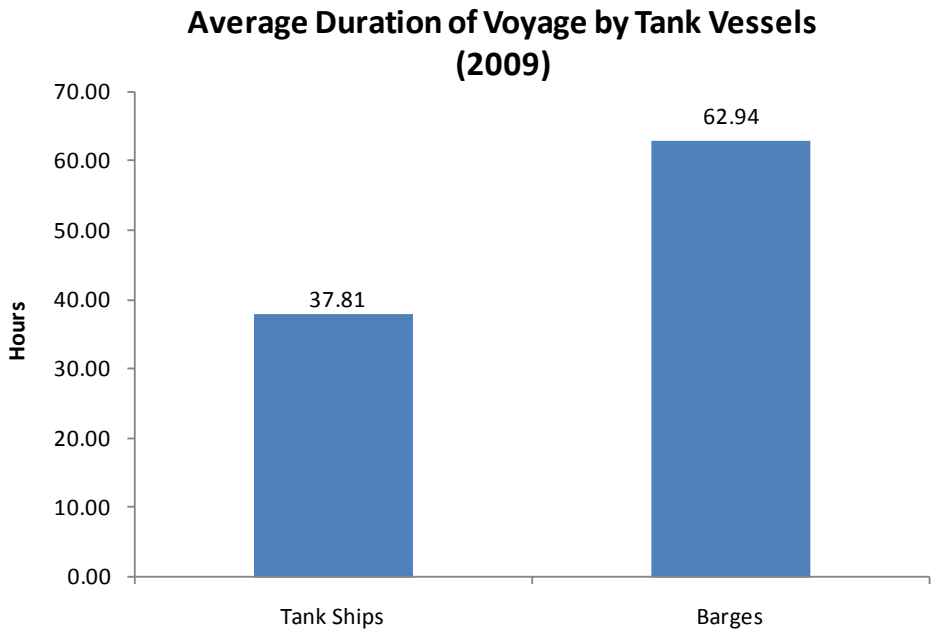


83.38% of internal shipments were by barges and 16.62% were by tank ships in the year 2009.

Yearly Percentage	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Program Average
Tank Ships	25.75%	20.19%	14.1%	9%	17%	16.62%	17.11%
Barges	74.25%	79.81%	85.90%	91%	83%	83.38%	82.89%

The table shows the yearly percentages of internal shipments of oil by tank ships and barges since the inception of the OTTER program. The program averages are indicated at the end of the table.

AVERAGE DURATION OF VOYAGE BY TANK VESSELS (2009)



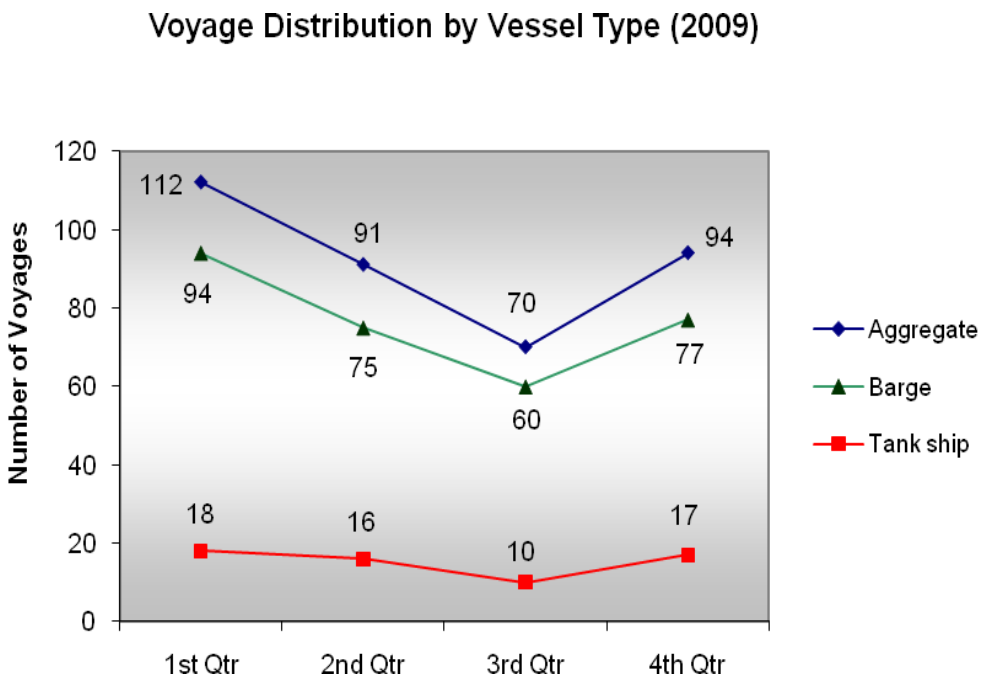
The average time for tank ships was 37.81 hours, while the barges took 62.94 hours to complete the voyage between the San Francisco Bay Area and Los Angeles/Long Beach Port Complex.

Total emissions are determined primarily by the size of the engine, type of fuel used and duration of the voyage.

Yearly Averages (hours)	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Program Average
Tank Ships	31.53	33.32	35.48	48.00	38.44	37.81	37.43
Tank Barges	57.42	62.92	64.85	62.39	65.18	62.94	62.62

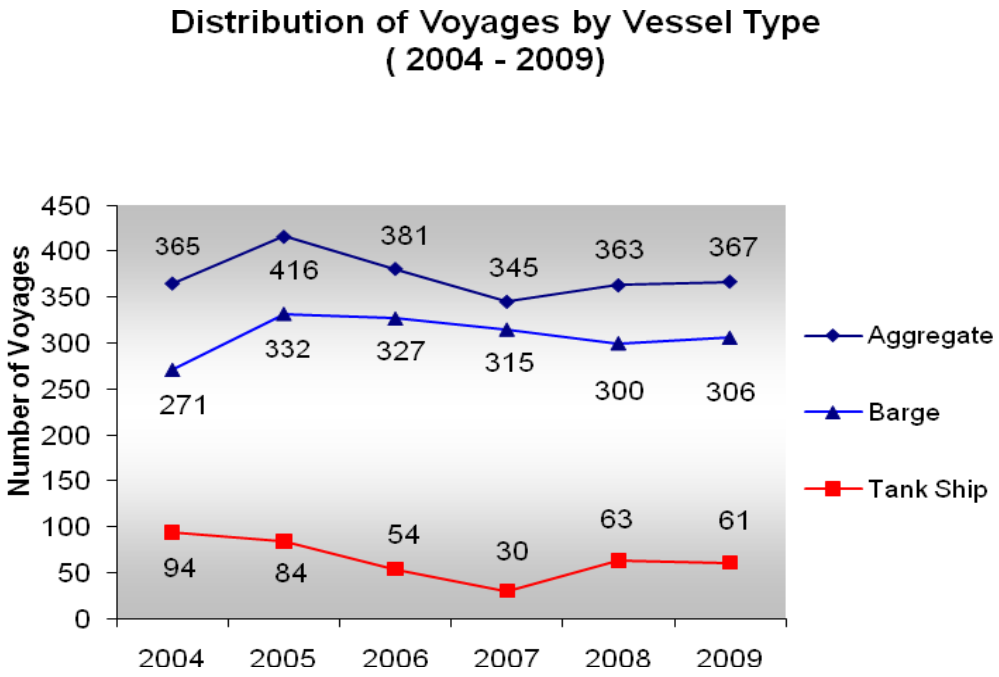
The table above shows the yearly average duration of voyages for both tank ships and barges in hours. The figures show that both barge and tank vessel voyage durations had been increasing from 2004 to 2007, and from the high of 2007 until 2009 the average voyage time has been decreasing. A plausible reason for the increase in tank vessel voyage duration via the ocean voyage route in 2007 is that the tank ships were required to start conducting ballast water exchanges in waters greater than 50 nautical miles from the nearest coast. Again a plausible reason for the almost 23% drop in duration time for tank ships from 2007 to 2009 may be related to better ballast management by these vessels. The table also reflects voyage duration averages for both tank ships and barges during the span of the program.

VOYAGE DISTRIBUTION BY VESSEL TYPE (2009)



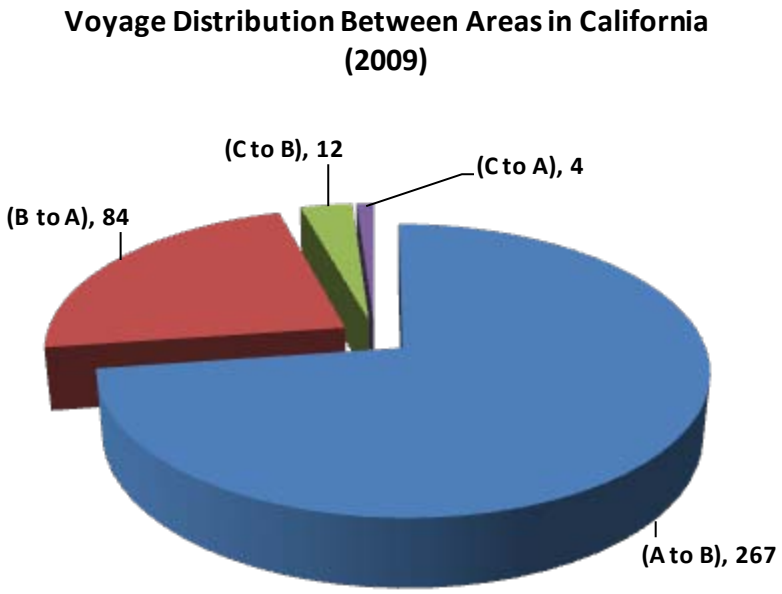
The maximum number of internal voyages in the aggregate was in the first quarter at 112, while the minimum was in the third quarter at 70. The voyages for tank ships and barges followed the same basic trend pattern. The quarterly averages in the aggregate for voyage distribution was 92, while the quarterly average for barges was 77, and the average of tank ships were at 15 per quarter.

DISTRIBUTION OF VOYAGES BY VESSEL TYPE (2004 – 2009)



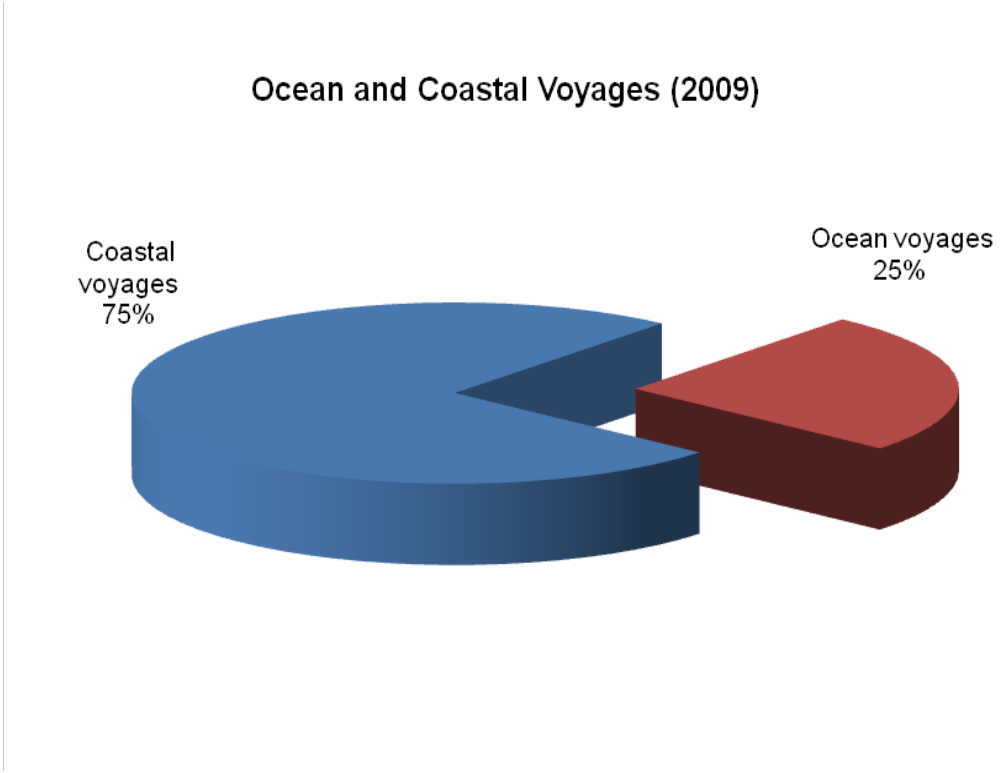
In comparison of the data of 2009 with 2008 there were 2.0% more voyages by barges and 3.17% fewer voyages by tank ships. When data of 2009 is compared with the data of year 2004, there were 35.11% less voyages by tank ships and 12.92% more voyages by barges. Overall the trend shows that the utilization of tank ships was on a steady decline until 2007, in 2008 their use doubled and has remained steady through 2009. The utilization of barges has remained fairly consistent over the six year program period with an average increase of approximately 2.15% yearly. Voyages in the aggregate have remained within a 17 percent range during the program span, with 2009 ending one percent higher than the 2004 reporting year. The yearly average of the aggregate was 373; with the yearly average for barges at 309, and yearly average for tank ships were 64.

VOYAGE DISTRIBUTION BETWEEN AREAS IN CALIFORNIA (2009)



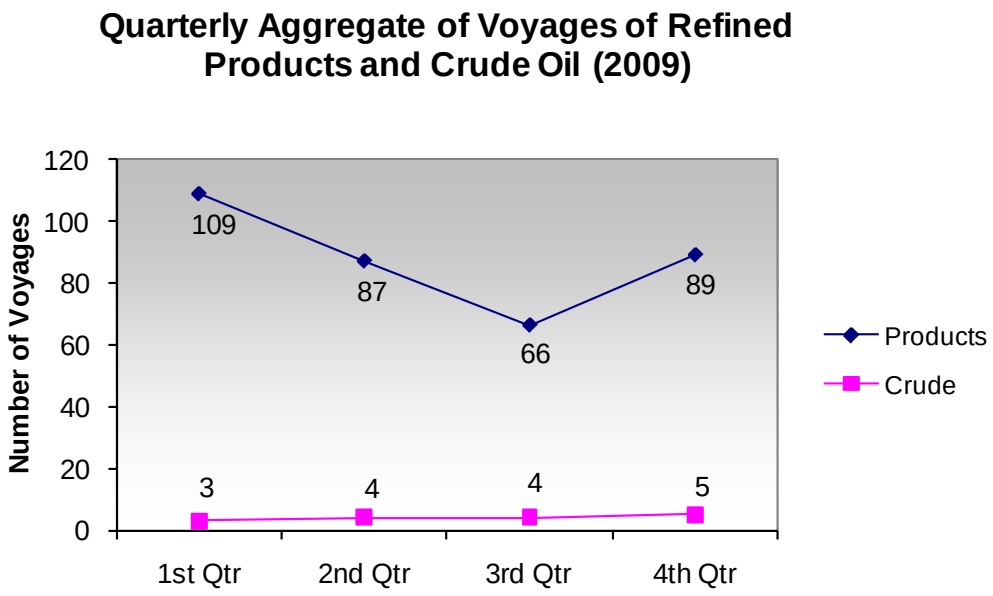
A to B: San Francisco Bay to Los Angeles/Long Beach
B to A: Long Beach/Los Angeles to San Francisco Bay
C to A: Ellwood to San Francisco Bay
C to B: Ellwood to Los Angeles/Long Beach

OCEAN AND COASTAL VOYAGES (2009)



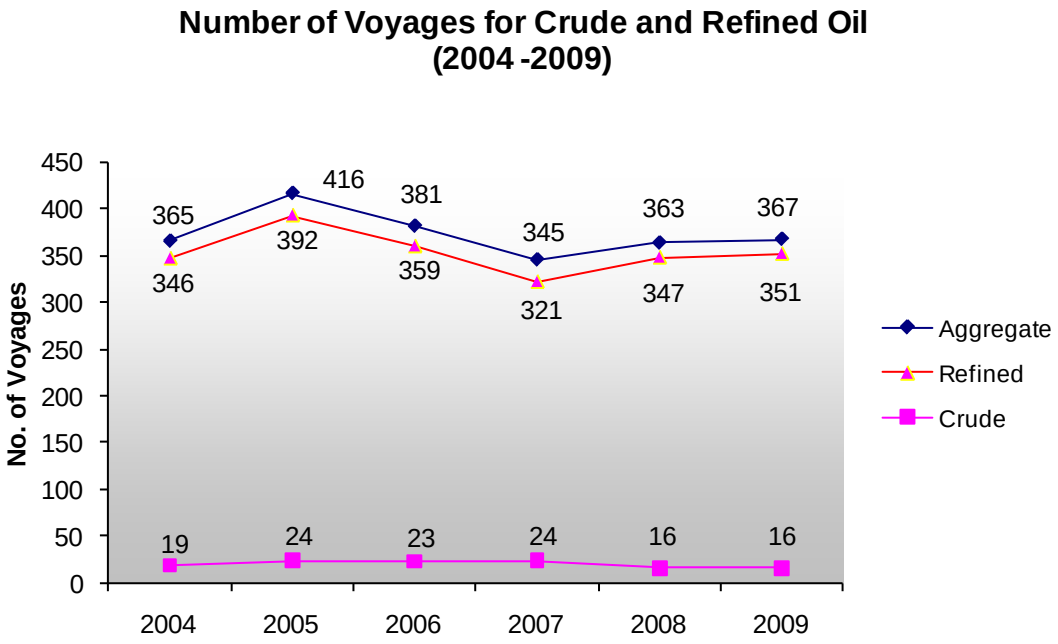
Of the total reported voyages in 2009, 25% were by the offshore ocean route, generally by tank ships. This ocean route keeps the tank ships 25 or more nautical miles from the coast. The coastal route utilized by barges accounted for 75% of the total voyages. The coastal route is defined as being 12 to 15 nautical miles from the coast. This reporting year there were a few barges along with the tank ships which conducted voyages along the ocean route. All of the reported voyages via the coastal route were conducted by barges.

QUARTERLY AGGREGATE OF VOYAGES OF REFINED PRODUCTS AND CRUDE OIL (2009)



The number of voyages for the transfer of refined products showed an overall downward trend, while the voyages for crude oil transfers reflect a steady, but slight increase in 2009. The quarterly average for refined product voyages was 88 and the quarterly average for crude oil voyages was four (4).

NUMBER OF VOYAGES FOR CRUDE AND REFINED OILS (2004-2009)



There was a slight increase of 1.10% in the aggregate number of voyages in 2009 when compared with the data of 2008. In comparison of the aggregate data of 2009 with the data of 2004 there was a barely perceptible increase of approximately one percent in the number of overall voyages.

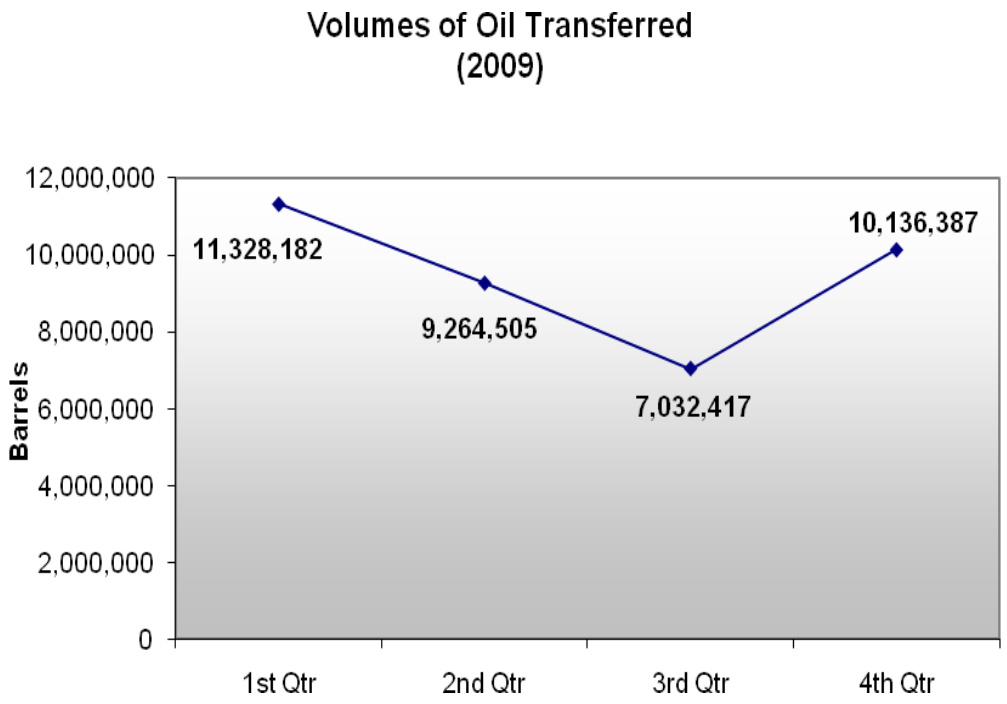
The yearly average for voyages in the aggregate was 373, while the refined product voyages were at 353 and the yearly crude oil voyage average was 20.

The number of voyages for refined oils followed the trend of the aggregate, which showed a slight increase from the previous year. The voyages of crude oil reflect a perceived decreasing trend after three years on a plateau.

Furthermore, for the second time in two years that this data has been tracked a tank ship transported crude oil from the San Francisco Bay area to the Los Angeles/Long Beach port complex, while also transporting an incidental shipment of refined product. The refined oil was only incidental when compared to the amount of crude oil transported.

VOLUMES OF OIL TRANSFERRED (2009)

Total Volume:	37,761,491 barrels
Crude Oil:	941,917 barrels
Refined Oil:	36,819,491 barrels



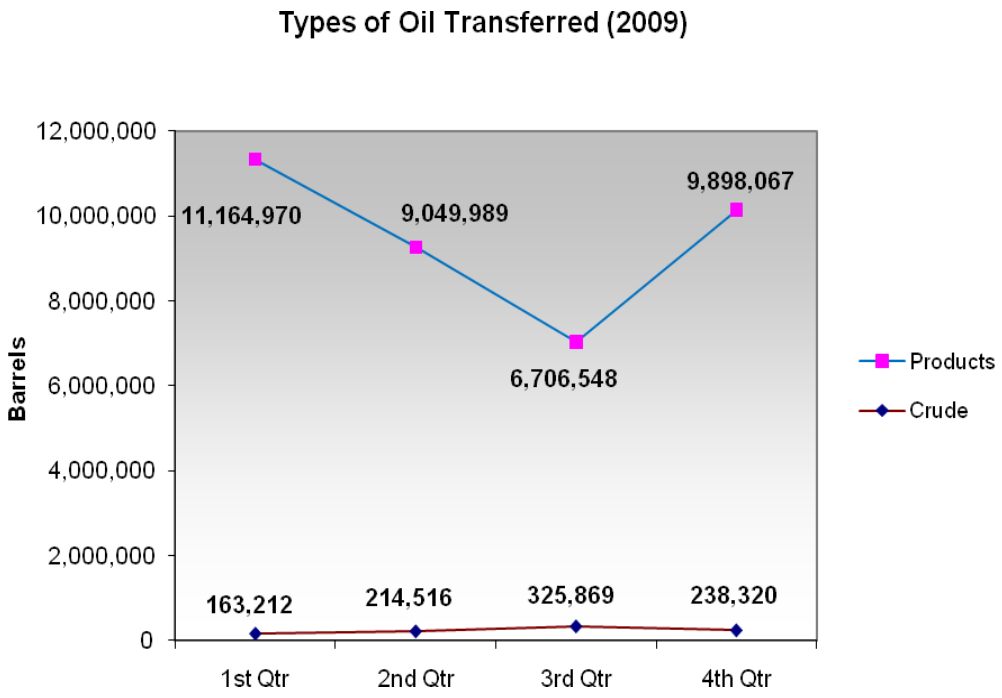
During 2009, all of the oil transported between the ports of the San Francisco Bay area and the Los Angeles/Long Beach area were refined products, except for one voyage. There was one voyage by tank ship from the San Francisco Bay area to Los Angeles/Long Beach port complex which transported crude along with an incidental cargo of refined product, no other voyages transporting crude oil was shipped directly between these two areas.

All but the previously described internal shipments of crude oil in 2009 were from the Ellwood marine terminal, off the Coast of Santa Barbara County.

The quarterly average of all volumes of oil transferred in 2009 show 9,440,373 barrels being transferred.

The trend shows the largest increase in the total volumes of oil transferred in the first quarter and the least amount in the third quarter. From the first quarter, to the third quarter there was a decrease in volume of oil transported of approximately four million barrels. From the third quarter to the fourth quarter, there was an increase in the aggregate of approximately three million barrels.

TYPE OF OIL TRANSFERRED (2009)

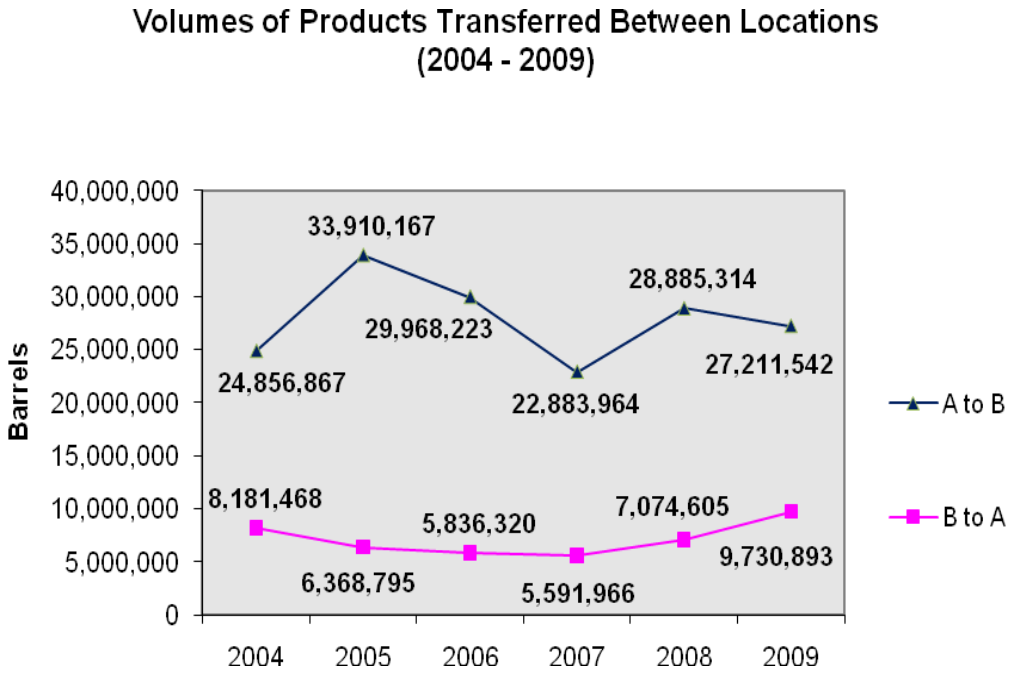


Products: The maximum volume of oil was transferred during the first quarter at 11,164,970 barrels and the least volume was transferred during the third quarter at 6,706,548 barrels. The quarterly products average was 9,204,893 barrels transferred.

Crude Oil: The maximum volume of crude oil transferred was in the third quarter at 325,869 barrels and the minimum was during the first quarter at 163,212 barrels. The third quarter reflects the addition of a tank ship which transported approximately 123,000 barrels of crude from the San Francisco Bay area to the Los Angeles/Long Beach port complex. The quarterly crude average was 235,479 barrels transferred.

The pattern indicates that refined product volumes had a progressive decrease toward the third quarter and then a steep rise during the fourth quarter to almost the amount of the first quarter. The increase in crude barrels transported during the third quarter was seen as an anomaly, as a tank ship transported crude oil from the San Francisco bay area to the Los Angeles/Long Beach port complex in one voyage.

VOLUMES OF PRODUCTS TRANSFERRED BETWEEN LOCATIONS (2004-2009)



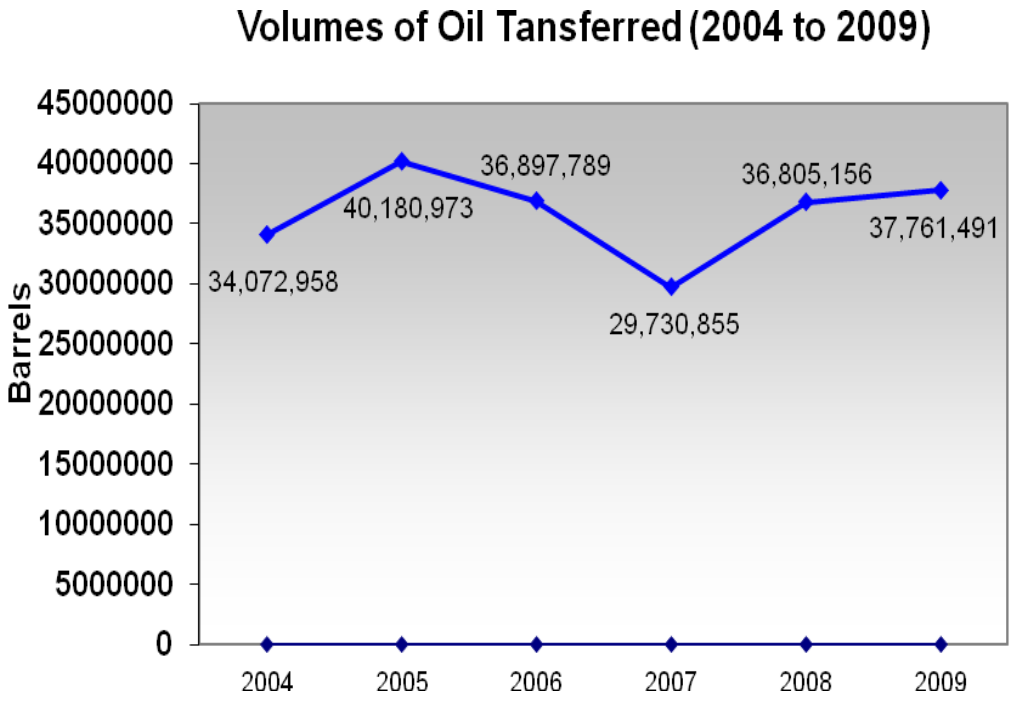
A to B: San Francisco Bay area to Los Angeles/Long Beach
B to A: Los Angeles/Long Beach to San Francisco Bay area

The trend indicates that there are higher volumes of products transferred from San Francisco Bay area to Los Angeles/Long Beach port complex and comparatively lower volumes transferred from Los Angeles/Long Beach port complex to the San Francisco Bay area. The observed trend reflects the fact that there is greater refining capacity in the Bay area in comparison to the refining capacity in Los Angeles/Long Beach area.

Another point to mention here is that voyages traveling up the coast take more time and fuel, which produce more emissions, than the same voyage traveling down the coast. This is due to the prevailing California Current and wind driven swell that moves from the north and west respectively. The local vessel Masters refer to travel “uphill” when going north and travel “downhill” when traveling south.

The yearly average for products transferred from locations A to B reflect 27,952,679 barrels and the yearly average for products transferred from locations B to A reflect 7,130,674 barrels.

VOLUMES OF OIL TRANSFERRED (2004-2009)

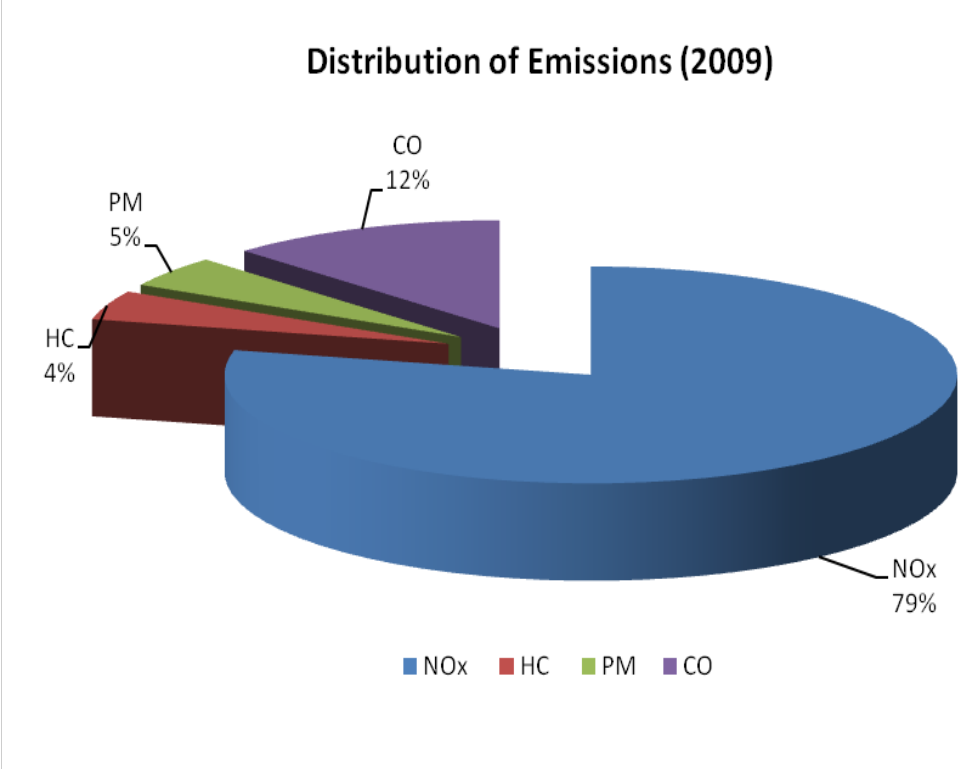


A comparison of volumes of 2009 with 2008 shows an increase of 956,335 barrels, or an increase of 2.60%. The comparison of volumes of years 2009 with 2005 shows there were 2,419,482 barrels less transferred by internal shipments in 2009. This was a decrease of 6.02% in 2009 from the 2005 reporting year. The comparison of volumes of years 2009 with 2004 shows there was a higher volume of 3,688,533 barrels shipped in 2009. This was an increase of 10.83% over the volume of 2004. The comparison of volumes of years 2009 with 2006 reflects only a minuscule increase of 863,702 barrels, or 2.34%. The trend shows a steady two year decline from a rise in the highest reported transfer year of 2005 to an increase from 2007 to 2009.

The yearly average volumes of oil transferred during the program span was 35,908,204 barrels. No specific pattern is obvious; with 2005 reflecting the greatest amount of oil transferred at approximately four million barrels above the mean, while the least amount transferred occurred in 2007 with approximately six million barrels below the mean reported.

AIR EMISSIONS

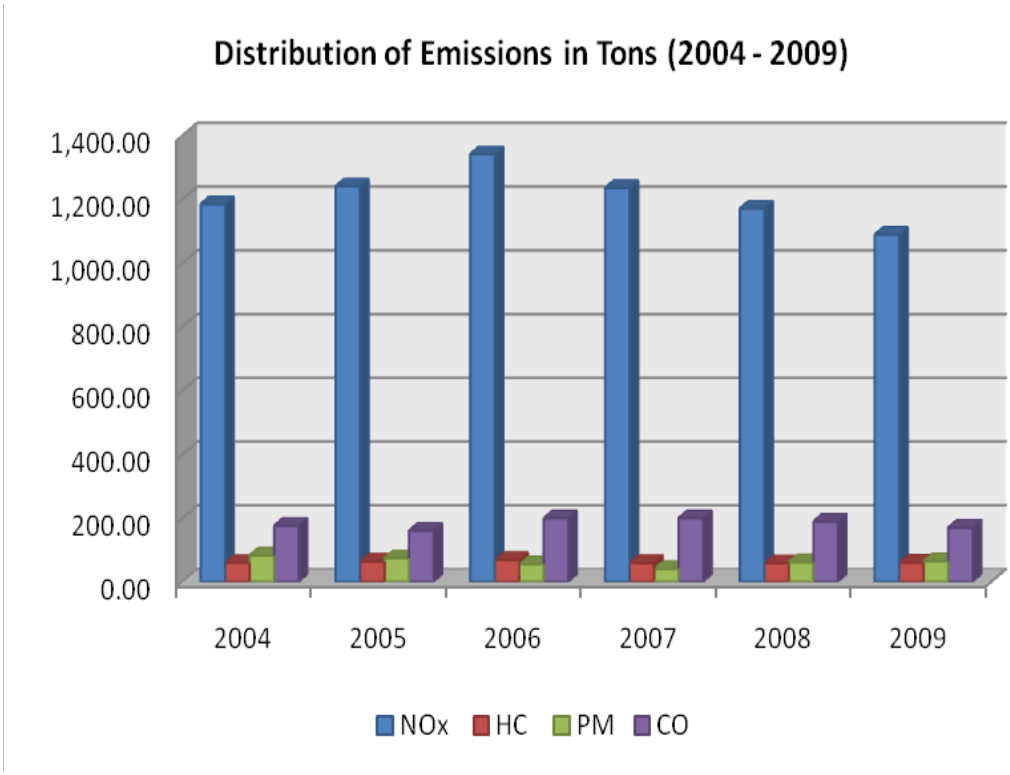
DISTRIBUTION OF EMISSIONS IN 2009



The breakdown of the four emission components for 2009 is as follows; Nitrogen Oxide (NO_x) was 79% of the emissions, followed by Carbon Monoxide (CO) at 12%, Particulate Matter (PM) and Hydrocarbon (HC) gases were at 5% and 4% of the emissions reported respectively.

NO_x emissions:	1,089.04 short tons or 79%
HC emissions:	60.50 short tons or 4%
PM emissions:	64.95 short tons or 5%
CO emissions:	170.16 short tons or 12%

DISTRIBUTION OF EMISSIONS IN TONS (2004 to 2009)

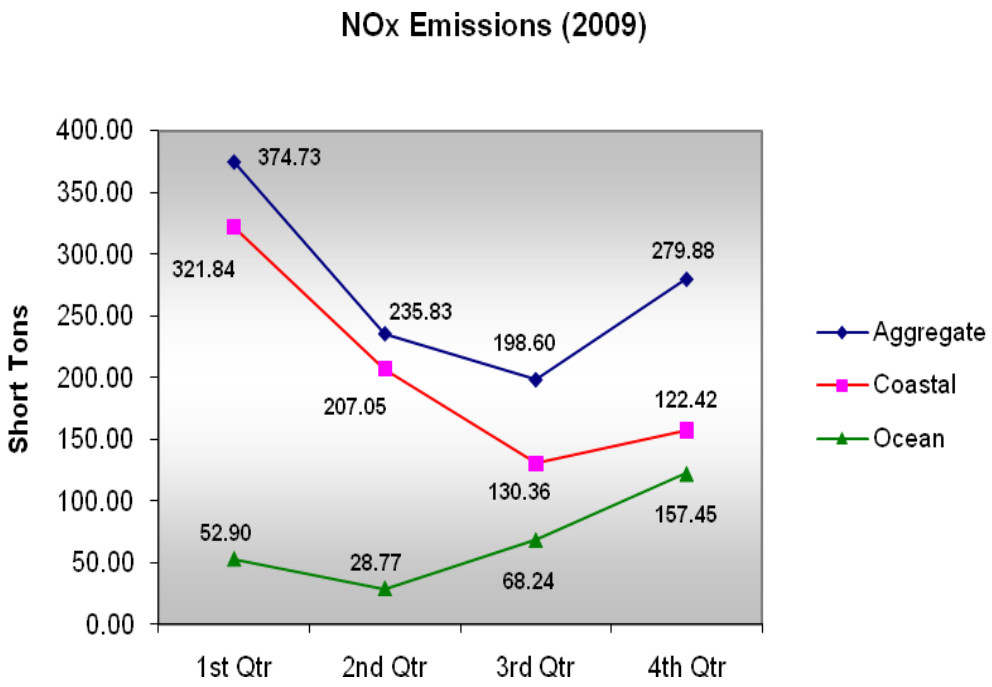


Note: The order of the legend is representative of the emissions in the individual emission bars for each year. The NO_x shows a gradual tapering off from the benchmark high of 2006. The HC is shown to be minimal and at a plateau. The PM shows as being on a subtle increase in 2009 from the low of 2007, while the CO is shown as on a plateau since 2006.

The individual emissions in the aggregate were averaged for the purpose of determining if there was any particular trend identified. The Nitrogen Oxide (NO_x) emission average was 1210.39 tons; the average Hydrocarbon (HC) emission was 61.89 tons; the average Particulate Matter (PM) emission was 63.32 tons; and the Carbon Monoxide (CO) averaged 182.63 tons.

The Staff has determined that although the above bar chart represents the four emissions in the aggregate, it does not portray the data properly, as the Nitrogen Oxide (NO_x) was by far the major component and somewhat skews the other three emission components in comparison. The next twelve pages show the four components broken down first in quarters for 2009, then individually over the program span, and finally represented individually in comparison with the type of voyage (coastal and ocean) which generated that particular emission.

NITROGEN OXIDE (NO_x) EMISSIONS (2009)

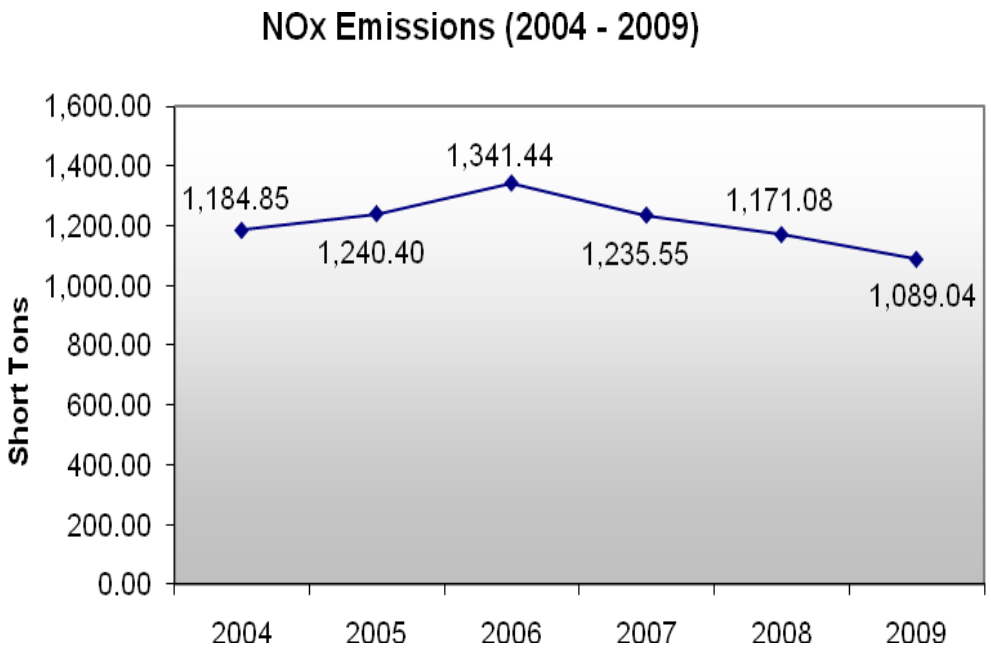


The aggregate NO_x emissions were the highest in the first quarter during which there were 112 internal shipments of oil, which are 42 more shipments than the third quarter which had only 70 shipments. The third quarter reflects the lowest amount of NO_x and also had the lowest amount of total voyages. The coastal NO_x seemed to trend along the aggregate.

The NO_x emissions for the ocean voyages are on a similar track as that of the aggregate and coastal voyages, but the ocean NO_x actually increased from the second quarter to the fourth, while the aggregate and coastal NO_x increased from the third to the fourth quarters.

The averaged NO_x emissions for the year were 1089.04 tons, while the individual quarters averaged 272.26 tons.

NITROGEN OXIDE (NO_x) EMISSIONS (2004-2009)



The comparison of data for the year 2009 with 2008 indicates a decrease of 7.01% in NO_x emissions with an increase of 1.10% in the number of voyages.

The comparison of data for the year 2009 with 2005 shows there was 12.20% decrease in No_x with an 11.78% decrease in the number of voyages. The generation of No_x has shown a relatively small 95.81 ton net decrease on a year to year comparison, since the inception of the reporting.

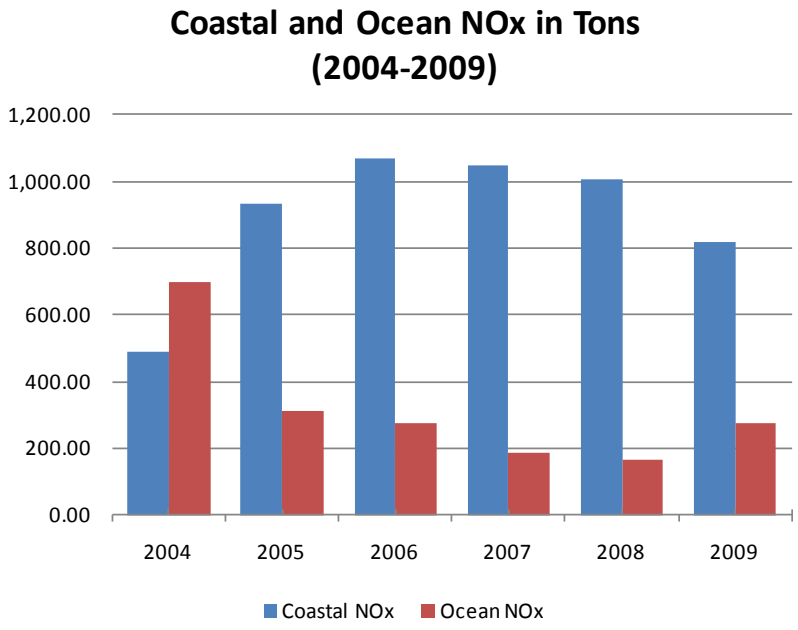
The total NO_x emissions reported during the program span was 7262.36 tons, while the yearly average for NO_x emissions was 1210.39 tons.

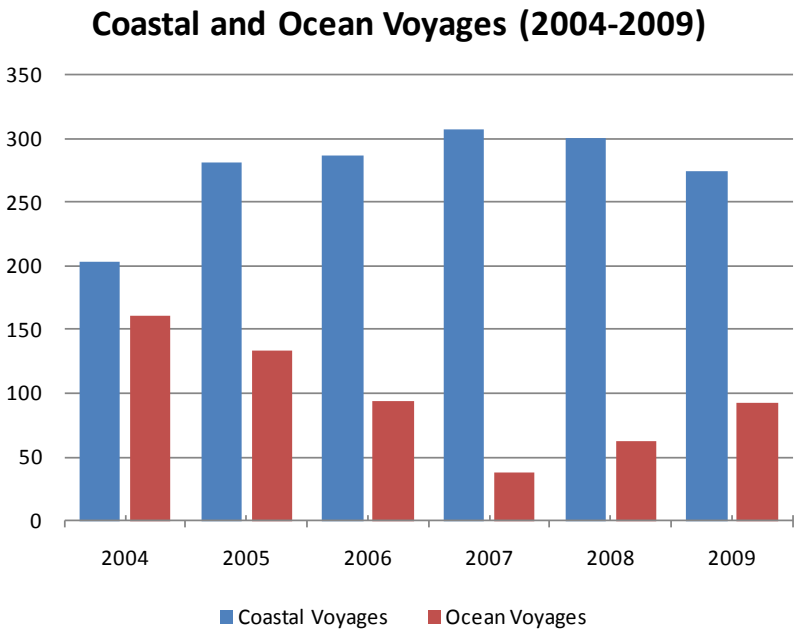
The table below indicates the yearly average NO_x emissions per voyage in short tons since the program commenced in 2004.

Type of Voyage	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Program Average
Ocean Voyage	4.33	2.32	2.91	4.90	2.64	2.93	3.34
Coastal Voyage	2.39	3.30	3.72	3.42	3.35	2.98	3.20

The final year 2009 showed a decrease in NO_x emissions via coastal voyages, while the ocean voyages reflected a slight increase.

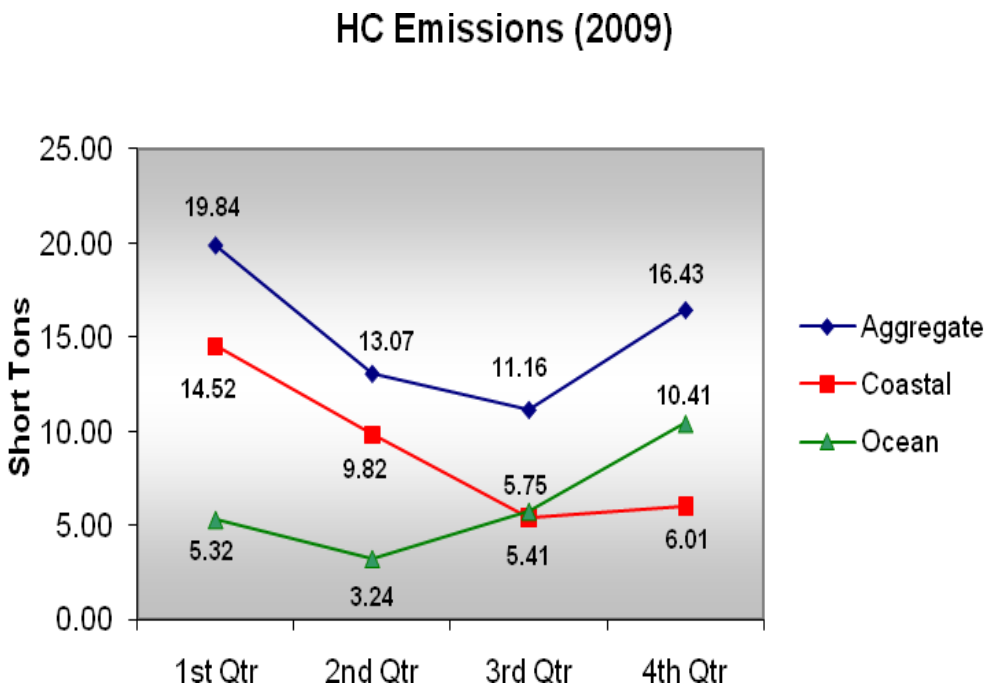
COASTAL AND OCEAN NO_X IN TONS (2004-2009)





The first of the two bar charts above shows the amount NO_x emissions generated by the type of voyage traveled, and the second chart shows the number of Coastal and Ocean voyages reported.

HYDROCARBON (HC) EMISSIONS (2009)



The HC emissions were the highest in the first quarter in which there were 112 internal shipments of oil. The third quarter except for the ocean HC had relatively the lowest reported HC emissions in comparison with the aggregate and coastal voyages.

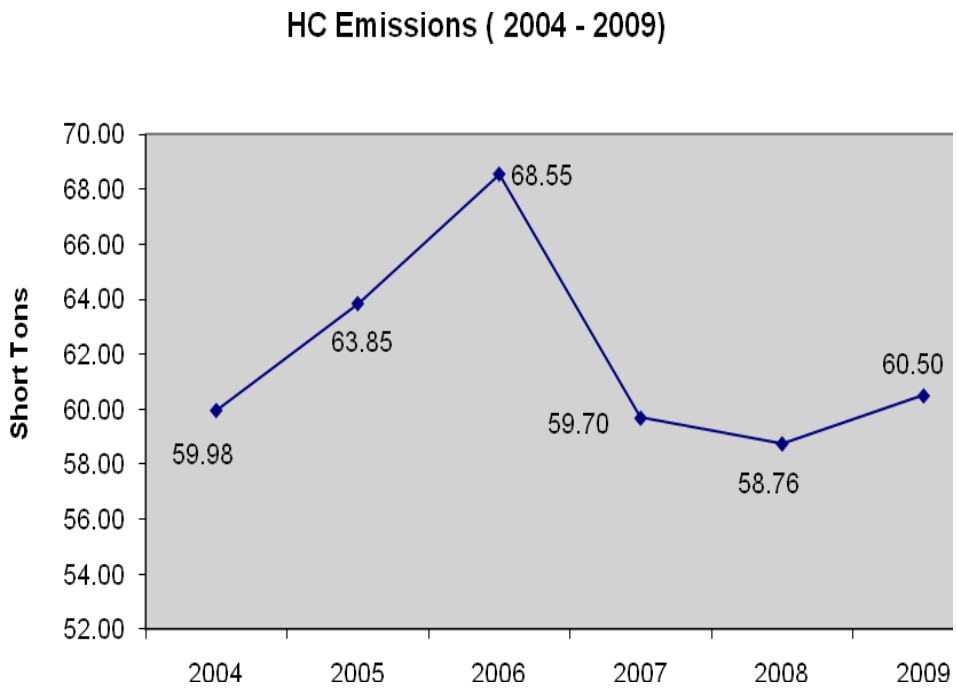
The HC emissions for the coastal voyages are on a similar track as that of the aggregate, but the ocean HC emissions actually increased from the second quarter to the fourth while the aggregate and coastal HC increased from the third to the fourth quarters.

The 2009 average for HC in the aggregate was 15.13 tons, the coastal average was 8.94 tons, and the ocean average reported was 6.18 tons.

The table below indicates the average HC emissions in short tons per voyage since the program commenced in 2004.

Type of Voyage	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Program Average
Ocean Voyage	0.24	0.19	0.24	0.40	0.24	0.27	0.26
Coastal Voyage	0.11	0.14	0.16	0.15	0.14	0.13	0.14

HYDROCARBON (HC) EMISSIONS (2004-2009)

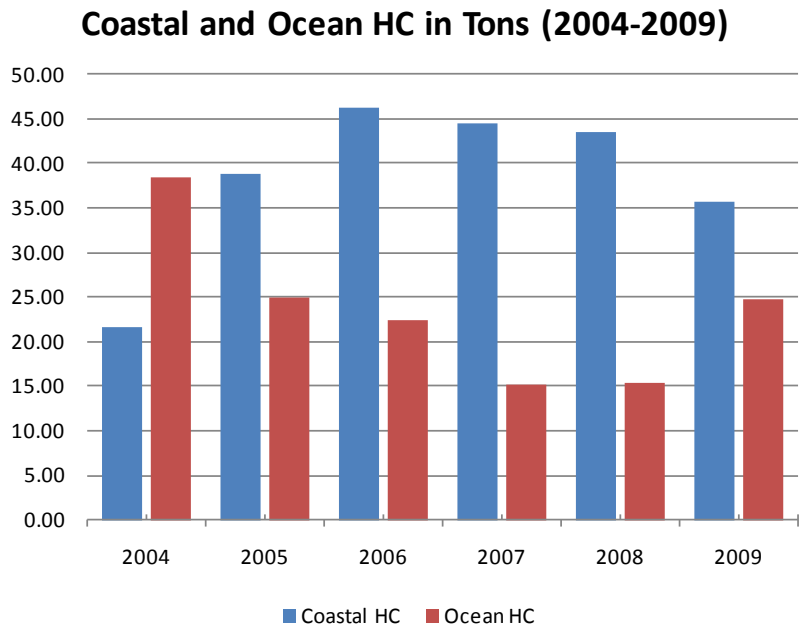


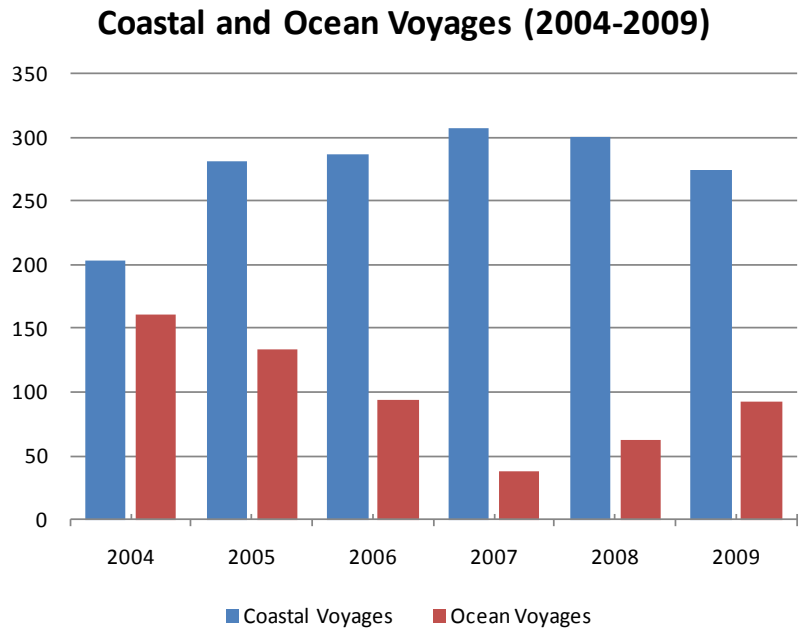
The comparison of data of the years 2009 and 2008 indicates an increase of 2.97% in HC emissions, during this period, there was an increase of 1.10% in the number of voyages.

The reported generation of HC emissions has remained within 59 to 69 tons generated each year during the program span. There is a difference of approximately 0.88% when comparing HC emissions to the first program year with the last, (2004 to 2009). This is interesting, as there is a difference of only 0.55% in the number of internal shipments when comparing the first program year to the last. This means there was less than a one percent change in both HC emissions and internal shipments comparing the years 2004 with 2009.

The cumulative HC emissions reported during the program span was 371.34 tons, while the yearly average for HC emissions was 61.89 tons.

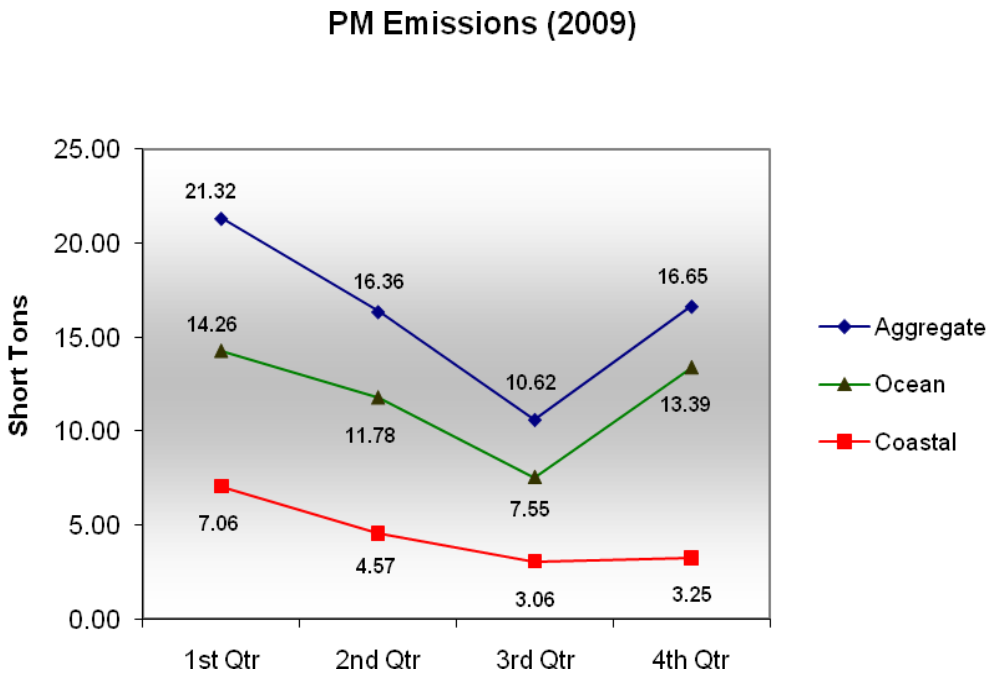
COASTAL AND OCEAN HC IN TONS (2004-2009)





The first of the two bar charts above shows the amount of HC emissions generated by the type of voyage traveled, and the second chart shows the number of Coastal and Ocean voyages reported.

PARTICULATE MATTER (PM) EMISSIONS (2009)



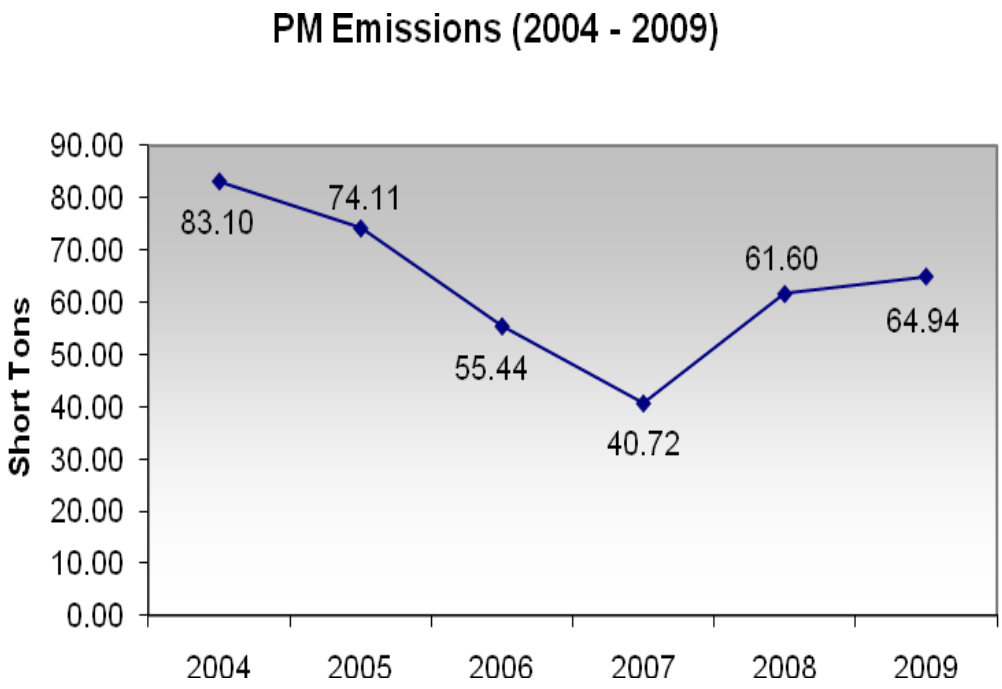
PM emissions in the aggregate were highest in the first quarter and were the lowest in the third quarter. The trend of the ocean PM mirrored that of the aggregate, while that of the coastal PM decreased by approximately 4 tons over the year. The increased generation of this individual emission is directly proportional to tank ship voyages along the ocean route. Tank vessel voyages (ocean route) were 16.62% of that of the aggregate, but generated approximately 72% of the PM emissions.

The 2009 average for PM in the aggregate was 16.24 tons, the ocean average was 11.75 tons, and the coastal average reported was 4.49 tons.

The table below indicates the average PM emissions per voyage in short tons since the program commenced in 2004.

Type of Voyage	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Program Average
Ocean Voyage	0.35	0.39	0.32	0.47	0.62	0.51	0.44
Coastal Voyage	0.13	0.08	0.09	0.07	0.08	0.07	0.09

PARTICULATE MATTER (PM) EMISSIONS (2004-2009)

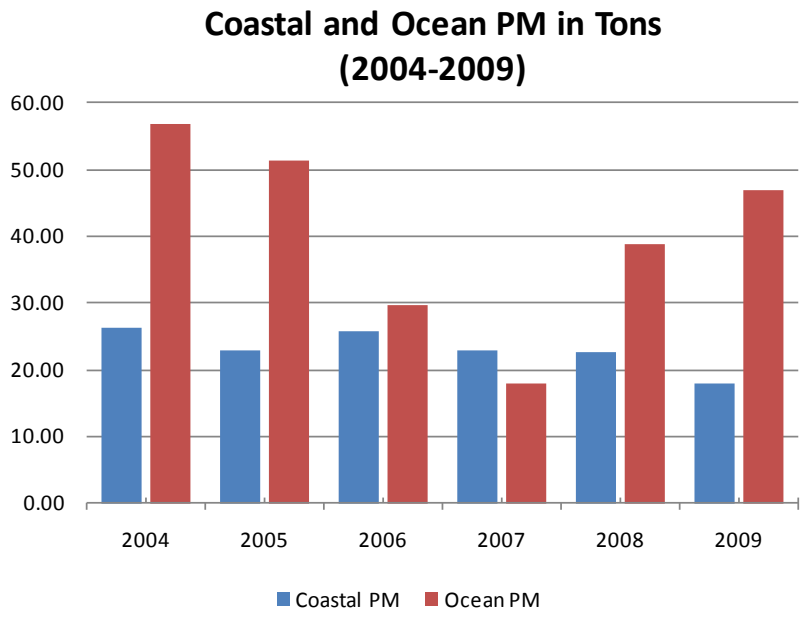


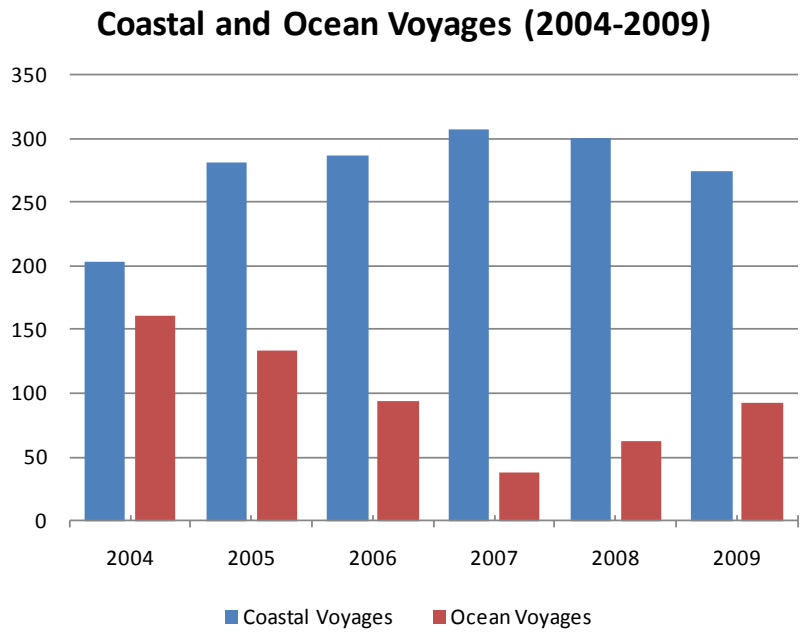
The comparison of PM emission data between 2009 and 2008 indicates the largest increase of all the four emission components at 5.43%, during this period, there was only an increase of 1.10% in the number of voyages. The comparison of data between 2009 and 2004 shows a decrease in PM of 21.84%, during this period, there was an increase of only 0.55% in the number of voyages.

The generation of PM had been following a general downward trend since the start of the program in 2004 to 2007; however, the trend shows an increase of PM from the low of 2007 to the 2009 reporting year.

The cumulative PM emissions reported during the program span were 379.91 tons, while the yearly average for PM emissions was 63.32 tons.

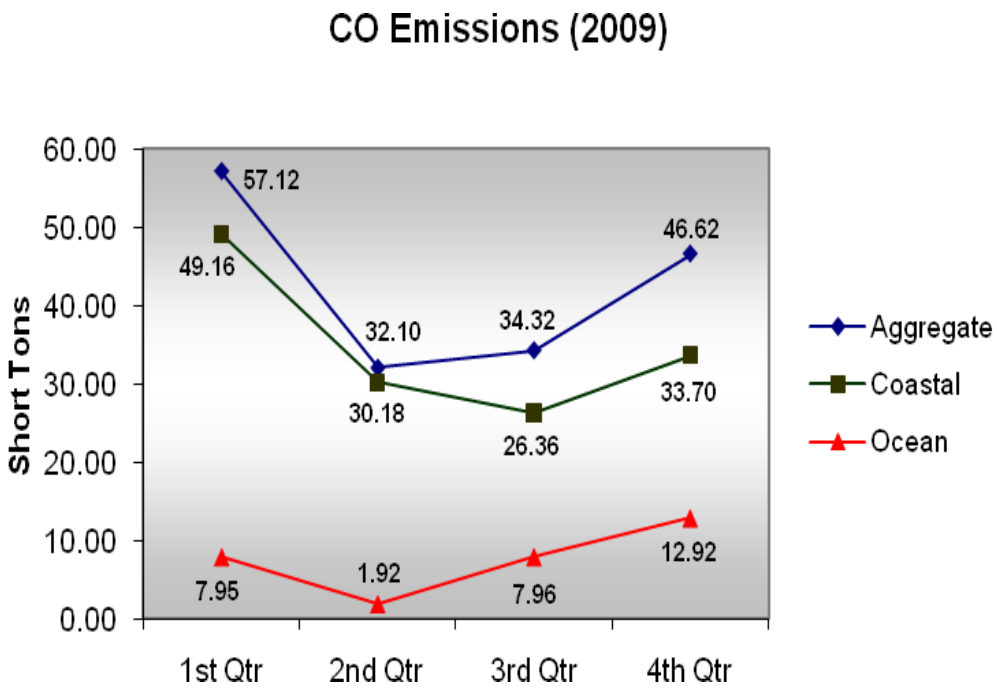
COASTAL AND OCEAN PM IN TONS (2004-2009)





The first of the two bar charts above shows the amount of PM emissions generated by the type of voyage traveled, and the second chart shows the number of Coastal and Ocean voyages reported.

CARBON MONOXIDE (CO) EMISSIONS (2009)



Aggregate CO emissions were highest in the first quarter, and lowest in the second quarter. In the first quarter there were 18 ocean voyages and 94 coastal voyages. During the second quarter, there were 16 ocean voyages and 75 coastal voyages.

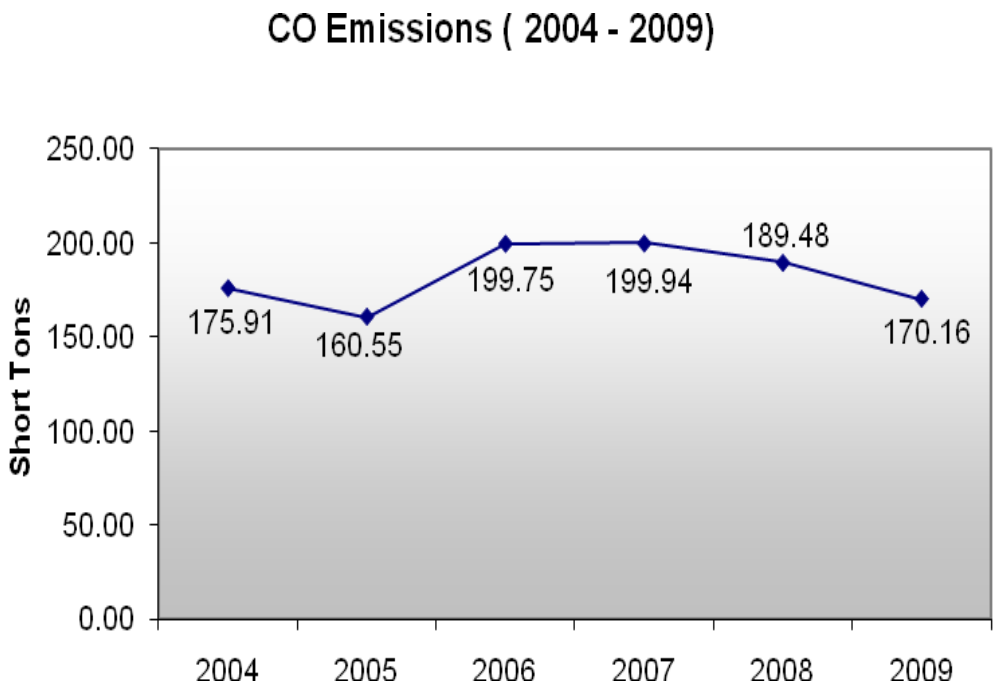
The pattern that emerges shows a proportional rise and fall in the amount of CO emissions generated between the types and number of voyages that the vessels utilize.

The 2009 average for CO in the aggregate was 42.54 tons, the coastal average was 34.85 tons, and the ocean average reported was 7.69 tons.

The table below indicates the average CO emission in short tons per voyage since the program commenced in 2004.

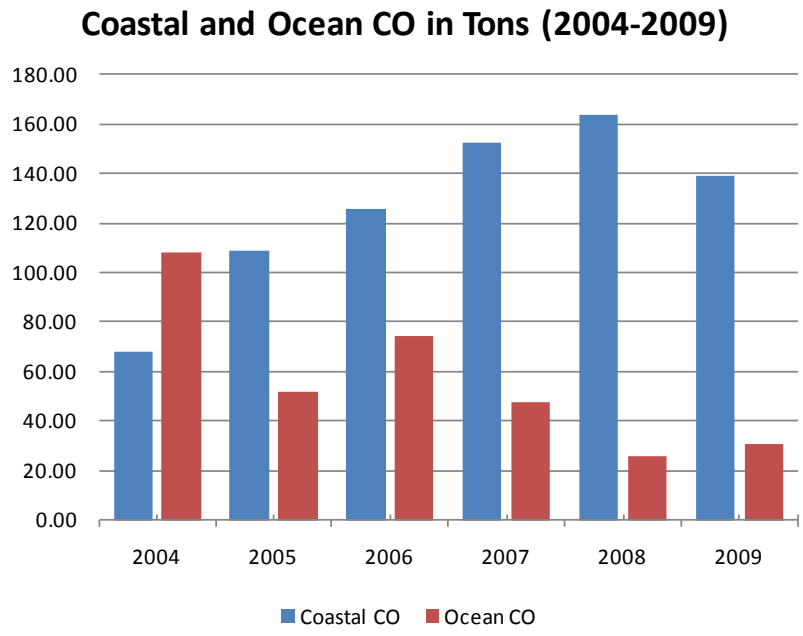
Type of Voyage	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	Year 2009	Program Average
Ocean Voyage	0.67	0.39	0.79	1.25	0.41	0.33	0.64
Coastal Voyage	0.33	0.39	0.44	0.50	0.55	0.51	0.45

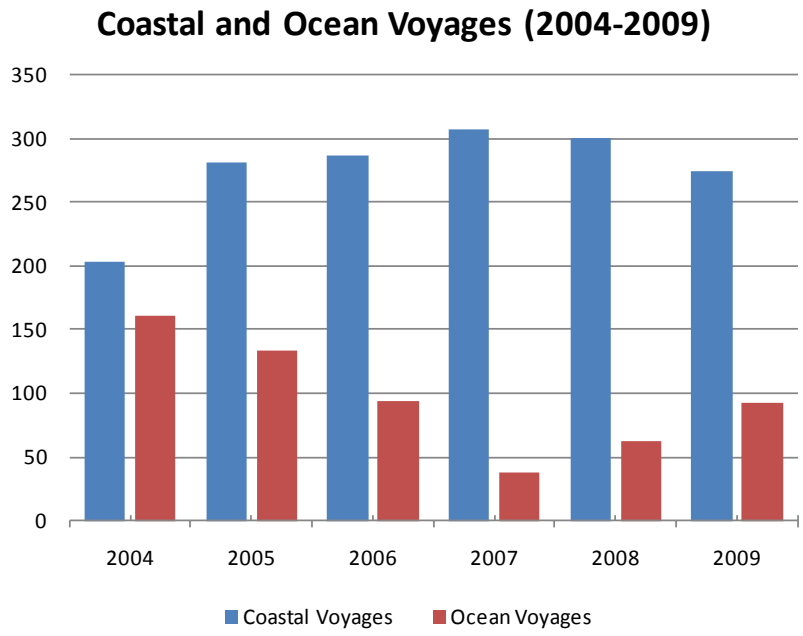
CARBON MONOXIDE (CO) EMISSIONS (2004-2009)



The comparison of data between the years 2009 and 2008 indicates a decrease of 10.20% in CO emissions with an increase of 1.10% in the number of voyages. The comparison of data between the years 2009 and 2004 indicates there was a 3.27% decrease in CO with a 0.55% increase in the number of voyages. CO emissions have shown a rising trend from 2005 to 2007, with 2006 and 2007 trending in a nearly static line. Even though the CO amount dropped slightly in 2009 the trend has remained above the benchmark low recorded in 2005 by approximately ten tons. During the program span the reported CO emissions has remained generally within a forty ton range, or approximately the equivalent of 20 percent of the reported benchmark high of 2007.

COASTAL AND OCEAN CO IN TONS (2004-2009)





The first of the two bar charts above shows the amount of CO emissions generated by the type of voyage traveled, and the second chart shows the number of Coastal and Ocean voyages reported.

PERTINENT ISSUES

The marine transportation sector has traditionally used blends of intermediate residual oils after the lighter distillates have been taken for non-marine sector use. This left higher concentrations of sulfur and organic compounds in the blend of residual oils used in the marine sector. The marine transportation sector needs fuels that are low in sulfur, organic compounds, and burn more efficiently. Title 19, California Code of Regulations § 2299.1(e)(A) requires use of low sulfur diesel for auxiliary engines effective January 1, 2007. Harbor craft in California now use diesel fuels used in the land transportation sector, both for propulsion and auxiliary engines.

The U.S. Environmental Protection Agency published the rule on emission standards for marine diesel engines of less than 30 liters per cylinder in January 2004. The EPA's emission standard for larger marine engines greater than 30 liters was published in December 2009. This standard adopted by the EPA under the Clean Air Act brought into harmony the standards of the recently adopted amendments to Annex VI, to the International Convention for the Prevention of Pollution from Ships (MARPOL).

There are technical limitations when introducing new fuels in existing, very large marine engines used in oceangoing vessels. The marine engines have a design life span of approximately 25 years. The engines that can use more environmentally friendly fuels are in the process of development. Until new marine engines are developed and installed on vessels, use of suitable cleaner fuel and reduction of speed up to a reasonable distance from port would provide some reduction in emissions.

The idling time of vessels in ports could be reduced by better planning of berths, so that vessels berth as soon as possible after arrival.

On March 26, 2010, after the approval of a petition request by the United States EPA, several other provisions were also adopted into MARPOL Annex VI. These provisions specify internationally recognized Emission Control Areas (ECA) which designate sensitive marine areas where vessels, both U.S. and Foreign-flagged will be required to limit the amount of sulfur contained in their fuel oil if entering, or operating within 200 miles of the United States coast. These MARPOL Annex VI amendments were adopted by the EPA under authority of the Maritime Pollution Act of 2008. These provisions are tiered so that implementation may be gradually phased in over the next five years. The establishment of ECA will render the regional programs moot.

CONCLUSION

This is the sixth and final in a series of annual reports to the California State Legislature.

The first report included statistics of the number of internal shipments, the quantities of crude oil and refined products, the numbers of coastal and offshore voyages and the quantities of No_x, HC, PM and CO emissions into the coastal and offshore regions off California for the year 2004. Prior to the first report, the information collected by the OTTER Program did not exist. Starting with the report of 2005, planning organizations, State and Federal agencies and organizations developing information, particularly for environmental documentation, have a much more complete picture of the movement of oil along the California coast and its quarterly and annual trends.

APPENDIX A: THE OIL TRANSFER AND TRANSPORTATION EMISSION AND RISK REDUCTION ACT OF 2002

(AB 2083)

8780 THROUGH 8789, PUBLIC RESOURCES

LEGISLATIVE COUNSEL'S DIGEST

AB 2083, Jackson. Public resources: oil spill prevention and response. Existing law establishes oil spill prevention, inspection, response, containment, and cleanup programs.

This bill would require the State Lands Commission to develop a form that is to be completed by the responsible party, as defined, engaged in the internal shipment of oil. The form would be designed to enable the commission to obtain and track the amount and type of oil transported, as well as the name of the vessel, the vessel's route, and air emissions relating to the internal shipment of that oil.

The bill would require the commission, on or before April 1 of each year, for the calendar years 2004 to 2009, inclusive, to file a report with the Legislature summarizing certain information and transmit a copy of the report to any interested agency or member of the public, upon request.

The bill would require the commission to consult with the administrator for oil spill response, other state agencies, and agencies of the federal government, including the United States Coast Guard and the federal Department of Transportation, to the maximum extent feasible, before undertaking actions under these provisions.

The bill would require the administrator to reimburse the commission for the costs of administering these provisions from the Oil Spill Prevention and Administration Fund.

These provisions would be repealed on January 1, 2010.

DIVISION 7.9. OIL TRANSFER AND TRANSPORTATION EMISSION AND RISK REDUCTION ACT OF 2002

8780. This division shall be known and may be cited as the Oil Transfer and Transportation Emission and Risk Reduction Act of 2002.

8781. The Legislature finds and declares all of the following:

(a) Thirty years ago the people of California passed the California Coastal Zone and Conservation Act of 1972 after a disastrous oil spill that affected hundreds of miles of coast and severely affected the coastal economy.

(b) A clean and healthy coastal environment is critical to maintaining a vibrant coastal economy, including opportunities for sustainable fisheries, flourishing tourism, and healthy recreation.

(c) The coastal communities contribute billions of dollars and hundreds of thousands of jobs to the state economy.

(d) Much of the oil extracted off California's coast is highly viscous, the refining of which results in heavy byproducts such as fuel oil and coke, which tend to be shipped to overseas markets. The storage and shipment of such byproducts will also have air quality impacts.

(e) There is significant internal shipment of oil by vessel between the San Francisco Bay area and the Los Angeles area.

(f) Although vessels transporting oil are eventually required to be double hulled, this will not be completed until January 1, 2015.

(g) The thousands of sea birds that have been injured or killed in 2001 and 2002 by oil leaking from a freighter that sank off California's coast in 1953 are a strong reminder of the serious consequences of vessel mishaps.

(h) One of the results of vessel traffic along the central coast and into the ports of the Los Angeles and San Francisco areas is tons of oxides of nitrogen emitted into the air each day, which could negate efforts made on land to meet federal ozone standards and other public health air quality goals.

(i) Current, accessible and accurate data regarding oil transportation is critical to having adequate information of the potential environmental quality, public health, and environmental justice consequences that must be analyzed by state and local agencies for environmental impact reports and statements, emergency response planning, permit issuance, and air quality mitigation efforts.

(j) Tracking trends in internal shipment of oil is necessary to promote public safety, health, and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment in order to protect and to preserve the ecological balance of California's coastal zone, coastal waters, and coastal economy.

8782. Unless the context requires otherwise, the following definitions govern the construction of this division:

(a) "Administrator" means the administrator for oil spill response appointed by the Governor under Section 8670.4 of the Government Code.

(b) "Barge" means any vessel that carries oil in commercial quantities as cargo but is not equipped with a means of self-propulsion.

(c) "Commission" means the State Lands Commission.

(d) "Internal shipment of oil" means the loading, transporting by vessel, and offloading of oil that originates and terminates at the San Francisco Bay area and the Los Angeles and Long Beach area, or points in between. Internal shipment of oil does not include lightering, as defined in paragraph (4) of subdivision (l) of Section 790 of Title 14 of the California Code of Regulations.

(e) "Marine facility" means any facility of any kind, other than a vessel, that is or was used for the purpose of exploring for, drilling for, producing, storing, handling, transferring, processing, refining, or transporting oil and is located in marine waters, or is located where a discharge could impact marine waters, unless the facility (1) is subject to Chapter 6.67 (commencing with Section 25270) or Chapter 6.75 (commencing with Section 25299.10) of Division 20 of the Health and Safety Code or (2) is placed on a farm, nursery, logging site, or construction site and does not exceed 20,000 gallons in a single storage tank. A drill ship, semi submersible drilling platform, jack-up type drilling rig, or any other floating or temporary drilling platform is a "marine facility." A small craft refueling dock is not a "marine facility."

(f) "Marine terminal" means any facility used for transferring oil to or from tankers or barges. A marine terminal includes all piping not integrally connected to a tank facility as defined in subdivision (k) of Section 25270.2 of the Health and Safety Code.

(g) "Oil" means any kind of petroleum, liquid hydrocarbons, or petroleum products or any fraction or residues therefrom, including, but not limited to, crude oil, bunker fuel, gasoline, diesel fuel, aviation fuel, oil sludge, oil refuse, oil mixed with waste, and liquid distillates from unprocessed natural gas.

(h) "Operator," when used in connection with a vessel means any person or entity that owns, has an ownership interest in, charters, leases, rents, operates, participates in the operation of, or uses, that vessel.

(i) "Person" means an individual, trust, firm, joint stock company, or corporation, including, but not limited to, a government corporation, partnership, or association. "Person" also includes any city, county, city and county, district, commission, the state or any department, agency, or political subdivision thereof, and the federal government or any department or agency thereof to the extent permitted by law.

(j) "Responsible party" or "party responsible" means the "Responsible party" or "Party responsible" means the owner of the oil or a person or entity who accepts responsibility for the oil for purposes of this division.

(k) "Tanker" means any self-propelled, waterborne vessel, constructed or adapted for the carriage of oil in bulk or in commercial quantities as cargo.

(l) "Vessel" means a tanker or barge as defined in this section.

8783. (a) The commission shall develop a form that is to be completed by the responsible party engaged in the internal shipment of oil. The form shall be known as the "Oil Transfer and Transportation Emission and Risk Reduction Form." The form shall be designed to enable the commission to obtain and track the amount and type of oil transported, as well as the name of the vessel, the vessel's route, and air emissions relating to the internal shipment of that oil.

(b) The form shall contain, but need not be limited to, all of the following information:

(1) The name, address, point of contact, and telephone number of the responsible party.

(2) The name of the vessel transporting the oil.

(3) The type and amount of oil being transported.

(4) The source of crude oil.

(5) The name and location of any terminal that loaded the vessel.

(6) The name and location of any terminal that discharged the tanker or barge.

(7) The dates of travel and the route.

(8) The type of engine and fuel used to power the tanker or barge-towing vessel.

(9) The estimated amount and type of air emissions. To the extent practicable, the emissions factors developed by the United States Environmental Protection Agency shall be used to estimate the amount of air emissions. The form shall be designed to ensure that charter vessel air emissions are not counted more than once.

(10) An indication of whether the reason for the internal shipping of oil was due to a temporary shutdown or partial shutdown of a key refinery facility.

(11) On and after January 1, 2004, if Division 36 (commencing with Section 71200) is repealed pursuant to Section 71271, the amount of any ballast discharge and the location of the discharge.

(c) The form shall be filed with the commission on a quarterly basis by the responsible party engaged in the internal shipment of oil for the activities of the preceding quarter.

(d) In developing the form and the reporting process, the commission shall consult with the interested parties including operators, responsible parties, and the International Maritime Organization.

8784. (a) On or before April 1 of each year, for the calendar years 2004 to 2009, inclusive, the commission shall file a report with the Legislature summarizing the information and including all of the following:

(1) A description of any trends in the total number of trips by oil type, amount of shipment, and source of oil.

(2) The number of transfers due to refinery shutdowns.

(3) The location of air emissions and ballast discharge, and the type of vessel used during those events.

(4) A discussion of any other pertinent issues that the commission determines should be included.

(b) The commission shall transmit a copy of the report to any interested agency or member of the public, upon request.

8785. The commission shall consult with the administrator, other state agencies, and agencies of the federal government, including, but not limited to, the United States Coast Guard and the federal Department of Transportation, to the maximum extent feasible, before undertaking actions under this division.

8786. The administrator shall reimburse the commission for the costs of administering this division from the Oil Spill Prevention and Administration Fund, pursuant to paragraph (8) of subdivision (e) of Section 8670.40 of the Government Code.

8787. This division applies to all terminals, pipelines, vessels, and activities in the state, whether on lands that has been granted by the Legislature to local governments or on lands that remain un-granted.

8788. Any information collected under this division for the purpose of explaining why oil was transferred shall be kept confidential and reported only in the aggregate by the commission, in a manner that protects the competitive nature of the information.

8789. This division shall remain in effect only until January 1, 2010, and as of that date is repealed, unless a later enacted statute, which is enacted before January 1, 2010, deletes or extends that date.

SEC. 3. Section 1.5 of this bill incorporates amendments to Section 8670.40 of the Government Code proposed by both this bill and SB 849. It shall only become operative if (1) both bills are enacted and become effective on or before January 1, 2003, (2) each bill amends Section 8670.40 of the Government Code, and (3) this bill is enacted after SB 849, in which case Section 1 of this bill shall not become operative.

APPENDIX B: THE OIL TRANSFER AND TRANSPORTATION EMISSION AND RISK REDUCTION FORM

OIL TRANSFER AND TRANSPORTATION EMISSION AND RISK REDUCTION FORM

Public Resources Code - Sections 8780 through 8789
1/1/2004
Submission Date:

Name of Vessel/Barge	IMO/Vessel ID No.

Name of Loading Terminal	Location
1.	
2.	
3.	

Cargo Transported	Quantity (BBLS)	Source (Crude only)
1.		
2.		
3.		

Name of Discharge Terminal	Location
1.	
2.	
3.	

Dates of Travel				
Departure	Time	Route	Arrival	Time

Engine Type (Tanker)	Engine Type (Barge/Tug)	Engine Fuel

Engine Air Emissions (g/kw-hr)			
NO_x	HC	PM	CO

Was the reason for shipping this cargo due to a temporary or partial shutdown of a key refinery facility?	Yes ☐	No ☐

Point of Contact	
Address	
Telephone No.	
Signature of Responsible Party	

INSTRUCTIONS

1. The responsible party of an "internal shipment" {Public Resources Code §8782(d)} of oil from either the San Francisco Bay area or Los Angeles/Long Beach areas or ports in between shall be responsible for filing the form with the California State Lands Commission's Marine Facilities Division. As provided by Public Resources Code §8788, the information provided by the responsible party through the form shall be kept confidential and reported only in the aggregate by the Commission, as provided by Public Resources Code §8784, in a manner that protects the competitive nature of the information.

2. **Loading Terminal** - The name of each terminal loading an internal shipment of oil.

3. **Location of Terminal** - Either 'A' - San Francisco Bay area; 'B' - Los Angeles/Long Beach area; or 'C' - name of port if not 'A' or 'B'.

4. **Cargo Transported** - Types indicated in broad categories, such as: CRUDE OIL, REFINED OIL, or OTHER (please specify).

5. **Source** - The source or origin of oil should be entered only if the oil shipped is crude oil.

6. **Dates of Travel** - The date and time of departure from the last loading terminal in areas 'A' or 'B' or 'C' *(see 3. above)* and the date and time of arrival at the first discharge terminal of the internal shipment.

7. **Route** - 'S' - Standard route using the Santa Barbara Channel Traffic Separation Schemes; 'O' - Offshore route at least 25 miles from the coastline; if neither 'S' nor 'O', a brief explanation.

8. **Engine Type** - The types of engines for main propulsion. Types include INTERNAL COMBUSTION, GAS TURBINE and STEAM.

9. **Engine Fuel** - The type of fuel used by the tanker or tug, e.g., DIESEL, FUEL OIL, HEAVY FUEL OIL, BUNKER 'C' or GAS OIL.

10. **Air Emissions** - For estimating air emissions, use either individual vessel emission factors or those found in USEPA's Document "Compilation of Air Pollutant Emission Factors, AP-42." Reported emissions are for main propulsion unit only and for the transit time of vessel or barge.

11. **The responsible party should submit completed forms by mail or fax within 45 days of the end of each calendar quarter to: California State Lands Commission, Marine Facilities Division, 200 Oceangate, Suite 900, Long Beach, CA 90802. Fax (562) 499-6317.**