Wetland, Floodplain, and Riparian Area Impacts Question Sheet

Wetlands & Floodplains - Short Term Impacts

Remove Vegetation

[WFSRV11] What condition is the vegetation in the impairment area? [WFSRV12] What types of vegetation are present? [WFSRV13] Are any of these species T&E or state listed? [WFSRV14] Do the vegetation standards exist of both canopy and understory plants? [WFSRV15] Will vegetation removal be required for this project? [WFSRV16] If so, how large of an area will need to be disturbed? [WFSRV17] Will herbicides be used in the removal process?

Vehicle Use Equipment /Worker Movement

[WFSVU11] Will the emergency measure require the use of heavy equipment in wetlands/floodplains? [WFSVU12] If heavy equipment is required, where will the heavy equipment be used? [WFSVU13] Will the heavy equipment need to travel through a wetland or floodplain area? [WFSVU14] Will the equipment be washed before entering aquatic environments? [WFSVU15] Will the construction equipment expel hazardous materials into the environment? [CWA 401, 404; NFIA]

Change Soil Structure/ Compact Soil

[WFSS11] What are the soil types in the impairment area? [WFSS12] Are any of the soils hydric? [WFSS13] Are the soils susceptible to compaction? [WFSS14] Will soil compaction practices significantly inhibit future vegetative growth?

Wetland Draining /Filling

[WFSWD11] Will the construction activities require any temporary dewatering or filling? [WFSWD12] If so, will any of these activities occur in wetlands or floodplains? [WFSWD13] Will the activities increase runoff/cause excess sediment to significantly fill in wetland areas? [WFSWD14] What types of sediment control will be used in the construction process?

Erosion

[WFSE11] What are the current conditions of the slopes in the impairment area? [WFSE12] Are any of these slopes in wetland or floodplain areas? [WFSE13] Will the activities cause a significant increase in erosion in these areas? [WFSE14] What measures will be installed to control erosion during construction? [CWA 303, 319, 401, 404; NPDES; LOCAL EROSION AND SEDIMENT CONTROL ORDINANCE]

Wetland Functions Hydrology

[WFSH11] What are the sources of flow through the wetland and floodplain? [WFSH12] Does water flow through the wetland and floodplain before it reaches nearby water bodies? [WFSH13] Do the nearby surface waters overflow their banks on a regular basis? [WFSH14] Does the wetland and floodplain have a substantial impact on nearby stream storm flow hydrology? [CWA 303, 319, 401, 404; NFIA]

[WFSH21] Will the anticipated removal of vegetation and increased runoff significantly increase peak storm flow velocities? [CWA 303, 319]

[WFSH31] Will the anticipated increases in peak storm water velocities significantly increase downstream erosion? [CWA 303, 319]

[WFSH41] Will the anticipated removal of vegetation cause water to flow through the system at a high rate and cause a significant reduction in low flows during dry seasons? [WFSH42] Will the anticipated low flows cause a significant decrease in water volume? [CWA 303, 319]

[WFSH51] Will the anticipated removal of vegetation cause a significant decrease in percolation and significantly decrease ground water and aquifer recharge during the construction period? [CWA 303, 319; SDWA]

Wetland Functions Water Quality

[WFSWQ11] What types of wetlands are present in the impairment area? [WFSWQ12] What types of wetlands are the wetlands in the impairment area? [WFSWQ13] Are any of these wetlands potential artificials? [WFSWQ14] Do surface waters from adjacent streams overflow their banks often?

[WFSWQ21] What are the nutrient loads in the surface waters of the impairment area? [WFSWQ22] Will the associated construction and removal of vegetation significantly interfere with the wetlands capability of removing BOD from the wetland and floodplain?

[WFSWQ31] Will the associated construction and removal of vegetation significantly interfere with the wetlands capability of removing BOD from the wetland and floodplain?

[WFSWQ41] Is there a heavy suspended solid load in the surface water of the impairment area? [WFSWQ42] Will the removal of vegetation and the compaction of soils affect the wetlands ability to remove suspended solids from surface water? [CWA 401, 404]

[WFSWQ51] What types of metals are present in the surface water of the impairment area? [WFSWQ52] Will the wetlands in the impairment area significantly remove metals from surface water? [WFSWQ53] Will the construction and vegetation removal activities significantly inhibit the wetlands ability to remove metals? [CWA 401, 404]

[WFSWQ61] What pathogens potentially present in the impairment area? [WFSWQ62] Are there any feedlots, or other potential sources that could contribute pathogens to surface water? [WFSWQ63] Will the removal of vegetation and construction activities significantly affect the wetlands ability to remove pathogens? [CWA 401, 402, 404]

[WFSWQ71] What are the current surface water temperatures in the impairment area? [WFSWQ72] Will the removal of vegetation significantly change the surface water temperatures? [CWA 303, 319]

[WFSWQ81] Will the construction activities and associated increases in runoff significantly increase turbidity levels in the surface water of the impairment area? [CWA 303, 319]

Wetland & Riparian Vegetation

[WFSV11] What condition is the wetland in at present? [WFSV12] Is the wetland vegetation diverse? [WFSV13] Will the vegetation be disrupted during repair activities? [CWA 401, 404]

[WFSV21] What higher plants are present in the wetland and floodplain areas? [WFSV22] Will the construction activities inhibit growth and reproduction in the impairment area? [WFSV23] Will the stress of the activities on the plants [illegible] to outcompete native species? [NANSPCA]

Humans

[WFSHU11] What are the demographics associated with the impairment area? [WFSHU12] Are any property in the floodplain and wetland areas that may be significantly impacted by the construction activities? [WFSHU13] Are any of these properties farms? [WFSHU14] If so, will the construction activities significantly change the drainage of the farm land?

[WFSHU21] Will the anticipated increases in peak storm flows cause a short-term significant increase in flooding? [WFSHU22] Will the potential increase in flooding cause a significant increase in property losses?

[WFSHU31] What types of recreational opportunities exist in the wetland and floodplain areas that may be impacted by the emergency repair measures? [WFSHU32] Will the construction activities and anticipated vegetation removal cause a significant decrease in recreational opportunities?

[WFSHU41] Are there any commercial businesses that use the wetland and floodplain resources? [WFSHU42] If so, what are the economic impacts of the construction activities or anticipated vegetation removal significantly affect the commercial area?

[WFSHU51] Are there any cultural resources in the impairment areas? [WFSHU52] Will any of these cultural resources be impacted by the potential construction activities in the wetland and floodplain areas? [NRPA; WSRA; AMPA; ARPA]

[WFSHU61] Will the potential increases in storm flows and damage to cultural resources cause a significant decrease in educational and social benefits? [NRPA; WSRA; AMPA; ARPA]

[WFSHU71] Will the potential construction activities and vegetation removal cause a significant decrease in educational and social benefits?

Habitat

[WFSH11] What types of habitat are present in the wetland and floodplain areas near the impairment area? [WFSH12] Are these areas conducive to diverse wildlife populations? [FWCA]

[WFSH21] What is the condition of the wetland substrate? [WFSH22] Is there a diverse mix of substrate? [WFSH23] Will the activities cause any sediment deposition? [WFSH24] Will the activities affect the aquatic invertebrate community? [FWCA]

[WFSH31] Are there both riffle and pool habitats in the wetland? [WFSH32] Will the activities cause a change in habitat? [WFSH33] Will the anticipated construction activities and water quality changes significantly reduce fish rearing habitat? [FWCA]

[WFSH41] Are the wetland and floodplain habitats conducive to waterfowl, shorebirds, migratory, and forest-dwelling species? [WFSH42] Are there an adequate nesting areas for these birds? [WFSH43] Will the anticipated vegetation removal significantly reduce the wildlife populations? [WFSH44] Will the anticipated removal of vegetation cause higher predation and brood batch rates? [FWCA]

[WFSH51] What are the current habitat types in the wetland and floodplain areas? [WFSH52] Are they conducive to reptile and amphibians? [WFSH53] Will the anticipated removal of vegetation and construction activities significantly reduce the reptile and amphibian habitats? [WFSH54] If so, will predatory by raptors rise significantly?

[WFSH61] Will the anticipated removal of vegetation allow for significantly higher predation? [WFSH62] If so, will predatory animals move into the impairment area?

[WFSH71] Is there currently access to water for wildlife? [WFSH72] Will the associated construction activities significantly limit access to water? [FWCA]

Wildlife

[WFSW11] What species of wildlife are present in the impairment area? [WFSW12] Are any of these species T&E or state listed? [BSA]

[WFSW21] What species of invertebrates are present in the impairment area? [WFSW22] Are any of these species T&E or state listed? [WFSW23] Will the anticipated increases in erosion cause a significant decrease in invertebrate populations? [WFSW24] Will the potential construction activities cause an significant shift in species composition? [BSA]

[WFSW31] What species of fish are present in the wetland? [WFSW32] Are any of the species T&E or state listed? [WFSW33] Will the potential construction activities cause an significant impact the fish populations? [BSA; FWCA]

[WFSW41] What bird populations are present in the wetland and floodplain areas? [WFSW42] Are there any T&E or state listed species present? [WFSW43] Will the anticipated removal of vegetation significantly reduce the bird populations, or cause a shift in species composition? [BSA; FWCA]

[WFSW51] What species of reptiles and amphibians are present in the wetland and floodplain areas? [WFSW52] Are any of these species T&E or state listed? [WFSW53] Will the anticipated construction activities, vegetation removal, or water quality changes significantly impact the existing populations? [BSA]

[WFSW61] What mammal species are present in the wetland and floodplain areas? [WFSW62] Are any of these species T&E or state listed? [WFSW63] Will the removal of vegetation, construction activities, or changes in water quality and quantity significantly impact the mammal populations? [BSA]

Wetlands & Floodplains - LongTerm Impacts

Wetland Draining /Filling

[WFLWD11] Will the anticipated establishment of vegetation significantly decrease the potential for downstream additional filling? [WFLWD12] Will the potential construction of previous dikes, levees, and other structures significantly increase the potential for downstream additional filling? [WFLWD13] Will floodplain functions be changed by the installed practices? [RWA 19; CWA 401, 404]

Erosion

[WFLE11] Will the establishment of vegetation in the impairment area significantly reduce the erosion potential of the area? [WFLE12] Will the potential construction of previous dikes and other structures that may increase velocities in receiving waters increase erosion?

Wetland Functions Water Quality

[WFLWQ11] Will the establishment of vegetation in the impairment area decrease pesticide and herbicide contamination of surface water and vegetation? [WFLWQ12] Will the construction of previous dikes and other structures increase the impervious surfaces within the wetland and floodplain decrease contact time between surface water and vegetation? [RWA 9, 19; CWA 401, 404; NFIA]

[WFLWQ21] Will the removal of vegetation significantly increase nutrient loads in the wetland? [WFLWQ22] Will the construction of previous dikes and other structures reduce the contact time between surface water and vegetation and significantly reduce nutrient removal efficiencies? [RWA 9, 19; CWA 303, 401, 404]

[WFLWQ31] Will the increased contact time significantly increase BOD removal efficiencies? [WFLWQ32] Will the potential construction of previous dikes and other structures reduce the contact time between surface water and vegetation and significantly reduce BOD removal efficiencies? [RWA 9, 19; CWA 303, 401, 404]

[WFLWQ41] Will the increased contact time significantly increase suspended solid removal efficiencies? [WFLWQ42] Will the potential construction of previous dikes and other structures reduce the contact time between surface water and vegetation and significantly reduce suspended solid removal efficiencies? [RWA 9, 19; CWA 303, 401, 404]

[WFLWQ51] Will the increased contact time significantly increase metals removal efficiencies? [WFLWQ52] Will the potential construction of previous dikes and other structures reduce the contact time between surface water and vegetation and significantly reduce metals removal efficiencies? [RWA 9, 19; CWA 303, 401, 404]

[WFLWQ61] Will the increased contact time significantly increase pathogen removal efficiencies? [WFLWQ62] Will the potential construction of previous dikes and other structures reduce the contact time between surface water and vegetation and significantly reduce pathogen removal efficiencies? [RWA 9, 19; CWA 303, 401, 404]

[WFLWQ71] What are the current surface water temperatures in the impairment area [WFLWQ72] Will the vegetation increase the surface water's ability to warm the wetland and floodplain? [WFLWQ73] If so, will surface water temperatures decrease significantly? [WFLWQ74] Will the potential construction of previous dikes and other structures expose the wetland's surface water to direct sunlight, therefore significantly increasing surface water temperatures? [RWA 9, 19; CWA 303, 401, 404]

Wetland & Riparian Vegetation

[WFLV11] Will the establishment of vegetation within the floodplain and wetland areas significantly increase the diversity of the plant populations of the area? [WFLV12] Will the altered floodplain functions affect vegetation?

[WFLV21] Will planting native plants significantly decrease the amount of invasive plants significantly increase the diversity? [WFLV22] Will planting native plants significantly increase the competition between native and non-native plant species? [NANSPCA]

[WFLV31] Will planting native plants significantly impact the native plant species composition in the impairment area? [WFLV32] Will planting non-native plants significantly reduce the native plant species composition of the area? [NANSPCA]

Humans

[WFLHU11] Will the establishment of armor, dikes, and other structures significantly decrease the potential of flooding? [WFLHU12] Will the establishment of vegetation in floodplain and wetland areas significantly increase the potential of flooding?

[WFLHU21] Will the establishment of wetland and floodplain vegetation significantly increase the recreational opportunities of the impairment area? [WFLHU22] Will the establishment of structures within the wetland and floodplain areas significantly decrease the recreational opportunities of the area? [WFLHU23] Will the construction activities and potential impacts on the recreation of the area significantly affect tourism?

[WFLHU31] Will the establishment of vegetation structures within the impairment areas significantly increase the commercial benefits of the area? [WFLHU32] Will the establishment of structures within the wetland and floodplain areas significantly hamper existing businesses and significantly decrease the commercial benefits of the area?

[WFLHU41] Will the establishment of wetland and floodplain vegetation significantly impact the cultural resources of the area? [WFLHU42] Will the establishment of vegetation, or repair of, flood prevention structures significantly impact the cultural resources in the area? [NRPA; WSRA; AMPA; ARPA]

[WFLHU51] Will the establishment of flood control structures and vegetation within the floodplain and wetland areas significantly increase social benefits by decreasing insurance, rescue, etc. costs? [NFIA]

[WFLHU61] Will the anticipated establishment of vegetation and flood prevention structures significantly affect the educational and scientific benefits of the wetland and floodplain?

Habitat

[WFLH11] Will the establishment of vegetation in floodplain and wetland areas significantly increase the fish rearing habitat in the impairment area? [WFLH12] Will the construction or placement of flood prevention structures significantly increase or decrease the fish rearing habitat? [WFLH13] Will potential high velocities or low flow areas significantly decrease the area's fish rearing habitat? [RWA 9, 19; CWA 401, 404; FWCA]

[WFLH21] Will the establishment of vegetation in the impairment areas significantly increase the avian nesting areas? [WFLH22] Will the establishment of vegetation significantly increase the number of trees and significantly decrease the avian nesting habitat? [RWA 9, 19; CWA 401, 404; FWCA]

[WFLH31] Will the establishment of vegetation and flood protection structures significantly affect the reptile and amphibian habitat within the impairment area? [RWA 9, 19; CWA 401, 404]

[WFLH41] Will the anticipated establishment of vegetation within the impairment area significantly increase the number of invertebrates? [WFLH42] Will the anticipated construction activities significantly change the invertebrate cover of the area? [RWA 9, 19; CWA 401, 404; FWCA]

[WFLH51] Would the anticipated construction or repair of flood protection structures significantly impair access to water by wildlife? [RWA 9, 19; CWA 401, 404; FWCA]

Wildlife

[WFLW11] Will the potential impacts to invertebrate habitat and changes to water quality, quantity, and velocities, significantly affect the vertebrate populations?

[WFLW21] Will the potential changes to fish rearing habitat and the anticipated changes in water quality, quantity, and velocity significantly affect the populations? [FWCA]

[WFLW31] Will the anticipated changes in vegetative structure and protective habitat significantly affect the area's avian populations? [FWCA]

[WFLW41] Will the anticipated changes in the vegetative structure, water quality and quantity, and protective cover significantly impact the reptile and amphibian populations of the impaired area? [FWCA 303]

[WFLW51] Will the anticipated changes in protective cover, access to water, water quality, vegetative cover, and species composition significantly affect the impaired area's wildlife populations? [FWCA]

[WFLW61] Will the anticipated changes in vegetative composition, surface water characteristics, and habitat significantly change the wildlife species composition of the area? [FWCA]