FINDING OF NO SIGNIFICANT IMPACT

SEDIMENT REMOVAL DOWNSTREAM OF RETAMAL DIVERSION DAM

AGENCY

United States Section, International Boundary and Water Commission (USIBWC).

BACKGROUND

Sediment has been accumulating in the channel on the United States (U.S.) side of the Rio Grande since Retamal Diversion Dam was first constructed by the International Boundary Water Commission (IBWC) in 1973. Because of low-flow conditions in the Rio Grande and continued drought an island and sandbar formed downstream of Retamal Diversion Dam as a result of sediment accumulation. If sediment continues to build up along the concrete apron, operation of the gates that control flood flow conditions could potentially be impaired. Additionally, sediment buildup has caused the main channel in the river to shift toward the Mexican side, thus potentially changing the boundary location between the two countries. According to recommendations in the December 1997 and April 2003 Joint Report of the Technical Advisors of the IBWC regarding the electrical, mechanical, geotechnical & structural safety of Retamal Diversion Dam, the island and sandbar should be removed to re-establish the original cross-section of the river.

In 1970, the U.S. and Mexico signed a comprehensive treaty to settle all pending boundary differences in such a way as to preserve the Rio Grande as the boundary, and to provide for measures to minimize the number of changes in the river channel location.

PROPOSED ACTION

The USIBWC proposes to remove the vegetated island and sandbar by dredging the sediment, either hydraulically (Option 1) or mechanically (Option 2), and beneficially use or dispose of all the material on vacant Mexican Federal Government land adjacent to the river at the dredging location.

NO ACTION ALTERNATIVE

The sandbar and island downstream of the Retamal Diversion Dam will not be removed. The accumulation of sediment will likely continue in the channel on the U.S. side of the Rio Grande and along the concrete apron beneath the flood gates, thus potentially impairing the ability of the gates to operate effectively to properly control flood events. The main channel in the river could continue shifting toward the Mexican side, thus potentially changing the boundary location between the two countries.

SUMMARY OF FINDINGS

Pursuant to National Environmental Policy Act (NEPA) guidance, 40 Code of Federal Regulations (CFR) 1500-1508, The President's Council on Environmental Quality (CEQ) issued regulations to implement the NEPA which included provisions for both the content and procedural aspects of the required environmental assessment (EA). The USIBWC completed an EA of the potential environmental consequences of removing sediments downstream of the Retamal Diversion Dam. The EA, which supports this Finding of No Significant Impact (FONSI), evaluated the Proposed Action and the No Action Alternative.

EVALUATION OF THE PROPOSED ACTION – OPTION 1

Water Rights. Hydraulic dredging operations could not occur without water acquisitions. Currently, there are no U.S. water rights available. Water will have to be temporarily supplied by Mexico or purchased from water right holders.

Approximately 1,200 acre-feet of water rights will be needed for dredging operations to occur; however, additional amounts will likely be necessary to allow for contingencies.

River Hydrology.

Water Regimes: Due to restrictions imposed under existing water availability, river flow will not be reduced during the hydraulic dredging operations. Assuming the maximum amount of slurry mix required per day is 3,000 cubic yards (cy), the increase in water usage required for hydraulic dredging operations is approximately 0.15 percent. Hydraulic operations will be dependent upon USIBWC obtaining water from Mexico or temporary water rights from existing holders. Long-term impacts on river hydrology will be negligible, as the Proposed Action will re-establish design channel configuration created during the original dam construction.

Sedimentation: Hydraulic dredging operations (Option 1) will result in less turbidity than mechanical dredging (Option 2). Elevated levels of suspended solids concentrations will be confined to the immediate vicinity of the dredge and dissipate rapidly upon completion of the operation. Dredging operations will be performed with downstream areas enclosed with a silt curtain, Gunderbooms®, or other appropriate means to prevent degradation of turbidity outside the dredging area. Long-term maintenance likely will be required to address re-occurring island formation and related sediment accretion at the dam apron to assure channel configuration is maintained in the future.

Flood Control: Hydraulic modeling results indicate that an approximate 0.05 foot increase in flood containment capacity will be achieved by dredging. Therefore, removing the sandbar and island will not appreciably improve flood control in the river channel.

Water and Dredge Material Quality. Sediment and elutriate sampling results of the dredge material are below Texas Commission on Environmental Quality (TCEQ) criteria for those parameters. Total suspended solids (TSS) in the discharge at the dewatering cells from the beneficial use (BU) site will be controlled through best management practices (BMP). Discharge created in Mexico from the dewatering process of dredged material will be directed away from and not allowed into the river.

Soils and Geology. The Proposed Action will occur within an area in which the soils have been disturbed and modified by prior construction. Approximately 54,000 cy of river substrate will be removed by dredging. The equipment lay-down area will revert to pre-construction state upon completion of the project. The contractor will ensure completion and approval of a storm water pollution prevention plan before initiating activities.

Wetlands. The Proposed Action will eliminate 2.1 acres of riverine wetlands, which represent a net decrease of 4 percent of riverine wetlands for the Lower Rio Grande. United States Army Corps of Engineers Section 10 and 404 permits will be required for dredging as well as a mitigation plan to offset the loss of 2.1 acres of wetlands.

Vegetation. Loss of vegetation will include 2.1 acres of Arundo-Salix community and 0.2 acres of a Salix-Celtis community. Overall, vegetation on the island is common for the region and the effects of its loss to the regional vegetative community will be minimal. The equipment lay-down area will be located in an oldfield herbaceous community and will be disturbed during construction. The vegetation will be reseeded by native species upon completion of the project.

Wildlife. Removal of the sediment island will have a localized negative effect on some species of wildlife. Dredging operations will have a direct localized effect on benthic invertebrates, although it is not likely to have a measurable effect on the river's benthic community. Effects on wildlife, particularly migratory birds will be minimized by conducting dredging operations outside of the nesting season and major migratory periods. Although the Project Area habitat is not considered unique and is dominated by intrusive non-native species, the limited extent of riverine wetland communities within the Lower River Grande Valley accentuate the Project Area's value as wildlife habitat.

Threatened and Endangered Species. The Proposed Action will not likely effect threatened and endangered (T&E) species near the Project Area, although there is a possibility of T&E species near the Project Area.

Aquatic Resources. There is no commercial fishing in the river near the island and sandbar. Fish will be minimally affected by dredging activities in the Project Area. Temporary increases in turbidity and equipment noise and activity will cause avoidance by mobile species such as fish. Such effects will cease when dredging is completed. Benthic organisms in the dredged material will be directly effected; however, the Project Area represents such a minor portion of river bottom that the effect on those organisms will not affect the ecosystem. Further, birds and fish, due to their mobile nature, will be able to avoid the dredging equipment and sustain no long-term ill effects from the Proposed Action.

Air Quality. The greatest increase in emissions will be PM_{10} (0.42 tons) from dredging activities, equating to 0.11 percent of the PM_{10} emissions within Hidalgo County. The emissions will be temporary, fall off rapidly with distance from the Project Area, and will last only as long as the dredging activities. The county is in attainment status; therefore, a Conformity Determination will not be required.

Noise. Noise from equipment could be as high as 89 decibels at distances of 50 feet from the source, and will be intermittent and short-term in duration. There are no sensitive receptors near the Project Area or surrounding area so there will be minimal noise impacts from the proposed activities.

Cultural Resources. There are no archaeological sites or historic structures of cultural significance on the island or near the Project Area. In addition, correspondence from the Texas Historical Commission concerning removal of sediments from the Project Area stated that the Proposed Action should not have an effect on cultural resources eligible for inclusion in the National Register of Historic Places.

Hazardous and Toxic Waste. No listed hazardous and/or toxic waste sites are known to occur in the Project Area. No impacts from hazardous and/or toxic waste are expected from the proposed activities. The contractor will comply with regulatory guidance for the use and disposal of hazardous materials and wastes during any construction and dredging activities. The volumes of hazardous materials purchased for, and hazardous wastes generated during, dredging operations will be negligible. Implementing established industry practices for controlling releases of the substances will reduce the possibility of accidental releases of these hazardous and toxic products. Preventative maintenance and daily inspections of the equipment will ensure that any releases of these hazardous and toxic products are minimized.

Socioeconomics. Adverse consequences to population, housing, and community infrastructure will not occur. Beneficial impacts to employment will occur during the construction period; however, the benefits will be short-term and will not measurably affect the county-wide unemployment rate of 13.7 percent in 2001. The proposed project will generate income to the local economy. The amount

will be small compared to the county's total income of $3.6 billion; therefore, beneficial impacts to Hidalgo's economy will be negligible.

Local roadways could experience short-term adverse consequences resulting from increased traffic during the construction period as workers commute to and from the work site; however, the consequence will be short-term.

Environmental Justice. Hidalgo County has a disproportionately high minority population (approximately 89 percent) and low-income populations (individuals – 35.9 percent); however, land use adjacent to the Project Area is primarily rural and designated a wilderness area. Adverse consequences to disproportionately high minority and low-income populations resulting from construction activities will not occur.

EVALUATION OF THE PROPOSED ACTION – OPTION 2

Water Rights. Water rights will not be required; therefore, impacts will not be expected.

River Hydrology.

Water Regimes: River flow will be maintained at all times during dredging activities. Water will not be required to remove sediment by mechanical dredging. Areas of the island as well as cross sections of the river will have to be segregated or sectioned off from the flow of water so as not to cause loss of dredge material during operations. Therefore, river flow is not expected to be impacted by mechanical dredging activities. Long term impacts on river hydrology will be negligible, as the Proposed Action will re-establish design channel configuration created during the original dam construction.

Sedimentation: Sediment may be deposited downstream during dredging operations creating higher levels of TSS. Sediment BMPs will be necessary to prevent fine sediments from being deposited downstream during the dredging operations. Dredging material will have to be transported by trucks to the final disposal area; however, truck access from the dredge site on the U.S. side of the river to Mexico is not available. Potentially, a conveyor system could be used to transport dredged material to the top of the dike on the Mexican side, where truck access will be possible. An impervious silt curtain downstream or around the dredging operation will be used. Any negative impacts due to fugitive sediments will be localized and occur only during times of actual dredging operations. Long-term maintenance will likely be required to address re-occurring island formation and related sediment accretion at the dam apron to assure channel configuration is maintained in the future.

Flood Control: Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Water and Dredge Material Quality. Impacts associated with implementation of Option 2 will be similar to those described under Option 1. Mechanical dredging operations will likely cause an increase in TSS over the hydraulic dredging method. TSS in the discharge from the BU site will be controlled through BMPs.

Soils and Geology. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Wetlands. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Vegetation. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Wildlife. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Threatened and Endangered Species. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Aquatic Resources. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Air Quality. Under Option 2, construction activity will increase slightly due to the additional use of cranes and other mechanical dredging equipment. The greatest increase in emissions will be SO_x (0.18 tons) from dredging activities, equating to 0.305 percent of the SO_x emissions within Hidalgo County. The emissions will be temporary, fall off rapidly with distance from the Project Area, and will last only as long as the dredging activities. The county is in attainment status; therefore, a Conformity Determination will not be required.

Noise. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Cultural Resources. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Hazardous and Toxic Waste. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Socioeconomics. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

Environmental Justice. Impacts associated with implementation of Option 2 will be similar to those described under Option 1.

EVALUATION OF THE NO ACTION ALTERNATIVE

Water Rights. There will be no impacts on water rights.

River Hydrology.

Water Regimes: No impacts will occur from the baseline activities. The main channel in the river could continue to shift toward the Mexican side of the international boundary.

Sedimentation: Accumulation of sediment will likely continue in the channel on the U.S. side of the Rio Grande and along the concrete apron beneath the flood gates, thus potentially impairing the ability of the gates to operate effectively to properly control flood events. Further changes to the international boundary will likely occur as the river continues to cut into the Mexican side of the river bank. The main channel in the river could potentially continue to migrate, thus shifting the international boundary. Long-term maintenance will likely be required to address sediment accretion at the dam apron and to assure channel configuration is maintained in the future.

Flood Control: Currently, there is no appreciable impact to flood containment capacity. Bank stabilization (armoring with rip-rap) on the Mexican side will likely re-establish the former bank extent and the international boundary.

Water and Sediment Quality. Under the No Action Alternative, there will be no change from the baseline conditions.

Soils and Geology. The No Action Alternative will include continuation of current maintenance practices under the baseline condition, which will not affect the existing soils and geology in the Project Area. There will be no significant erosion or compaction of soils due to the current maintenance practices.

Wetlands. Under the No Action Alternative, there will be no change from the baseline conditions. Long-term changes could include an increase in wetlands as sediment continues to accrete and vegetation becomes established. Decrease in wetlands are also possible in the advent of a storm event which could displace the island. Heavy sediment loads and variable water regimes of the Rio Grande will continue to provide a source and means for sediment build-up.

Vegetation. There will be no measurable change from the baseline conditions. Long-term changes could include an increase in early successional communities. Decrease in vegetation is also possible in the advent of a storm event which could displace the island.

Wildlife. There will be no measurable change from the baseline conditions.

Threatened and Endangered Species. There will be no measurable change from the baseline conditions.

Aquatic Resources. There will be no measurable change from the baseline conditions.

Air Quality. Emissions will continue at the levels generated under the baseline conditions.

Noise. The noise environment will not change from the baseline conditions.

Cultural Resources. No disturbance of cultural resources will occur.

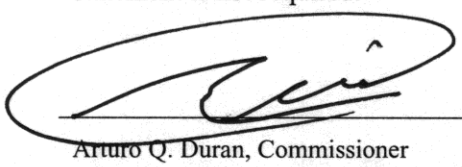
Hazardous and Toxic Waste. There will be no change from the baseline conditions.

Socioeconomics. There will be no change to existing population, housing, and community infrastructure. Additionally, the No Action Alternative will not have any measurable consequence, beneficial or adverse, to income and employment.

Environmental Justice. The situation for minority and low-income populations will remain unchanged.

DECISION

Based on my review of the facts and analyses contained in the EA, I conclude that implementation of the Proposed Action will not have a significant impact, either by itself or when considering cumulative impacts. Accordingly, the requirements of the NEPA and regulations promulgated by the Council on Environmental Quality are fulfilled and an environmental impact statement is not required.



02/09/04

Arturo Q. Duran, Commissioner
International Boundary and Water Commission,
United States Section

Date