

ISSUE: MARINE BIOLOGY

IMPACT: Accidental, major oil spills can cause lethal and sublethal effects on intertidal and benthic organisms, some marine mammals, and sea birds, including rare and endangered species. Sensitive habitats such as reefs, marine mammal haul-out areas, seabird colonies, Channel Islands, estuarine areas could also be degraded. Spill cleanup could also result in significant impacts.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

(3) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Crude oil, and the specific compounds it contains, can affect the marine environment through habitat alteration and physical or chemical (acute and sublethal toxicity) effects on organisms. Habitat alteration can result from substrate (sand or rock) coating, filling of crevices, changed in sediment characteristics, and changes in the spectral quality of light entering the water. Spilled oil can mechanically affect organisms through smothering, interference with motion, coating external surfaces with a black layer that increases solar heat gain, and fouling of insulating body coverings.

Many of the compounds in crude oil are toxic to marine organisms. Sublethal responses include narcosis, interference with chemical reception (e.g., in feeding or spawning), changes in behavior, reduced photosynthetic rate, lowered reproductive effort or success, increased susceptibility to disease or parasites, reduced feeding and growth, and interference with larval development. Toxic effects can result from direct contact with crude oil, which allow absorption of toxic compounds through the integument or ingestion of oil drops. Dissolution of soluble components from the oil slick introduces toxic substances into the after column where they can affect organisms that have not come in direct contact with oil. Furthermore, biological oxidation of petroleum hydrocarbons absorbed or ingested by animals can result in degradation products that are more toxic than the original compounds.

Mitigation measures which reduce these impacts to the maximum extent possible require Exxon to have an approved oil spill contingency plan, marine terminal operations manual, and critical

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operations curtailment plan.

The No Project Alternative eliminates this impact.

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FACTS SUPPORTING THE FINDING:

Intertidal communities are very vulnerable because most accidents resulting in oil releases occur in coastal areas, and habitat alteration is an important aspect of oil pollution in the intertidal zone. The end results are habitat loss, alteration to less suitable habitat, and substrate instability (i.e., the oil coating can slough off, thereby removing organisms that have colonized it).

Mortality of intertidal organisms can occur from both mechanical and chemical effects of oil. Smothering has been shown to be a major cause of death for such species as barnacles and limpets. Oil globs adhering to the fronds of intertidal algae can increase weight and frictional drag forces such that the plants become detached during flood tide. Acute toxicity is also possible, particularly in the high intertidal zone where organisms may be exposed to oil for longer periods of time than in the intertidal. Since oil spills from the SYU development would be offshore, considerable weathering would occur before the oil reached the intertidal. Consequently, acute toxic effects, other than from smothering, would not be likely for most species. Leaching of toxic compounds from oil stranded in isolated tidepools or buried in sand, however, might result in locally acute toxic concentrations.

Benthic organisms can be exposed to petroleum through physical contact with the oil residue, ingestion, or contact with the water soluble fraction (WSF) from the residue. Unless large quantities of oil are deposited on the bottom, forming a thick layer, mechanical effects on benthic organisms are expected to be negligible. Ingestion of settling or settled particles, however could lead to lethal or sublethal effects particularly on the

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many filter and deposit feeders inhabiting the bottom. The data available for the Santa Barbara Channel and other areas indicate that acute toxicity is unlikely, except possibly in the immediate vicinity of the subsea spill.

The effects of oil on subtidal benthic communities are difficult to predict because (1) the available data are insufficient for such predictions, (2) the interactions between planktonic larval settlement and substrate quality are very complex, and (3) population dynamics of species with complex life cycles are not well understood. Effects on planktonic larvae would be difficult to assess because larvae in one area may settle and metamorphose a considerable distance away. Furthermore, changes in population as a result of an oil spill would be difficult if not impossible to distinguish from natural fluctuations in these populations. Another unknown factor is natural mortality rate and how additional mortality affects survival of the remaining larvae. Chronic oil pollution effects are even more difficult to document and predict. Observations of benthic invertebrate communities around production platforms in the Gulf of Mexico have shown altered community structure and species abundance which may be related to produced water discharges (Rose 1981). In the Santa Barbara channel, however, observations at several platforms have shown no adverse effects (Menzie 1982).

Pinnipeds are particularly vulnerable to oil spill effects because they come out on land for breeding and resting and because they are covered with fur that may become fouled with oil. In fur seals and sea otters, oil may adhere to the body surface or obstruct body openings, and/or the hydrocarbon vapors may be inhaled. Oil reduces the insulating quality of the fur and buoyancy (Siniff et al. 1982; USDI 1981). Energy expenditure would need to increase to offset these effects and may lead to stress, hypothermia, and even death. In addition, their populations in the area are either a large proportion of those present in southern California (California Sea Lion, Northern Elephant Seal, and Harbor Seal) or consist of small groups at the edge of the species range (Stellar Sea Lion, Guadalupe Fur Seal, and Northern Fur Seal). Oil spills can alter pinniped habitat primarily through fouling of rookery and haulout locations. In a worst-case situation, the animals could abandon traditional use areas and search for uncontaminated areas, thus causing stress. If breeding or pupping were in progress during an oil spill, reproductive success could be severely reduced through interruption of mating or abandonment of pups. Reproduction could also be reduced through mortality of adults.

For pinnipeds, who probably cannot detect oil slicks, the primary concern would be oil slicks reaching San Miguel Island and interfering with reproduction. If an oil spill contacts the shoreline, cleanup activities could have a greater impact on resident pinnipeds than the oil spill itself. Pinnipeds would

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flee from haul out and rookery areas at the approach of an oil spill cleanup crew, and their only avenue of escape would be right through the oil that had come onshore. The presence of humans, boats and cleanup equipment on desolate, isolated Channel Island beaches would cause at least temporary abandonment of traditional haulout or rookery areas. Because oil spills are more likely to hit the mainland than the offshore islands, Harbor Seals that haul out along the mainland coast would be most likely to be affected by oil spill cleanup activity.

Adult birds heavily contaminated with oil suffer both mechanical and physiological (systemic) effects. Loss of buoyancy and insulation increases metabolic expenditures and reduces the ability to capture prey and avoid predators because of reduced flying ability. The combination of reduced feeding ability and increased metabolic expenditure results in acute metabolic stress, weakening, and eventual starvation. Preening results in ingestion of oil, even in only partially coated birds, often in sufficient quantities to be physiologically damaging.

Oil contamination can affect eggs and hatchlings through mechanical transfer of oil from fouled adult breast feathers and feet. Sufficient coating of eggs can cause embryonic suffocation or toxic effects such as reduced hatch rates. Sublethal levels of oil ingested by Cassin's auklets reduced both hatchability and the rate of egg production (Ainley 1976); an effect also seen in mallards (Szaro 1977). Other sublethal effects include interference with electrolyte balance, impairment of weight gain, liver hypertrophy, and spleen atrophy. The result of these is reduced nestling viability and survivability. Another potential indirect effect of oil spills on marine birds is alteration of the food supply, either by reduction or by contamination. To what extent this could actually occur, however is unknown.

The effect of oil spills on seabird colonies may be long lasting, particularly for birds such as alcids which are long-lived, tend not to breed until three years old, do not all breed annually, and have very low annual recruitment to the adult population, often on the order of 0.2 individual per breeding pair. Even for more fecund species with far higher recruitment rates, recovery times can be slow. With regard to rescue efforts, mortalities of cleaned birds tend to be high, so this technique is not likely to be of significance in reducing mortality (Clark 1968, Holmes and Cronshaw 1977). Several species of seabirds and other ocean-associated species breed or winter in the Santa Barbara Channel area. Most breeding occurs on the Channel Islands; large overwintering flocks of other species can be found throughout the area. The loons, grebes, Brown Pelican, Common Murre, Pigeon Guillemot, Xantus' Murrelet, and Cassin's Auklet are all likely to be in large numbers when present and therefore susceptible to high mortality rates if affected by an oil spill.

Oil spill cleanup procedures represent a particular threat to seabirds. Dispersants that are designed to break up oil spills also dissolve the protective oil coating on bird feathers. The resulting loss of insulation and buoyancy can lead to hypothermia and death. Bird colonies, especially during nesting activity, are vulnerable to disruption by cleanup equipment and personnel. The magnitude of the impact would depend on the timing of the oil spill and on the particular colony affected.

Several marine animals that inhabit or periodically frequent the Santa Barbara Channel are federally listed as threatened or endangered; however, only a few would be vulnerable to oil pollution. The California Least Tern is present in the Channel from April to September, breeding on coastal sand dune areas of Vandenberg AFB and near the mouth of the Santa Clara River. These terns forage in coastal nearshore waters and estuaries. An oil spill that reached the coast during spring or summer could affect the terns while they are foraging or nesting. Loss of individuals or reduction in reproductive success would have significant impacts on the local segment of this species.

The Brown Pelican, which breeds on Anacapa Island and forages throughout the Channel, could be affected by an oil spill through fouling of its feathers, ingestion of oil contaminated food, transfer of oil to incubating eggs or chicks, and loss of food sources (primarily anchovies). Because pelicans feed by diving into the water and remain within 20 to 30 miles of land, they are particularly vulnerable to an oil spill. The impact of a large oil spill on the Santa Barbara Channel Brown Pelican population would be significant. The Guadalupe Fur Seal, which is state-listed as rare, can occasionally be found at San Miguel Island (USDI 1981). It is extremely vulnerable to oil contamination of the fur, which provides insulation and buoyancy. Because this species is only a rare visitor to San Miguel Island and the probability of a major oil spill is small, impacts to the species are expected to be negligible. If an oil spill does contact the breeding grounds of a rare or endangered species, special care must be taken during oil spill clean-up operations to avoid further disturbance.

If a major oil spill contacts an Area of Special Biological Sensitivity, significant impacts will result due to the damage to the resource.

Mitigation measures discussed previously for oil spills reduce this impact to the maximum extent feasible.

The No Project Alternative would eliminate this impact.

ISSUE: MARINE BIOLOGY

IMPACT: Disturbance of offshore hard bottom habitat by cumulative pipeline and platform installation and sedimentation.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Disturbance to the hard bottom will occur during installation of platforms and pipelines. Total disturbance to hard bottom in the project area from the hypothetical platform and from pipelines would be 268.77 acres or 11 percent of the offshore hard bottom in the project area.

Offshore hard bottom is a relatively rare and a significant habitat. As such, any disturbance of an area greater than 10 percent of the habitat which requires a recovery period from disturbance longer than five years is significant.

Offshore impacts could be mitigated by the relocation of the hypothetical platform. Exxon's pipeline route and lay barge anchor locations will also be located to avoid large exposed rocky features or placed to minimize disturbance.

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ISSUE: MARINE BIOLOGY

IMPACT: Cumulative disturbance to and loss of important nearshore hard bottom habitat.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Pipeline burial through the nearshore zone would disturb nearshore hard bottom at the Corral/Las Flores and Arroyo Hondo landfalls. Pipeline construction at Arroyo Hondo would disturb approximately 1.4 acres of nearshore hard bottom. At Corral/Las Flores the disturbance would be 17.2 acres. Total disturbance to nearshore hard bottom from pipeline construction would thus be 18.6 acres or approximately 1.7 percent of the nearshore hard bottom in the project area. Because of the importance of this habitat and the fact that recovery is expected to take longer than five years, this impact is significant.

Nearshore hardbottom impact will be mitigated to the maximum extent feasible by routing pipeline to avoid sensitive nearshore hard bottom features.

ISSUE: MARINE BIOLOGY

IMPACT: Disturbance of Surf Grass in nearshore hard bottom and intertidal areas.

FINDING: (3) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

The intertidal zone will be directly disturbed by pipeline burial, sediment displacement, and by the movement of equipment on the beach. It is estimated that the major impact of trenching would directly affect a 175-foot wide region around the trench. Movement of heavy construction equipment around the beach would be likely to affect most of the cove area at the Corral/Las Flores beach front. The total area of direct disturbance from pipeline installation in the intertidal would then be an approximately 500-foot (152-m) swath of beach. This direct disturbance would amount to approximately one percent of the intertidal habitat in the project area.

One cause of concern is impacts to the Surf Grass in the lower intertidal zone. This long-lived flowering plant creates a unique environment for marine organisms in the lower intertidal and shallow subtidal. Surf Grass serves as an important nursery for juvenile fishes and young spiny lobster. Furthermore, studies of the ability of intertidal organisms to recover from disturbances have indicated that Surf Grass is slow to recolonize disturbed areas (SAI 1978). Impacts to Surf Grass in the lower rocky intertidal of Corral/Las Flores are thus judged to be significant.

Avoidance of the surf grass bed is the only mitigation measure which will eliminate this impact. However constraints on the onshore location of the pipelines makes complete avoidance infeasible. Exxon will, however, reduce intrusion into the surf grass to the maximum extent feasible. Any intrusion will require Exxon to attempt reestablishment of the disturbed bed and disturbed areas still existing 2 years after the conclusion of pipeline construction will have to be compensated for by contribution to the Santa Barbara County Fisheries Enhancement Fund.

The No Project alternative eliminates this impact.

ISSUE: MARINE BIOLOGY

IMPACT: Cumulative disturbance of Surf Grass in nearshore hard bottom and intertidal areas.

FINDING: (3) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

The intertidal zone will be directly disturbed by pipeline burial, sediment displacement, and by the movement of equipment on the beach. It is estimated that the major impact of trenching would directly affect a 175-foot wide region around the trench. Movement of heavy construction equipment around the beach would be likely to affect most of the cove area at the Corral/Las Flores beach front. The total area of direct disturbance from pipeline installation in the intertidal would then be an approximately 500-foot (152-m) swath of beach. This direct disturbance would amount to approximately one percent of the intertidal habitat in the project area.

One cause of concern is impacts to the Surf Grass in the lower intertidal zone. This long-lived flowering plant creates a unique environment for marine organisms in the lower intertidal and shallow subtidal. Surf Grass serves as an important nursery for juvenile fishes and young spiny lobster. Furthermore, studies of the ability of intertidal organisms to recover from disturbances have indicated that Surf Grass is slow to recolonize disturbed areas (SAI 1978).

There is the potential for significant cumulative impact to surf grass from projects in the region. There is a potential for placement of two pipeline landfalls along the Santa Barbara South Coast. There are at Arroyo Hondo and Las Flores/Corral Canyons. There is, as such, the potential that surf grass will be disturbed along five hundred feet of surfline at both locations resulting in the cumulative loss of 1000 feet of surf grass.

Avoidance of the surf grass bed is the only mitigation measure which will eliminate this impact. However, constraints on the onshore location of the Exxon pipelines makes complete avoidance infeasible. The mitigation adopted for the project specific impacts will be applied to Exxon however.

The No Project alternative eliminates this impact.

ISSUE: MARINE BIOLOGY

IMPACT: Long-term cumulative disturbance of soft ocean bottom will occur from structure and pipeline emplacement.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

(3) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Disturbance to the soft bottom will result from placement of three subsea gas wells, SALM installation, and the placement of eleven offshore pipelines. Total cumulative disturbance to soft bottom in the project area would be 2,714.6 acres or 24.1 percent of the soft bottom in the project area. Therefore, cumulative impacts to soft bottom habitat in the project area are considered significant. Most of this disturbance is expected to be short term and most of the area would be expected to return to pre-disturbance conditions within five years. It should be verified, however, that data on recovery rates for soft bottom communities deeper than 100 ft is unavailable and the elements of the community such as Sea Pens could well take longer than five years. Therefore, total long term disturbance could affect some elements of the community over a greater area than just the anchor scars and spud can holes.

Total long term disturbance from anchor scars, wellheads, and spud can holes would total 32.80 acres or 0.3 percent of the soft bottom.

Mitigation measures which reduce this impact to the maximum extent feasible are to:

1. Consolidate offshore facilities and pipelines to the maximum extent possible; and
2. Bundle pipelines to the maximum extent possible.

Exxon is required to implement these mitigation measures.

The No Project Alternative will eliminate this impact.

ISSUE: MARINE BIOLOGY

IMPACT: Shock wave impacts to marine mammals due to blasting and underwater explosions.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Explosion effects on marine mammals will not have an impact at the population level. However, because marine mammals are protected, an impact to even one individual would be significant.

Marine mammals in the nearshore area where blasting might occur could be killed or injured by underwater shock waves. The shock wave of underwater explosions would travel a relatively short distance and would affect species that predominantly use nearshore waters. Information on the depth of a marine mammal, and the depth and size of the explosive charge has been used to calculate a minimum safe distance for animals in the water (Yelverton et al. 1971). Calculations are affected by reflectivity of the substrate, water depth, and size of animals subject to the shock (Geraci and St. Aubin 1980). Hill (cited in Geraci and St. Aubin 1980) calculated the minimum safe distance of a Ringed Seal at 25 m (82 ft) depth to be 359 m (1,178 ft) from a 5 kg depth exploded at 5 m (16 ft) underwater. Hill speculated that marine mammals would be less sensitive to underwater shock waves than terrestrial animals of comparable size due to pressure adaptations, thick body walls, and large size. However, no experiments testing the effects of explosions on marine mammals have been conducted, and there are few incidental observations from which to draw conclusions. Fitch and Young (1948) reported that California Sea Lions were killed by seismic explosions while Gray Whales in the area survived. Underwater explosions have the potential for significant impact to marine mammals. As a general approximation of minimum safe distances for marine mammals from underwater explosions, a clear zone of at least 1/4 mile (0.4 km) should be maintained around the construction area whenever explosives are detonated.

Mitigation measures which reduce this impact to insignificance are: 1) minimize blasting, 2) restrict blasting near marine mammal habitats to autumn months, and 3) have a marine mammal biologist available to make sure no mammals are in the blast area. These measures are required of Exxon.

ISSUE: MARINE BIOLOGY

IMPACT: Fish populations in the project area could suffer cumulative impacts from the loss of kelp.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

(3) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

The most significant cumulative impact on fishes would be the loss of kelp bed habitat. Kelp is very important to a number of demersal fish species. Because most of the kelp in the project area grows on soft bottom, reef and kelp associated fishes would suffer considerable loss of habitat. Without the kelp the substrate would revert to monotonous soft bottom habitat which does not support the diversity of species found around kelp and rock. Moreover, kelp is very important to the recruitment of many fish species. Cumulative loss of kelp habitat is thus a significant impact on local fish populations.

The impacts could be mitigated to insignificance by prohibiting anchors in kelp, confining vessel traffic to a narrow corridor and reducing turbidity. Kelp transplants or creation of an artificial reef might mitigate impacts, but the success of such projects is still uncertain.

Exxon's anchoring plan does however require some anchoring of the dredge barge in the fringe of the kelp bed. This anchoring is unavoidable because of the need to trench the pipelines into the substrate in the shallow water areas. Exxon will not anchor their lay or pull barge in the kelp bed.

In order to reduce this intrusion to the maximum extent feasible, certain mitigation measures will be applied. When anchoring in the kelp beds the anchors will be placed rather than just dropped. Additionally, disturbed areas of kelp will be reestablished if possible and if not possible, contributions to the Fisheries Enhancement Fund will be required to compensate for the intrusion.

The No project alternative entirely eliminates this impact.

ISSUE: MARINE BIOLOGY

IMPACT: Kelp beds in the Arroyo Hondo and Corral/Las Flores pipeline corridor will be impacted by project specific and cumulative pipeline installation and associated vessel traffic and turbidity.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

(3) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Direct impacts to the kelp at Arroyo Hondo would affect 27.16 acres of bed. At Corral/Las Flores, pipeline installation would impact 63.8 acres of bed. Cumulative impacts on kelp beds in the project area would then be 91.4 acres or a total of 6.8 percent of the kelp habitat. Because of the importance of kelp beds in the ecology of the Santa Barbara Channel and because it is uncertain whether recovery would occur in less than five years, impacts to kelp are considered significant.

Impacts could be mitigated to insignificance by: a) prohibiting all anchoring in kelp beds; 2) reducing turbidity; 3) confining vessel traffic to the narrowest possible corridor; and, 4) kelp transplanting. However, transplantation of kelp is a developing technology and may not be successful.

As stated in the previous finding discussion, prohibition of anchoring in the kelp bed for the dredge barge is infeasible. As such, impacts to kelp bed cannot be eliminated but are reduced substantially by the mitigation measures discussed in the previous finding.

The No project alternative eliminates this impact.

ISSUE: MARINE BIOLOGY

IMPACT: Mortality of Brown Pelicans or Least Terns during peak summer as a result of blasting and underwater explosions.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

FACTS SUPPORTING THE FINDING:

If used during installation, blasting could kill Brown Pelicans or Least Terns in the immediate vicinity. Mortality could be exacerbated during extended periods of blasting if birds are attracted to feed on fish killed by previous charges (CGI 1982); pelicans responded to baiting with anchovies during experiments by Nero and Assoc. (1982). During the season of peak pelican abundance (July through September) high mortality could result in locally significant impacts. Because Brown Pelicans are a protected species, death of even one individual would constitute a significant impact.

This impact is mitigated by having a marine biologist on site to make sure no blasts are detonated while Brown Pelicans or Least Terns are in the area.

ISSUE: MARINE BIOLOGY

IMPACT: Obstruction of Gray Whale movements along coastline due to large barge anchor cables.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Anchor cable used by a pull barge or a platform may obstruct movement through the area by Cetaceans. In previous analyses of platform and pipeline projects (e.g. URS 1985, technical appendix for the San Miguel Project EIS/EIR), anchor cables were considered a source of potential impact to migrating Gray Whales.

Gray Whales are frequently found in very turbid nearshore waters, and ambient sound probably plays a role in their orientation. Some observations suggest that Gray Whales may avoid sources of industrial noise such as that produced by a production platform or a lay barge.

Echo locating capabilities of dolphins and porpoises within the project area are believed to be adequate to allow these animals to avoid the large anchors cables without the addition of sonar reflectors (T.D. Dohl, USCS, personal communication). However, the role of echo location in navigation orientation of Gray Whales is not known; therefore, both acoustic "pingers" and sonar reflectors are recommended to minimize the potential for impact.

Mitigation measures which reduce this impact are:

- 1) Placement of acoustic "pingers" and/or sonar reflectors in and around the construction equipment. No data are available on the effectiveness of such devices for alerting Gray Whales to the presence of underwater obstructions; however Exxon is required to implement this measure.
- 2) Schedule construction activities between September and November when piniped populations are low and Gray Whales are not in the area. If construction does take place during whale migration season, a marine mammal observer should be used to monitor whale activity, and construction should be suspended when whales are near the construction area. Since scheduling construction between September and November substantially interferes with other mitigation such as air quality and recreation, Exxon is required to implement the observer program.
- 3) During the construction period, a marine mammal observer

should survey the coast daily between Point Conception and Coal Oil Point. In the event marine mammals are observed in the area construction activities should be suspended when marine mammals are within two miles of the construction. Exxon is required to implement this measure.

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ISSUE: MARINE BIOLOGY

IMPACT: Tankers and oil-industry support vessel collisions with rare/endangered marine mammals (whales, sea otters) could cause at least locally significant mortalities when overall population status is unfavorable.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

(3) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

The proposed vessel traffic would increase the chances that a boat or tanker in the area might strike a marine mammal. The probability of such an event is judged to be low, but because whales are protected by federal law, a collision killing a whale is judged to be a significant impact.

Mitigation measures which substantially lessen this impact are:

- 1) Establish vessel corridors away from known areas of species use (sea otters);
- 2) Reduce tankering by use of onshore pipelines;
- 3) Reduce crew vessel traffic by use of helicopters for transporting crews; and,
- 4) Establishing a whale observation program as described in the previous discussions regarding impacts to whales.

Exxon is required to implement those measures to the maximum extent feasible as described in Exhibit "E" of this Item.

The No Project alternative eliminates this impact.

ISSUE: MARINE WATER QUALITY

IMPACT: Accidental oil spill results in surface slicks, tar balls, localized solubilization of potentially toxic organics, temporary reduction in light transmittance and decreased dissolved oxygen.

FINDING: (1) Changes or alterations have been required in or incorporated into the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

(3) Specific economic, social or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Oil spills from pipelines and the marine terminal will have the potential to significantly degrade the waters within the project area resulting in lethal effects to marine organisms.

Impacts from oil spills can be mitigated partially by providing oil spill containment. Equipment could be deployed before the oil could strike the shoreline. An oil spill contingency plan, critical operations and containment plan, and marine terminal operations manual could help reduce the risk of an oil spill. These measures reduce the risk and consequence of an oil spill but not to insignificance. Exxon is required to implement these measures as stated before.

The No Project Alternative eliminates the impact.

ISSUE: MARINE WATER QUALITY

IMPACT: Cumulative degradation of marine water quality due to release of tanker ballast water from unclean cargo tanks.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Tankers taking on loads at the marine terminal could discharge oily ballast within the nearshore waters of the State of California. These discharges are an important component of oil found in the marine environment and may now be the most important source of oil pollution in coastal waters (personal communication between Captain Arthur McKenzie, Tanker Advisory Group and Suzanne Rogalin, California Coastal Commission). This ballast water could be contaminated by petroleum products resulting in significant marine water quality impacts to the marine environments. While federal law prohibits discharge of ballasts within 50 miles of the U.S. coastline, tankers calling upon the Exxon marine terminal probably will never travel this far out at sea. As such illegal discharge may occur.

Mitigation measures which eliminate this impact are to require all tankers using the terminal to have segregated ballast tanks or for the marine terminal to provide deballasting facilities which transfer all ballast water to shore for treatment before discharge. However, the State of California is unable to control vessel equipment and Exxon's project does not contain water treatment for tanker ballast. As such, the Commission will require a notification and inspection procedure be developed which will allow the Commission to ascertain whether or not vessels using the terminal comply with Federal requirements. This, however, does not reduce this impact to insignificance.

The No Project Alternative entirely eliminates this impact.

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ISSUE: VESSEL TRAFFIC

IMPACT: Significant impacts could occur in a collision involving non-oil-related vessel traffic, as members of the public could be injured or killed.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

(3) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Pleasure boats and fishing boats do transit the area regularly, although their frequency and distribution cannot be documented. Lacking such data, the annual probability of impact estimated for encounters between tankers and crew and supply boats is used here to estimate the probability of a collision between a tanker and a non-oil-related vessel. Based on the Ship Encounter Model, estimates for all approach and departure routes, the probability of collision is "Rare." The consequence, however is severe since members of the public could be injured or killed in such a collision.

Mitigation measures which reduce this impact to the maximum extent feasible are: 1) notice to mariners, 2) posting of information about tanker traffic at local marinas and Harbor Master offices, 3) locating the SALM on marine charts, and 4) officially designating traffic lanes. These measures could reduce the likelihood of collisions, but not the consequence. These mitigation measures substantially reduce the effects described and are required of Exxon.

Unfortunately, collisions between pleasure boats and tankers do occasionally occur and lives have been lost. As such, this impact can not be mitigated to insignificant levels.

Adoption of the No. Project Alternative for this and future projects would eliminate future crew and supply boat traffic and keep the potential probability of impact at current levels.

ISSUE: VESSEL TRAFFIC

IMPACT: Impacts can be expected from a pipeline rupture caused by impact with an anchor towed by a disabled tanker or release of oil as a result of a collision between a tanker and platform.

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

FACTS SUPPORTING THE FINDING:

There are other pipelines that will or may be present which must be considered for the cumulative analysis. There are the pipelines between the SALM and shore, the pipelines in the corridor between Platform Hondo and the shore, possible pipelines from the Shell Hercules project, and possible pipelines from the proposed ARCO Coal Oil Point Project. There is a high probability that a disabled tanker could cross one of these pipeline corridors. In fact, if the tanker became disabled within one mile of the SALM, there is a 52 percent probability that it would cross one of the pipeline corridors. If it is assumed the accident could occur anywhere along the approach or departure route, the probability is 29 percent.

A rupture of some of the pipelines can result in releases of oil classified as "SEVERE" and releases of gas containing H<sub>2</sub>S that could reach shore.

The probability that a tanker which becomes disabled collides with the platform is presented below:

Eastern Approach: .017  
Western Approach between Platform and SALM: .015  
Western Approach around Platform: .017  
Departure: .012

Using the same probability of a tanker becoming disabled (4.1 x 10<sup>-7</sup> per mile), the probability of impact for the various cases is presented below:

Annual Probability of Platform Impact

Route	<u>175 Tankers/Year</u>	<u>350 Tankers/Year:</u>
Eastern Approach	1.1 x 10 <sup>-5</sup>	2.2 x 10 <sup>-5</sup>
Western Approach between Platform and SALM	9.7 x 10 <sup>-5</sup>	1.9 x 10 <sup>-5</sup>

Western Approach around  
Platform

1.1 x 10<sup>-5</sup>

2.2 x 10<sup>-5</sup>

Departure

7.7 x 10<sup>-6</sup>

1.5 x 10<sup>-5</sup>

These are all classified as "RARE."

A tanker/platform collision can result in the release of oil from one of the tanker's cargo tanks, a maximum of around 10,000 bbls, resulting in a "SEVERE" impact. This could only occur during the tanker's outbound loaded trip. A platform is a relatively rigid object and hence there is a relatively higher probability that an impact could result in release of oil.

A support boat with sufficient horsepower (at least 1,200 hp) to prevent a tanker from drifting into a platform or other dangerous situation would mitigate the identified significant impacts. Exxon is required to have such a vessel when a tanker approaches and departs the terminal.

ISSUE: TERRESTRIAL AND FRESHWATER BIOLOGY

IMPACT: Oil from an offshore spill enters coastal salt marsh, resulting in lethal and sublethal effects on vegetation, wildlife and aquatic species; long-term habitat degradation from oil and/or cleanup operations

FINDING: (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

FACTS SUPPORTING THE FINDING:

Several important coastal salt marshes occur along the South Coast from the Goleta area (Devereux Slough, Goleta Slough) eastward. The effects of spilled oil entering such ecosystems are severe, and, once oil enters a marsh habitat, spills cannot be cleaned up under normal circumstances without severe ecological effects.

Mitigation measures which are required of Exxon are:

- 1) Exxon will prepare a marine terminal operations manual for review and approval of the State Lands Commission. This plan will describe operating conditions and procedures for the marine terminal, procedures and conditions governing the approach to the marine terminal, and similar information for departing the marine terminal. This plan shall also describe critical operations and curtailment procedures. Such procedures shall require that vessels shall not approach or leave the marine terminal when visibility is one mile or less and will specify other weather conditions and sea states in which the terminal operations will be curtailed.
- 2) Exxon shall prepare a oil spill contingency plan for review and acceptance by the State Lands Commission. Such plan shall be prepared pursuant to the guidelines of the Commission.
- 3) Exxon shall have oil spill containment equipment stationed near the marine terminal and other production facilities for the purposes of containing spilled oil and minimizing environmental damage. Also, complete containment operations must be able to respond to an oil spill within one hour or be deployed within a time sufficient to keep oil from striking the shoreline, whichever is shorter.

**ISSUE:** CULTURAL RESOURCES

**IMPACT:** Potential disturbance of one anomaly with possible cultural significance from pipeline construction and abandonment from SALM to shore.

**FINDING:** (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect identified in the final EIR.

**FACTS SUPPORTING THE FINDING:**

One anomaly, interpreted as a potential cultural resource located is within the zone of impact from anchoring (seven times water depth). This anomaly is subject to a local long-term impact. One target about 40 feet by 1-3 feet is on the SALM pipeline route. No acoustic shadow indicating height above the seafloor or magnetic anomaly is associated with this feature. This target is situated within the zone of disturbance associated with pipeline construction. Only one sonar target having an associated magnetic anomaly is interpreted as a cultural resource by the Pelagos survey. This sonar target is described as 10 to 20 feet square with associated numerous small targets (debris) within a 250-foot diameter. Although not situated at the precise location, this feature is located within the one-mile radius given for the accuracy of the location of the M/V Brant, a sunken diesel vessel built in 1926. The Pelagos survey does not discuss the possible relationship between this seafloor feature and the M/V Brant.

Mitigation of this impact is possible by avoidance of the anomaly by adjusting the pipeline route, and restricting any anchoring or other bottom disturbance to a distance 300 feet or greater from the anomaly. If Exxon needs to infringe upon this 300 foot buffer, Exxon will obtain the service of a qualified marine archeologist and determine whether or not the anomaly is a significant cultural resource. If it is significant, Exxon will adjust their pipeline route to entirely avoid the site and buffer area.

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STATEMENT OF OVERRIDING CONSIDERATION

No Project Alternative

The adoption of the No Project Alternative would eliminate those impacts on State Tidelands associated with the project which cannot be mitigated to insignificance. No new marine terminal and no pipelines from the Santa Ynez Unit (SYU) oil development would be built. Selection of this alternative would also eliminate the onshore facilities proposed for processing oil and gas from the SYU development.

The development of the SYU would still continue whether or not the Commission permitted the facilities on State tidelands. Exxon, the operator of the SYU, has received all necessary federal permits to put in the additional 3 platforms and expand the Offshore Storage and Treatment Facility. As such, the impacts from oil development would proceed whether or not the Commission permitted the pipelines and marine terminal.

The project is also consistent with the goals and objectives of the County of Santa Barbara, which has already approved the Exxon project. The State Lands Commission finds that in comparing the impacts of the proposed project as being considered by the State Lands Commission to those of the No Project Alternative, the benefits of the project to the State and County of Santa Barbara are greater on balance than the level of environmental risks associated with the project.

The proposed Exxon project also offers greater environmental safeguards than the No Project Alternative. The Commission retains greater authority over the project as proposed and is able to mitigate impacts to the maximum extent feasible. If the No Project Alternative is adopted, the Commission will have no control over the development as it will commence in the federal OCS. Such development will have greater impacts to marine life, air quality, recreation and tourism, commercial fishing, and other resources, than the project proposed to the Commission and mitigated as specified herein.

D.3

Findings adopted by the County of Santa Barbara for the Exxon SYU Development Project are on file in the Office of the State Lands Commission, 1807 - 13th Street, Sacramento, California 95814 and are incorporated herein by reference.

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EXHIBIT E

Exhibit B to the Marine Terminal and pipeline  
leases which imposes environmental mitigations  
on the project applicant.

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EXHIBIT "B"  
MARINE TERMINAL LEASE  
ENVIRONMENTAL MITIGATION

- 1) Exxon shall contribute \$6,000/year to the State of California Fisheries Development Corporation or any other State approved fund for fisheries enhancement as determined by the Commission. This contribution is mitigation for impacts to commercial fishing caused by the operation of the Exxon marine terminal facilities, and such contribution shall be used to address fishing concerns in the Santa Barbara Channel.
- 2) Exxon shall contribute to the Santa Barbara County's Fishermen's Contingency Fund, for the purpose of compensating fisherman for gear and other supplies actually lost as a result of Exxon activities.
- 3) Exxon shall prepare and submit a construction impact reduction plan. Such plan must be approved by the Commission prior to commencing construction. Exxon may submit the plan prepared pursuant to Santa Barbara Condition XIV-7, to the extent that the plan prepared pursuant to this condition addresses the requirements discussed in the remainder of this condition.
  - a. Exxon shall conduct a marine biological survey of the entire marine terminal construction area and pipeline construction corridor no earlier than 6 months prior to actual construction. Such survey shall be prepared by a qualified marine biologist and approved by the Commission. At the conclusion of the study a report shall be prepared and submitted to the Commission for review. Within 6 months of the conclusion of construction another survey shall be conducted. In the event of a significant environmental disturbance and deterioration of the marine environment not related to Exxon's activities, the Commission will evaluate the circumstances and determine whether the post construction survey will be required.

As required by the Commission, a separate kelp bed and surf grass survey shall be performed 2 years following completion of construction by a marine biologist approved

by the Commission. This survey shall establish the amount of kelp bed and surf grass which has not re-established or recovered from the impacts from construction activities.

The exact scope of these surveys shall be addressed in the construction impact reduction plan which will be reviewed and approved by the Commission.

- b. The plan shall describe and implement methods which minimize the time period for construction on State tidelands.
- c. Exxon's plan shall address methods which minimize seafloor modifications and disturbance during construction. The plan shall also address post construction remedial techniques. Exxon shall also bundle pipelines where possible.
- d. All construction equipment, anchors, and mooring buoys shall be removed from State waters within 3 months of the completion of all construction.
- e. Exxon shall establish vessel corridors through the kelp beds which restrict vessels crossing the kelp beds to two, 150 foot wide corridors.
- f. Exxon shall describe how all intrusion into the kelp beds and surf grass areas shall be minimized.

Where kelp or surf grass is damaged or removed by Exxon's activities, Exxon shall re-establish such kelp and surf grass beds after completion of construction. Exxon shall describe in the plan, the procedures which will be used to reestablish the kelp and surf grass beds. In the event that the beds are not reestablished within 2 years of completion of construction, Exxon shall contribute to the Santa Barbara County Fisheries Enhancement Fund, \$15,000.00 per acre of kelp and surf grass disturbance still in a disturbed condition. The formula for determining the acreage lost shall be specified in the construction impact reduction plan.

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Such contribution shall be used for kelp and surf grass bed restoration projects in the Santa Barbara Channel.

- g. Exxon shall conduct nearshore construction activities only during November 1 to March 31. Such scheduling will minimize impacts to lobster populations, air quality and recreation at the State Beaches nearby. Exxon shall address in their impact reduction plan, steps which will be taken to reduce impacts which might be caused by any extension of the time period for construction.
- h. Exxon shall design and construct their pipeline corridors to avoid the identified cultural anomaly on the SALM pipeline route. If Exxon is unable to avoid this anomaly, Exxon shall investigate this anomaly to determine its significance as a cultural resource. A plan for investigation and preservation of any cultural resource shall be included in the construction impact reduction plan.
- i. Exxon shall minimize blasting in the nearshore area. Exxon's construction impact reduction plan shall detail how blasting shall be minimized. Exxon's plan shall also specify how potential effects of such blasting on Threatened and Endangered Species and Marine Mammals shall be minimized. Injury or death of Threatened or Endangered Species and Marine Mammals shall be avoided.
- j. Exxon shall include in their construction impact reduction plan, methods to reduce impacts to Cetaceans (Whales, Dolphins, etc.) during the Cetacean migration period, December through March. Exxon shall provide for a qualified marine mammal observer approved by the Commission. Weather permitting, the observer shall make a daily aerial survey of the coastline from Point Conception to Coal Oil Point to determine whether or not Cetaceans are in the area. For periods of inclement weather, Exxon shall describe in the plan how it will be determined if Cetaceans are near the construction zone. The plan shall also require that if Cetaceans are present, the observer shall

continue to monitor their activities. The plan shall specify how and when construction activities will be reduced or ceased if the Cetaceans approach the construction zone. The distance from the construction zone shall be the determining factor. For example, the plan shall specify that when Cetaceans are within 2 miles of the construction zone, Exxon shall suspend blasting until the animals have left this zone.

The plan shall also describe how the Cetaceans will be warned of obstructions in the water during the period of inactivity. Exxon shall have deployed acoustical "pingers" or sonar reflectors when Cetaceans are within 2 miles. Exxon's plan shall describe the deployment of these acoustical devices.

All survey methods shall be approved by the Commission and all daily reports of numbers and Cetacean activity shall be submitted to the State Lands Commission at the conclusion of construction.

- k. Exxon's construction impact reduction plan shall specify how barge anchors will be set. Where possible, lay barge anchors shall be set to avoid large rocky features in the offshore area. The plan shall also specify how disturbance to nearshore rocky features shall be minimized. Exxon shall notify the staff of the Commission if and when construction operations will be occurring in these habitats.
- l. Exxon shall specify in their construction impact reduction plan how they intend to minimize turbidity. Best available construction techniques shall be used.
- m. Exxon's construction impact reduction plan shall provide for annual compensation, for a maximum period of 5 years, to the State of California Fisheries Development Corporation or any State approved fund for fisheries enhancement as determined by the Commission. Such compensation is mitigation for the disturbance of the marine benthic environment which results in lost commercial fishing opportunities and shall be used for

mitigation of fishing concerns in the Santa Barbara Channel area. The calculation for computing the annual compensation shall use the pre- and post construction marine biologic survey(s) [Condition 3(a) of this attachment] of the seafloor results for determining disturbed acreage totals and incorporate the following formula.

FORMULA:  $C = \text{AREA}[P + P(O+I)]$ , where C is the contribution in dollars, Area is the affected area in acres, P is the average market value in dollars per acre of the fishery lost by the commercial fishing activity, O is the output multiplier, and I is the income multiplier.

The following table shall be used to determine the coefficients P, I, and O:

<u>FISHERY</u>	<u>P</u>	<u>I</u>	<u>O</u>
Trawling	0.23	.9969	2.105
Diving	76.0	.9969	2.105
Trapping	8.60	.9969	2.105
Set Gill Net	8.36	.9969	2.105

- 4) The exact location and configuration of all seafloor modifications resulting from construction shall be published in a notice to commercial fishermen issued from the commercial fishermen liaison's office. This will allow commercial fishermen to avoid such obstructions. Such notice shall be supplied to the Commission once published.
- 5) Exxon shall consolidate to the maximum extent feasible all oil and gas operation and support facilities.
- 6) Tanker traffic shall directly approach the marine terminal from the VTSS along an approach normal to the shoreline.
- 7) Exxon shall participate in or implement a support vessel and tanker operators training program to inform vessel operators of commercial fishing activities and how to recognize and avoid commercial fishing operations. A plan for such program shall be prepared by Exxon and submitted to the Commission for approval prior to operation of the facilities.
- 8) Exxon shall design their project to conserve energy to the maximum extent feasible.

- 9) Exxon shall post a notice to mariners advising them of tanker vessel traffic at and near the SALM. Such notice shall be posted in a form approved by the U.S. Coast Guard prior to operation of the terminal.

**EXHIBIT "B"**  
**MARINE PIPELINE LEASE**  
**ENVIRONMENTAL MITIGATIONS**

- 1) Exxon shall contribute to the Santa Barbara County's Fishermen's Contingency Fund, for the purpose of compensating fisherman for gear and other supplies actually lost as a result of Exxon activities.
- 2) Exxon shall prepare and submit a construction impact reduction plan. Such plan must be approved by the Commission prior to commencing construction. Exxon may submit the plan prepared pursuant to Santa Barbara Condition XIV-7, to the extent that the plan prepared pursuant to this condition addresses the requirements discussed in the remainder of this condition.
  - a. Exxon shall conduct a marine biological survey of the entire marine terminal construction area and pipeline construction corridor no earlier than 6 months prior to actual construction. Such survey shall be prepared by a qualified marine biologist and approved by the Commission. At the conclusion of the study a report shall be prepared and submitted to the Commission for review. Within 6 months of the conclusion of construction another survey shall be conducted. In the event of a significant environmental disturbance and deterioration of the marine environment not related to Exxon's activities, the Commission will evaluate the circumstances and determine whether the post construction survey will be required.

As required by the Commission, a separate kelp bed and surf grass survey shall be performed 2 years following completion of construction by a marine biologist approved by the Commission. This survey shall establish the amount of kelp bed and surf grass which has not re-established or recovered from the impacts from construction activities.

The exact scope of these surveys shall be addressed in the construction impact

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reduction plan which will be reviewed and approved by the Commission.

- b. The plan shall describe and implement methods which minimize the time period for construction on State tidelands.
- c. Exxon's plan shall address methods which minimize seafloor modifications and disturbance during construction. The plan shall also address post construction remedial techniques. Exxon shall also bundle pipelines where possible.
- d. All construction equipment, anchors, and mooring buoys shall be removed from State waters within 3 months of the completion of all construction.
- e. Exxon shall establish vessel corridors through the kelp beds which restrict vessels crossing the kelp beds to two, 150 foot wide corridors.
- f. Exxon shall describe how all intrusion into the kelp beds and surf grass areas shall be minimized.

Where kelp or surf grass is damaged or removed by Exxon's activities, Exxon shall re-establish such kelp and surf grass beds after completion of construction. Exxon shall describe in the plan, the procedures which will be used to reestablish the kelp and surf grass beds. In the event that the beds are not reestablished within 2 years of completion of construction, Exxon shall contribute to the Santa Barbara County Fisheries Enhancement Fund, \$15,000.00 per acre of kelp and surf grass disturbance still in a disturbed condition. The formula for determining the acreage lost shall be specified in the construction impact reduction plan.

Such contribution shall be used for kelp and surf grass bed restoration projects in the Santa Barbara Channel.

- g. Exxon shall conduct nearshore construction activities only during November 1 to March 31. Such scheduling will minimize impacts to

CLIENT PAGE	252.21h
NUMBER OF SE	412

lobster populations, air quality and recreation at the State Beaches nearby. Exxon shall address in their impact reduction plan, steps which will be taken to reduce impacts which might be caused by any extension of the time period for construction.

- h. Exxon shall minimize blasting in the nearshore area. Exxon's construction impact reduction plan shall detail how blasting shall be minimized. Exxon's plan shall also specify how potential effects of such blasting on Threatened and Endangered Species and Marine Mammals shall be minimized. Death or Injury to Threatened or Endangered Species and Marine Mammals shall be avoided.
- i. Exxon shall include in their construction impact reduction plan, methods to reduce impacts to Cetaceans (Whales, Dolphins, etc.) during the Cetacean migration period, December through March. Exxon shall provide for a qualified marine mammal observer approved by the Commission. Weather permitting, the observer shall make a daily aerial survey of the coastline from Point Conception to Coal Oil Point to determine whether or not Cetaceans are in the area. For periods of inclement weather, Exxon shall describe in the plan how it will be determined if Cetaceans are near the construction zone. The plan shall also require that if Cetaceans are present, the observer shall continue to monitor their activities. The plan shall specify how and when construction activities will be reduced or ceased if the Cetaceans approach the construction zone. The distance from the construction zone shall be the determining factor. For example, the plan shall specify that when Cetaceans are within 2 miles of the construction zone, Exxon shall suspend blasting until the animals have left this zone.

The plan shall also describe how the Cetaceans will be warned of obstructions in the water during the period of inactivity. Exxon shall have deployed acoustical "pingers" or sonar reflectors when Cetaceans are within 2 miles. Exxon's plan shall describe the deployment of these acoustical devices.

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All survey methods shall be approved by the Commission and all daily reports of numbers and Cetacean activity shall be submitted to the State Lands Commission at the conclusion of construction.

- j. Exxon's construction impact reduction plan shall specify how barge anchors will be set. Where possible, lay barge anchors shall be set to avoid large rocky features in the offshore area. The plan shall also specify how disturbance to nearshore rocky features shall be minimized. Exxon shall notify the staff of the Commission if and when construction operations will be occurring in these habitats.
- k. Exxon shall specify in their construction impact reduction plan how they intend to minimize turbidity. Best available construction techniques shall be used.
- l. Exxon's construction impact reduction plan shall provide for annual compensation, for a maximum period of 5 years, to the State of California Fisheries Development Corporation or any State approved fund for fisheries enhancement as determined by the Commission. Such compensation is mitigation for the disturbance of the marine benthic environment which results in lost commercial fishing opportunities and shall be used for mitigation of fishing concerns in the Santa Barbara Channel area. The calculation for computing the annual compensation shall use the pre- and post construction marine biologic survey(s) [Condition 3(a) of this attachment] of the seafloor results for determining disturbed acreage totals and incorporate the following formula.

FORMULA:  $C = \text{AREA}[P + P(O + I)]$ , where C is the contribution in dollars, Area is the affected area in acres, P is the average market value in dollars per acre of the fishery lost by the commercial fishing activity, O is the output multiplier, and I is the income multiplier.

The following table shall be used to determine the coefficients P, I, and O:

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<u>FISHERY</u>	<u>P</u>	<u>I</u>	<u>O</u>
Trawling	0.23	.9969	2.105
Diving	76.0	.9969	2.105
Trapping	8.60	.9969	2.105
Set Gill Net	8.36	.9969	2.105

- 3) The exact location and configuration of all seafloor modifications resulting from construction shall be published in a notice to commercial fishermen issued from the commercial fishermen liaison's office. This will allow commercial fishermen to avoid such obstructions. Such notice shall be given to the Commission when issued.
- 4) Exxon shall consolidate to the maximum extent feasible all oil and gas operation and support facilities.
- 5) Exxon shall prepare a plan for governing the transportation of crews to and from the platform. Such plan shall specify how boat traffic to and from the platform shall be minimized and restricted to designated corridors agreed upon between the oil industry and the fishing industry.
- 6) Exxon shall participate in or implement a support vessel and tanker operators training program to inform vessel operators of commercial fishing activities and how to recognize and avoid commercial fishing operations. A plan for such program shall be prepared by Exxon and submitted to the Commission for approval prior to operation of the facilities.
- 7) Exxon shall design their project to conserve energy to the maximum extent feasible.

ESTIMATE	252.21k
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Those parcels of land lying in the bed of the Santa Barbara Channel, in the vicinity of Capitán County of Santa Barbara, State of California, being more particularly described as follows:

PARCEL 1

A parcel of tide and submerged land 200 feet wide the centerline being described as follows:

COMMENCING at State Highway Monument No. 41-36A, as shown on State Highway Right of Way Map V-SB-2-F, SB-101-PM, 34.13 to 44.56, (California Coordinate System Zone 5 Coordinates: X = 1,383,984 and Y = 356,965); thence S 27° 44' 38" E 434 feet to the TRUE POINT OF BEGINNING, (California Coordinate System Zone 5 Coordinates: X = 1,384,185 and Y = 356,581); thence S 07° 09' 38" E 2600 feet to a point herein referred to as Point A (California Coordinate System Zone 5 Coordinates: X = 1,384,509 and Y = 354,001), and the end of the herein described centerline.

EXCEPTING THEREFROM that portion lying landward of the ordinary high water mark.

PARCEL 2

A parcel of submerged land 200 feet wide the centerline being more particularly described as follows:

BEGINNING at Point A as described in Parcel 1 (California Coordinate System Zone 5 Coordinates: X = 1,384,509 and Y = 354,001); thence S 45° 57' 13" W 23,142 feet, more or less, to the boundary of the State of California, as described in the U.S. Supreme Court Case 382 U.S. 448, No. 5 original, dated 1966, being the end of the herein described centerline.

EXCEPTING THEREFROM any portion lying within Parcel 1.

PARCEL 3

A parcel of submerged land 200 feet wide the centerline being more particularly described as follows:

BEGINNING at Point A as described in Parcel 1 (California

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Coordinate System Zone 5 Coordinates: X = 1,384,509 and Y = 354,001); thence S 38° 00' 00" E 1200 feet to a point being herein referred to as Point B (California Coordinate System Zone 5 Coordinates: X = 1,385,247 and Y = 353,055), being the end of the herein described centerline.

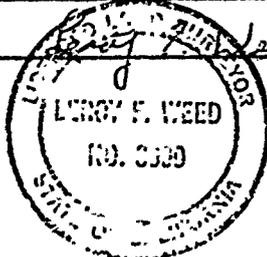
EXCEPTING THEREFROM any portion lying within Parcels 1 & 2.

PARCEL 4

A circular parcel of submerged land having a radius of 800.00 feet, the center of which being Point B, as described in Parcel 3 (California Coordinate System Zone 5 Coordinates: X = 1,385,247 and Y = 353,055); EXCEPTING THEREFROM any portion lying within Parcel 3.

END OF DESCRIPTION

Prepared J. Collins Checked A. W. Wiser  
Reviewed Leroy F. Weed Date 9/18/00



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