Shapefile	Function	How/What	Metadata
Riparian vegetation	Delivery (day time and night time)	Used to estimate natural light delivery. Used with impervious surface to find highly developed areas that would likely deliver artificial light at night.	Anchor data. Name: mrv.htm
Impervious Surface	Delivery (night time)	Estimate artificial light produced at night; used in conjunction with riparian vegetation data.	based off of 2000 orthos http://www.metrokc.gov/gis/sdc/raster/landcover/ChgDetectionImpervious.html
Ferries/Marinas Locations	Delivery/Loss	Both ferries and marinas produce artificial light at night. The overwater structures also block light penetration.	KC data. Name: marina_ferries.shp
Over-water structures	Loss	Docks/piers block light and can alter predator/prey relationships based on visibility.	Used first pixel landward only along the shoreline. Anchor data. Name: overwater_structure.htm

Shapefile	Function	How/What	Metadata
Riparian vegetation	Delivery	Vegetation presence determines available LWD for recruitment. Used in conjunction with landslide data to predict LWD delivery.	Anchor data. Name: mrv.htm
Armoring	Delivery	Used in conjunction with landslide and riparian vegetation to analyze potential for LWD to reach beaches. Armoring used with ordinary high water mark describes how LWD will be placed on shoreline.	Anchor data. Name: armoring.shp
Landslide	Delivery	Landslide hazard areas predict where LWD might be delivered to shoreline.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=slide&XMLAvail=True
Anchor OWS	Movement	Docks and piers can block the movement of LWD along the shoreline.	G:\InternalMetadata\all external metadata\overwater_structure.htm
Road crossings	Movement	Bridges and/or culverts can impede movement of LWD.	KC Data. Created by intersecting KC road layers and waterbodies.
Boat Ramps	Movement/Loss	LWD often removed from boat launches for recreational safety.	Anchor data. Name: ramp.shp
Impervious surface - Anchor	Loss	Reach impervious data used to estimate likely removal of LWD from the beach by homeowners.	Anchor data. Name: impervious.shp

Shapefile	Function	How/What	Metadata
Agriculture	Delivery	Agriculture categories can be ranked by probability of contributing nitrogen.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=ag_landuse_genl03&XMLAvail=True
Sewers	Delivery	Nonsewered areas may contribute more nitrogen to nearby waterbodies than areas served by sewer systems.	http://dnr-web.metrokc.gov/dnrtech/dnrpgislib/dnrplib_detail.cfm?DS_PID=510
Riparian vegetation	Delivery	Used with sewers to determine areas with many septic systems, which may contribute increased nitrogen inputs. Particular attention paid to Quartermaster harbor.	Anchor data. Name: mrv.htm
Wetland loss	Movement/Loss	Wetlands retain or slow the movement of nitrogen. Loss thus represents increased nitrogen movement.	Made by intersections of hydric soils with areas of <2% slope to estimate historic wetlands, then compared with current wetlands shapefile to determine probable wetland loss.
Channelized waterways	Movement/Loss	Ditched watercourses can increase the rate of movement.	G:\InternalMetadata\DNRPlibMetadataDocs\Fish and Ditch Documentation - King County DDES GIS.htm

Shapefile	Function	How/What	Metadata
Agriculture	Delivery	Agriculture land cover data used to estimate probability of contributing phosphorus.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=ag_landuse_genl03&XMLAvail=True
Sewers	Delivery	Separates septic from sewered areas: septic systems may contribute phosphorus locally. Special attention paid to Quartermaster Harbor.	http://dnr-web.metrokc.gov/dnrtech/dnrpgislib/dnrplib_detail.cfm?DS_PID=510
Riparian vegetation	Delivery/Movement	Used with sewers to determine potential phosphorus sources. Particular attention was given to Quartermaster Harbor. Used in movement with soils to determine areas of clay soils that retain phosphorus.	Anchor data. Name: mrv.htm
Wetland loss	Movement	Wetlands retain or slow the movement of phosphorus. Loss thus represents increased phosphorus movement. Used with soils to estimate loss of clay soil retention of phosphorus.	Made by intersections of hydric soils with areas of <2% slope to estimate historic wetlands, then compared with current wetlands shapefile to determine probable wetland loss.
Soils	Movement	Used with riparian vegetation and wetland loss for determining clay soil retention of phosphorus.	http://gisdw/intranet/sdc/nonkcgis/content/enviro_ext/nda_soils_kc.htm

Shapefile	Function	How/What	Metadata
Agriculture	Delivery	Agriculture categories can be ranked by probability of contributing pathogens.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=ag_landuse_genl03&XMLAvail=True
Sewers	Delivery	Separates septic from sewered areas: septic systems may contribute pathogens locally.	http://dnr-web.metrokc.gov/dnrtech/dnrpgislib/dnrplib_detail.cfm?DS_PID=510
Riparian vegetation	Delivery	Used with sewers to determine potential pathogen sources. Particular attention was given to Quartermaster Harbor.	Anchor data. Name: mrv.htm
Ferries_Marinas	Delivery	Marinas may contribute pathogens.	Anchor data. Overwater_structure.htm
Wetland loss	Movement/Loss	Wetlands retain or slow the movement of pathogens. Loss thus represents increased pathogen movement.	Made by intersections of hydric soils with areas of <2% slope to estimate historic wetlands, then compared with current wetlands shapefile to determine probable wetland loss.
CAO Basin Layer	Movement/Loss	% TIA used to estimate pathogen movement through overland flow and stormwater runoff.	http://www5.metrokc.gov/sdc/TOC.aspx?subject=hydro
Roads Layer	Movement/Loss	Road runoff can increase pathogen rate of movement.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=st_address&XMLAvail=True
Channelized waterways	Movement/Loss	Ditched watercourses can increase the rate of movement.	G:\InternalMetadata\DNRPlibMetadataDocs\Fish and Ditch Documentation - King County DDES GIS.htm

Shapefile	Function	How/What	Metadata
Agriculture	Delivery	Agricultural use can increase the probability of contributing toxins.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=ag_landuse_genl03&XMLAvail=True
Riparian vegetation	Delivery	Vegetation and level of development indicate levels of delivery of toxins.	Anchor data. Name: mrv.htm
Roads	Delivery	Roads contribute toxins; considered only roads within jurisdictional area along shoreline.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=st_address&XMLAvail=True
CSO/Discharge	Delivery	Toxin delivery to shoreline from other areas or sources.	Combination of three sources: Anchor data : anchor_outfalls.shp; Terralogic data: terralogic_outfalls.shp; Coastal geologic data: cg_outfalls.shp cso.shp, sde_npdespts.shp.
Marinas_Ferries	Delivery	Marinas contribute toxins to water on shorelines.	Anchor data. Overwater_structure.htm
Wetland loss	Movement	Wetlands retain or slow the movement of toxins. Loss thus represents increased toxin movement. Used with soils to estimate loss of clay soil retention of toxins.	Made by intersections of hydric soils with areas of <2% slope to estimate historic wetlands, then compared with current wetlands shapefile to determine probable wetland loss.
Impervious Surface	Movement	Impervious coverage can affect how quickly toxins move through the system.	Anchor data. Name: impervious.shp

Shapefile	Function	How/What	Metadata
Agriculture	Delivery	Agriculture categories can be ranked by probability of contributing sediment.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=ag_landuse_genl03&XMLAvail=True
Feeder Bluff	Delivery	Used to estimate the potential for landslide delivery of sediment to shoreline.	http://gisdw/intranet/sdc/nonkcgis/content/enviro_ext/pcg_conservation_bluffs.htm
Roads	Delivery	Roads contribute sediment; considered only roads within jurisdictional area along shoreline.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=st_address&XMLAvail=True
Armoring	Delivery / Movement	Armoring can decrease the size of landslides and decrease sediment delivery. Armoring also alters sediment movement along shorelines. Level of impact depends on its location in relation to the ordinary high water mark.	G:\InternalMetadata\all external metadata\armoring1.htm
Groin	Movement	Used with armoring to estimate interruption of sediment movement.	G:\InternalMetadata\all external metadata\groins.htm
Over Water Structures	Movement	Overwater structures can disrupt sediment movement	G:\InternalMetadata\all external metadata\overwater_structure.htm

Shapefile	Function	How/What	Metadata
Impervious Surface	Movement	Used with subbasin TIA and landcover to assess overland flow and sub-surface flow	KC data from 2000 orthophotos. http://www.metrokc.gov/gis/sdc/raster/landcover/ChgDetectionImpervious.html
CAO TIA	Movement	Used in conjunction with impervious surface to estimate differing contributions to overland flow.	http://www5.metrokc.gov/sdc/TOC.aspx?subject=hydro
Wetland loss	Movement	Used to estimate loss of water storage due to loss of wetlands.	Made by intersections of hydric soils with areas of <2% slope to estimate historic wetlands, then compared with current wetlands shapefile to determine probable wetland loss.
Roads	Movement	Roads increase rate of surface runoff and alter groundwater recharge rates.	http://www5.metrokc.gov/sdc/Metadata.aspx?Layer=st_address&XMLAvail=True
Armoring	Movement	Armoring can block subsurface flow and affect storage.	Anchor data. Name: armoring.shp
Riparian vegetation	Movement/Loss	Used with impervious surface to estimate changes in shallow subsurface flows and recharge. Used to estimate loss of function of the water cycle.	Anchor data. Name: mrv.htm

Shapefile	Function	How/What	Metadata
Boat Traffic	Delivery	Location of major shipping lanes and the amount of recreational boat traffic affect wave generation and energy.	King County 2007; wave_pathogen_motorized boats
Marinas_Ferries	Delivery	Marinas and ferry docks are areas of high boat traffic and wave generation.	Digitized from http://www.metrokc.gov/gis/sdc/raster/ortho/Ortho2002USGSNATMetadata.html
Armoring	Movement	Armoring and the location of the ordinary high water mark can affect extent of wave deflection.	Anchor data. Name: armoring.shp
Boat Ramps	Movement	Boat ramps are similar to armoring in that they impact how wave energy is absorbed by the shoreline.	Anchor data. Name: ramp.shp
Over-water structures	Loss	Docks and piers can dissipate and deflect waves.	Anchor data. Name: overwater_structure_pt.shp

Shapefile	Function	How/What	Metadata
Tidal Constriction	Movement	Outfalls, culverts and certain bulkheads in the marine areas create tidal constrictions by blocking water movement.	PCG_WRIA8_9_FRESHWATER; Washington Trout: Watrout-RWT_bulkhead, WaTrout data-RWT_culvert ; King County Roads culvert
Armoring	Movement	Armoring placed waterward from ordinary high water mark represents tidal encroachment.	Anchor data. Name: armoring.shp
CAO Basin Layer	Movement	Percentages of TIA were used to indicate modification of surface flows, which impacts tidal heights in subestuaries.	http://www5.metrokc.gov/sdc/TOC.aspx?subject=hydro