11. SOCIAL AND ECONOMIC ENVIRONMENT

This section describes the baseline conditions and potential direct and indirect impacts on the social and economic environment associated with the proposed project, and the measures to mitigate these potential impacts. Social and economic resources include local communities, housing that people live in, public services available in communities, and economic activity, as well as jobs or other livelihoods that may have socioeconomic and/or cultural importance. The Draft EIS evaluated whether the proposed project and its activities could create changes in social and economic resources, and if so, how. The Draft EIS also evaluated the potential for potential environmental justice-related impacts (see Section 11.7).

11.1. LAWS, REGULATIONS, AND GUIDANCE FOR SOCIAL AND ECONOMIC ENVIRONMENT

Table 11-1 provides a summary of the laws, regulations and guidance applicable to the social and economic environment.

Table 11-1: Relevant Laws, Regulations, and Guidance for Social and Economic Environment

Regulation, Policy, or Guideline	Description
Federal Regulations	
Executive Order 12898 (EO 12898), Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	EO 12898 is intended to ensure federal agencies avoid actions that have a disproportionately high and adverse impact on low-income populations or minority populations. Federal agencies are required to incorporate environmental justice into their work by identifying and addressing, as appropriate, disproportionately high and adverse human health, environmental, economic, and social impacts of its programs, policies, and activities on minority and low-income populations. While the proposed project does not include a federal action that would require compliance with the National Environmental Policy Act (NEPA), and therefore has not trigged the requirement to evaluate environmental justice related impacts under NEPA, analysis of environmental justice is included as an additional safeguard for Washington communities.
Stevens Treaties	A series of eight treaties establishing reservations for the exclusive use of the tribes. The tribes reserved their right to continue traditional activities on lands beyond these reserved areas and reserved the right to hunt, fish, and conduct other traditional activities on lands off of the reservations initiated by then Washington Territorial Governor and superintendent of Indian Affairs, Isaac Stevens. Not all of the tribes signed treaties with the federal government. Several of these tribes have reservations designated by executive order.
Treaty of Point Elliott 1855	A lands settlement treaty formed between the U.S. Government and the Native American tribes of the greater Puget Sound Region. Signatories to the Treaty of Point Elliott included Chief Seattle and Territorial Governor Isaac Stevens. Representatives from the Duwamish, Suquamish, Snoqualmie, Snohomish, Lummi, Skagit, Swinomish, and other tribes also signed.

Regulation, Policy, or Guideline	Description
U.S. v. Washington "Boldt Decision"1979	Federal District Court decision in 1974 upheld by the Supreme Court in 1979 reaffirming the reserved right of American Indian tribes in the state of Washington to act alongside the state as co-managers of salmon and other fish, and to continue harvesting them in accordance with the various treaties that the United States had signed with the tribes. The tribes of Washington had ceded their land to the United States but had reserved the right to fish as they had always done, including fishing at their traditional locations that were off the designated reservations.
U.S. v. Washington, 13-35474 (2016)	Ninth Circuit Court of Appeals affirmed the district court's order issuing an injunction directing the state of Washington to correct culverts, which allows streams to flow underneath roads, because they violated, and continued to violate, the Stevens Treaties, between Indian tribes in the Pacific Northwest and the Governor of Washington Territory.

11.2. STUDY AREA AND METHODOLOGY

This section describes the specific considerations used to assess potential impacts of the proposed project on the social and economic environment.

11.2.1. Study Area

The study area for the social and economic environment varies among social and economic resources, and depends on the nature of the resource and the mechanisms of potential impact. Table 11-2 lists the study area for each of the social and economic resources potentially impacted by the proposed project (see Figure 2-1 for an illustration of county boundaries). A detailed definition of the study area is provided in the affected environment sections for each resource topic.

Table 11-2: Study Areas for Social and Economic Resources

Resource Topic	Study Area
Housing	Skagit County
Public Services	Skagit County
Economic Resources	Skagit County, San Juan County, Island County, Jefferson County, Clallam County, State of Washington
Environmental Justice	Skagit County, San Juan County, Island County, Jefferson County, Clallam County

11.2.2. Methodology

To evaluate potential impacts on social and economic resources, baseline conditions of the receptors describing each resource topic were documented using public records, data, and reports published by a number of sources including the U.S. Census Bureau, the U.S. Bureau of Labor Statistics (BLS), Skagit County, the city of Anacortes, the Northwest Fisheries Commission, the Pacific Fisheries Information Network (PacFIN), the state of Washington Department of Revenue (DOR), the Washington Department of Fish and Wildlife (WDFW), the U.S. Department of Agriculture National Agricultural Statistics Service (USDA NASS), the U.S. Department of Energy (DOE) Energy Information Administration (EIA), and the Washington Research Council (WRC). Potential impacts on social and economic resources were identified through a series of scoping meetings and by considering the proposed project's potential to

impact these resources. Potential impacts on social and economic resources could occur during both the construction (short term) and operation (long term) of the proposed project.

A series of scoping meetings were conducted during the scoping period for the proposed project, with the public, tribes, and government agencies providing verbal and written comments. The primary issues related to social and economic resources that are addressed in this chapter are described in the sections below for housing, public services, economic resources, and environmental justice. The results of the analysis are summarized by characterizing the significance for each potential impact on the social and economic environment. The process for characterizing the significance of each potential impact involved analyzing the magnitude, geographic extent, and duration of the impact (see Chapter 1, Section 1.7, Methodology). Based on the results of this analysis, the significance of each potential adverse impact was then assigned to one of two categories: *less than significant* or *potentially significant*. Criteria for assessing the significance of potential adverse impacts on social and economic resources are included in Table 1-B.9 in Appendix 1 B, Impact Criteria Tables.

11.2.2.1. Housing

Potential housing impacts are described by changes in housing cost and/or availability, which could result from the following:

- An influx of workers requiring local housing, resulting in increased pressure on the local housing market during construction or operation
- Changes in the use of land due to construction and operation of the proposed project, and resulting impacts on the availability (supply) of land that could be developed for housing or to the desirability of the residences in the surrounding area

A significant impact on housing cost and/or availability would result in changes in property values and/or rental rates, constituting a market shift throughout the city of Anacortes or Skagit County and persisting beyond the life of the proposed project.

11.2.2.2. Public Services

Potential impacts on public services including police, fire, and emergency medical services, as well as water and sewer services, are described by changes in their access, or quality. These impacts could result from increased demand by the proposed project or an influx of workers during construction or operation that increases the local population.

A significant impact on public services would occur if increased demand severely constrains access to or diminishes the quality of public services, potentially threatens public safety throughout the city of Anacortes or Skagit County, and persists beyond the life of the proposed project.

11.2.2.3. Economic Resources

Potential impacts on economic resources are described by changes in total employment income and local government tax receipts. Changes in total employment income or tax receipts that could result from the proposed project include:

- Tesoro's short-term expenditures on construction labor, materials, and equipment
- Tesoro's long-term expenditures on operational labor, materials, equipment, and resources for the production, distribution, and sale of mixed xylenes
- Tesoro's sales of mixed xylenes
- Operational interruptions at the Tesoro Anacortes Refinery during spill response
- A permanent change in land use through conversion of grazing land for the New Tanks Area on the refinery property
- Potentially significant impacts of a spill of reformates or mixed xylenes and associated response on the availability or condition of other resources that impact the level of employment income or tax receipts, including, but not limited to:
  - Abundance and quality of fishes for commercial harvest (see also Chapter 7, Marine and Nearshore Resources)
  - Abundance and quality of fishes, marine birds, and marine mammals for recreational activities including fishing and wildlife/nature watching (see also Chapter 10, Section 10.4.2.4, Impacts on Recreation from Spills and Spill Response)
  - Health impacts from public exposure to xylene concentrations exceeding health-based air quality criteria, if people were located near and exposed to a spill (see also Chapter 9, Section 9.6.2, Potential Impacts on Health from Spills)
  - Restrictions or prohibitions on the use of shoreline and marine recreation areas for up to 11 linear miles of shoreline and 23.5 square miles of open water, or specific recreation activities, for up to 3 days, in the event of a worst-case scenario spill along the marine vessel transportation route (see also Chapter 10, Section 10.4.2.4, Impacts on Recreation from Spills and Spill Response)
  - Closure of up to 23.5 square miles of marine waterways or port facilities and delayed port calls for up to 3 days in the event of a worst-case spill scenario along the marine vessel transportation route (see Chapter 13, Section 13.3.2.3, Impacts on Vessel Traffic from Spills and Spill Response)

The methodology and criteria for evaluating potential impacts on economic resources are as follows:

- Using qualitative or quantitative analysis, this study assessed the project's *total* direct and indirect economic impacts. Components of total economic impact considered in this study are as follows:

  - *Direct* economic impacts are the changes in employment income and tax receipts within the study area in an industry (or industries) resulting from the project itself (i.e., local project spending on construction materials).
  - *Indirect* economic impacts are changes in employment income and tax receipts occurring within the study area as industries along the supply chain of the impacted industry make expenditures and employment decisions to produce the goods and services purchased by the impacted industry directly.
  - *Induced* economic impacts are changes in employment income and tax receipts from household spending within the study area resulting from employment (labor and proprietor) income generated directly or indirectly from the expenditures of the impacted industry.

- Indirect and induced impacts are known as "multiplier" impacts. The magnitude of the multiplier impact in a given area is determined by the degree to which inter-industry purchasing and labor force spending occurs within the study region. Multipliers are measured from input-output (I-O) tables relating the purchases of each industry to another.
- The magnitudes of project-induced reductions in employment income and tax receipts were qualitatively assessed and evaluated with their potential industry, geographic, and temporal scope in determining the significance of potential negative impacts on economic resources. Qualitative analysis is appropriate because negative potential impacts are generally indirect in nature and are based on qualitative analysis of impacts on other resources.
- The magnitudes of project-induced increases in employment income and tax receipts were quantified using data and information on Tesoro's direct expenditures and multipliers established in existing regional I-O studies of the construction and oil and gas industries in the state of Washington. While quantified, the potential significance of beneficial impacts on economic resources was not determined.

A significant impact on employment income would result in a measureable income reduction impacting multiple industries throughout the study area, and persisting beyond the life of the proposed project, where "measureable reduction" is a change that could be distinguished from variations associated with business cycles and other non-project factors. A significant impact on tax receipts would result in a measurable reduction throughout the study area, and persisting beyond the life of the proposed project, where "measureable reduction" is a change that could be distinguished from normal differences in budgeted and actual receipts.

11.2.2.4. Environmental Justice

Executive Order (EO) 12898 requires federal agencies to address "environmental justice" considerations as part of decision making, including environmental impact decisions. The EO specifically requires agencies to identify and address "disproportionately high and adverse" impacts on minority and low-income populations (Federal Register 1994).

The provisions of EO 12898 apply only to federal actions. The Washington State Environmental Policy Act (SEPA) does not provide guidelines for such an evaluation. However, as an additional

measure to identify, evaluate, and mitigate potential impacts of the proposed project, this chapter considers potential impacts on populations that would typically be included in a federal environmental justice analysis, specifically minority and low-income populations.

Absent any state guidance, federal guidance from the Council on Environmental Quality (CEQ) and the U.S Environmental Protection Agency (USEPA) served as a framework for analyzing potential environmental justice impacts. USEPA (2016) guidance states that environmental justice concerns have the potential to occur where a project impacts an area whose population is over 50 percent minority (generally defined as "non-white"), or where the minority population or low-income population of an impacted area is "meaningfully greater" than the minority percentage in a "reference area." In this case, the reference area was identified as the state of Washington.

The methodologies and criteria for evaluating impacts on minority and low-income populations are as follows:

- Potential environmental justice impacts were qualitatively assessed by reviewing outputs from USEPA's EJSCREEN online tool to determine whether the proposed project could impact minority or low-income communities. An environmental justice impact would not occur unless a potential environmental, social, or health impact exists (i.e., the mere presence of a population with "meaningfully greater" minority or low-income status does not, in itself, indicate a potential environmental justice-related impact). More detailed discussion of evaluation methods and definitions are provided in Section 11.7.
- A significant environmental justice impact would result in a disproportionately high and adverse impact on one or more minority or low-income communities.

11.3. HOUSING

11.3.1. Affected Environment

Based on the location of the proposed project and the size of the associated construction and operations workforce, the study area for housing characteristics is Skagit County and the city of Anacortes. The County has a slightly higher overall vacancy rate than the state and city. Vacancy rates for owner-occupied housing are similar across all three geographies, while the city's rental unit vacancy rate is lower than that of the county and state (Table 11-3).

Housing costs for homeowners with a mortgage are comparable in the city and county, both of which are lower than in the state as a whole (Table 11-4). Housing value and gross rent are higher in the city of Anacortes than in Skagit County and the state as a whole.

Table 11-3: Housing Units, Occupancy and Tenure

	Total Housing Units	Occupied/ Occupancy Rate	Total Vacant/ Vacancy Rate	Owner-Occupied Vacant/ Vacancy Rate	Renter-Occupied Vacant/ Vacancy Rate
City of Anacortes	7,611	6,958 91%	653 9%	96 2.1%	60 2.5%
Skagit County	51,660	45,309 88%	6,351 12%	790 2.6%	790 5.3%
State of Washington	2,921,364	2,645,396 91%	275,968 9%	31,512 1.9%	49,342 5.0%

Source: U.S. Census Bureau 2014b

Table 11-4: Housing Costs

	Median Value of Owner-occupied Units	Median Selected Monthly Owner Costs (with a mortgage), 2010-2014	Median Selected Monthly Owner Costs (without a mortgage), 2010-2014	Median Gross Rent, 2010-2014
City of Anacortes	$312,300	$1,689	$490	$1,026
Skagit County	$254,900	$1,672	$525	$961
State of Washington	$257,200	$1,764	$509	$995

Source: U.S. Census Bureau 2014b

11.3.2. Potential Impacts on Housing

Increased employment can impact housing stock and housing costs through increased employment, an influx of workers, and resultant increases in housing demand. Housing impacts can also result from changes in land use (see Chapter 10, Section 10.3, Land Use and Shoreline Use). Potential impacts on social and economic resources are summarized in Section 11.3.3.

11.3.2.1. Impacts on Housing from Construction

Housing impacts are related to the potential for an influx of construction workers who move to the area after, or in anticipation of, being hired to work on the proposed project. Construction activities are anticipated to take place over a 19-month period, with an average of 190 construction employees and a peak of 270 construction employees during a 4-month period. By comparison, there were more than 39,000 jobs in Skagit County in 2012 (the most recent year for which data are available) (U.S. Census Bureau 2014b). Peak construction of the proposed project would therefore represent approximately 0.7 percent of the County's "at place" employment (jobs that occur in a specific place, as opposed to jobs held by residents of that place), while typical construction employment would represent less than 0.5 percent of at-place employment.

Of Skagit County's at-place jobs, more than 3,000 (approximately 8 percent) are in the construction industry (U.S. Census Bureau 2014b). This indicates the presence of a skilled, local construction workforce (City of Anacortes 2016b) and suggests that some, if not most, of the proposed project's construction jobs could be filled by local residents (i.e., those who work for local firms hired to construct the proposed project). The proposed project's relative proximity to other population centers such as Bellingham and Everett also suggests that construction jobs could be filled by workers who would commute to the proposed project area, rather than needing to relocate.

Based on the local presence of a skilled workforce in Skagit County and the proximity of the proposed project area to other population centers, a substantial influx of temporary workers is not expected, although some workers could choose to seek housing in Skagit County or the city of Anacortes. Given the housing vacancy rates in Skagit County and the city of Anacortes (see Table 11-3), any workers who move to the area for employment with the proposed project would likely be able to find housing without noticeably impacting the availability or cost of housing for other residents; therefore, the impact on housing would be ***less than significant***.

11.3.2.2. Impacts on Housing from Operations and Maintenance

Current property values and housing demand (as evidenced by vacancy rates) in Skagit County and especially the city of Anacortes reflect the industrial nature of March Point. The proposed project includes additions and upgrades to its existing refinery facility in an area that is already planned, zoned, and developed for heavy manufacturing. As discussed in Chapter 10, Section 10.3, Land Use and Shoreline Use, the proposed project would be consistent with the existing industrial land use zoning designation and would not adversely impact the viewshed of the area (Chapter 10, Section 10.5, Aesthetics and Visual Resources). Chapter 4, Section 4.4.2, Impacts on Air Quality and Greenhouse Gases from Operations and Maintenance, concludes that the proposed project would have less than significant impacts on air pollution, while Chapter 9, Section 9.5.2, Potential Impacts from the Proposed Project Noise, concludes that the proposed project would have less than significant noise impacts. Accordingly, the proposed project would not meaningfully impact the desirability of housing in the area or associated property values.

Operation of the proposed project is anticipated to create 20 new permanent jobs at the Tesoro Anacortes Refinery. Given the presence of a skilled, industrial workforce in the study area, current vacancy rates, and the modest job creation associated with operation and maintenance, the proposed project would not impact property values or rental rates; therefore, the impact on housing due to operations and maintenance of the proposed project would be ***less than significant***.

11.3.3. Summary of Potential Impacts on Housing

The potential impacts of the proposed project discussed in this section are summarized in Table 11-5.

Table 11-5: Summary of Potential Impacts on Housing

Impact Topic	Impact Summary	Potential Impact Significance	
		Less Than Significant	*Potentially Significant*
Construction			
Changes to housing costs during construction	Influx related to proposed project employment could increase housing demand, potentially impacting affordability for existing residents. However, any change to housing costs related to construction would occur within Skagit County, and would be minimal. Construction would last no more than 19 months.	√	
Operations			
Changes in property value and/or rental rates during operations	Property values near the proposed project would not experience a perceptible change due to adverse environmental impacts from the proposed project (i.e., noise or air pollution).	√	

11.3.4. Potential Impacts of the No Action Alternative

Under the no action alternative, Tesoro would not proceed with the proposed project. Because no construction or operations would take place under the no action alternative, there would be no new impacts on housing. Existing housing conditions would not change as a result of the proposed project.

11.3.5. Additional Mitigation Measures

No additional mitigation measures are recommended.

11.4. PUBLIC SERVICES

This section assesses potential impacts on public services and utilities including first responders (police, fire, and emergency medical services), hospitals, and water and sewage services in the city of Anacortes and Skagit County. Changes in demand for energy utilities (electricity and natural gas) and the water utility are evaluated in Chapter 8, Energy and Natural Resources.

11.4.1. Affected Environment

11.4.1.1. Police Services

Police services are provided by both the Skagit County Sheriff's Department and the Anacortes Police Department. The Skagit County Sheriff's Department has approximately 52 commissioned deputies (Brunson 2016). At full staffing, the Anacortes Police Department includes 25 commissioned employees and 7 non-commissioned employees, and serves approximately 16,000 citizens (City of Anacortes 2016a and 2016c).

11.4.1.2. Fire Services

Tesoro's on-site trained fire response team would respond to fires at the refinery. The fire-response team is available 24 hours per day. In addition to Tesoro's on-site staff, Tesoro has

formed mutual aid agreements with neighboring refineries, including Shell Puget Sound Refinery and BP Cherry Point Refinery, as well as Phillips 66 Refinery in Ferndale, Washington and U.S. Oil Refinery in Tacoma, Washington. These mutual aid agreements facilitate assistance in the event of an emergency situation at any of the refineries, including sharing equipment, materials, or personnel in responding to them (Tesoro 2015). Chapter 2, Section 2.4, Existing Refinery Design and Operations, describes the emergency response planning and capabilities currently present at the refinery. The refinery also conducts periodic emergency drills that involve the local emergency planning commission members and emergency response organizations (including firefighters), and the refinery provides annual refresher training to local emergency responders regarding the hazards of regulated substances in the refinery.

Skagit County is served by 19 independent County Fire Districts (Skagit County 2007). Fire District 13 serves the area immediately outside the grounds of the refinery, and maintains two stations staffed by 50 volunteer firefighters (Skagit County 2016). Fire District 13 has no paid firefighters (USA Fire Departments 2015).

The Anacortes Fire Department provides fire suppression, first response advanced life support, emergency medical services, public education, limited rescue delivery, and fire prevention and hazardous materials "operations level" response to the city. The department maintains three fire stations, including one on March Point where service is available 12 hours per day, 7 days a week.

In 2014, the Anacortes Fire Department reported that they were unable to provide a sufficient number of firefighters to fight residential and commercial fires. Demand for services included 430 calls for firefighting services and 2,563 calls for emergency medical services. Staffing consists of 3 chief officers, 24 firefighters (including 4 volunteers), and 1 administrative support person. Minimum on-duty staffing levels during daytime hours are two firefighters at each of three stations. Nighttime staffing levels reduce to two firefighters at two stations, with closure of the March Point Station (Anacortes Fire Department 2014).

11.4.1.3. Emergency Medical Services

The Anacortes Fire Department also provides emergency medical services to an area covering 84 square miles on Fidalgo and Guemes islands in Skagit County, including March Point and the refinery (Anacortes Fire Department 2014). Sixteen of the Department's career firefighters are certified as paramedics, and an additional five are emergency medical technicians. The Department has four ambulances that also serve as mobile intensive care units.

Island Hospital, located in Anacortes, has a Level III emergency department that provides 24-hour-a-day care, 7 days a week. The hospital is capable of transferring patients by flight to facilities in Seattle, Bellingham, and other locations (Island Hospital 2014).

Skagit Valley Hospital, located in Mount Vernon, is a full service hospital and has a Level III trauma unit including 23 beds, 1 triage room, 2 trauma rooms, and 2 major medical resuscitation rooms. The unit serves approximately 50 trauma cases per month (Skagit Regional Health 2016).

11.4.1.4. Water and Sewer Service

The city of Anacortes water system "covers the majority of Fidalgo Island [and] a portion of western Skagit County," including March Point and the refinery (City of Anacortes 2016b). The source water for the system is the Skagit River. The city estimates a peak water demand in 2050 of 47.6 million gallons per day (MGD), compared to a system capacity of approximately 54 MGD (City of Anacortes 2016b). In 2014, the Tesoro Anacortes Refinery used 1,895 million gallons of water for the year, which equates to approximately 5.2 million gallons of water per day (Tesoro 2016).

The city's wastewater service area is similar to the water service area. Average daily flow to the city's wastewater treatment plant is more than 2 MGD, compared to treatment capacity of 4.5 MGD. No wastewater from the refinery goes to the city's treatment plant. All stormwater and industrial water is treated in the on-site Waste Water Treatment Plant (WWTP) and is covered by the industrial National Pollutant Discharge Elimination System (NPDES) permit for the refinery.

11.4.2. Potential Impacts on Public Services

Impacts on public services, hospitals, first responders (including police, fire fighters, and emergency medical services), and utilities are typically tied to changes in residential population resulting from job creation. Other impacts on public services could occur due to an event at the refinery requiring emergency response services. Potential impacts on public services are summarized in Section 11.4.2.5.

11.4.2.1. Impacts on Public Services from Construction

As described in Section 11.3.1, construction of the proposed project is not expected to result in a substantial influx of workers, and construction is not expected to result in a noticeable increase in demand for utilities, including public water and sewer service. The temporary minor increases in utility and service use that could occur during construction are in line with the temporary increases that already occur during routine maintenance turnarounds at the refinery. While injuries or accidents are possible with any activity involving heavy machinery and industrial processes, Tesoro's management plans include policies and procedures for conducting safe work. These policies and procedures help reduce the likelihood and potential frequency of injuries and accidents that would place a burden on emergency response and health services (Tesoro 2015).

Because construction would occur in discrete areas over many months, and because construction activity is comparable in scope to periodic maintenance turnarounds, the additional activity in any one area is unlikely to increase the fire/emergency risk over current levels. Additional demands on public services during construction are expected to be minimal, would be short-term, and are not anticipated to extend beyond the proposed project's construction period. Increased pressure on public services due to construction of the proposed project is therefore anticipated to be ***less than significant***.

11.4.2.2. Impacts on Public Services from Operations and Maintenance

The anticipated permanent operations workforce includes the addition of 20 new permanent positions. Even if all of these new workers were to relocate their families to the city of Anacortes or nearby areas within Skagit County, the additional public service or utility demands (including public water and sewerage service) of those residents would be negligible and could be easily accommodated by existing public services in the region. The proposed project would route all wastewater and stormwater to the new components of the refinery's WWTP system. The on-site system has the capacity to handle the additional discharges (see Chapter 5, Freshwater Resources). The additional water used by the refinery due to the proposed project would not impact local public water customers (see Chapter 8, Energy and Natural Resources).

Like gasoline, mixed xylenes that would be produced and stored at the facility are highly flammable. The presence of flammable materials on-site creates the potential for industrial accidents, including explosion. Tesoro's management plans include procedures and practices to manage the risks of handling flammable feedstocks and would be updated to address new chemicals used as part of the proposed project, including the production of xylene. The refinery maintains its own firefighting resources in addition to mutual aid agreements with industrial neighbors to respond to petroleum fires or explosions. Tesoro also maintains mutual aid agreements with other refineries and provides special training to local emergency planning agencies, including local fire departments as a precaution (see Section 11.4.1). Public fire departments would generally not respond to emergencies on refinery grounds, except in the case of a structural fire. A fire or explosion that spreads beyond the boundaries of the refinery, while unlikely, could require response from public fire protection and emergency medical response resources, including hospitals.

Operation of the proposed project would not change the nature or magnitude of mutual aid calls for firefighting services and would not change Tesoro's existing procedures for handling flammable materials as the quantity/type of flammable materials used by the proposed project would not be significantly different than the quantity/type of materials used for current operations (see Chapter 9, Environmental Health). Tesoro's Emergency Response Manual includes contact information for the Anacortes Police Department, Skagit County Sheriff, and Anacortes Fire Department as public agency contacts in case of an emergency. While Skagit County Fire District 13 would be the first public agency responder in the event of a fire emergency that spread beyond the boundaries of the refinery or in the event of a structural fire, the Anacortes Fire Department and additional resources would be called on by Skagit County District 13 if necessary (Horn 2016). This is the procedure currently in place for fire response procedures at the refinery, and would not change in the event that the proposed project is undertaken. As a result, the impact on public services due to proposed project operations would be ***less than significant***.

11.4.2.3. Impacts on Public Services from Refinery Spills during Construction, Operations, and Maintenance

Spills at the refinery would be addressed by trained refinery staff and would be unlikely to extend beyond the refinery property or require assistance from local emergency service providers

(see above discussion). Chapter 3, Geologic Resources, and Chapter 9, Environmental Health, discuss spills at the refinery and the plans/systems in place both to prevent spills and to direct response efforts should they occur. In addition, Appendix 2-A, Existing Programs and Operations, provides specific details on the plans and programs in place regarding spill prevention and response. As a result of the embedded controls and BMPs in place, refinery personnel would respond to spills at the refinery, and activities associated with spill response would be contained within the refinery; consequently, the impact on local emergency services (fire, ambulance, and police) from spills at the refinery would be ***less than significant***.

11.4.2.4. Impacts on Public Services from Marine Spills from Vessels during Operation

The proposed project would transport one new product (mixed xylenes) via marine vessel and would increase marine deliveries of reformate, which is already in use at the refinery. Spills of these materials at the refinery wharf would be very unlikely to result in the need to call in public services as the refinery has an extensive wharf safety program that addresses the potential for spills at the wharf, including a "worst-case" spill scenario as defined by U.S. Coast Guard regulations (33 CFR 155.1020, which are referenced and discussed in Chapter 13, Marine Transportation). The refinery has an extensive spill prevention system, maintains spill response equipment, and has trained personnel available 24 hours per day; for additional details, see Appendix 2-A, Existing Programs and Operations, and Chapter 13, Section 13.5.7, Spill Response.

Once a marine vessel leaves the refinery wharf, the marine vessel's contracted oil spill response organization would respond to a spill. U.S. Coast Guard regulations require all marine vessels to be contracted with Coast Guard-approved spill response companies (see Chapter 13, Section 13.5.7, Spill Response). If for some reason the spill response company did not respond, or was unable to fully respond, the U.S. Coast Guard would step in and coordinate response to the spill. In that situation, public services could be called upon that could include fire, police, and ambulance. However, as described in Chapter 13, Marine Transportation, a marine spill has a negligible to low likelihood of occurring and the study area has extensive public spill response equipment and trained personnel. Even a worst-case spill scenario along the marine vessel transportation route would fully evaporate within 2 to 3 days and would not leave a residue on the shoreline and consequently any response actions would be of short duration.

Because of the short duration and relatively limited geography of such events, the impacts of such a spill on public services—specifically first responders—would be ***less than significant***, with a negligible to low likelihood of occurrence (see likelihood analysis in Chapter 13, Section 13.5.8, Summary of Potential Impacts from Spills, and Chapter 9, Environmental Health, for risks to first responders).

11.4.2.5. Summary of Potential Impacts on Public Services

The potential impacts of the proposed project discussed in this section are summarized in Table 11-6.

Table 11-6: Summary of Potential Impacts on Public Services

Impact Topic	Impact Summary	Potential Impact Significance	
		Less Than Significant	***Potentially Significant***
Construction			
Increased demand on existing public services due to construction activity	The influx of construction workers into the study area could result in minimally increased demand for existing public services (emergency services, utilities, etc.) within Skagit County during the 19-month construction period. Construction-related injuries could also result in the need for emergency services. These are not expected based on Tesoro's commitment to, and programs for, personal, process, and transportation safety.	√	
Operations			
Increased demand on existing public services due to operations and maintenance	There could be a small increase in the potential for emergency response requests over the life of the proposed project from local emergency service providers due to the increased risk of accidents, such as explosions from the handling of additional quantities of flammable materials.	√	
Unplanned Events			
Increased demand on existing public services due to spill response	Spills, particularly those that impact the shoreline, could require assistance from local first responders at specific impacted locations within the spill area. Based on modeling results, the maximum duration of response would be 2 to 3 days.	√	

11.4.3. Potential Impacts of the No Action Alternative

Under the no action alternative, Tesoro would not proceed with the proposed project. Because no jobs associated with the proposed project would be created, there would be no associated influx of employees or job seekers and, therefore, there would be no new impacts on public services.

11.4.4. Additional Mitigation Measures

No additional mitigation measures are recommended beyond the embedded controls already incorporated into the proposed project.

11.5. Economic Resources: Employment Income

This section assesses potential impacts on economic resources described by changes in employment income following the methodology described in Section 11.2.2.3. While state of Washington SEPA policies and procedures do not normally require that an analysis of economic impacts of a project be included in an EIS, both SEPA and the Skagit County Code 16.12.140 allow for inclusion of such an analysis when it would describe a part of the existing environment that would be impacted.

Skagit County (including the city of Anacortes) is the study area for negative potential impacts resulting from construction and operation of the proposed project and from spills onshore within the Tesoro Anacortes Refinery property ("construction, operations, and onshore spill" or "C-O"

study area). The study area for potential impacts from a spill into the marine waters of Fidalgo Bay, Padilla Bay, and seaward to the entrance to the Strait of Juan de Fuca ("marine spill" or "MS" study area) adds (from north to south) San Juan, Jefferson, Island, and Clallam counties, corresponding with the study area for potential impacts of marine spills described in Chapter 13, Section 13.5, Marine Spills and Spill Response). Because the location of spills into the marine environment is uncertain, data describing impacted employment income are presented for the combined additional counties.

The state of Washington is the study area for beneficial potential impacts, namely Tesoro's expenditures on construction and operational labor. While the construction labor force is expected to be sourced locally within a 1-hour drive from the proposed project area, expenditures by the construction industry's supply chain are expected to occur throughout the state (and in other states) (see Chapter 2, Section 2.7.2, Construction Workforce).

11.5.1. Affected Environment

Employment income is earned by proprietors and employees by generating economic output (sales). Total employment income in the study area is determined by the level of employment, (i.e., the size of the workforce) and average (mean) wages per employed. Households spend a portion of total income (including employment income) on goods and services produced within the study area, which supports a portion of its economic output. Changes in the level of employment, wages, or economic output affect employment income within the study area.

Table 11-7 describes employment income and its components, and household income within the study areas. Unless otherwise noted, the data presented summarize the 5-year annual averages over the period 2011 through 2015. Approximately $1.96 and $3.76 billion of wage income is generated annually within the C-O and vessel transportation route study areas, from employment of approximately 47,100 and 97,200 in all industries. Employees average $41,649 and $38,664 in wages annually in the C-O and vessel transportation route study areas, respectively, compared with $55,098 statewide. Median annual household income (from wages and other sources) in the C-O and MS study areas ranges from $47,647 to $60,176. Unemployment is approximately 8.5 percent in each study area, compared to 7.2 percent statewide.

Table 11-7: Employment and Income (2015 Inflation-Adjusted Dollars) in the Study Areas, 2011-2015 Average

	Study Area				State of Washington
	City of Anacortes	Skagit County (C-O Study Area)	Other Counties [a]	Skagit and Other Counties (Vessel Transportation Route Study Area)	
Total Wages, All Industries, (millions $)	225	1,960	1,797	3,757	163,816
Total Employment, All Industries (% unemployed)	6,636 (6.8)	47,070 (8.5)	50,099 (8.2)	97,170 (8.4)	2,973,152 (7.2)
Mean Annual Wage ($/employed)	33,948	41,649	35,860	38,664	55,098
Median Annual Household Income ($/household)	60,176	55,664	47,647 – 59,911	47,647 – 60,176	61,114

Source: BLS 2016a-e, U.S. Census Bureau 2014a

Note: Employment, percent unemployed, mean wages, and total wages is reported in the BLS Quarterly Census of Wages and Employment (QCWE) and BLS Local Area Unemployment Statistics (LAUS) for 2011-2015 in all areas except the city of Anacortes. The U.S. Census Bureau American Community Survey (ACS) reports employment, unemployment and mean earnings for all industries in the city of Anacortes during 2010-2014. ACS employment and earnings statistics are reported for the city of Anacortes. Total wages in the city of Anacortes is the product of mean earnings and total employment.

[a] San Juan, Island, Jefferson, and Clallam counties. These additional counties were included in the study area to support the evaluation of potential impacts from marine spills and spill response.

Table 11-8 summarizes employment income generated from at-place employment by industry sectors in the North American Industry Classification System (NAICS) within the study area. NAICS sectors are aggregations of detailed industries. For example, 103 industries (identified by a 6-digit NAICS code), including petroleum refineries, comprise the manufacturing sector (BLS 2016c, f).

Four industries account for approximately 51 percent of total employment income (wages) generated at establishments within in the C-O study area (Skagit County and the city of Anacortes):

- Manufacturing, including petroleum refineries (16.9 percent of total employment income)
- Health care and social assistance (15.8 percent of total employment income)
- Retail trade (10 percent of total employment income)
- Construction (8.5 percent of total employment income)

Combined, $1.0 billion of wages are generated annually from these sectors through the employment of approximately 22,100 workers within the C-O study area.

Table 11-8: Employment and Wages (Millions of 2015 Inflation-Adjusted Dollars), by Industry Sector, 2011-2015 Average

	Employment, Wages (Millions $), (Percent of Total Wages)				
NAICS Sector	**City of Anacortes**	**Skagit County (C-O Study Area)**	**Other Counties[a]**	**Skagit and Other Counties (Vessel Transportation Route Study Area)**	**State of Washington**
10-All Industries	6,636 NA	47,070 1,960 (100.0)	50,099 1,797 (100.0)	97,170 3,757 (100.0)	2,973,152 163,816 (100.0)
11-Agriculture, Forestry, Fishing, and Hunting	87 NA	2,700 90.3 (4.6)	619 26.4 (1.5)	3,320 116.7 (3.1)	96,529 2,681.3 (1.6)
21-Mining, Quarrying, and Oil and Gas Extraction	9 NA	34 1.8 (<1.0)	15 0.7 (<1.0)	49 2.5 (<1.0)	2,172 140.1 (<1.0)
22-Utilities	34 NA	187 16.9 (<1.0)	311 19. (1.1)	498 36. (1.0)	18,732 1,659.2 (1.0)
23-Construction	413 NA	2,738 165.7 (8.5)	2,580 98.1 (5.5)	5,318 263.8 (7.0)	142,845 8,004.8 (4.9)
31-33-Manufacturing	756 NA	5,387 331.1 (16.9)	2,760 135.8 (7.6)	8,147 466.9 (12.4)	291,907 21,519.4 (13.1)
42-Wholesale Trade	101 NA	1,197 62.4 (3.2)	699 36.0 (2.0)	1,895 98.5 (2.6)	124,910 8,899. (5.4)
44-45-Retail Trade	745 NA	6,669 196.5 (10.0)	7,289 200.0 (11.1)	13,958 396.4 (10.6)	329,333 11,668.8 (7.1)
48-49-Transportation and Warehousing	374 NA	1,343 60.4 (3.1)	1,194 53.6 (3.0)	2,537 114. (3.0)	111,526 6,218.4 (3.8)
51-Information	95 NA	324 13.6 (<1.0)	633 29.5 (1.6)	957 43.1 (1.1)	112,083 15,376.7 (9.4)
52-Finance and Insurance	198 NA	1,496 80.1 (4.1)	936 38.9 (2.2)	2,432 119. (3.2)	89,749 7,375.3 (4.5)
53-Real Estate and Rental and Leasing	129 NA	444 11.5 (<1.0)	709 16.5 (<1.0)	1,153 28.0 (<1.0)	47,746 2,167 (1.3)
54-Professional and Technical Services	441 NA	1,323 73.5 (3.8)	1,080 53.9 (3.0)	2,404 127.4 (3.4)	176,669 14,936.8 (9.1)
55-Management of Companies and Enterprises	NA	144 11.6 (<1.0)	157 10.7 (<1.0)	301 22.3 (<1.0)	38,009 4,141 (2.5)
56-Administrative and Waste Services	204 NA	1,139 35.3 (1.8)	1,465 46.1 (2.6)	2,604 81.4 (2.2)	145,716 6,626.0 (4.0)
61-Educational Services	519 NA	3,598 140.7	2,167 80.9	5,765 221.6	255,431 11,346.5

NAICS Sector	Employment, Wages (Millions $), (Percent of Total Wages)				
	City of Anacortes	Skagit County (C-O Study Area)	Other Counties[a]	Skagit and Other Counties (Vessel Transportation Route Study Area)	State of Washington
		(7.2)	(4.5)	(5.9)	(6.9)
62-Health Care and Social Assistance	943 NA	7,344 308.8 (15.8)	7,048 239.2 (13.3)	14,391 548. (14.6)	413,654 20,194.1 (12.3)
71-Arts, Entertainment, and Recreation	306 NA	904 24.5 (1.3)	1,209 29.7 (1.7)	2,113 54.3 (1.4)	67,238 2,118.6 (1.3)
72-Accommodation and Food Services	567 NA	3,904 67.5 (3.4)	6,232 106.7 (5.9)	10,136 174.2 (4.6)	239,864 4,758.2 (2.9)
81-Other Services, Except Public Administration	351 NA	1,659 52. (2.7)	2,196 53.7 (3.0)	3,855 105.7 (2.8)	107,047 3,365.5 (2.1)
92-Public Administration	364 NA	2,586 141.7 (7.2)	4,807 263.2 (14.6)	7,393 404.8 (10.8)	158,287 10,405.5 (6.4)
Unclassified/Not Disclosed	NA	1,950 74.4 (3.8)	5,993 258 (14.4)	7,944 332.5 (8.8)	3,696 213.0 (<1.0)

Source: BLS 2016a-c, e, f; U.S. Census Bureau 2014a

Note: Employment and wages by industry sector is reported in the BLS Quarterly Census of Wages and Employment (QCWE) for 2011-2015 in all areas except the city of Anacortes. The U.S. Census Bureau American Community Survey (ACS) reports employment and median earnings by industry sector for the city of Anacortes during 2010-2014. ACS employment statistics are reported for the city of Anacortes.

[a] San Juan, Island, Jefferson, and Clallam counties. These additional counties were included in the study area to support the evaluation of potential impacts from marine spills and spill response.

Within the wider marine vessel transportation route study area used to evaluate potential impacts from spills into marine waters (Skagit, San Juan, Island, Jefferson, and Clallam counties), five industries account for 55.4 percent of total employment income:

- Health care and social assistance (14.6 percent of total employment income)
- Manufacturing, including petroleum refineries (12.4 percent of total employment income)
- Public administration (10.8 percent of total employment income)
- Retail trade (10.6 percent of total employment income)
- Construction (7.0 percent of total employment income)

Combined, $2.1 billion of wages are generated annually from these sectors on employment of approximately 49,200 within the MS study area.

Proposed project construction, operations, or an onshore spill and associated response, have the potential to impact employment income directly and indirectly. Specific industries or industry sectors potentially impacted by a direct change in expenditures (direct economic impact) include the following:

- Construction sector
- Petroleum refining industry
- Cattle ranching industry

Worst-case scenario spills into marine waters from operation of the proposed project would have potentially significant impacts (with negligible to low likelihood of occurring) on other resources which could potentially impact employment income indirectly. Specific industries or industry sectors potentially impacted by a direct change in expenditures include the following:

- Commercial fishing
- Petroleum refining industry
- Marine transportation industries
- Tourism and recreation industries

Employment income and other descriptors of economic activity generated from these sectors or industries, and some closely related, are described in the following sections. While additional employment income impacts may occur from reduced expenditures in other industries through indirect and induced impacts, detailed evaluation of indirect economic impacts is not part of this study.[1]

Additional sectors and industries may be subject to direct changes in expenditures. These potential changes cannot be specifically identified based on the qualitative impact analyses of potential impacts of marine spills and response on other resources due to uncertainty about how the potentially significant impacts on other resources would ultimately impact economic output and associated employment income.[2]

11.5.1.1. Construction

Economic activity in the construction sector is positively associated with the business and housing cycles. Construction directly generates $165.7 million in employment income annually within Skagit County (C-O study area), accounting for 8.5 percent of total wages (Table 11-8). Within the state of Washington, employment income directly from construction totals $8.0 billion annually and accounts for 4.9 percent of total wages generated in the state (Table 11-8). A study in the Draft EIS for the Shell Anacortes Rail Unloading Facility reported that every dollar of direct employment income in the construction industry generated an additional $0.57 of

[1] Induced impacts are those impacts that are prompted to occur by the proposed project. They are foreseeable but unplanned, and occur at a later stage or different location.

[2] For example, industries impacted by lost wages from hospitalization and recovery after potentially significant human health impacts of exposure to xylene vapors during a worst-case scenario spill depends on the location and timing of the spill (see Chapter 9, Section 9.6.2, Potential Impacts on Health from Spills; Professional Mariner 2007). Similarly, onshore industries impacted by potentially significant closures of marine waters and navigational changes or delays depend on the spill location and timing.

employment income indirectly through expenditures along the construction industry supply chain and spending of household income generated by total industry expenditures (Skagit County and Ecology 2016).

11.5.1.2. Petroleum Refineries

Oil refineries are located along shorelines to facilitate marine transport of both crude oil and refined petroleum products to and from refineries. Major finished petroleum products produced by the state of Washington's refineries include gasoline (42 percent of all petroleum products), diesel oil (26 percent), and jet fuel (14 percent) (WRC 2014).[3] In 2013, Washington's five major petroleum refineries provided 2,024 full-time jobs, paying an annual average wage of $121,114 resulting in $245 million of direct total employment income within the state. Refineries also employed 2,919 contract employees on an average day, with the majority of these employees performing maintenance and capital repair (WRC 2014). Considering direct, indirect, and induced impacts, the total economic impact of Washington's five major refineries in terms of personal income (wages and other income) is $1.7 billion annually. This is due in large part to the substantial employment multiplier from petroleum refining—every full-time job in the petroleum refining industry generates an additional 11.88 jobs in other industries (WRC 2014).

Major petroleum refineries in Skagit County include Shell Oil's Puget Sound Refinery and the Tesoro Anacortes Refinery, both on March Point. Combined operable refining capacity totaled 265,000 bpd per day as of January 1, 2016 (including 120,000 bpd from the Tesoro Anacortes Refinery), accounting for 42 percent of the 633,700 bpd total capacity of the state of Washington's five refineries (EIA 2016). Operation of the Tesoro Anacortes Refinery requires approximately 630 jobs, including 350 directly employed by Tesoro. Assuming wages are the same at all refineries, direct employment income from the Tesoro Anacortes Refinery totals $42 million annually, or approximately 13 percent of total wages generated directly from the entire manufacturing sector in Skagit County (Table 11-8).

11.5.1.3. Cattle Ranching and Farming

There were 30,783 cattle and calves on 407 farms in Skagit County during 2012 (USDA NASS 2014a). Land in Skagit County dedicated as permanent pasture and rangeland totaled 14,800 acres (USDA NASS 2014b). Approximately 370 acres of Tesoro-owned land is currently leased for grazing.

Cattle ranching and farming (4-digit NAICS code 1121) is part of NAICS Sector 11, Agriculture, forestry, fishing, and hunting. That sector generates $90.3 in annual employment income within Skagit County comprising 4.6 percent of the county total (Table 11-8). Cattle ranching and farming generates $6.7 million in annual employment income, 7.5 percent of annual employment income from NAICS Sector 11 and less than 1.0 percent of total wage income in Skagit County (BLS 2016a-c, e, f).

[3] Marine fuel, residual fuel oil, liquid petroleum gas, gas oils, propane, coke, asphalt, and others comprise the remaining 18 percent of finished petroleum products produced at refineries in the state of Washington.

11.5.1.4. Commercial Fisheries

Marine Fishing by Vessel

PacFIN reports that 1,556 commercial fishing vessels took 16,749 trips in marine waters of the marine vessel transportation route study area in 2015 (See Chapter 13, Section 13.2.1, Study Area). This effort landed 19 million pounds of finfish and shellfish with a gross value of $53 million, excluding the value of vessels. Skagit County alone accounted for 36 percent of the total gross value of landings in the MS study area. Fish species landed within the MS study area are of disproportionately higher value than in the rest of the state of Washington. Total landings by vessels within the MS study area accounted for 12 percent of total landings in the state of Washington, but 21 percent of the gross value. Fishing activity in the MS study area, as measured by the number of trips, has remained fairly constant since 1995, but is considerably lower than historic levels from 1985 to 1990 (PacFIN 2016). Table 11-9 summarizes the non-confidential commercial fishery statistics for the study area and the state of Washington during 2015. Other vessel trips are excluded from these data for safety and security reasons.

Table 11-9: Vessel Landings, Revenue and Fishing Effort, 2015

	Skagit County (C-O Study Area)	Other Study Area Counties [a]	Skagit and Other Counties (MS Study Area)	State of Washington
Landed weight (1,000 lb)	5,711	13,299	19,010	159,442
Revenue (MM $)	19	34	53	257
Number of vessels	507	1,049	1,556	6,003
Number of vessel trips	7,326	9,423	16,749	57,659
Number of processors	46	94	140	539

Source: PacFIN 2016
lb = pounds, MM $ = million dollars
[a] San Juan, Island, Jefferson, and Clallam counties. These additional counties were included in the study area to support the evaluation of potential impacts from marine spills and spill response.

Finfish, shellfish, and other marine fishing, collectively fishing (4-digit NAICS code 1141), is part of NAICS Sector 11, Agriculture, forestry, fishing, and hunting. Fishing generates $5.1 million in annual employment income, 4.2 percent of annual employment income from NAICS Sector 11, and less than 1.0 percent of total wage income generated in the MS study area (BLS 2016a-c, e, f; Table 11-8).

Commercial fishing supports employment and income in the marine transportation and seafood processing industries. Commercial landings in the MS study area during 2015 were purchased by 140 seafood processors. Several processing plants are in the city of Anacortes near the proposed project area, including those operated by Trident Seafoods, Sugiyo USA, and Seabear, Inc. (NOAA Undated).

Aquaculture

In addition to traditional fishing, aquaculture primarily occurs along the coastal shoreline, and includes fish, crustaceans, and mollusks, among other produce (Horsethief Undated). According

to the Census of Agriculture, aquaculture sales totaled $5 million in Skagit County, $11.9 million in the MS study area, and $195 million in the state of Washington in 2012 (in 2015 inflation-adjusted dollars) (USDA NASS 2014c). While Skagit County accounted for 43 percent of the aquaculture product sales value in the MS study area, the highest of any county, its 2012 sales value declined by greater than 50 percent from its 2007 value ($11 million), due in part to a decrease from 12 to 11 in the number of operating farms.

Finfish farming and fish hatcheries, shellfish farming, and other aquaculture production (4-digit NAICS code 1125), is part of NAICS Sector 11, Agriculture, forestry, fishing, and hunting. Aquaculture generates $4.0 million in annual employment income, 3.4 percent of annual employment income from NAICS Sector 11, and less than 1.0 percent of total wage income generated in the MS study area (BLS 2016a-c, e, f; Table 11-8).

11.5.1.5. Treaty and Traditionally Used Resources

Traditionally used resources are important because of the role they play in, and their intrinsic value to, tribal lifeways and culture, and in the exercise of tribal treaty reserved rights. The proposed project site is located in an area of special importance for Native American groups, in part, because of ready access to fish and intertidal resources. This is supported by evidence from archaeological sites in the region that demonstrate the importance of March Point (see Chapter 12, Cultural Resources, for additional information). In February 2016, as part of the County's analysis of another project in the same vicinity, a search of online data and ethnographic literature was conducted regarding current and traditional use of plants, fish, and shellfish. Research conducted included review of the following websites: Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD), the Swinomish Tribal Community, the Washington State Governor's Office of Indian Affairs, Washington State Department of Ecology (Ecology), and the United States Bureau of Indian Affairs (USBIA; Skagit County and Ecology 2016). Ethnographic literature includes studies of resources used by tribal members including Gunther (1945), Lane (Undated), Suttles and Lane (1990), and Suttles (1974)(Skagit County and Ecology 2016). Fisheries research additionally included a review of web-based resources published by the Jamestown S'Klallam Tribe (2010), Northwest Indian Fisheries Commission (NWIFC 2015a, B, 2016), the Pacific Fisheries Information Network (PacFIN 2016), and Olympic Region Harmful Algal Blooms (ORHAB 2002; Dethier 2006).

The proposed project is in the vicinity of tribal Ceded Areas established by the *Treaty of Point Elliott* in 1855. That treaty and the *Boldt Decision* described in Table 11.1, which upheld tribal fishing rights in 1979, affirmed that the region and its resources would remain important to the tribes. The proposed project is in the vicinity of the Reservation of the Swinomish Indian Tribal Community (Swinomish Tribe), also established by the *Treaty of Point Elliott* (Goren 2012). The U.S. Government has a fiduciary obligation "…to protect tribal treaty rights regarding lands, assets, and resources…" (USBIA 2016). The study area is within the usual and accustomed lands of the Swinomish Tribe, which means the tribe manages tribal access to and use of resources. The portion of the study area including the marine vessel transportation route is also within the

usual and accustomed lands of several tribes. Skagit County included treaty and traditionally used resources in this EIS to address concerns raised during the scoping process.

As noted above, usual and accustomed grounds of several Washington tribes are within this area including, but not limited to, the Swinomish Tribe, Sauk-Suiattle Indian Tribe, Upper Skagit Indian Tribe, Lummi Tribe, Jamestown S'Klallam Tribe, Makah Tribe, Lower Elwha Klallam Tribe, and Samish Indian Nation. They gathered plant materials for food, manufacturing, medicinal, and ceremonial purposes. These included, but were not limited to, cedar, hemlock, hazelnut, alder, and maple to manufacture canoes, nets, paddles, and basketry, among other things. Fern, grapes, gooseberry, thimbleberry, elderberry, salmonberry, and wild cherry were harvested for food and medicine (Gunther 1945).

These tribes gathered oysters and clams from tidal flats in nearby Fidalgo and Padilla bays (Goren 2012; Lane Undated). Using gill nets made from vine maple, they also trapped crabs and fished for salmon in these bays, as well as in the Swinomish Channel and at the mouth of the Skagit River. They also used spears made of ironwood to gaff cod (Gunther 1945).

What are "usual and accustomed lands"?

In the Stevens treaties, the tribes reserved the right to fish at "all usual and accustomed grounds and stations." The court case *U.S. v. State of Washington*, referred to as the *Boldt Decision*, defined "usual and accustomed" as places where the Indians fished, excluding "unfamiliar locations and those used infrequently or at long intervals and extraordinary occasions."

In the treaties, the Indians retained some of their lands as reservations. And, according to the Boldt Decision, the treaties did not grant rights to the Indians but instead were a grant from them. Within the treaties, they reserved the rights, for instance, to fish at "all usual and accustomed grounds and stations" not granted.

—United States v. State of Washington 384 F. Supp. 312 at 331-332

Today more modern equipment is used; however, members of the tribes still fish in the same areas.

The following fishing methods are used for specific salmon species (NWIFC 2015b):

- Troll vessels: These vessels operate in marine areas and drag baited hooks or lures at specified depths for target species. Species: Chinook and coho.
- Gillnets: Drift gillnets may be up to several hundred feet long and are used in open marine areas and at the mouths of large rivers in combination with a hydraulic drum on 25- to 30-foot vessels. Shorter set gillnets are used from small skiffs in rivers or along the shoreline. Species: Chinook, coho, chum, and sockeye.
- Seines: Beach seines are typically 150 to 300 feet long and are deployed from shore and retrieved by hand. Purse seines are used in marine areas, and require a larger vessel and power skiff for deployment and retrieval. Species: Pink and sockeye.

- Hook and line and dipnets: These techniques may be used in subsistence and ceremonial fishing. Species: Steelhead and pink.

For many Native Americans within the region, these resources are a part of their culture and lifeways (Goren 2012). If the environment becomes degraded and inaccessible, the ability of the tribes to continue to be culturally intact and to impart cultural knowledge to their youth for the next seven generations, as is their tradition, could be affected.

Background research indicates that members of the Swinomish Tribe have been gathering terrestrial and aquatic plants within the study area for food and medicinal purposes since ancient times (Goren 2012). It is possible that specific gathering areas or certain plants not previously identified, but important to the Swinomish or other tribes, could be identified during discussions or field visits with the tribes.

Background research indicates that members of the Swinomish Tribe have traditionally hunted terrestrial animals in the general area since ancient times (Goren 2012). It is possible that specific hunting areas or certain terrestrial animals not previously identified, but important to the Swinomish or other tribes, could be identified during discussions or field visits with the tribes.

As with the plant gathering and hunting practices described above, Swinomish Tribe members have also been harvesting fish and shellfish within the study area since ancient times (Goren 2012). These resources are considered by the Swinomish to be culturally significant and represent their connection with the environment. Several varieties of salmon are individually and commercially harvested by the Swinomish Tribe: coho salmon (*Oncorhynchus kisutch*); pink salmon (*Oncorhynchus gorbuscha*), also known as "humpback"; chum salmon (*Oncorhynchus keta*). Shellfish traditionally harvested include Dungeness crab (*Metacarcinus magister*), littleneck clams (*Leukoma staminea*), and Manila clams (*Venerupis philippinarum*).

11.5.1.6. Tourism and Recreation

Tourism and recreation is important to the coastal economies along the MS study area. Recreational boating, fishing, shell fishing, camping, picnicking, hiking, beach going (including tide pooling), scuba diving, marine and terrestrial wildlife watching, and resort-going are major recreational and tourist activities in the MS study area (see Chapter 10, Section 10.4, Recreation). Facilities providing recreation opportunities to local residents and tourists include marinas and boat ramps; municipal, county, state, and national parks and recreation areas; wildlife refuges and sanctuaries; accessible shorelines, and resorts (see Chapter 10, Section 10.4, Recreation). For example, the Anacortes Marina, near the proposed project area, has 466 rental slips, a full-service repair yard, a 55-ton travel lift, fuel dock, and pump-out station to accommodate recreational boating (Anacortes Marina 2015).

Table 11-10 reports direct expenditures on goods and services for tourism-related travel and the employment earnings supported by those expenditures during 2009. Travel-related spending, which includes purchases by travelers on accommodations (hotels, motels, campgrounds, private homes, and vacation homes), food service, food stores, local transportation, entertainment, recreation, and retail sales totaled $836 million (in 2015 dollars). This spending supported 11,530 jobs (13.8 jobs per $1 million spent) and $247 million in earnings ($0.30 per $1 spent) in

those industries within the MS study area. Employment earnings supported by travel-related spending in the MS study area comprise 5.4 percent of statewide earnings.

Table 11-10: Travel-Related Economic Data, 2009 (2015 Inflation-Adjusted Dollars)

Impact Metric	Skagit County	Other Study Area Counties[a]	Study Area Total	State of Washington
Travel spending (millions)	256	580	836	15,385
Employment earnings (millions)	64	183	247	4,518
Employment	2,910	8,620	11,530	143,990

Source: Dean Runyan Associates 2010

[a] San Juan, Island, Jefferson, and Clallam counties. These additional counties were included in the study area to support the evaluation of potential impacts from marine spills and spill response.

11.5.1.7. Marine Transportation

Marine transportation in the study area supports employment income in the transportation and warehousing, wholesale trade, and retail trade industries. The Strait of Juan de Fuca is an international shipping corridor in the Salish Sea, providing access to major U.S. ports, including Washington ports in Seattle and Tacoma and Canadian ports in Vancouver, British Columbia, as well as access to other British Columbia ports and southeastern Alaska via the Inside Passage at Vancouver Island (Chapter 13, Section 13.2.1, Study Area). An average 9,500 vessel crossings of the Strait of Juan de Fuca make an average of approximately 3,000 port calls annually. Of these, approximately 4 of every 5 port calls are made by large commercial vessels, while the remaining calls are made by tank ships and ATBs (see Chapter 13, Marine Transportation, Table 13-5). Commercial shipping supports on-shore employment and the generation of income in the wholesale and retail trade industries.

In addition to the deep water ports at the refinery and BP's Cherry Point Refinery, the Port of Anacortes is a deep-draft port accommodating ocean-going vessels in transit to and from the Pacific Rim, Canada, and Alaska (WSDOT 2016). It consists of Pier 1, which is mainly used for shipbuilding and housing for Port offices; Pier 2, which exports dry bulk cargoes and moors barges and other vessels; and Curtis Wharf, which is a working wharf and dock for commercial boat and ships. The primary goods shipped through the Port of Anacortes are petroleum coke and logs.

Potentially significant impacts of a worst-case spill scenario on marine vessel traffic could impact multiple industries. Transportation and warehousing, wholesale trade, and retail trade combine to generate $609 million in employment income annually, comprising 16 percent of total employment income within the MS study area (Table 11-8).

11.5.1.8. Ship Building/Repair

Closely related to marine transportation, ship building and repair includes construction of ships; repair, conversion, and alteration of ships; and production of prefabricated ship and barge sections, and other specialized services. Annual employment income in the MS study area from ship building and repair (4-digit NAICS 3366) totals $36 million, $34 million of which is

generated in Skagit County (BLS 2016a-c, e, f). The industry alone accounts for 1.7 percent of annual employment income generated within Skagit County.

Ship building and repair services are concentrated in the city of Anacortes, near the proposed project area due to the presence of marinas and the Port of Anacortes, as well as nearby refinery ports. Dakota Creek Industries is a shipbuilding and repair facility located north of downtown Anacortes, between the Port of Anacortes' Piers 1 and 2 (Port of Anacortes 2016).

11.5.2. Potential Impacts on Employment Income

Negative impacts potentially occurring through reductions in employment income include:

- Changes in land use due to the proposed project that could impact employment income
- Interruptions in operations at the refinery
- Potentially significant impacts on other resources from spills into marine waters, including marine and nearshore habitat and species, human health, recreation, and marine vessel operations

Positive impacts occurring through increases in employment income include:

- Tesoro's short-term expenditures during construction
- Tesoro's long-term expenditures during project operation

Potential significance is determined for negative impacts following the methodology and criteria reported in Appendix 1-B, Impact Criteria Tables, Table 1-B.9. No significance determination is made for positive impacts. Potential project impacts on economic resources through changes in employment income are summarized in Section 11.5.2.5.

11.5.2.1. Impacts on Employment Income from Construction

Construction of the new storage tanks in the New Tanks Area of the proposed project would permanently convert 15.37 acres of the 370 acres of Tesoro-owned land currently leased for cattle grazing. This represents a loss of 4.6 percent of grazing land currently used by this herd, and 0.1 percent of total permanent pasture and rangeland in the C-O study area (see Section 11.5.1.3). While the conversion itself would be permanent, the remaining acreage would likely support the existing herd size with minimally increased grazing density such that any reduction in herd size would not exceed the average annual 1.5 death loss of cattle herds in the northwest U.S. (USDA APHIS 2011). There would be no perceptible change from baseline employment income, even within the cattle ranching and farming industry sector ($6.7 million annually) comprising less than 1 percent of total employment income in the C-O study area. The impact on economic resources from reductions in employment income from permanent conversion of grazing land during proposed project construction would be ***less than significant***.

Tesoro's expenditures in the construction industry would generate positive changes in employment income within the state of Washington. Construction of the proposed project would temporarily support employment in the construction, scientific, and technical services, and transportation industries within the study area. An average construction workforce of 190 would

be employed for the 19-month construction period, with each worker earning an average annual salary of $117,000. Tesoro's total construction labor outlays are expected to support approximately $35 million in employment income directly within the construction industries.[4] Assuming approximately 60 to 65 percent of total construction outlays occur within the state of Washington, construction of the proposed project could be expected to support a total employment of 457 jobs and $55 million in total wage income, when considering indirect and induced impacts (Skagit County and Ecology 2016).[5] This assumes that the construction labor resources would not otherwise be employed in the absence of the proposed project.

11.5.2.2. Impacts on Employment Income from Operations

There are no potential adverse impacts on employment income from planned operation of the proposed project. Therefore, impacts on economic resources from changes in employment income due to the planned operation of the proposed project would be ***less than significant***.

Tesoro's direct annual expenditures on labor income and goods and services for the production and sale of up to 15,000 bpd of mixed xylenes would result in a positive impact on economic resources in the state of Washington from changes in employment income in the petroleum refining industry, its supply chain, and those impacted by household spending. Tesoro is expected to employ 20 additional full-time workers annually during operation of the proposed project. At the average annual wage of $121,114–approximately 2.5 to 4 times as high as the average annual wage in the C-O study area and the state of Washington–operation of the proposed project would generate $2.4 million dollars annually in direct employment income, and approximately $20 million when considering indirect and induced impacts (WRC 2014). Over 20 years, the present value (assuming a 3 percent discount rate) of total employment income generated by operations amounts to approximately $298 million in additional employment income for the state of Washington.[6]

11.5.2.3. Impacts on Treaty and Traditionally Used Resources

Because specific gathering areas or plants important to tribes have not been identified in the study area to date, no impacts from the proposed project were identified. If gathering areas or important plants were identified through coordination with the tribes, it would be possible to assess impacts. Because specific hunting areas or certain terrestrial animals important to tribes have not been identified in the study area, no impacts from the proposed project were identified. If hunting areas or important animal species were identified through coordination with the tribes, it would be possible to assess impacts.

[4] $117,000 annual salary per member of the construction workforce equals $9,750 per month (see Chapter 2, Section 2.7.2, Construction Workforce). An average monthly workforce of 190 equates to $1.8 million per month, for a total of approximately $35 million in salary over the 19-month construction period.

[5] 190 jobs and $35 million in direct employment income multiplied by 2.405 and 1.57 Type II multipliers calculated from the Shell Anacortes Rail Facility construction spending IMPLAN study.

[6] WRC 2014 reports that each job in the petroleum refining industry supports an additional $880,000 in indirect and induced labor income.

The study area is located near tribal fisheries. Impacts could include loss or changes to habitat, loss of fishing gear or changes in water quality that could impact fish. Marine vessel traffic associated with the proposed project would represent an increase of 2.2 percent or less in large marine vessel traffic along the marine transportation route, adding up to five vessels per month within the established shipping lanes dedicated to shipping activity in the area (see Chapter 13, Marine Transportation, Table 13.9). Depending on the degree of these impacts, treaty resources, traditional lifeways, health, and the culture of the Swinomish and other tribes could be affected due to degradation of their fisheries.

Skagit County respects the rights of tribal sovereigns to engage on their terms with local, state, and federal governments as appropriate.

11.5.2.4. Impacts on Employment Income from Unplanned Events–Spills and Spill Response

Analysis of impacts on economic resources from spills is focused on the potential impacts of marine spills. When released into marine waters, xylene remains on or near the surface. If xylene reached the shoreline, it is not viscous like crude oil, and would not coat the shore or persist in sediment. Computer modeling of a worst-case scenario indicated that the thickness of floating spilled material reduced to less than 0.1 µm within 2 days, and that 99.5 percent of spilled material evaporated or dissipated within 3 days. This timeframe has been used as the basis for understanding the duration of impacts from a spill and spill response activities. Spill modeling methods and results are presented in Chapter 13, Section 13.5, Marine Spills and Spill Response.

While there is potential for xylene to reach toxic concentrations for marine and nearshore species, its lack of persistence and mobility due its rapid rate of volatilization and degradation (which increases with temperature and exposure to light) limits its mobility, preventing widespread exposure (see Chapter 7, Marine and Nearshore Resources). Tesoro's BMPs would work to further limit the mobility and potential toxicity and exposure of a marine spill. Nonetheless, although a marine spill has a negligible to low likelihood of occurring, a worst-case scenario release of xylene, reformate, or other refined petroleum products may have potentially significant impacts on other resources that impact economic output or employment income directly, including:

- Potential short-term interruption in operations at the Tesoro Anacortes Refinery (onshore spill) and other refineries (marine spill) during response activities. As a single petroleum refinery job indirectly supports 12.88 jobs in other industries, such an interruption could impact hourly wage earners in multiple industries for 2 to 3 days.
- Potential reductions in fishing effort due to temporary restrictions on fishing, or reduced availability of target finfish or shellfish species may occur. In the absence of mortality, fleets could delay fishing trips until the spill is resolved. Any mortality is likely to be short term and concentrated in the nearshore areas where species have less ability to evade exposure. Impacts on fish stocks could impact both vessel marine fishing and aquaculture production, depending on the location and timing of the spill. Potential impacts include lower than expected wages for a 2 to 3 day catch period. Given the short duration of the potential impact on catch, there would be no measurable impact on processing industries.

- Impacts on tribal fishing and aquaculture resources within the marine vessel transportation route would be the same way as described in the preceding paragraph. Potential reductions in tribal fishing due to temporary restrictions on fishing, or reduced availability of, target finfish or shellfish species may occur. In the absence of mortality, tribal fleets could delay trips until the spill is resolved. Any mortality is likely to be short term and concentrated in the nearshore areas where species have less ability to evade exposure. Impacts on fish stocks could impact both vessel marine fishing and aquaculture production, depending on the location and timing of the spill. Potential impacts include lower than expected wages for a 2- to 3-day catch period. Given the short duration of the potential impact on catch, there would be no measurable impact on processing industries. Skagit County respects the rights of tribal sovereigns to engage on their terms with local, state, and federal governments as appropriate. Tribes are invited to comment on potential impacts.
- The potential exists for reduced consumer spending on fish harvested from the marine waters of the study area in the event of a spill. The decision to reduce spending would be associated with a potential stigma associated with the harvest's potential exposure to hazardous chemicals. Consumption decisions based on this perceived stigma are highly individualized. Combined with the short duration of exposure to, and limited mobility of, xylenes, their lack of bioaccumulation, and the likelihood that a spill would occur in established shipping lanes or near the Tesoro Anacortes Refinery, stigma could result in imperceptible, short-term reductions in demand, associated fishing effort, and associated employment income. However, the completion of studies showing that the fish are consumable following the spill would help to reduce the duration of these impacts.
- Potential reductions in spending on tourism and recreation could result from 2- to 3-day restrictions on, or prohibition of, onshore and marine recreation areas or specific recreation activities. Additionally, short-term unavailability of marine and nearshore species due to mortality or temporary relocation to prevent exposure to xylene could discourage fish and wildlife-dependent activities for a short period following the lifting of restrictions. While restrictions and knowledge of the spill could impact local residents' recreational decisions, these residents could delay their trips without loss of spending. Tourists may cancel or visit substitute sites, but it is highly unlikely that substantial tourist use could be impacted considering the short duration of the spill response. Overall, there may be short-term reductions in employment income of hourly wage earners in the accommodation and food service industries, but the changes would be imperceptible.
- Closure of marine waterways could interrupt operations of the transportation and warehousing, wholesale, and retail trade industries, as well as coastal manufacturing activities such as ship building and petroleum refining (previously mentioned). The extent of the impact would be short-lived, and limited to hourly wage earners. Overall, any reduction in employment income would be imperceptible.
- In certain concentrations, exposure to xylene vapors may cause illness to the point that hospitalization and work absences result. Spills occurring in marine waters in the shipping channel, even in the worst-case spill scenario, would be unlikely to pose a human health risk

beyond response personnel who are trained to avoid exposure, unless a spill were to occur very close to human habitation, which is an unlikely event. Spills at the refinery wharf would put refinery workers and others employed in coastal industries near the spill area at risk of exposure. It is not possible to know the full extent of potential exposure, in terms of industries impacted. However, any exposure-related illness should be resolved quickly, even as soon as 1 or 2 days (see Chapter 9, Section 9.6.2, Potential Impacts on Health from Spills). Hourly wage earners could experience lost wages, but the overall impact would be imperceptible.

Based on this assessment, a worst-case spill of xylene or reformate into marine waters of the marine vessel transportation study area could have no reductions to minimally perceptible reductions in employment income in multiple industries for a very short duration. However, the area impacted could be wide both in terms of the geographic area exposed to a xylene/reformate spill and the distribution of impacted industries throughout the study area. Impacts on economic resources from changes in employment income due to a worst-case scenario marine spill and response would be ***less than significant,*** and such a spill has a negligible-to-low likelihood of occurring, based on the likelihood analysis in Chapter 13, Marine Transportation.

11.5.2.5. Summary of Potential Impacts on Employment Income

The potential impacts of the proposed project discussed in this section are summarized in Table 11-11.

Table 11-11: Summary of Impacts on Economic Resources: Employment Income

Impact Topic	Impact Summary	Potential Impact Significance	
		Less Than Significant	***Potentially Significant***
Construction			
Reduction in employment income due to changes in land use	No perceptible change in employment would result from permanent conversion of 15.37 of 370 acres of grazing land to industrial land during construction. Impacts would be localized and would extend beyond the life of the project.	√	
Increases in employment income	Construction of the proposed project would temporarily support employment in the construction, scientific, and technical services and transportation industries within the state of Washington. Approximately $55 million in total wage income, including indirect and induced impacts, would be supported, including 457 jobs with an average salary of $117,000. This impact would last for the 19-month construction period.	*Positive*	
Operations			
Reduction in employment income	Perceptible negative impacts from planned project operations are not anticipated.	√	

Impact Topic	Impact Summary	Potential Impact Significance	
		Less Than Significant	***Potentially Significant***
Increases in employment income	Tesoro's direct annual expenditures on labor income and goods and services for the production and sale of up to 15,000 bpd of mixed xylenes would result in a positive impact on economic resources in the state of Washington from changes in employment income in the petroleum refining industry, its supply chain, and those impacted by household spending. This includes 22 additional full time jobs with an average salary of $121,114, generating $2.4 million dollars annually in direct employment income and approximately $20 million when considering indirect and induced impacts. This would endure throughout the life of the project.	*Positive*	
Unplanned Events			
Reduction in employment income from worst-case scenario spill and response	Minimally perceptible short-term business interruptions due to spill response, marine waterway closure, and work absences could result in a measurable reduction in total employment income in one or more industries. Interruptions would endure for up to 2 to 3 days, and could impact multiple areas within the study area, depending on the spill location and impacted industries. There is a negligible to low likelihood of a marine spill occurring. Potential impacts include: • Potential minimally perceptible reduction in commercial fishing and aquaculture production due to temporary restrictions and reduced availability of fish species • Potential minimally perceptible reduction in spending on tourism and recreation due to temporary use restrictions, or other factors causing reduced visitation (loss of enjoyment)	√	

11.5.3. Potential Impacts of the No Action Alternative

Under the no action alternative, Tesoro would not proceed with the proposed project. Because no construction or operations would take place under the no action alternative, there would be no new impacts on employment income. Existing employment conditions would remain the same unless impacted by other projects in the future.

11.5.4. Additional Mitigation Measures

No additional mitigation measures are recommended beyond the embedded controls already incorporated into the proposed project. Should any additional tribal resources be made known, Skagit County may reassess potential impacts and mitigation.

11.6. ECONOMIC RESOURCES: TAX RECEIPTS

This section assesses potential impacts on economic resources described by changes in local government tax receipts following the methodology described in Section 11.2.2.3. The study areas for evaluating potential impacts on economic resources through changes in local government tax receipts are the same as those defined for the study of potential employment income impacts (see Section 11.5).

11.6.1. Affected Environment

Tax receipts represent income for state and local governments. General tax receipts, such as business and occupation (B&O), sales and use, property, lodging, and other sources of revenue not tied to an expense serve to fund a provision of public services and improvements by cities and counties. Each type of tax receipt potentially impacted by construction or operation of the proposed project, including spills and spill response, is described in the sections that follow. As discussed in Section 11.6.2, property tax receipts would not be impacted by any aspect of the proposed project.

11.6.1.1. Sales and Use Tax

The state of Washington levies a 6.5 percent sales and use tax on retail purchases (DOR 2015a).[7] Local sales and use tax rates levied by counties and incorporated cities in the study area range from 1.8 to 2.5 percent (DOR 2015b).

11.6.1.2. Business and Occupation Taxes

Levied on gross receipts before deductions (rather than on net income, like corporate taxes), Business and Occupation (B&O) taxes are the state of Washington's primary business tax. B&O tax rates are established for the state and local jurisdictions, and differ by business classification (DOR 2015c). B&O taxes comprise approximately 20 percent of the state of Washington's total tax receipts (DOR 2015e). Because they are paid on gross receipts, B&O taxes are a significant tax expense for businesses (WRC 2014). During 2013, the state's five oil refineries paid $110.8 million in B&O taxes, comprising 41 percent of their total tax expense and 3.4 percent of all B&O tax receipts collected by the state of Washington in fiscal year 2014 (WRC 2014, DOR 2015e).

11.6.1.3. Lodging Tax

Lodging tax rates vary from 2.0 to 3.0 percent across counties, which also share receipts with the state from a 2.0 percent tax rate (DOR 2015d). Certain county governments levy an additional $2 per room day fee.

11.6.1.4. Additional Tax Receipts from Oil Refineries

Oil refineries pay two additional types of taxes: oil spill taxes and hazardous substance taxes. The oil spill tax is imposed based on the number of barrels of crude oil or refined petroleum products transported by vessels and offloaded at a marine terminal in the state of Washington (WRC 2014). The hazardous substance tax is 0.007 percent of their wholesale value (WRC 2014). These taxes accrue to the state of Washington, rather than the MS study area directly. During 2013, the state of Washington's oil refining industry paid $265.4 million in state and local taxes, including retail sales and use taxes, B&O taxes, property taxes, hazardous substance

[7] Sales tax is collected on retail purchases within the state of Washington, whereas use tax is paid on retail purchases for which sales tax has not been collected, for example, when goods are purchased outside the state and brought into the state. Both the sales and use tax rates are 6.5 percent as of July 1, 2015 (DOR Undated_a, Undated_b).

taxes, and oil spill taxes (WRC 2014). Oil spill and hazardous substance taxes combined to account for $125.0 million, or 46.7 percent of the total. It is estimated that the Tesoro Anacortes Refinery paid $23.5 million of this amount.[8] During 2015, it is estimated that the Tesoro Anacortes Refinery paid approximately half of this amount due to the steep decline in the value of crude oil.

Table 11-12 summarizes the sources of tax receipts most likely to be potentially impacted by the proposed project, excluding B&O taxes.[9] Approximately half of the local sales and use tax receipts in the MS study area are collected in Skagit County.

Table 11-12: Local Sales and Use and Lodging Tax Receipts in the Study Area, FY 2015 (millions $)

Impact Metric	Skagit County (C-O Study Area)	Other Counties	Skagit and Other Counties (MS Study Area)
Local Sales and Use Tax Receipts	52.7	59.8	112.5
Lodging Tax Receipts	1.2	4.3	5.5

Source: DOR 2015c, 2015d

11.6.2. Potential Impacts on Economic Resources: Tax Receipts

Potential project impacts on economic resources from changes in tax receipts are the same as could potentially impact employment income, with the addition of the actual sale of up to 15,000 bpd of mixed xylenes (see Section 11.5.2).

Potential significance is determined for negative impacts following the methodology and criteria reported in Appendix 1-B, Impact Criteria Tables, Table 1-B.9. No significance determination is made for positive impacts, that is, increases in baseline tax receipts.

Potential proposed project impacts on economic resources through changes in tax receipts are summarized in Section 11.6.2.4.

11.6.2.1. Impacts on Tax Receipts from Construction

Tax receipts would not be impacted by conversion of grazing land associated with construction of the proposed project. Agricultural production is exempt from B&O taxes. There would be no reduction in employment income, and thus no reduction in household spending on retail goods and services. As a result, there would be no perceptible reduction in sales and use tax receipts, and thus ***no impact*** on economic resources through changes in tax receipts associated with construction of the proposed project.

Tesoro's outlays on construction labor and materials would support local sales tax through direct and indirect purchases of retail goods and services and household spending of additional labor income supported by construction of the proposed project. While the increase in sales tax

[8] This estimate assumes the following: 1) 120,000 bpd capacity at full utilization, 2) $97.98 per bbl crude oil price based on the Cushing, Oklahoma, terminal spot price (EIA 2016), 3) 0.513 percent effective hazardous substance tax rate, 4) 2.2125 cents per bbl effective oil spill tax rate and 5) all refined products are exported by vessel to other ports in the state of Washington.

[9] Local B&O tax receipts and state distributions are not reported at the DOR website.

receipts cannot be traditionally estimated without information on total construction costs, assuming the same multiplier (ratio) of sales taxes to total employment income (wages) computed from the Shell Rail Facility EIS, construction of the proposed project could support approximately $3.1 million in sales tax receipts.[10]

11.6.2.2. Impacts on Tax Receipts from Operations

There are no potentially negative impacts on tax receipts from planned operation of the proposed project. Additional marine vessel traffic during operations is not expected to have a significant impact on economic resources due to the insignificant increase in total marine vessel traffic represented by the proposed project and the distance of the vessels from the shore, as described in Chapter 13, Marine Transportation. Therefore, there would be ***no impact*** on economic resources from changes in tax receipts due to planned operation of the proposed project.

Production and sales of mixed xylenes at the improved Tesoro Anacortes Refinery would increase state hazardous substance and oil spill tax receipts, and state B&O tax receipts by approximately $5.8 million annually. This is based on an estimated 6.716 million bbl of reformate received by marine vessel annually at the refinery, and from the approximately 5.475 million bbl of mixed xylenes produced annually (Chapter 2, Proposed Action and Alternatives).[11] Further, the $20 million in annual labor income supported by Tesoro's associated expenditures would generate approximately $0.5 million in annual sales and use tax receipts in Washington (WRC 2014).

11.6.2.3. Impacts on Tax Receipts from Spills and Spill Response

Potential impacts of marine spills and spill response on tax receipts are the same as described for potential impacts on employment income (see Section 11.5.2). Unlike employment income for salaried workers, B&O, sales, and lodging tax receipts are potentially impacted by changes in economic output (sales) due to business interruption or decreases in productivity that cannot be recovered (e.g., reduced fishing stocks decreases landings, recreational closures result in lost lodging room-nights). Although any reduction in these tax receipts would be indistinguishable from normal differences in budgeted and actual receipts due to the extremely short duration of spill impacts, a worst-case scenario spill has the potential to impact tax receipts of multiple jurisdictions.

Overall, the impact on economic resources through reductions in local government tax receipts due to a worst-case marine spill would be ***less than significant*** (with a negligible to low likelihood of occurrence). Because the worst-case scenario is less than significant, spills involving lower volumes of product than the worst-case volume would also have a less than significant impact on economic resources through a change in tax receipts.

[10] $55 million in total labor income supported by the proposed project (see Section 11.5.2) multiplied by the ratio of $2.27 million in sales tax revenue to approximately $40.0 million in total labor income supported by construction of the Shell Anacortes Rail Facility Project.

[11] This estimate assumes a $2.18 per gallon price of mixed xylenes and a $2.17 per gallon price of reformate (Brown and Calton 2015).

11.6.2.4. Summary of Potential Impacts on Tax Receipts

The potential impacts of the proposed project discussed in this section are summarized in Table 11-13.

Table 11-13: Summary of Potential Impacts on Economic Resources: Tax Receipts

Impact Topic	Impact Summary	Summary	Potential Impact Significance	
			Less Than Significant	*Potentially Significant*
Construction				
Reduction in tax receipts	Agricultural production is exempt from B&O taxation. No adverse impacts to tax receipts therefore would result due to conversion of grazing land.		√	
Operations				
Reduction in tax receipts	Negative impacts from planned project operations were not identified. Tesoro's long-term expenditures on operations would likely increase tax receipts in Washington.		√	
Unplanned Events				
Reduction in tax receipts from worst-case scenario spill and response	Potential small and temporary short-term impacts tax receipts due to business interruption/ reduced productivity that cannot be recovered, and from reduced household spending. This could impact multiple jurisdictions in the state of Washington for up to 3 days. There is a negligible to low likelihood of a marine spill occurring.		√	

11.6.3. Potential Impacts of the No Action Alternative

Under the no action alternative, Tesoro would not proceed with the proposed project. Because no construction or operations would take place under the no action alternative, there would be no new impacts on tax receipts. Existing tax conditions would remain the same unless impacted by other projects in the future.

11.6.4. Additional Mitigation Measures

No additional mitigation measures are recommended.

11.7. ENVIRONMENTAL JUSTICE

As described in Section 11.2.2.4, the provisions of EO 12898 (see Table 11-1) apply to federal actions under the National Environmental Policy Act (NEPA). The proposed project is not a federal action, and the state of Washington has not issued any guidance for the analysis of environmental justice under SEPA. This section evaluates potential impacts on minority and low-income communities using methodology that is consistent with federal environmental justice guidance as an additional protective measure for local communities.

Environmental justice reviews also typically include an evaluation of whether "disproportionately high and adverse" impacts on minority and low-income communities could occur when a potential environmental, social, or health impact exists. These other impacts are discussed in respective resource chapters (i.e., potential impacts related to environmental health are discussed in Chapter 9, Environmental Health).

11.7.1. Affected Environment

Table 11-14 shows population and race information for the city of Anacortes, Skagit County, and the state of Washington. Both the county and city have a smaller percentage of nonwhite residents than the state. The proportion of county residents who identify themselves as American Indian or Alaska Native is higher than that of the city or state. Outreach activities associated with the publication of this Draft EIS include provision of summary information of impacts assessed across resources in Spanish to accommodate Spanish speakers within the project area.

Table 11-14: Population and Race Data

	Total (2014)	Race Alone (percent of total)					Two or More Races
		White	Black or African American	American Indian or Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	
City of Anacortes	15,965	14,667 91.9%	87 0.5%	137 0.9%	365 2.3%	41 0.3%	501 3.1%
Skagit County	116,901	107,180 91.7%	961 0.8%	3,157 2.7%	2,216 1.9%	281 0.2%	3,106 2.7%
State of Washington	6,724,540	5,535,262 82.3%	252,333 3.8%	122,649 1.8%	491,685 7.3%	281 0.0%	3,106 0.0%

Source: U.S. Census Bureau 2014b

Federally recognized Indian tribes located within Skagit County include the Samish Indian Nation, the Sauk-Suiattle Tribe, the Swinomish Tribe, and the Upper Skagit Tribe (Governor's Office of Indian Affairs 2016). Among Indian tribes in Skagit County, the Swinomish Reservation, with a population of approximately 3,000 people (U.S. Census Bureau 2009), is located in closest proximity to the refinery. The reservation is comprised of approximately 15 square miles and, at its closest point, is situated approximately 2 miles southeast of the refinery (Swinomish Indian Tribal Community 2013). The Swinomish Tribe provided comment on the proposed project during the scoping period.

Evaluations of environmental justice impacts typically focus on the U.S. Census block group geography. Figures 11-1 through 11-4 are outputs of USEPA's EJSCREEN scoping tool showing demographic information related to minority and low-income status at the block group level (Figures 11-1 and 11-2 show the regional environmental justice setting, while Figures 11-3 and 11-4 show the setting closer to the proposed project area). The color-coded "state percentiles" for each block group describe how that block group's population compares to that of all block groups in the state (i.e., the reference area). For example, the minority population in the block group containing the proposed project area (marked by the red star) is in the "less than 50 percentile" category. This means that 50 percent or more of the state's block groups have a higher minority population when compared to all block groups in the state of Washington.

As discussed above, there is no official or generally accepted definition of a "meaningfully greater" minority or low-income population. For purposes of analysis, this Draft EIS considers block groups in the 80th or higher percentile (yellow and orange colors on Figures 11-1 and 11-2) as having "meaningfully greater" minority or low-income populations.

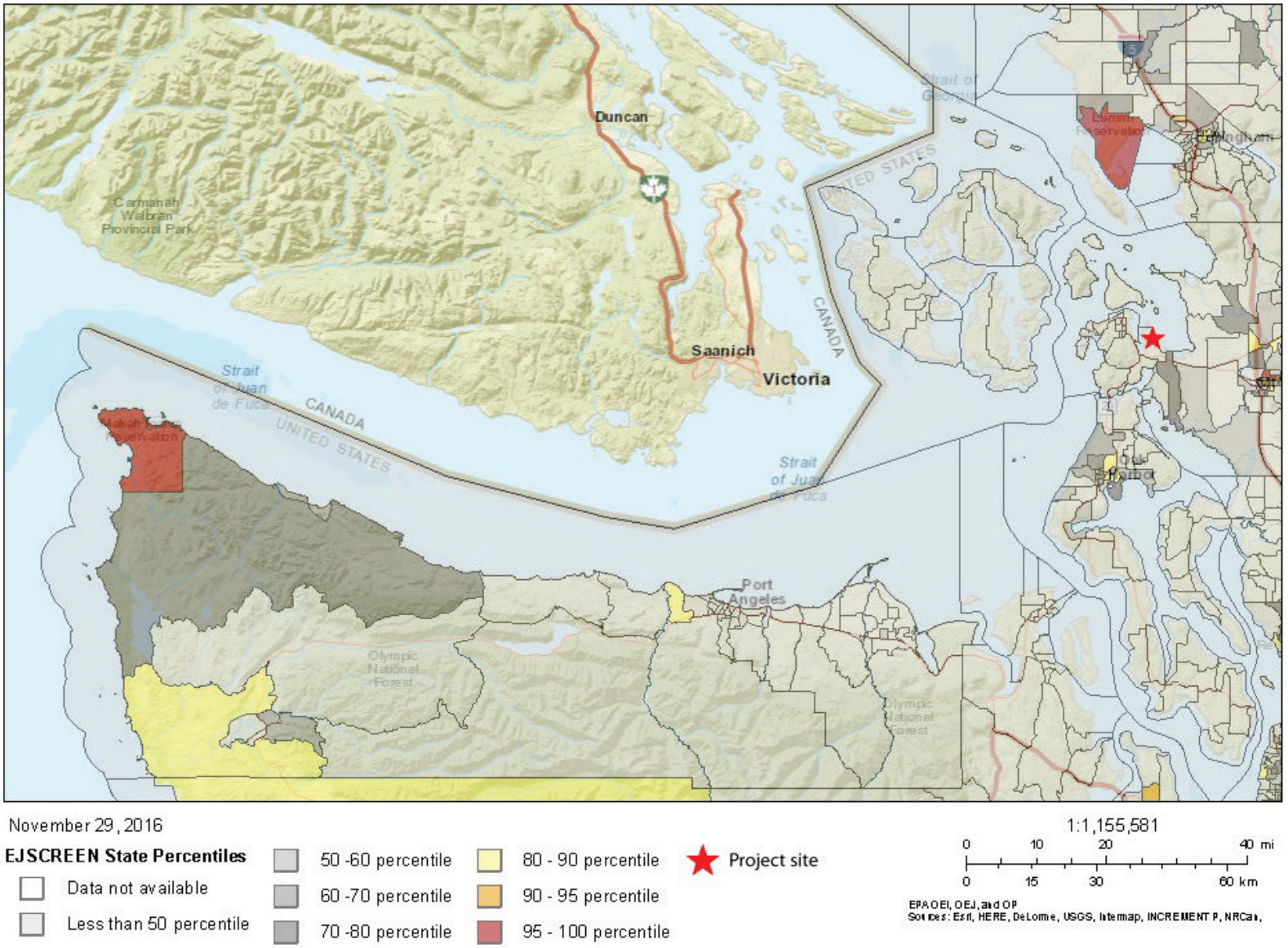

Figure 11-1: EJSCREEN Output: Minority Population, Project Area and Marine Vessel Transportation Routes

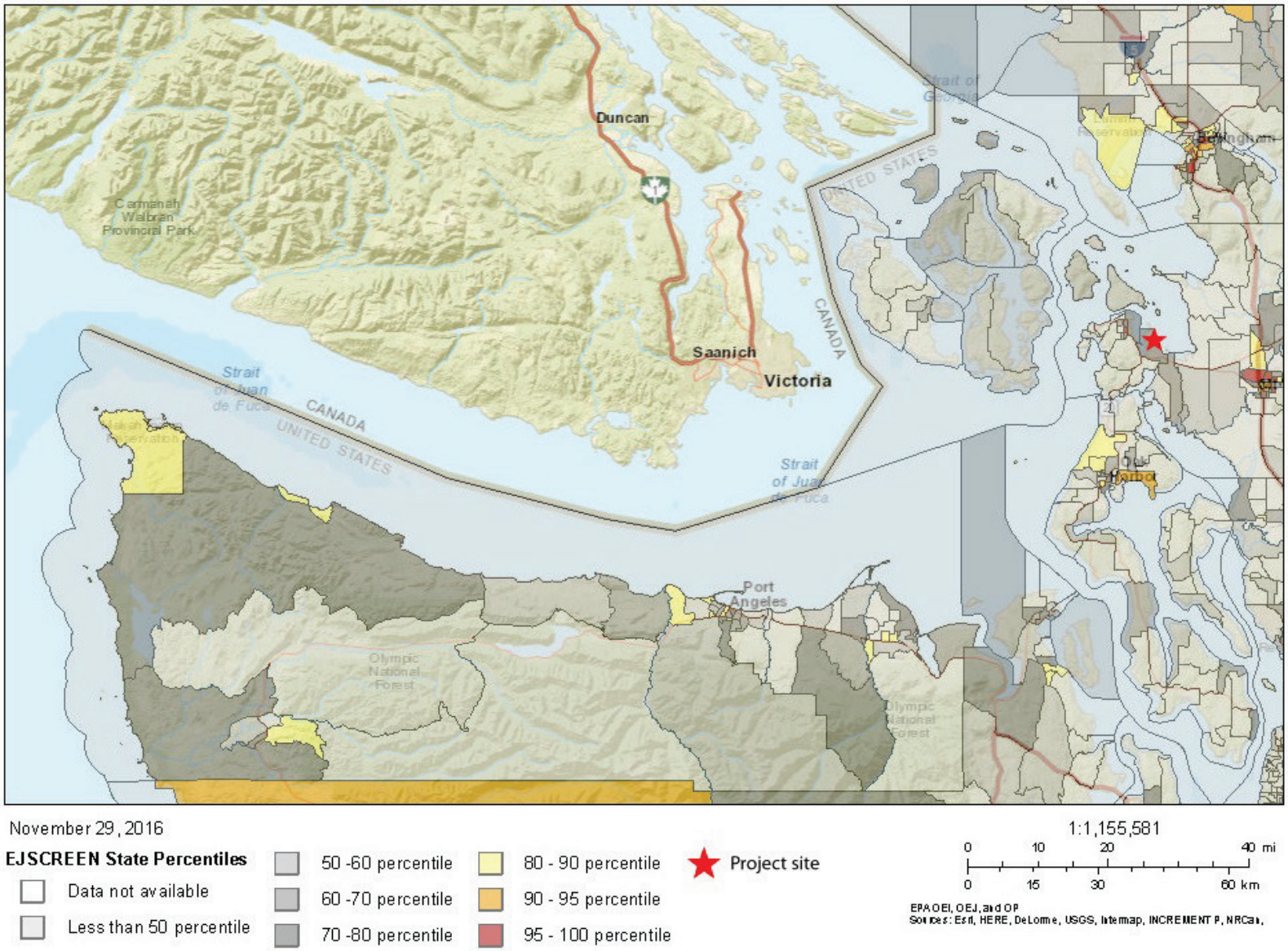

Figure 11-2: EJSCREEN Output: Low-Income Population, Project Area and Marine Vessel Transportation Routes

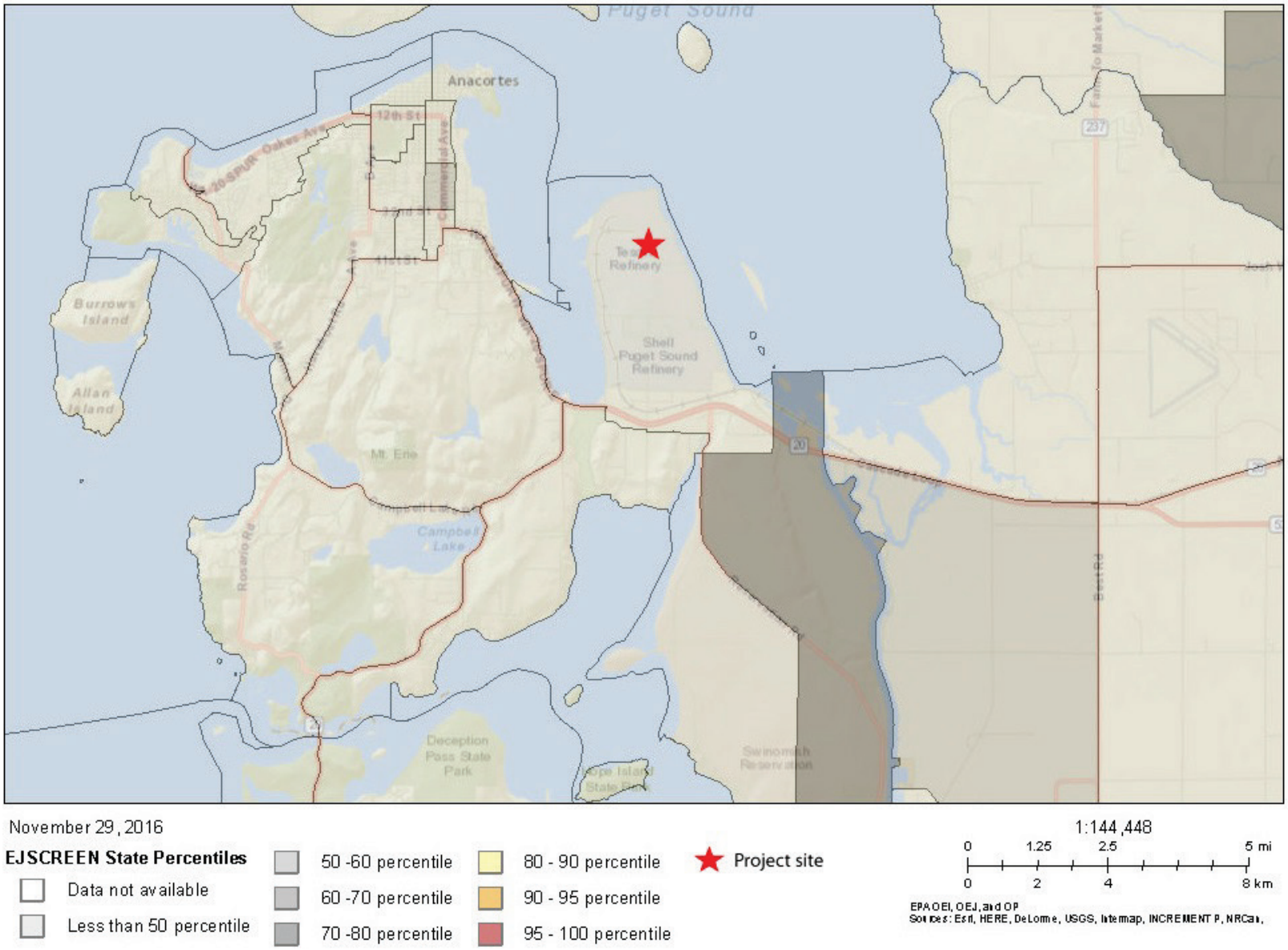

Figure 11-3: EJSCREEN Output: Minority Population, Immediate Project Area

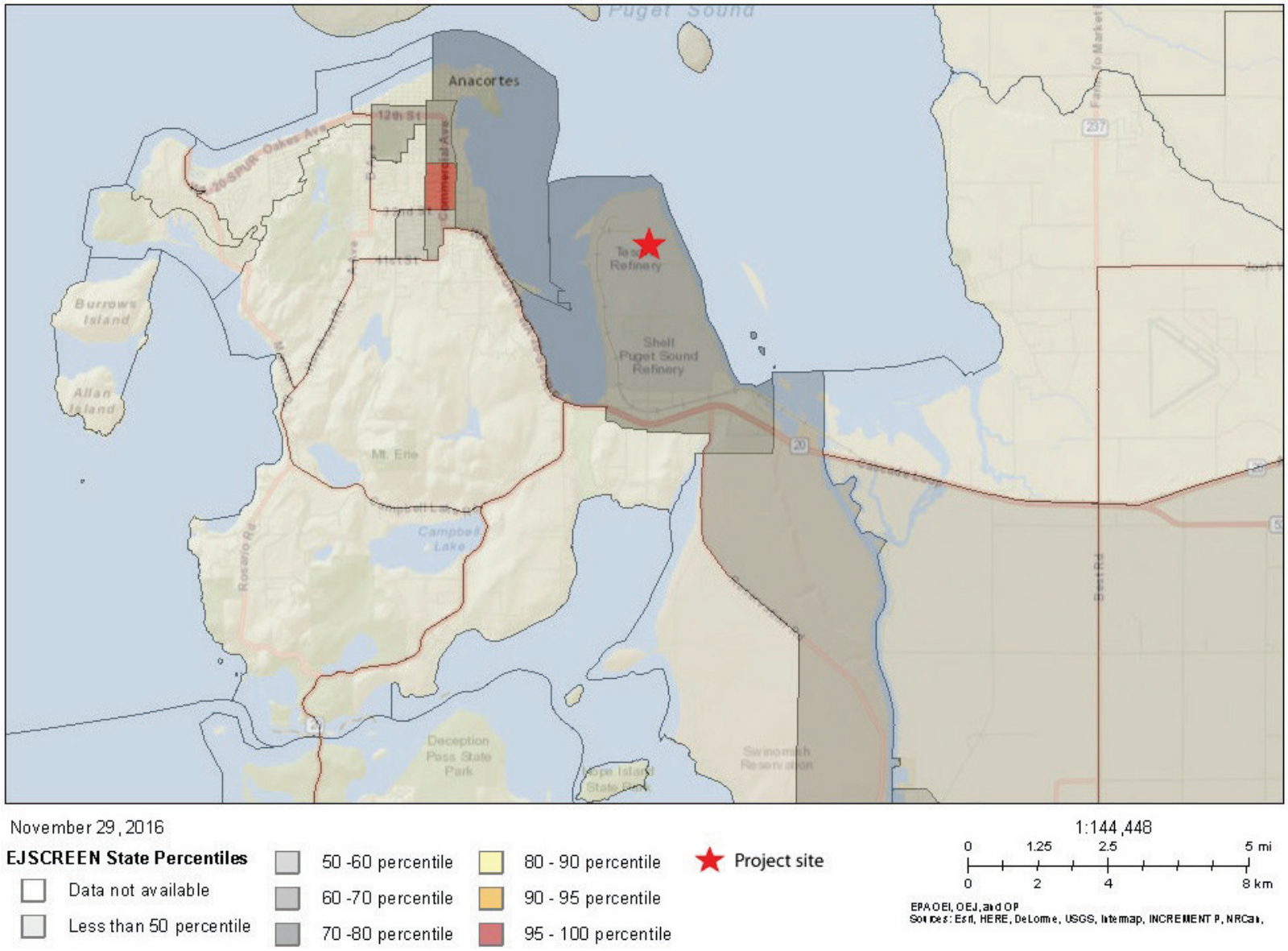

Figure 11-4: EJSCREEN Output: Low-Income Population, Immediate Project Area

11.7.2. Potential Impacts on Minority and Low-Income Populations

Based on the EJSCREEN outputs, few block groups in the proposed project area or along the proposed project's shipping routes have "meaningfully greater" populations of minority or low-income residents. The closest such block group is a low-income portion of the city of Anacortes, approximately 2 miles from the proposed project area. Some coastal areas along the Strait of Juan de Fuca also have meaningfully greater minority or low-income populations, including the Makah Indian Reservation at Cape Flattery.

Environmental justice-related impacts on minority and low-income populations could occur in cases where demographic data do not show a "meaningfully greater" minority or low-income population. For example, impacts on the Swinomish Reservation or tribal traditional use or activity locations could be considered environmental justice impacts, regardless of tribal population in that location.

Potential proposed project impacts on economic resources through changes in tax receipts are summarized in Section 11.7.2.3.

11.7.2.1. Impacts from Construction and Operations

From a socioeconomic perspective, the proposed project would be located in an existing industrial area, within a zoning district that is consistent with land uses such as the proposed project. Further, the proposed project would be located on a site that is already used for petroleum product refining and storage. Marine vessel traffic associated with the proposed project during operations is not expected to have a significant impact on environmental justice due to an increase of 2.2 percent or less in large marine vessel traffic compared to current conditions, and the distance of the vessels from the shore, as described in Chapter 13, Marine Transportation. The proposed project area is approximately 2 miles from the nearest low-income area, and is not near any minority areas.

As discussed in the sections above, the proposed project would have less than significant impacts on housing, public services, and economic resources. There is no evidence that these impacts would disproportionately impact minority individuals or low-income areas near the proposed project area (i.e., there would not be a fundamental and long-lasting adverse impact on housing, public services, or economic resources); therefore, impacts would be ***less than significant*** on minority or low-income populations due to construction or operation of the proposed project.

11.7.2.2. Impacts from Spills

As discussed in the sections above, spills would have less than significant impacts on public services and economic resources. Depending on location and severity, maritime spills could potentially impact communities with meaningfully greater minority and/or low-income populations. The geographic extent and duration of impacts from these spills and spill response would be limited (i.e. modeling indicated a maximum of 11.5 miles of shoreline and up to 23.5 square miles of open water, lasting for up to 2 to 3 days). While spills could occur in or near a minority or low-income community or in areas used by these communities (such as traditional

tribal fisheries), there is no indication that a spill in such a location would have meaningfully greater social or economic impacts (i.e., fundamental and long-lasting changes in housing, demand for public services, and economic resources in such areas) than a spill near a non-environmental justice community. Two tribal areas are located along the marine vessel transportation route (Lower Elwha and Makah Indian Reservations). As described in Chapter 13, Marine Transportation, the results of the modeling of an uncontrolled spill within the marine environment concluded that 99.5 percent of spilled material would evaporate or dissipate within 3 days, leaving no persistent residue. In addition, Chapter 7, Marine and Nearshore Resources, concludes that no significant impacts on fisheries are anticipated. As a result, the impact on minority or low-income populations due to spills and spill response would be ***less than significant***.

11.7.2.3. Summary of Potential Impacts on Minority and Low-Income Populations

The potential impacts of the proposed project discussed in this section are summarized in Table 11-15.

Table 11-15: Summary of Potential Impacts on Minority and Low-Income Populations

Impact Topic	Impact Summary	Potential Impact Significance	
		Less Than Significant	***Potentially Significant***
Construction and Operations			
Disproportionate adverse impact on minority and/or low-income communities due to construction and operation	No perceptible change in baseline conditions related to housing availability and cost, demand on public services, overall economic impacts, or the potential for disproportionate impact on minority or low-income communities in Washington, for the life of the project.	√	
Unplanned Events			
Spills and spill response: Disproportionate adverse impact on minority and/or low-income communities due to spills	Members of minority and/or low-income communities in Washington could experience temporary impacts from spills and spill response, for up to two to three days; however, there would be no disproportionately high or adverse human health, environmental, economic, or social impacts on these communities.	√	

11.7.3. Potential Impacts of the No Action Alternative

Under the no action alternative, Tesoro would not proceed with the proposed project. Because no construction or operations would take place under the no action alternative, there would be no change to the social and economic factors currently impacting minority and low-income communities as a result of the proposed project.

11.7.4. Additional Mitigation Measures

No additional mitigation measures are recommended.

11.8. CUMULATIVE IMPACTS

The proposed project would not disturb any known Traditional Cultural Properties or Cultural Landscapes; specific gathering areas or plants important to tribes, or specific hunting areas or certain terrestrial animals important to tribes; therefore, the proposed project would not contribute to cumulative impacts on these resources.

As described above, construction and operation of the proposed project could result in less than significant impacts to social and economic resources. Within the study area, there has been significant past industrial, commercial, and residential growth that has resulted in impacts to social and economic resources. Other than the proposed project, no present or reasonably foreseeable future actions were identified within Skagit County, the study area for housing and public services. Therefore, the potential for cumulative increase in demand for housing or its affordability, public services or emergency services in the city of Anacortes and Skagit County is considered negligible. As a result, a cumulative adverse impact on minority populations in Anacortes and Skagit County with respect to these resources is also considered negligible.

The study area for cumulative economic impacts is the state of Washington. The economic development aspects of construction and operation of the proposed project would have beneficial impacts on employment income and tax receipts in the state of Washington. The reasonably foreseeable future projects evaluated in this Draft EIS have similar economic development aspects as the proposed project. These include increased employment and increased local and state tax receipts. Therefore, the proposed project, combined with the present and reasonably foreseeable future projects and activities, would contribute to a cumulative beneficial impact on employment income and tax receipts.

Future marine vessel traffic in the Salish Sea is expected to increase. The future increase could potentially result in cumulative impacts to commercial and tribal fisheries, primarily through reductions in access to fishing areas. Operation of the proposed project would result in an increase of 2.2 percent or less in marine vessel traffic compared to current large marine vessel traffic movements in the study area. This increase would not significantly reduce waterway access to commercial fishermen, or to tribal fishers for commercial, subsistence, or ceremonial purposes. Similarly, cumulative increase in marine vessel traffic would not significantly reduce access to marine plants currently gathered as part of tribal aquaculture activities.

11.9. REFERENCES

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