

#### 4.14 PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS

##### 4.14.1 Summary of Environmental Consequences

Alternatives 1, 3, 4, and 5 would have potentially significant health and safety impacts. Construction activities at the former Salton Sea Test Base under these alternatives could expose construction workers to subsurface unexploded ordnance (UXO), work related traumatic injuries and heat stroke endangering their safety. This impact could be mitigated by consulting with the US Navy to determine what measures would be required to adequately reduce safety hazards at the potentially UXO-contaminated locations that would be disturbed by construction activities and by strict adherence to OSHA regulations.

Under the No Action Alternative with current inflows, some disease agents may find the changing environment inhospitable and others may find a new haven. Inflows to the Sea will continue to contain the nutrient loads and other materials that currently flow to the Sea. The effects on selenium-related health hazards from taking no action are not known. The No Action Alternative with reduced inflows would have similar effects as with current inflows. Construction activities under all restoration alternatives with current inflows could expose construction workers to biological pathogens and contaminated sediments, increase the potential for transmission of mosquito-borne diseases to humans, and slightly increase the potential for exposure to Sea water containing petroleum products that have been released by motorized vehicles and watercraft. In addition, alternatives involving in-sea construction could expose fish and duck consumers to sediment contaminants that are disturbed and introduced into the food chain. Under reduced inflow conditions, all alternatives would involve additional construction projects that may have effects similar to those described above. Operations under all restoration alternatives with current and reduced inflows could increase the potential health hazards associated with biological pathogens in Sea water, temporarily increase then decrease the potential for transmission of mosquito-borne diseases to humans, increase the number of individuals exposed to potential selenium-related health hazards present in fish and ducks, expose individuals to airborne contaminants present in sediment, and increase recreational use of the Sea, thereby exposing additional individuals to potential in-Sea hazards and increasing the amount petroleum products released into the Sea. In addition, the EES constructed for Alternative 2 may expose visitors to Bombay Beach to airborne concentrations of salts and selenium; the EES's to be constructed under Alternatives 3, 4, and 5 likely would not affect populated areas due to their distance from these areas. Under reduced inflows, the restoration alternatives would have effects similar to those described for current inflows. In addition, the north wetland habitat under Alternatives 1, 2, 3, and 4 could provide additional encephalitis mosquito breeding habitat, increasing the potential for transmission of mosquito-borne diseases to humans. The effects of the restoration alternatives on selenium-related health hazards are not known. The cumulative wetland projects could increase encephalitis mosquito breeding habitat, increasing the potential for transmission of mosquito-borne diseases to humans. The cumulative projects may slightly reduce the amount of selenium and other agricultural wastewater contaminants

that enter the Sea, possibly reducing the levels of these contaminants in fish and ducks consumed by the public.

#### 4.14.2 Significance Criteria

An alternative would have a significant impact to public health or be considered a significant environmental hazard if:

- It would cause an increase in airborne particulate material or other contaminants sufficient to cause human respiratory problems. Specific human health risk criteria would be based on standards identified in the air quality analysis.
- Soils would be contaminated with pesticides and fertilizers to the extent that they posed human health risks.
- Groundwater would be contaminated to the extent that it exceeded maximum contaminant levels established for public drinking water supplies or otherwise posed human health risks.
- Brine or contaminants would be exported to locations without comprehensive waste management regulations.
- The risk of accidental spills of contaminants that may cause human health risks would increase substantially.
- Construction activities posed a substantial risk to public safety.
- The risk of environmental hazards such as wildfires, floods, or earthquakes that could affect human health and safety would increase.
- Humans would be exposed to radiological or other hazardous substances.
- The potential for transmission of mosquito-borne diseases to humans would increase substantially.
- Recreational users of the Sea or fish consumers would be exposed to substantially increased levels of health hazards
- Wind erosion of exposed contaminated sediments would expose people to airborne health hazards

A “significant” impact is an adverse impact of sufficient magnitude or of such severity that it either would exceed existing regulatory standards affecting human health or otherwise result in major human health or safety risks through exposure to environmental hazard.

#### 4.14.3 Assessment Methods

The environmental consequences section describes the potential human health effects from each alternative and the direct and indirect risks to human health from environmental hazards. The effects of project alternatives on public health and safety are analyzed by evaluating potential human health risks from each alternative, including the No Action Alternative, against baseline conditions in accordance with applicable

federal, state, and local regulations and guidelines. Mitigation measures that could reduce the severity of identified adverse impacts are summarized in Section 4.14.11.

In addition, the cumulative impacts of other reasonably foreseeable projects that affect public health and environmental hazards within the study area are analyzed in combination with the No Action Alternative and the project alternatives. Cumulative effects are presented in Section 4.14.10, and the cumulative projects are described in Section 2.9. Mitigation measures that could reduce the magnitude of the identified adverse impacts are presented in Section 4.14.11.

#### 4.14.4 No Action Alternative

##### *Effect of No Action with Continuation of Current Inflow Conditions*

As a result of taking no action, the chemical composition of the Sea would continue to change, including further increase in its salinity. The changes in chemical composition likely would decrease the survival rates of organisms in the Sea, including biological pathogens, reducing the potential health hazards associated with exposure to these pathogens. However, because the future chemical composition of the Sea cannot be accurately predicted, it cannot be known whether it would increase or decrease the survival rate of biological pathogens, such as fecal contaminants and *Vibrio* bacteria. Because fecal contaminants have finite lifespans, their presence in the Sea are dependent on a continuing source of new organisms. It can be assumed that the sources of these organisms, primarily municipal wastewater and animal waste, would remain unchanged under this alternative. Therefore, the future levels of fecal contaminants would be dependent on the effects of the changes in the Sea on their survival rates. The *Vibrio* bacteria are different from fecal contaminants in that they are naturally occurring organisms. However, the future levels of these organisms also are dependent on the effects of the changing chemical composition of the Sea on their survival rates. Due to uncertainty about the future levels of these biological pathogens, the change in health effects related to their presence cannot be known.

The increase in the water level of the Sea would expand the Sea's shoreline, which may slightly increase the amount of brackish marsh along the perimeter of the Sea. An increase in the amount of brackish marsh, which is breeding habitat for the encephalitis mosquito (*C. tarsalis*), could cause an expansion of the mosquito population, increasing the potential for human exposure to Western Equine Encephalomyelitis and St. Louis Encephalitis transmitted by that population. The continued monitoring and abatement of mosquito problems by the Coachella Valley Mosquito and Vector Control District (Riverside County) and the Imperial County Health Department would minimize the effects of increased mosquito breeding habitat.

Under this alternative, the Sea would continue to serve as a wastewater basin. The continued inflow of selenium-containing water from rivers and drains into the Sea would continue to introduce selenium into the Sea's food chain. Through the food chain, selenium would continue to accumulate in fish and waterfowl, which would have potential adverse health effects for people consuming fish and ducks from the Sea.

However, it is not known whether selenium levels in these animals would increase noticeably over baseline levels; the selenium present in food chain organisms may not be recycled through the food chain if the bodies of dead organisms are not fully broken down or if, in the case of waterfowl, death of the organism occurs outside the ecosystem. Selenium would continue to be removed from the water by in-Sea organisms and precipitation may play a larger role in the removal of selenium from Sea water as the increase in salinity decreases the solubility of selenium. As the Sea continues to degrade, it is likely that fewer anglers and hunters would be attracted to the Sea, reducing the number of individuals potentially exposed to selenium through consumption of fish and ducks. At some point, the Salton Sea would no longer support the fish species within it, the fishery would die off, and this human exposure pathway would be eliminated.

***Effect of No Action with Reduced Inflows***

Assuming a baseline of reduced inflow into the Salton Sea, this alternative would have effects similar to those described under no action with current inflows. The smaller Sea volume may create conditions that cause an accelerated decline of the fishery, leading to earlier elimination of human exposure to selenium through fish consumption.

**4.14.5 Alternative 1**

In this analysis, the Salton Sea is defined as that portion of the Sea that lies outside the evaporation ponds.

***Effect of Alternative 1 with Continuation of Current Inflow Conditions***

***Short Term – Construction***

Disturbance of Salton Sea Test Base property contaminated with unexploded ordnance (UXO) would not affect public safety, but could endanger the safety of workers constructing the evaporation ponds, resulting in a potential significant impact. This impact could be mitigated by consulting with the US Navy to determine what measures would be required to adequately reduce safety hazards at potentially UXO-contaminated locations that would be disturbed by construction activities.

Construction workers would be exposed to a number of potential health hazards throughout the construction period. Accidental ingestion or inhalation of Sea water could expose workers to biological pathogens present in the water, and physical contact with sediments being dredged could result in dermal exposure to contaminants present in the sediments.

Construction activities may create depressions in the ground surface that could collect water, creating isolated pockets of standing water. If these pockets of water remain undisturbed long enough for vegetation to grow, they would increase the amount of breeding habitat for the encephalitis mosquito, leading to an increase in the mosquito population. An increase in the mosquito population would increase the potential for transmission of mosquito-borne diseases to humans.

During construction of the evaporation ponds and the pupfish pond, bottom sediments would be disturbed, resulting in the possible dispersion of selenium and other contaminants accumulated on the Sea floor. The dispersion of these contaminants would increase their localized ambient concentrations in Sea water and could increase their levels in food chain organisms, increasing the potential for greater accumulation in fish and waterfowl. These increased concentrations would increase the potential health hazard for fish and duck consumers.

The use of heavy equipment and watercraft to construct the dikes and the export pipeline would increase the potential for accidental spills of petroleum products, primarily fuels and oils. Spills on land could be introduced into the Sea via stormwater runoff. The volume of any accidental spills compared to the volume of the Sea likely would be minimal. Therefore, the potential for adverse health effects from exposure to petroleum products in Sea water is low.

##### Long Term – Operation

**Comparison to No Action Conditions.** Under this alternative, pathogen levels in the Salton Sea may increase in comparison to no action conditions. However, as stated above, the changes in pathogen levels cannot be accurately predicted for this alternative or the No Action Alternative.

The receding Sea level likely would reduce the amount of brackish marsh along the perimeter of the Sea. This reduction in mosquito breeding habitat would decrease the presence of mosquitoes at the Sea and reduce the potential for transmission of diseases from mosquitoes to humans.

The continued inflow of selenium-containing water from tributaries to the Sea would continue to introduce selenium into the Sea's food chain, which would have potential adverse health effects for people consuming fish and ducks from the Sea. However, it is not known whether selenium levels in these animals would increase noticeably over baseline levels; the selenium present in food chain organisms may not be recycled through the food chain if the bodies of dead organisms are not fully broken down or if, in the case of waterfowl, death of the organism occurs outside the ecosystem. Selenium would continue to be removed from the water by in-Sea organisms. Pumping of Sea water, which contains relatively low selenium concentrations, likely would remove negligible amounts of selenium from the food chain. Improving the condition of the fishery under this alternative may attract a greater number of anglers to the Sea, increasing the size of the population exposed to selenium via consumption of fish.

The decline in Sea elevation may expose contaminated sediments along the Sea's perimeter and increase the potential for public exposure to airborne contaminants due to wind erosion of the sediments. Because the potential for the exposed sediments to be affected by wind erosion is uncertain, as discussed in Section 4.4, the likelihood of unhealthful levels of sediment contaminants becoming airborne is unknown. Additionally, the amount of Sea level decline is relatively small, limiting the amount of bottom sediment that would be exposed.

If conditions at the Sea improve as a result of this alternative, recreational use of the Sea likely would increase and a greater number of people would be exposed to potential hazards at the Sea. Increased recreational use also could lead to increased use of motorized watercraft at the Sea, increasing the amount of petroleum fuels and oils released into the Sea. The volume of these releases compared to the volume of the Sea likely would be minimal. Therefore, the potential for adverse health effects from exposure to petroleum products in Sea water is low.

Because public access to the evaporation ponds and other ponds would be restricted, the public would not be exposed to the potential hazards associated with these ponds. Workers maintaining and studying the ponds likely would receive training on the various hazards associated with the ponds, including physical and chemical hazards, which would reduce the likelihood for accidents or exposures.

#### *Effect of Alternative 1 with Reduced Inflow Conditions*

##### Short Term – Construction

The short-term construction effects would be the same as those described for Alternative 1 with current inflows, with one exception. Construction of the displacement dike and the north wetland habitat would increase the magnitude of construction-related impacts.

##### Long Term – Operation

**Comparison to No Action Conditions.** The effects of this alternative would be similar to Alternative 1 with current inflows.

#### 4.14.6 Alternative 2

In this analysis, the Salton Sea is defined as that portion of the Sea that lies outside the north wetland habitat. The proposed EES under this alternative would be constructed at Bombay Beach.

#### *Effect of Alternative 2 with Continuation of Current Inflow Conditions*

##### Short Term – Construction

Construction workers would be exposed to a number of potential health hazards during the in-Sea portion of the construction period. Accidental ingestion or inhalation of Sea water could expose workers to biological pathogens present in the water, and physical contact with sediments being dredged could result in dermal exposure to contaminants present in the sediments.

Construction activities may create depressions in the ground surface that could collect water, creating isolated pockets of standing water. If these pockets of water remain undisturbed long enough for vegetation to grow, they would increase the amount of breeding habitat for the encephalitis mosquito, leading to an increase in the mosquito population. An increase in the mosquito population would increase the potential for transmission of mosquito-borne diseases to humans.

The use of heavy equipment and watercraft to construct the EES would increase the potential for accidental spills of petroleum products, primarily fuels and oils. Spills on land could be introduced into the Sea via stormwater runoff. The volume of any accidental spills compared to the volume of the Sea likely would be minimal. Therefore, the potential for adverse health effects from exposure to petroleum products in Sea water is low.

Long Term – Operation

**Comparison to No Action Conditions.** Under this alternative, pathogen levels in the Salton Sea may increase in comparison to no action conditions. However, as stated above, the changes in pathogen levels cannot be accurately predicted for this alternative or the no action alternative. The receding Sea level likely could reduce the amount of brackish marsh along the perimeter of the Sea. A reduction in mosquito breeding habitat would reduce the presence of mosquitoes at the Sea, reducing the potential for transmission of diseases from mosquitoes to humans. The continued inflow of selenium-containing water from tributaries to the Sea would continue to introduce selenium into the Sea's food chain, which would have potential adverse health effects for people consuming fish and ducks from the Sea. Pumping Sea water, which contains relatively low selenium concentrations, likely would remove negligible amounts of selenium from the food chain. Improving the condition of the fishery under this alternative may attract a greater number of anglers to the Sea, increasing the size of the population exposed to selenium via consumption of fish. The decline in Sea elevation may expose contaminated sediments along the Sea's perimeter and increase the potential for public exposure to airborne contaminants due to wind erosion of the sediments. If conditions at the Sea improve as a result of this alternative, recreational use of the Sea likely would increase and a greater number of people would be exposed to potential hazards at the Sea. Increased recreational use also could lead to increased use of motorized watercraft at the Sea, increasing the amount of petroleum fuels and oils released into the Sea. The volume of these releases compared to the volume of the Sea likely would be minimal. Therefore, the potential for adverse health effects from exposure to petroleum products in Sea water is low.

These effects would be similar to those described for Alternative 2 compared to baseline conditions.

***Effect of Alternative 2 with Reduced Inflow Conditions***

Short Term – Construction

The short-term construction effects would be similar to those described for Alternative 2 under current inflows. The magnitude of effects would increase due to construction of the displacement dike and the north wetland habitat.

During construction of the north wetland habitat, bottom sediments would be disturbed, resulting in the possible dispersion of selenium and other contaminants accumulated on the Sea floor. The dispersion of these contaminants would increase their localized ambient concentrations in Sea water and could increase their levels in

food chain organisms, increasing the potential for greater accumulation in fish and waterfowl. These increased concentrations would increase the potential health hazard for fish and duck consumers.

Long Term – Operation

**Comparison to No Action Conditions.** Compared to no action conditions, the effects of this alternative would be similar to those described for Alternative 2 under current inflows.

**4.14.7 Alternative 3**

In this analysis, the Salton Sea is defined as that portion of the Sea that lies outside the north wetland habitat. The proposed EES would be constructed at the Salton Sea Test Base Facility.

Short Term – Construction

Disturbance of Salton Sea Test Base property contaminated with UXO would not affect public safety, but could endanger the safety of workers constructing the EES, resulting in a potential significant impact. This impact could be mitigated by consulting with the US Navy to determine what measures would be required to adequately reduce safety hazards at potentially UXO-contaminated locations that would be disturbed by construction activities.

The other short-term effects of constructing the EES at the Salton Sea Test Base Facility would be similar to those described for Alternative 2. The magnitude of effects would be similar due to the same approximate footprint for the EES.

Long Term – Operation

Because the operational design of the EES at the Salton Sea Test Base Facility is the same as that for the EES north of Bombay Beach, the long-term operational effects of Alternative 3 would be the same as those described for Alternative 2, with one exception. Due to the proposed location of the EES under this alternative, it is not likely that populated areas at the Sea would be exposed to windborne salts, selenium, and other substances.

**4.14.8 Alternative 4**

In this analysis, the Salton Sea is defined as that portion of the Sea that lies outside the evaporation pond and the north wetland habitat. The proposed EES under this alternative would be constructed at the Salton Sea Test Base Facility.

***Effect of Alternative 4 with Continuation of Current Inflow Conditions***

Short Term – Construction

Disturbance of Salton Sea Test Base property contaminated with UXO would not affect public safety, but could endanger the safety of workers constructing the EES, resulting in a potential significant impact. This impact could be mitigated by consulting with the US Navy to determine what measures would be required to adequately reduce safety



hazards at potentially UXO-contaminated locations that would be disturbed by construction activities.

Construction workers would be exposed to a number of potential health hazards throughout the construction period. Accidental ingestion or inhalation of Sea water could expose workers to biological pathogens present in the water, and physical contact with sediments being dredged could result in dermal exposure to contaminants present in the sediments.

Construction activities may create depressions in the ground surface that could collect water, creating isolated pockets of standing water. If these pockets of water remain undisturbed long enough for vegetation to grow, they would increase the amount of breeding habitat for the encephalitis mosquito, leading to an increase in the mosquito population. An increase in the mosquito population would increase the potential for transmission of mosquito-borne diseases to humans.

During construction of the evaporation pond and the pupfish pond, bottom sediments would be disturbed, resulting in the possible dispersion of selenium and other contaminants accumulated on the Sea floor. The dispersion of these contaminants would increase their localized ambient concentrations in Sea water and could increase their levels in food chain organisms, increasing the potential for greater accumulation in fish and waterfowl. These increased concentrations would increase the potential health hazard for fish and duck consumers.

The use of heavy equipment and watercraft to construct the EES would increase the potential for accidental spills of petroleum products, primarily fuels and oils. Spills on land could be introduced into the Sea via stormwater runoff. The volume of any accidental spills compared to the volume of the Sea likely would be minimal. Therefore, the potential for adverse health effects from exposure to petroleum products in Sea water is low.

#### Long Term – Operation

**Comparison to No Action Conditions.** Under this alternative, pathogen levels in the Salton Sea may increase in comparison to no action conditions. However, as stated above, the changes in pathogen levels cannot be accurately predicted for this alternative or the No Action Alternative. The receding Sea level may slightly reduce the amount of brackish marsh along the perimeter of the Sea. A reduction in mosquito breeding habitat would reduce the presence of mosquitoes at the Sea, reducing the potential for transmission of diseases from mosquitoes to humans. The continued inflow of selenium-containing water from tributaries to the Sea would continue to introduce selenium into the Sea's food chain, which would have potential adverse health effects for people consuming fish and ducks from the Sea. Pumping Sea water, which contains relatively low selenium concentrations, likely would remove negligible amounts of selenium from the food chain. Improving the condition of the fishery under this alternative may attract a greater number of anglers to the Sea, increasing the size of the population exposed to selenium via consumption of fish. The decline in Sea elevation

may expose contaminated sediments along the Sea's perimeter and increase the potential for public exposure to airborne contaminants due to wind erosion of the sediments. If conditions at the Sea improve as a result of this alternative, recreational use of the Sea likely would increase and a greater number of people would be exposed to potential hazards at the Sea. Increased recreational use also could lead to increased use of motorized watercraft at the Sea, increasing the amount of petroleum fuels and oils released into the Sea. The volume of these releases compared to the volume of the Sea likely would be minimal; therefore, the potential for adverse health effects from exposure to petroleum products in Sea water is low. Because public access to the evaporation pond would be restricted, the public would not be exposed to the potential hazards associated with these ponds. Workers maintaining and studying the ponds likely would receive training on the various hazards associated with the ponds, including physical and chemical hazards, which would reduce the likelihood for accidents or exposures.

These effects would be similar to those described for Alternative 4 compared to baseline conditions.

#### ***Effect of Alternative 4 with Reduced Inflow Conditions***

##### ***Short Term – Construction***

The short-term construction effects of this alternative would be similar to those described for Alternative 4 with current inflows. There would be additional effects from constructing the displacement dike and the north wetland habitat. The effects would be similar to the in-Sea construction effects described for Alternative 4 with current inflows.

During construction of the north wetland habitat, bottom sediments would be disturbed, resulting in the possible dispersion of selenium and other contaminants accumulated on the Sea floor. The dispersion of these contaminants would increase their localized ambient concentrations in Sea water and could increase their levels in food chain organisms, increasing the potential for greater accumulation in fish and waterfowl. These increased concentrations would increase the potential health hazard for fish and duck consumers.

##### ***Long Term – Operation***

***Comparison to No Action Conditions.*** Compared to no action conditions, the effects of this alternative would be similar to those described for Alternative 2 under current inflows.

#### **4.14.9 Alternative 5**

In this analysis, the Salton Sea is defined as that portion of the Sea that lies outside the evaporation pond and the north wetland habitat.

*Effect of Alternative 5 with Continuation of Current Inflow Conditions*

Short Term – Construction

Disturbance of Salton Sea Test Base property contaminated with UXO would not affect public safety, but could endanger the safety of workers constructing the evaporation ponds, resulting in a potential significant impact. This impact could be mitigated by consulting with the US Navy to determine what measures would be required to adequately reduce safety hazards at potentially UXO-contaminated locations that would be disturbed by construction activities.

Construction workers would be exposed to a number of potential health hazards throughout the construction period. Accidental ingestion or inhalation of Sea water could expose workers to biological pathogens present in the water, and physical contact with sediments being dredged could result in dermal exposure to contaminants present in the sediments.

Construction activities may create depressions in the ground surface that could collect water, creating isolated pockets of standing water. If these pockets of water remain undisturbed long enough for vegetation to grow, they would increase the amount of breeding habitat for the encephalitis mosquito, leading to an increase in the mosquito population. An increase in the mosquito population would increase the potential for transmission of mosquito-borne diseases to humans.

During construction of the in-Sea EES pond and north wetland habitat, bottom sediments would be disturbed, resulting in the possible dispersion of selenium and other contaminants accumulated on the Sea floor. The dispersion of these contaminants would increase their localized ambient concentrations in Sea water and could increase their levels in food chain organisms, increasing the potential for greater accumulation in fish and waterfowl. These increased concentrations would increase the potential health hazard for fish and duck consumers.

The use of heavy equipment and watercraft to construct the dikes and the export pipeline would increase the potential for accidental spills of petroleum products, primarily fuels and oils. Spills on land could be introduced into the Sea via stormwater runoff. The volume of any accidental spills compared to the volume of the Sea likely would be minimal. Therefore, the potential for adverse health effects from exposure to petroleum products in Sea water is low.

Long Term – Operation

**Comparison to No Action Conditions.** Under this alternative, pathogen levels in the Salton Sea may increase in comparison to no action conditions. However, as stated above, the changes in pathogen levels cannot be accurately predicted for this alternative or the No Action Alternative. The receding Sea level may slightly reduce the amount of brackish marsh along the perimeter of the Sea. A reduction in mosquito breeding habitat would reduce the presence of mosquitoes at the Sea, reducing the potential for transmission of diseases from mosquitoes to humans. The continued inflow of

selenium-containing water from tributaries to the Sea would continue to introduce selenium into the Sea's food chain, which would have potential adverse health effects for people consuming fish and ducks from the Sea. Pumping Sea water, which contains relatively low selenium concentrations, likely would remove negligible amounts of selenium from the food chain. Improving the condition of the fishery under this alternative may attract a greater number of anglers to the Sea, increasing the size of the population exposed to selenium via consumption of fish. The decline in Sea elevation may expose contaminated sediments along the Sea's perimeter and increase the potential for public exposure to airborne contaminants due to wind erosion of the sediments. Drift of Sea water and its constituents resulting from operation of the EES would not likely result in public exposure to these substances. If conditions at the Sea improve as a result of this alternative, recreational use of the Sea likely would increase and a greater number of people would be exposed to potential hazards at the Sea. Increased recreational use also could lead to increased use of motorized watercraft at the Sea, increasing the amount of petroleum fuels and oils released into the Sea. The volume of these releases compared to the volume of the Sea likely would be minimal; therefore, the potential for adverse health effects from exposure to petroleum products in Sea water is low. Because public access to the evaporation pond would be restricted, the public would not be exposed to the potential hazards associated with these ponds. Workers maintaining and studying the ponds likely would receive training on the various hazards associated with the ponds, including physical and chemical hazards, which would reduce the likelihood for accidents or exposures.

These effects would be similar to those described for Alternative 5 compared to baseline conditions.

#### *Effect of Alternative 5 with Reduced Inflow Conditions*

##### Short Term – Construction

The short-term construction effects of this alternative would be similar to those described for Alternative 5 with current inflows. There would be additional effects from constructing the displacement dike. The effects of construction would be similar to the in-Sea construction effects described for Alternative 5 with current inflows.

##### Long Term – Operation

**Comparison to No Action Conditions.** Compared to no action conditions, this alternative would have similar to those described for Alternative 5 with current inflows.

#### 4.14.10 Cumulative Effects

Construction of the Lewis Drain Treatment Facility and continued operation of the Duck Club Evaporative Ponds would remove selenium, nutrients, and pesticides from agricultural wastewater and prevent these contaminants from entering the Sea. The Brawley Wetlands Construction Project and Brawley Wetlands Research Facility would remove contaminants from agricultural wastewater and the New River, possibly reducing contaminant loading to the Sea. The potential reduction in selenium levels entering the Sea resulting from the cumulative projects may reduce selenium in fish and

waterfowl, resulting in beneficial health effects for fish and duck consumers. The wetlands projects likely would increase breeding habitat for the encephalitis mosquito, thus increasing the potential for transmission of diseases from mosquitoes to humans.

#### 4.14.11 Mitigation Measures

To mitigate the potential significant impact resulting from disturbance of subsurface UXO, the US Navy should be consulted to determine what measures would be required to adequately reduce safety hazards at potentially UXO-contaminated locations that would be disturbed by construction activities.

The following measures are recommended to reduce or minimize the identified adverse effects.

- A fish sampling and monitoring protocol has been prepared by the Salton Sea Science Subcommittee to provide updated information for agency use in evaluating the fish advisory; however, this protocol requires regulatory agency approval before it can be implemented.
- To reduce the potential health risks from elevated levels of selenium in ducks and any other waterfowl consumed by humans, samples of these species should be collected periodically by agencies with public health responsibility, safe consumption levels should be established, and the public should be notified of these levels.
- To minimize the effects of in-Sea construction activities, the analytical results from sampling bottom sediments at the locations of the proposed dikes should be evaluated to determine the potential for sediment dispersion. The planned use of silt barriers would reduce dispersion. However, if these silt barriers would not adequately reduce the release of sediment contaminants, including selenium, then additional engineering controls should be designed and implemented to minimize dispersion.
- Breeding habitat for nuisance species of mosquitoes could be minimized by applying insect growth regulators to standing water resulting from project construction or operation or ensuring that such standing water does not remain undisturbed for greater than three days.
- To reduce the effects of construction activities, spill prevention and spill response plans should be prepared and implemented to minimize the potential for spills and reduce the effects of any spills that do occur.

#### 4.14.12 Potentially Significant Unavoidable Impacts

No potentially significant unavoidable impacts to public health and environmental hazards have been identified.