

12th Annual Status Report on U.S. Army Corps of Engineers Construction Projects Requiring Mitigation under Section 906 of the Water Resources Development Act of 1986

As required by section 2036(b)
Water Resources Development Act of 2007, as amended

FEBRUARY 2020



**U.S. Army Corps
of Engineers®**

This page is intentionally left blank.

INTRODUCTION

This 12th Annual Status Report on U.S. Army Corps of Engineers (Corps) Construction Projects Requiring Mitigation was prepared in response to Section 2036(b) of the Water Resources Development Act (WRDA) of 2007, as amended. Data for this report are presented in three tables and will be included in the Fiscal Year (FY) 2021 Civil Works Budget press book.

TABLE 1. – Corps Projects under Construction during FY 2019. Table 1 lists 436 in FY 2019 in the Construction Account or Mississippi River and Tributaries Construction Accounts. Programs such as the various environmental infrastructure authorities are represented by one line item.

TABLE 2. - Status of Corps Projects with Ongoing Compensatory Mitigation. In FY2019, 66 of the 436 projects in Table 1 had ongoing compensatory mitigation actions. If a project met compensatory mitigation requirements in a previous year and is still under construction, it is not included in Table 2. Table 2 includes compensatory mitigation projects pending acquisition of all required lands, pending initial construction of the mitigation actions, and/or constructed mitigation actions that are currently being monitored to confirm the mitigation action is functioning successfully as defined by project specific performance criteria. The number of acres listed under the column heading “Mitigation Total Acres of Land Acquired” are acres of land available to mitigate adverse project impacts through either construction of compensatory mitigation actions or preservation of at risk habitat as compensatory mitigation. It may include lands that have been purchased in fee to provide mitigation; are within existing Corps project boundaries or mitigation banks; have been made available by other agencies; or are located below mean low water in coastal areas. For some projects, the mitigation listed includes actions required to meet the Endangered Species Act of 1973 (ESA), as amended, as well as, section 906 of WRDA 1986, as amended. Projects that were initiated prior to section 906 of WRDA 1986 but required mitigation are included in Table 2 and noted accordingly.

TABLE 3 – Table 3 lists projects that concluded, or are continuing, consultations with federal and state resource agencies to determine if mitigation has been successfully completed. Mitigation is considered complete and “successful” when the Major Subordinate Command (MSC)/Division Commander determines the mitigation is successful based on monitoring results and the results of the consultation with the appropriate agencies regarding mitigation success as required by section 2036 (a)(4) of WRDA 2007.

FY 2021 CIVIL WORKS BUDGET PRESS BOOK.

The FY2021 press book contains a listing of all projects for which the President requests funding for the next fiscal year.

SUMMARY OF FY2019 COMPLETED COMPENSATORY MITIGATION ACTIONS:

One project was determined to have successfully completed compensatory mitigation requirements in FY2019. Other projects have completed construction of all mitigation requirements, however, either monitoring or adaptive management is on-going, or the results of monitoring are still being coordinated with resource agencies to determine whether success criteria are met. These are described in Table 2.

- Canton Lake, Dam Safety, OK, project (Southwest Division) required mitigation that included relocation of an existing prairie dog town impacted by project construction and replacement of lands licensed to the Oklahoma Department of Wildlife Conservation (ODWC) and impacted by construction. The prairie dog town was successfully moved before construction in coordination with USFWS and ODWC. The total 220 acres of acquired lands are now part of the ODWC license area and managed by that agency. Monitoring was not required. In Nov 2018, final minor activities for leased lands were completed, associated with water well installation. Mitigation is complete and determined to be successful.

CORRECTIONS AND NOTES FOR FUTURE REPORTS

- Rio Grande Flood, San Acacia, NM, project (South Pacific Division) required 50.4 acres of tree/shrub riparian plantings and 35.1 acres of riparian grassland. For the first phase of project construction (9.8 miles of levee by the City of Socorro, completed in 2017), mitigation was not required due to reduction in the levee footprint. Construction of remaining San Acacia levees will not be pursued in foreseeable future, therefore, no mitigation presently required. This project will be removed from future mitigation reports until such time that construction of this project is returned to active status.

PROGRAMMATIC MITIGATION ACTIONS

Some mitigation features reported are being managed programmatically, over the geographic scope of the system, and while individual elements are tracked separately, from a system-wide perspective the mitigation is progressing concurrently with construction. Two of these programs include the Mississippi River Levees Program and the Sacramento River Bank Protection Project (SRBPP).

The SRBPP is a continuing construction project authorized by the Flood Control Act of 1960. It entails levee protection work at 25 erosion sites along the Sacramento River and its tributary levees ranging from toe and upper bank riprap placement, stabilization by planting, installation of in-stream woody material, and construction of setback levees on the land side of existing levees. Mitigation is being implemented to reduce potentially significant effects identified in biological opinions (BO's) issued by the USFWS and National Marine Fisheries Service (NMFS), and pursuant to the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act (FWCA) and the Clean Water Act (CWA). The reaches that required mitigation are identified by River Miles (RM) on the Sacramento River and its tributaries and include Sacramento RM 77.2L (left), RM 7.0L,

RM 10.0L, RM 10.6L, RM 16.8L, RM 26.0 and RM 71.3 . Most of the construction and mitigation are complete, except for limited follow up to meet established success criteria.

The Mississippi River Levees and Seepage Control Project is a regional project (Memphis, Vicksburg and New Orleans Districts) within Mississippi Valley Division. The Regional Project Manager is located in the Vicksburg District and has overall responsibility for regional management across the project. However individual flood risk management construction items and associated mitigation are developed, delivered and reported in the mitigation database by each district. Total mitigation in the 1998 SEIS was estimated at 5,863 acres across all three Districts. Although an individual district may be behind on their mitigation requirement, mitigation for the entire regional project is ahead of construction completed. To date approximately 97 percent of mitigation has been delivered. Additional mitigation requirements are being assessed in a SEIS scheduled to be completed in the last quarter of calendar year 2020.

CONCLUSION

In comparing the percentage of mitigation completed to the percentage of construction completed in Table 2, mitigation activities are occurring concurrently with impacts from construction activities, in accordance with section 906 of WRDA 1986, as amended. Since FY2008, 46 projects have successfully met compensatory mitigation requirements and an additional 21 projects have completed construction of the compensatory mitigation and are currently undergoing post-construction monitoring to confirm ecological performance metrics are successfully met.

USACE Major Subordinate Commands (MSCs) and Districts

Acronym	Major Subordinate Command (MSC)/District
LRD	GREAT LAKES AND OHIO RIVER DIVISION
LRB	BUFFALO DISTRICT
LRC	CHICAGO DISTRICT
LRE	DETROIT DISTRICT
LRH	HUNTINGTON DISTRICT
LRL	LOUISVILLE DISTRICT
LRN	NASHVILLE DISTRICT
LRP	PITTSBURGH DISTRICT
MVD	MISSISSIPPI VALLEY DIVISION
MVK	VICKSBURG DISTRICT
MVM	MEMPHIS DISTRICT
MVN	NEW ORLEANS DISTRICT
MVP	ST PAUL DISTRICT
MVR	ROCK ISLAND DISTRICT
MVS	ST LOUIS DISTRICT
NAD	NORTH ATLANTIC DIVISION
NAB	BALTIMORE DISTRICT
NAE	NEW ENGLAND DISTRICT
NAN	NEW YORK DISTRICT
NAO	NORFOLK DISTRICT
NAP	PHILADELPHIA DISTRICT
NWD	NORTHWESTERN DIVISION
NWK	KANSAS CITY DISTRICT
NWO	OMAHA DISTRICT
NWP	PORTLAND DISTRICT
NWS	SEATTLE DISTRICT
NWW	WALLA WALLA DISTRICT
POD	PACIFIC OCEAN DIVISION
POA	ALASKA DISTRICT
POH	HONOLULU DISTRICT
SAD	SOUTH ATLANTIC DIVISION
SAJ	JACKSONVILLE DISTRICT
SAM	MOBILE DISTRICT
SAS	SAVANNAH DISTRICT
SAW	WILMINGTON DISTRICT
SAC	CHARLESTON DISTRICT
SPD	SOUTH PACIFIC DIVISION
SPA	ALBUQUERQUE DISTRICT
SPK	SACRAMENTO DISTRICT
SPL	LOS ANGELES DISTRICT
SPN	SAN FRANCISCO DISTRICT
SWD	SOUTHWESTERN DIVISION
SWF	FT WORTH DISTRICT
SWG	GALVESTON DISTRICT
SWL	LITTLE ROCK DISTRICT
SWT	TULSA DISTRICT

TABLE ACRONYMS

AAHU	Average annual habitat unit
ac	acres
BiOp	Biological Opinion (Section 7 of the ESA)
BLH	Bottomland Hardwoods
CWA	Clean Water Act
DEP	Department of Environmental Protection
DFWR	Department of Fish and Wildlife Resources
DNR	Department of Natural Resources
DOI	Department of Interior
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPA	US Environmental Protection Agency
ERDC	US Army Corps of Engineers, Engineering Research and Development Center
ESA	Endangered Species Act of 1973, as amended
FONSI	Finding of No Significant Impact
FRM	Flood Risk Management
ft	feet
FWCA	Fish and Wildlife Coordination Act
FY	Fiscal Year
HTRW	Hazardous Toxic and Radioactive Waste
IER	Individual Environmental Report
IWM	In-water Woody Material
lf	linear feet
LRR	Limited Re-evaluation Report
m	miles
M	million
NED	National Economic Development
NEPA	National Environmental Policy Act
NER	National Ecosystem Restoration
NFS	Non-Federal Sponsor
NFL	Non-Federal Levee
NMFS	National Marine Fisheries Service
O&M	Operations and Maintenance
PACR	Post Authorization Change Report
PED	Pre-construction Engineering and Design
RM	River Mile
ROD	Record of Decision
USFWS	US Fish and Wildlife Service
VELB	Valley Elderberry Longhorn Beetle
WMA	Wildlife Management Area
WQC	Water Quality Certification (Section 401 Clean Water Act)

TABLE 1. CORPS PROJECTS UNDER CONSTRUCTION DURING FY2019			
	State	MSC	PROJECT (OR PROGRAM NAME)
1	AK	POD	AKUTAN HARBOR, AK
2	AK	POD	ALASKA COASTAL EROSION, AK
3	AK	POD	ALASKA ENVIRONMENTAL, AK
4	AK	POD	BETHEL BANK STABILIZATION, AK
5	AK	POD	CHENA RIVER LAKES, AK
6	AK	POD	DILLINGHAM EMERGENCY BANK STABILIZATION, AK
7	AK	POD	FALSE PASS HARBOR, AK
8	AK	POD	NOME HARBOR IMPROVEMENTS, AK
9	AK	POD	PORT LIONS HARBOR, AK
10	AK	POD	SEWARD HARBOR, AK
11	AK	POD	ST PAUL HARBOR, AK
12	AK	POD	UNALASKA HARBOR, AK
13	AK	POD	VALDEZ HARBOR EXPANSION, AK
14	AL	SAD	MOBILE HARBOR, AL
15	AL	SAD	TENNESSEE - TOMBIGBEE WATERWAY WILDLIFE MITIGATION, AL & MS
16	AL	SAD	TUSCALOOSA AREA OFFICE, AL
17	AR	MVD	BAYOU METO BASIN
18	AR	MVD	GRAND PRAIRIE REGION
19	AR	SWD	MONTGOMERY POINT LOCK AND DAM, AR
20	AR	SWD	OZARK - JETA TAYLOR LOCK AND DAM, AR
21	AR	SWD	TABLE ROCK LAKE
22	AZ	SPD	NOGALES WASH, AZ
23	AZ	SPD	RIO DE FLAG FLAGSTAFF, AZ
24	AZ	SPD	RIO SALADO, PHOENIX AND TEMPE REACHES, AZ
25	AZ	SPD	TRES RIOS, AZ
26	AZ	SPD	TUCSON DRAINAGE AREA, AZ
27	CA	SPD	AMERICAN RIVER COMMON FEATURES, NATOMAS BASIN, CA
28	CA	SPD	AMERICAN RIVER WATERSHED (COMMON FEATURES), CA
29	CA	SPD	AMERICAN RIVER WATERSHED (FOLSOM DAM MODIFICATIONS), CA
30	CA	SPD	AMERICAN RIVER WATERSHED (FOLSOM DAM RAISE), CA
31	CA	SPD	CAMBRIA SEAWATER DESALINATION, CA
32	CA	SPD	CONTRA COSTA CANAL, CA (SEC 219)
33	CA	SPD	COYOTE & BERRYESSA CREEKS, CA
34	CA	SPD	DESERT HOT SPRINGS, CA
35	CA	SPD	FARMINGTON RECHARGE (SEC 502)
36	CA	SPD	GUADALUPE RIVER, CA
37	CA	SPD	HAMILTON AIRFIELD WETLANDS RESTORATION, CA*
38	CA	SPD	HAMILTON CITY, CA
39	CA	SPD	HARBOR/SOUTH BAY WATER RECYCLING STUDY, LOS ANGELES, CA
40	CA	SPD	ISABELLA LAKE, CA (DAM SAFETY)
41	CA	SPD	KAWEAH RIVER, CA
42	CA	SPD	LLAGAS CREEK, CA

43	CA	SPD	LOS ANGELES HARBOR MAIN CHANNEL DEEPENING, CA
44	CA	SPD	MARTIS CREEK, CA (DAM SAFETY)
45	CA	SPD	MARYSVILLE/YUBA CITY LEVEE RECONSTRUCTION, CA
46	CA	SPD	MERCED COUNTY STREAMS, CA
47	CA	SPD	MID-VALLEY AREA LEVEE RECONSTRUCTION, CA
48	CA	SPD	MORRO BAY HARBOR CA
49	CA	SPD	MURRIETA CREEK, CA
50	CA	SPD	NAPA RIVER, CA
51	CA	SPD	NAPA RIVER, SALT MARSH RESTORATION, CA*
52	CA	SPD	NORCO BLUFFS, SANTA ANA RIVER, CA
53	CA	SPD	NORTH VALLEY REGIONAL WATER INFRASTRUCTURE, CA
54	CA	SPD	OAKLAND HARBOR (42 FOOT), CA
55	CA	SPD	OAKLAND HARBOR (50 FOOT PROJECT), CA
56	CA	SPD	PETALUMA RIVER, CA
57	CA	SPD	PLACER COUNTY SUB-REGIONAL WASTEWATER TREATMENT
58	CA	SPD	PORT HUENEME, CA
59	CA	SPD	PORT OF LONG BEACH (DEEPENING), CA
60	CA	SPD	PORT OF LOS ANGELES WATER QUALITY MODELING STUDY
61	CA	SPD	SACRAMENTO DEEPWATER SHIP CHANNEL, CA
62	CA	SPD	SACRAMENTO RIVER BANK PROTECTION PROJECT, CA
63	CA	SPD	SACRAMENTO RIVER, GLENN-COLUSA IRRIGATION DISTRICT, CA
64	CA	SPD	SAN FRANCISCO BAY TO STOCKTON, CA
65	CA	SPD	SAN FRANCISCO, CA (PIER 36)
66	CA	SPD	SAN LUIS REY RIVER, CA
67	CA	SPD	SAN RAMON VALLEY RECYCLED WATER, CA
68	CA	SPD	SANTA ANA RIVER MAINSTEM, CA
69	CA	SPD	SANTA MARIA LEEVES, CA
70	CA	SPD	SANTA PAULA CREEK, CA
71	CA	SPD	SOUTH PERRIS, CA
72	CA	SPD	SOUTH SACRAMENTO COUNTY STREAMS, CA
73	CA	SPD	STOCKTON METROPOLITIAN FLOOD CONTROL REIMBURSEMENT, CA
74	CA	SPD	SUCCESS DAM, TULE RIVER, CA (DAM SAFETY)
75	CA	SPD	SURFSIDE - SUNSET - NEWPORT BEACH, CA
76	CA	SPD	TAHOE BASIN RESTORATION 108*
77	CA	SPD	SUTTER BASIN
78	CA	SPD	TULE RIVER, CA
79	CA	SPD	UPPER GUADALUPE RIVER, CA
80	CA	SPD	UPPER NEWPORT BAY, CA
81	CA	SPD	WEST SACRAMENTO, CA
82	CA	SPD	YUBA RIVER BASIN, CA
83	CO	NWD	CHERRY CREEK LAKE, CO
84	CO	SPD	ALAMOSA, CO
85	DC	NAD	WASHINGTON, DC & VICINITY
86	DE	NAD	DELAWARE BAY COASTLINE, BROADKILL BEACH, DE & NJ
87	DE	NAD	DELAWARE BAY COASTLINE, PT. MAHON, DE & NJ
88	DE	NAD	DELAWARE BAY COASTLINE, ROOSEVELT INLET TO LEWES BEACH, DE
89	DE	NAD	DELAWARE BAY COASTLINE, VILLAS, DE & NJ

90	DE	NAD	DELAWARE COAST PROTECTION, DE
91	DE	NAD	DELAWARE COAST, BETHANY BEACH TO SOUTH BETHANY BEACH
92	DE	NAD	DELAWARE COAST, CAPE HENLOPEN TO FENWICK ISLAND, DE
93	DE	NAD	DELAWARE COAST, REHOBOTH BEACH TO DEWEY BEACH, DE
94	FL	SAD	BREVARD COUNTY, CANAVERAL HARBOR, FL
95	FL	SAD	BROWARD COUNTY, FL (REIMBURSABLE)
96	FL	SAD	CEDAR HAMMOCK, WARES CREEK, FL
97	FL	SAD	CENTRAL & SOUTHERN FLORIDA, FL
98	FL	SAD	DADE COUNTY, FL
99	FL	SAD	DUVAL COUNTY, FL
100	FL	SAD	EVERGLADES AND SOUTH FLORIDA ECOSYSTEM RESTORATION, FL*
101	FL	SAD	FLORIDA KEYS WATER QUALITY IMPROVEMENTS, FL
102	FL	SAD	FORT PIERCE BEACH, FL
103	FL	SAD	HERBERT HOOVER DIKE, FL (SEEPAGE CONTROL)
104	FL	SAD	INTRACOASTAL WATERWAY CR TO AR MANATEE CO
105	FL	SAD	JACKSONVILLE HARBOR DEEPENING, FL
106	FL	SAD	JACKSONVILLE HARBOR, FL
107	FL	SAD	KISSIMMEE RIVER, FL
108	FL	SAD	LEE COUNTY, FL
109	FL	SAD	MILE POINT
110	FL	SAD	MANATEE COUNTY, FL
111	FL	SAD	MANATEE HARBOR, FL
112	FL	SAD	MARTIN COUNTY, FL
113	FL	SAD	MIAMI HARBOR CHANNEL FL
114	FL	SAD	NASSAU COUNTY, FL
115	FL	SAD	PALM BEACH COUNTY, FL
116	FL	SAD	PANAMA CITY HARBOR, FL
117	FL	SAD	PINELLAS COUNTY, FL
118	FL	SAD	PONCE DE LEON INLET, FL
119	FL	SAD	SARASOTA COUNTY, FL
120	FL	SAD	SARASOTA , LIDO KEY, FL
121	FL	SAD	ST JOHN'S COUNTY, FL
122	FL	SAD	ST LUCIE INLET, FL
123	FL	SAD	TAMPA HARBOR MAIN CHANNEL, FL
124	FL	SAD	TAMPA HARBOR, ALAFIA RIVER, FL
125	FL	SAD	TAMPA HARBOR, BIG BEND, FL
126	FL	SAD	TAMPA HARBOR, FL
127	GA	SAD	ATLANTA ENVIRONMENTAL INFRASTRUCTURE, GA
128	GA	SAD	BRUNSWICK HARBOR, GA
129	GA	SAD	RICHARD B RUSSELL DAM AND LAKE, GA & SC
130	GA	SAD	SAVANNAH HARBOR DISPOSAL AREAS, GA & SC
131	GA	SAD	SAVANNAH HARBOR EXPANSION, GA
132	GA	SAD	TYBEE ISLAND, GA
133	HI	POD	HAWAII WATER MANAGEMENT, HI
134	HI	POD	HAWAII WATER SYSTEMS TECHNICAL STUDY, HI
135	HI	POD	IAO STREAM FLOOD CONTROL, MAUI, HI
136	IA	MVD	DES MOINES AND RACCOON RIVERS, IA

137	IA	MVD	DES MOINES RECREATION RIVER AND GREENBELT, IA
138	IA	MVD	LOCK AND DAM 11, MISSISSIPPI RIVER, IA (MAJOR REHAB)
139	IA	MVD	LOCK AND DAM 19, MISSISSIPPI RIVER, IA (MAJOR REHAB)
140	IA	NWD	MISSOURI RIVER FISH AND WILDLIFE RECOVERY, IA, KS, MO, MT, NE, ND & SD*
141	IA	NWD	MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS & MO
142	ID	NWD	RURAL IDAHO, ID
143	IL	LRD	CALUMET HARBOR AND RIVER, IL & IN
144	IL	LRD	CHICAGO SANITARY AND SHIP CANAL DISPERSAL BARRIER, IL
145	IL	LRD	CHICAGO SHORELINE, IL
146	IL	LRD	COOK COUNTY INFRASTRUCTURE, IL
147	IL	LRD	DES PLAINES RIVER, IL
148	IL	LRD	DES PLAINES WETLANDS DEMONSTRATION PROJECT, IL
149	IL	LRD	GREAT LAKES FISHERIES AND ECOSYSTEM RESTORATION, IL, IN, MN, OH & PA*
150	IL	LRD	MCCOOK AND THORNTON RESERVOIRS, IL
151	IL	LRD	OLMSTED LOCKS AND DAM, OHIO RIVER, IL & KY
152	IL	MVD	ALTON TO GALE ORGANIZED LEVEE DISTRICTS, IL & MO
153	IL	MVD	CHAIN OF ROCKS CANAL, MISSISSIPPI RIVER, IL (DEF CORR)
154	IL	MVD	EAST ST LOUIS, IL
155	IL	MVD	ILLINOIS RIVER BASIN RESTORATION , IL
156	IL	MVD	ILLINOIS WATERWAY, LOCKPORT LOCK AND DAM, IL (MAJOR REHAB)
157	IL	MVD	LOCK AND DAM 24, MISSISSIPPI RIVER, IL & MO (MAJOR REHAB)
158	IL	MVD	LOCK AND DAM 27, MISSISSIPPI RIVER, IL (MAJOR REHAB)
159	IL	MVD	MADISON AND ST. CLAIR COUNTIES, IL
160	IL	MVD	MELVIN PRICE LOCK AND DAM (2ND LOCK), IL & MO
161	IL	MVD	MELVIN PRICE LOCK AND DAM, IL & MO
162	IL	MVD	UPPER MISSISSIPPI RIVER RESTORATION, IL, IA, MN, MO & WI*
163	IL	MVD	B5 MISSISSIPPI RIVER DMMP POOL 13 SABULA
164	IL	MVD	WOOD RIVER D&LD, GRASSY LAKE PUMP STATION, IL
165	IL	MVD	WOOD RIVER LEVEE, DEFICIENCY CORRECTION AND RECONSTRUCTION, IL
166	IN	LRD	CALUMET REGION, IN
167	IN	LRD	CEDAR LAKE, IN
168	IN	LRD	CITY OF INDIANAPOLIS, IN
169	IN	LRD	INDIANA HARBOR, CONFINED DISPOSAL FACILITY, IN
170	IN	LRD	INDIANA SHORELINE EROSION, IN
171	IN	LRD	INDIANAPOLIS, WHITE RIVER (NORTH), IN
172	IN	LRD	JOHN T MYERS LOCKS AND DAM, IN & KY
173	IN	LRD	LAKE MICHIGAN WATERFRONT, IN
174	IN	LRD	LITTLE CALUMET RIVER BASIN, CADY MARSH DITCH, IN
175	IN	LRD	LITTLE CALUMET RIVER, IN
176	IN	LRD	OHIO RIVER GREENWAY PUBLIC ACCESS, IN
177	KS	NWD	TOPEKA, KS
178	KS	NWD	TURKEY CREEK BASIN, KS & MO
179	KY	LRD	KENTUCKY LOCK AND DAM, TENNESSEE RIVER, KY
180	KY	LRD	KENTUCKY RIVER, LOCK AND DAM 10, KY
181	KY	LRD	MCALPINE LOCKS AND DAM, OHIO RIVER, KY & IN
182	KY	LRD	METROPOLITAN LOUISVILLE, BEARGRASS CREEK, KY
183	KY	LRD	METROPOLITAN LOUISVILLE, POND CREEK, KY

184	KY	LRD	OHIO RIVER SHORELINE, PADUCAH, KY
185	KY	LRD	ROUGH RIVER, KY (MAJOR REHAB)
186	KY	LRD	SOUTHERN AND EASTERN KENTUCKY ENVIRONMENTAL INFRASTRUCTURE, KY
187	KY	LRD	WOLF CREEK DAM, LAKE CUMBERLAND, KY
188	LA	MVD	ASCENSION PARISH ENVIRONMENTAL INFRASTRUCTURE
189	LA	MVD	BARATARIA BASIN LANDBRIDGE, LA
190	LA	MVD	CALCASIEU RIVER AND PASS, LA
191	LA	MVD	COMITE RIVER, LA
192	LA	MVD	EAST BATON ROUGE PARISH ENVIRONMENTAL INFRASTRUCTURE, LA
193	LA	MVD	EAST BATON ROUGE PARISH, LA
194	LA	MVD	EAST BATON ROUGE FLOOD CONTROL, LA
195	LA	MVD	HURRICANE PROTECTION SYSTEM MANAGEMENT
196	LA	MVD	IBERIA PARISH, LA ENVIRONMENTAL INFRASTRUCTURE
197	LA	MVD	INNER HARBOR NAVIGATION CANAL LOCK, LA
198	LA	MVD	J BENNETT JOHNSTON WATERWAY, LA
199	LA	MVD	LAKE PONTCHARTRAIN AND VICINITY, LA (HURRICANE PROTECTION)
200	LA	MVD	LAROSE TO GOLDEN MEADOW, LA (HURRICANE PROTECTION)
201	LA	MVD	LIVINGSTON PARISH ENVIRONMENTAL INFRASTRUCTURE
202	LA	MVD	LOUISIANA COASTAL AREA ECOSYSTEM RESTORATION, LA*
203	LA	MVD	MISSISSIPPI DELTA REGION, LA
204	LA	MVD	NEW ORLEANS TO VENICE, LA (HURRICANE PROTECTION)
205	LA	MVD	RED RIVER BELOW DENISON DAM, LA, AR & TX
206	LA	MVD	SOUTHEAST LOUISIANA, LA
207	LA	MVD	WEST BANK AND VICINITY, WEST CLOSURE
208	LA	MVD	WEST BANK AND VICINITY, NEW ORLEANS, LA
209	MA	NAD	BOSTON HARBOR DEEP DRAFT INVESTIGATION, MA
210	MA	NAD	MUDDY RIVER, MA
211	MD	NAD	ANACOSTIA RIVER AND TRIBUTARIES, MD & DC
212	MD	NAD	ASSATEAGUE, MD*
213	MD	NAD	ATLANTIC COAST OF MARYLAND, MD
214	MD	NAD	BALTIMORE HARBOR AND CHANNELS (50 FOOT), MD
215	MD	NAD	BALTIMORE HARBOR, MD
216	MD	NAD	BALTIMORE METRO - GWYNNNS FALLS, MD
217	MD	NAD	CHESAPEAKE BAY ENV RESTORATION AND PROTECTION, MD, VA & PA
218	MD	NAD	CHESAPEAKE BAY OYSTER RECOVERY, MD & VA*
219	MD	NAD	CUMBERLAND, MD AND RIDGELEY, WV
220	MD	NAD	POPLAR ISLAND, MD*
221	MD	NAD	SMITH ISLAND ENVIRONMENTAL RESTORATION, MD
222	MI	LRD	GENESEE COUNTY, MI
223	MI	LRD	OAKLAND COUNTY, MI
224	MI	LRD	SAULT STE MARIE (REPLACEMENT LOCK), MI
225	MI	LRD	ST MARYS RIVER, SOO LOCKS (MAJOR REHABILITATION), MI
226	MN	MVD	BRECKENRIDGE, MN
227	MN	MVD	LOCK AND DAM 3, MISSISSIPPI RIVER, MN (MAJOR REHAB)
228	MN	MVD	LOWER ST ANTHONY FALLS RAPIDS RESTORATION, MN
229	MN	MVD	MARSH LAKE, MN (MINNESOTA RIVER AUTHORITY)
230	MN	MVD	NORTHEASTERN MINNESOTA ENVIRONMENTAL INFRASTRUCTURE, MN

231	MN	MVD	ROSEAU, MN
232	MO	MVD	BOIS BRULE DRAINAGE AND LEVEE DISTRICT, MISSOURI
233	MO	MVD	CAPE GIRARDEAU (FLOODWALL), MO
234	MO	MVD	LOCK & DAM 25 DAM SAFETY STUDY, MO
235	MO	MVD	MERAMEC RIVER BASIN, VALLEY PARK LEVEE, MO
236	MO	MVD	MISSISSIPPI RIVER BETWEEN THE OHIO AND MISSOURI RIVERS (REG WORKS), MO
237	MO	MVD	MONARCH - CHESTERFIELD, MO
238	MO	MVD	ST LOUIS FLOOD PROTECTION, MO
239	MO	MVD	ST. LOUIS, MO (COMBINED SEWER OVERFLOW)
240	MO	MVD	STE GENEVIEVE, MO
241	MO	NWD	BLUE RIVER BASIN, KANSAS CITY, MO
242	MO	NWD	BLUE RIVER CHANNEL, KANSAS CITY, MO
243	MO	NWD	KANSAS CITYS, MO & KS
244	MO	NWD	MISSOURI & MIDDLE MISSISSIPPI RIVERS ENHANCEMENT, MO
245	MO	NWD	MISSOURI RIVER LEVEE SYSTEM, UNITS L455 & R460-471, MO & KS
246	MO	NWD	SWOPE PARK INDUSTRIAL AREA, KANSAS CITY, MO
247	MS	MVD	DESOTO COUNTY WASTEWATER TREATMENT, MS
248	MS	MVD	MISSISSIPPI ENVIRONMENTAL INFRASTRUCTURE, MS
249	MS	SAD	JACKSON COUNTY INDUSTRIAL WATER SUPPLY, MS
250	MS	SAD	PASCAGOULA HARBOR MS
251	MT	NWD	FORT PECK DAM & LAKE MT
252	MT	NWD	RURAL MONTANA, MT
253	NC	SAD	BRUNSWICK COUNTY BEACHES, NC
254	NC	SAD	CAROLINA BEACH AND VICINITY, NC
255	NC	SAD	DARE COUNTY BEACHES, NC
256	NC	SAD	MANTEO (SHALLOWBAG) BAY, NC
257	NC	SAD	STANLY COUNTY WASTEWATER INFRASTRUCTURE, NC
258	NC	SAD	WEST ONSLOW BEACH AND NEW RIVER INLET, NC
259	NC	SAD	WILMINGTON HARBOR, NC
260	NC	SAD	WRIGHTSVILLE BEACH, NC
261	ND	MVD	FARGO, ND - MOORHEAD, MN METRO
262	ND	MVD	GRAFTON, PARK RIVER, ND
263	ND	MVD	NORTH DAKOTA INFRASTRUCTURE, ND
264	ND	MVD	SHEYENNE RIVER, ND
265	ND	NWD	GARRISON DAM, LAKE SAKAKAWEA, ND
266	NE	NWD	SAND CREEK WATERSHED, SAUNDERS COUNTY, NEBRASKA
267	NE	NWD	WESTERN SARPY COUNTY AND CLEAR CREEK
268	NH	NAD	EDWARD MACDOWELL LAKE, NH
269	NJ	NAD	BARNEGAT INLET TO LITTLE EGG HARBOR INLET, NJ
270	NJ	NAD	BRIGANTINE INLET TO GREAT EGG INLET (ABSECON ISLAND), NJ
271	NJ	NAD	BRIGANTINE INLET TO GREAT EGG INLET, BRIGANTINE ISLAND, NJ
272	NJ	NAD	CAPE MAY INLET TO LOWER TOWNSHIP, NJ
273	NJ	NAD	DEL RIV VIC OF CAMDEN BECKETT ST
274	NJ	NAD	DELAWARE BAY COASTLINE, DE & NJ - OAKWOOD BEACH, NJ
275	NJ	NAD	DELAWARE BAY COASTLINE, DE & NJ REEDS BEACH TO PIERCES POINT
276	NJ	NAD	DELAWARE RIVER MAIN CHANNEL, NJ, PA & DE
277	NJ	NAD	GREAT EGG HARBOR INLET AND PECK BEACH, NJ

278	NJ	NAD	GREAT EGG HARBOR INLET TO TOWNSEND INLET, NJ
279	NJ	NAD	HACKENSACK MEADOWLANDS,NJ
280	NJ	NAD	JOSEPH G MINISH HISTORIC WATERFRONT PARK,NJ
281	NJ	NAD	KILL VAN KULL, NY
282	NJ	NAD	LOWER CAPE MAY MEADOWS, CAPE MAY POINT, NJ*
283	NJ	NAD	MANASQUAN INLET TO BARNEGAT INLET, NJ
284	NJ	NAD	MOLLY ANN'S BROOK AT HALEDON, PROSPECT PARK AND PATERSON, NJ
285	NJ	NAD	NEW JERSEY SHORE PROTECTION, HEREFORD TO CAPE MAY INLET, NJ
286	NJ	NAD	PASSAIC RIVER BASIN FLOOD MANAGEMENT,NJ
287	NJ	NAD	PASSAIC RIVER MAINSTEM, NJ
288	NJ	NAD	PASSAIC RIVER PRESERVATION OF NATURAL STORAGE AREAS, NJ
289	NJ	NAD	RAMAPO AND MAHWAH RIVERS, MAHWAH, NJ AND SUFFERN, NY
290	NJ	NAD	RAMAPO RIVER AT OAKLAND, NJ
291	NJ	NAD	RARITAN BAY AND SANDY HOOK BAY, NJ
292	NJ	NAD	RARITAN BAY AND SANDY HOOK BAY, PORT MONMOUTH, NJ
293	NJ	NAD	RARITAN BAY AND SANDY HOOK BAY, UNION BEACH, NJ
294	NJ	NAD	RARITAN RIVER BASIN, GREEN BROOK SUB-BASIN, NJ
295	NJ	NAD	SANDY HOOK TO BARNEGAT INLET, NJ
296	NJ	NAD	SOUTH RIVER, RARITAN RIVER BASIN, NJ
297	NJ	NAD	TOWNSENDS INLET TO CAPE MAY INLET, NJ
298	NM	SPD	ACEQUIAS IRRIGATION SYSTEM, NM
299	NM	SPD	ALAMOGORDO, NM
300	NM	SPD	CENTRAL NEW MEXICO, NM
301	NM	SPD	CENTRAL NEW MEXICO, NM
302	NM	SPD	MIDDLE RIO GRANDE RESTORATION, NM*
303	NM	SPD	NEW MEXICO ENVIRONMENTAL INFRASTRUCTURE PROGRAM
304	NM	SPD	RIO GRANDE FLOODWAY, SAN ACACIA TO BOSQUE DEL APACHE, NM
305	NM	SPD	SOUTHWEST VALLEY FLOOD DAMAGE REDUCTION, ALBUQUERQUE, NM
306	NV	SPD	RURAL NEVADA (SECTION 595)
307	NV	SPD	TROPICANA AND FLAMINGO WASHES, NV
308	NY	NAD	ARTHUR KILL CHANNEL HOWLAND HK MARINE TERMINAL NY & NJ
309	NY	NAD	ATLANTIC COAST OF NYC, ROCKAWAY INLET TO NORTON POINT, NY
310	NY	NAD	EAST ROCKAWAY INLET TO ROCKAWAY INLET AND JAMAICA BAY, NY
311	NY	NAD	FIRE ISLAND INLET TO JONES INLET, NY
312	NY	NAD	FIRE ISLAND INLET TO MONTAUK POINT, NY
313	NY	NAD	HEAMPSTEAD HARBOR, NY
314	NY	NAD	LONG BEACH ISLAND, NY
315	NY	NAD	MONTAUK POINT, NY
316	NY	NAD	NEW YORK AND NEW JERSEY HARBOR, NY & NJ
317	NY	NAD	NEW YORK CITY WATERSHED, NY
318	NY	NAD	NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT, NY & NJ
319	NY	NAD	SOUTH SHORE OF STATEN ISLAND, NY
320	OH	LRD	BOLIVAR DAM, OH (DAM SAFETY)
321	OH	LRD	DOVER DAM, MUSKINGUM RIVER, OH (DAM SAFETY)
322	OH	LRD	MILL CREEK, OH
323	OH	LRD	MOHAWK DAM SEEPAGE CORRECTION MAJOR REHAB, OH
324	OH	LRD	OHIO & NORTH DAKOTA ENVIRONMENTAL INFRASTRUCTURE, OH & ND (SECTION

325	OH	LRD	OHIO RIVERFRONT, CINCINNATI, OH
326	OH	LRD	ZOAR LEVEE AT DOVER DAM, OH (SEEPAGE CORRECTION - REHABILITATION)
327	OK	SWD	CANTON LAKE, OK
328	OK	SWD	FRY CREEKS, BIXBY, OK
329	OK	SWD	MINGO CREEK, TULSA, OK
330	OK	SWD	PINE CREEK LAKE, OK
331	OK	SWD	ROBERT S. KERR LOCK AND DAM AND RESERVOIR, OK
332	OK	SWD	YUKON, OKLAHOMA
333	OR	NWD	COLUMBIA RIVER AT THE MOUTH, OR & WA
334	OR	NWD	COLUMBIA RIVER CHANNEL IMPROVEMENTS, OR & WA
335	OR	NWD	COLUMBIA RIVER TREATY FISHING ACCESS SITES, OR & WA
336	OR	NWD	ELK CREEK LAKE, OR
337	OR	NWD	LOWER COLUMBIA RIVER ECOSYSTEM RESTORATION, OR & WA*
338	OR	NWD	WILLAMETTE RIVER TEMPERATURE CONTROL, OR*
339	PA	LRD	EAST BRANCH CLARION RIVER LAKE, PA
340	PA	LRD	EMSWORTH LOCKS AND DAM, OHIO RIVER, PA
341	PA	LRD	LOCKS AND DAMS 2, 3 AND 4, MONONGAHELA RIVER, PA
342	PA	LRD	PRESQUE ISLE PENINSULA, PA (PERMANENT)
343	PA	LRD	SAW MILL RUN, PITTSBURGH, PA
344	PA	LRD	SOUTH CENTRAL PA ENVIRONMENTAL IMPROVEMENT PROGRAM, PA
345	PA	LRD	THREE RIVERS WET WEATHER DEMO PROGRAM, PA
346	PA	LRD	WEST VIRGINIA AND PENNSYLVANIA FLOOD CONTROL, PA & WV
347	PA	NAD	BROAD TOP REGION, PA
348	PA	NAD	GLEN FOERD, PA
349	PA	NAD	LACKAWANNA RIVER - GREENRIDGE
350	PA	NAD	LACKAWANNA RIVER, OLYPHANT, PA
351	PA	NAD	LACKAWANNA RIVER, SCRANTON, PA
352	PA	NAD	NORTHEAST COUNTIES ENVIRONMENTAL INFRASTRUCTURE
353	PA	NAD	SOUTHEASTERN PENNSYLVANIA, PA
354	PA	NAD	WILLIAMSPORT, PA
355	PA	NAD	WYOMING VALLEY, PA (LEVEE RAISING)
356	PR	SAD	ARECIBO RIVER, PR
357	PR	SAD	PORTUGUES AND BUCANA RIVERS, PR
358	PR	SAD	RIO DE LA PLATA, PR
359	PR	SAD	RIO GRANDE DE MANATI, PR
360	PR	SAD	RIO PUERTO NUEVO, PR
361	PR	SAD	SAN JUAN HARBOR, PR
362	SC	SAD	CHARLESTON HARBOR, SC
363	SC	SAD	FOLLY BEACH, SC
364	SC	SAD	LAKES MARION AND MOULTRIE, SC
365	SC	SAD	MYRTLE BEACH, SC
366	TN	LRD	CENTER HILL LAKE, TN
367	TN	LRD	CHICKAMAUGA LOCK, TENNESSEE RIVER, TN
368	TN	LRD	CUMBERLAND COUNTY WATER SUPPLY, TN
369	TN	MVD	WEST TENNESSEE TRIBUTARIES
370	TX	SPD	EL PASO COUNTY, TX
371	TX	SPD	EL PASO, TX

372	TX	SWD	BRAYS BAYOU, HOUSTON, TX
373	TX	SWD	BUFFALO BAYOU AND TRIBUTARIES, TX
374	TX	SWD	CEDAR BAYOU, TX
375	TX	SWD	CENTRAL CITY, FORT WORTH, UPPER TRINITY RIVER BASIN, TX
376	TX	SWD	CHANNEL TO VICTORIA, TX
377	TX	SWD	CLEAR CREEK, TX
378	TX	SWD	CORPUS CHRISTI SHIP CHANNEL, TX
379	TX	SWD	DALLAS FLOODWAY EXTENSION, TRINITY RIVER PROJECT, TX
380	TX	SWD	FREEMPORT HBR (45 FT PROJECT), TX
381	TX	SWD	GIWW, CHOCOLATE BAYOU, TX
382	TX	SWD	GRAHAM, TX (BRAZOS RIVER BASIN)
383	TX	SWD	GREENS BAYOU, HOUSTON, TX
384	TX	SWD	HOUSTON - GALVESTON NAVIGATION CHANNELS, TX
385	TX	SWD	JOHNSON CREEK UPPER TRINITY BASIN, ARLINGTON, TX
386	TX	SWD	LEWISVILLE DAM, TX
387	TX	SWD	LOWER COLORADO RIVER BASIN (WHARTON/ONION), TX
388	TX	SWD	RED RIV BAS CHLOR AREA XIII/XIV, TX
389	TX	SWD	SABINE - NECHES WATERWAY, TX
390	TX	SWD	SAN ANTONIO CHANNEL IMPROVEMENT PROJECT
391	TX	SWD	SIMS BAYOU, HOUSTON, TX
392	TX	SWD	TEXAS CITY CHANNEL (50-FOOT PROJECT), TX
393	TX	SWD	WACO LAKE
394	TX	SWD	WHITNEY LAKE, TX
395	UT	SPD	RURAL UTAH, UT
396	VA	LRD	EASTERN SHORE AND SOUTHWEST VIRGINIA, VA
397	VA	LRD	LEVISA AND TUG FORKS AND UPPER CUMBERLAND RIVER, VA, WV & KY
398	VA	NAD	AIWW, BRIDGES AT DEEP CREEK, VA
399	VA	NAD	CRANEY ISLAND EXPANSION
400	VA	NAD	JAMES RIVER CHANNEL, VA
401	VA	NAD	LAKE MERRIWEATHER, GOSHEN DAM AND SPILLWAY, VA
402	VA	NAD	NORFOLK HARBOR AND CHANNELS, CRANEY ISLAND, VA
403	VA	NAD	NORFOLK HARBOR AND CHANNELS, VA (DEEPENING)
404	VA	NAD	SANDBRIDGE BEACH, VA
405	VA	NAD	VIRGINIA BEACH, VA (HURRICANE PROTECTION)
406	VA	NAD	WILLOUGHBY SPIT AND VICINITY, NORFOLK, VA
407	VA	SAD	ROANOKE RIVER UPPER BASIN, HEADWATERS AREA, VA
408	VT	NAD	BALL MOUNTAIN, VT
409	VT	NAD	BURLINGTON HARBOR BREAKWATER, VT
410	VT	NAD	LAKE CHAMPLAIN WATERSHED INITIATE,VT
411	WA	NWD	COLUMBIA RIVER FISH MITIGATION, WA, OR & ID*
412	WA	NWD	DUWAMISH AND GREEN RIVER BASIN, WA*
413	WA	NWD	GRAYS HARBOR, WA
414	WA	NWD	HOWARD HANSON DAM, WA
415	WA	NWD	LOWER SNAKE RIVER FISH AND WILDLIFE COMPENSATION, WA, OR & ID
416	WA	NWD	MILL CREEK LAKE, WA
417	WA	NWD	MOUNT SAINT HELENS SEDIMENT CONTROL, WA
418	WA	NWD	MUD MOUNTAIN DAM, WA

419	WA	NWD	PUGET SOUND AND ADJACENT WATERS RESTORATION, WA*
420	WA	NWD	SHOALWATER BAY, WA
421	WA	NWD	SKOKOMISH RIVER, WA
422	WA	NWD	THE DALLES LOCK AND DAM, WA & OR
423	WI	LRD	GREEN BAY HARBOR, WI
424	WI	LRD	NORTHERN WISCONSIN ENVIRONMENTAL ASSISTANCE, WI
425	WI	MVD	B5 MISSISSIPPI DREDGED MATERIAL MNGT HURRICANE ISL, POOL 11
426	WI	MVD	ST. CROIX FALLS SEWAGE TREATMENT PLANT, WI
427	WV	LRD	BLUESTONE LAKE, WV
428	WV	LRD	CENTRAL WEST VIRGINIA ENVIRONMENTAL INFRASTRUCTURE, WV (SECTION 571)
429	WV	LRD	GREENBRIER RIVER BASIN, WV
430	WV	LRD	ISLAND CREEK BASIN IN AND AROUND LOGAN, WEST VIRGINIA
431	WV	LRD	LOWER MUD RIVER, MILTON, WV
432	WV	LRD	MARMET LOCK, KANAWHA RIVER, WV
433	WV	LRD	ROBERT C BYRD LOCKS AND DAM, OHIO RIVER, WV & OH
434	WV	LRD	SOUTHERN WEST VIRGINIA ENVIRONMENTAL INFRASTRUCTURE, WV (SECTION
435	WV	NAD	MOOREFIELD, WV
436	WY	NWD	JACKSON HOLE RESTORATION, WY
*Indicates an ecosystem restoration project and do not require compensatory mitigation.			

TABLE 2. Status of Corps projects with on-going mitigation requirements FY2019.

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
1	LRD	LRC	Little Calumet River, IN	77	100	400	435.1	A total of 400 ac are required to meet the compensatory mitigation requirement for the Little Calumet River project. Mitigation includes establishing functional bottomland hardwood forests and emergent wetlands offsite.	To date, all of the required land has been acquired. 435 ac were acquired to ensure that the 400 ac mitigation requirement was met. In the event that portions of the site do not reach their target wetland status, there's an approximately 10% buffer built in to ensure that the 400 ac requirement is met. Little Calumet mitigation area restored: 3 ac of wet prairie, 42 ac of mesic/wet mesic prairie and 44 ac of wet oak savanna. The project was suspended pending resolution of financial issues of the sponsor. These issues were resolved and a mitigation contract was awarded in Sept. 2016. Work included extensive mitigation work including invasive species control, hydrological modification, erosion control, and tree removal. The 2017 contract at the Little Calumet project area included woody and herbaceous invasive species control, tree planting, and native planting. Construction should be completed by 2023 -2024. Monitoring will continue for at least a decade afterward. Work has continued through 2019 with progress being made towards completion. At this time the project is on track for on time completion.	2033
2	LRD	LRH	Marmet Lock Replacement, WV (Kanawha River Navigation Study - Marmet Lock Replacement)	100	100	104.8	104.8	A total of 59.45 ac were required for mitigation of impacts to terrestrial natural resources. Terrestrial mitigation activities included restoration of hardwood forest, bottomland hardwoods (BLH)/riparian habitats, and agricultural/old field. A total of 45.3 ac were required for mitigating impacts to the Kanawha River aquatic habitat. Instream mitigation activities for adverse impacts included construction of instream stone and timber dikes, rubble placement, and root wads for habitat improvement.	In-stream aquatic habitat mitigation activities included fish re-introduction, habitat conservation, and the construction of structural measures; stone and timber dikes, rubble placement, and root wads for habitat improvement. Aquatic mitigation was completed in 2007. Planted 31.1 ac of hardwood forest, 4.1 ac of BLH forest/riparian, and 17.7 ac of prairie grasses. Construction for terrestrial impacts was completed in 2009. Monitoring revealed terrestrial mitigation credits were not sufficient. All other mitigation commitments, except for terrestrial mitigation, have been achieved. Coordinated with resource agencies in FY19.	2024

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
3	LRD	LRL	Indianapolis, White River (North), IN	100	98	74.5	65.5	The project, as approved in the 1997 ROD, required 29 ac of mitigation for impacts to fish and wildlife habitat. Due to current, more stringent levee certification standards, additional clearing is now required and represents a greater impact to habitat. As a result, ~75 ac of mitigation will be necessary to complete the project by implementing the proposed alternative.	Mitigation was implemented in Spring 2016, which fulfilled all mitigation requirements for permits from IN DNR. Nine acres of mitigation plantings for Phase 3B-3 was implemented in Southwestway Park in April 2019. The site will be inspected in the spring of 2020, and trees replaced as needed. These nine acres were not required by DNR, but recommended by USFWS to mitigate for habitat loss outside of the floodway. All mitigation for construction completed to date has been implemented and will be evaluated for success.	2022
4	LRD	LRL	Olmsted Locks and Dam, Ohio River, IL and KY	100	87	3463	3463	Mitigation for the project includes the purchase of mitigation lands, increased water management capability on Ballard Wildlife Management Area (WMA), KY, monitoring of bald eagles and waterfowl populations, monitoring of freshwater mussel populations, support of development of restoration and propagation methodologies for mussels, and restoration of former clay mine site that serves as large part of construction site.	Acquired bottomland hardwoods, wetlands, and agricultural lands totaling 2,063 ac for wildlife management, constructed water supply system providing wetland management capabilities on Ballard WMA, and provided Kentucky DFWR funding to monitor and construct or repair managed wetlands. Monitoring mussels continues in 14 miles of Ohio River. Annual monitoring has been conducted from 1993 to 2019. After 2019, monitoring will occur every other year until the last survey in 2027. Data related to 2019 monitoring are currently being entered and analyzed with a completion report forthcoming.	2027
5	LRD	LRN	Center Hill Dam Safety Major Rehab, KY	0	83	8	8	Mitigation requirements for Center Hill Major Rehab Seepage included mitigating for a 0.13 ac wetland at a 2:1 ratio on Nov 2015 by purchasing 0.26 credit from the Tennessee Wildlife Federation Wetland In-Lieu Fee Program. Originally 43 ac of tree removal; however design changes avoided 28 ac of that impact. Remaining 15 acres were to be mitigated with plantings (seedlings/grasses), however, due to encapsulation of shale material on seven of the 15 acre planting site, the area of planting is reduced to ~8 ac. The shale encapsulation area has been prohibited from tree planting.	In FY 2016, the Corps purchased 0.26-ac of in lieu fee credits from wetland bank to mitigate 0.13 ac of impacted wetland habitat from the TN Wildlife Federation Wetland In-Lieu Fee Program. 450 lf of Moss Hollow Branch (stream) and riparian forest avoided and no mitigation required. Plantings to begin reforestation of the 8 acres of impacted upland forest will be conducted after project construction is complete (estimated late 2020). This is necessary since the mitigation site is currently an active construction area. Construction work was delayed for several months due to weather, which delayed project completion and plantings. The project would be monitored for one year after planting.	2022

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
6	LRD	LRP	Lower Monongahela River, Locks and Dams 2, 3 and 4, PA	0	23.3	396	0	Construction of design features into Dam 2 to increase water aeration and increase dissolved oxygen concentration in receiving water. A total of 396 ac are required to meet the compensatory mitigation requirement for the dams 2, 3, and 4 project on the Lower Monongahela River, including 40 acres for fish habitat mitigation, 173 acres of possible wetland mitigation due to pool elevation changes, and restoration of a 183-acre waste disposal site once the project is complete.	Low flow re-aeration (water quality gate) completed and operational at Dam 2 since 2004. Mitigation and monitoring for aquatic habitat (40 ac of dam tailwater loss) and wetland impacts from pool elevation changes (173 ac) is scheduled to commence with the removal of Dam 3 and its consequential pool elevation changes, tentatively planned to occur in 2024. Upland mitigation work will be initiated at the project disposal site (183 acres) at the conclusion of project construction. A monitoring plan, and possible mitigation plan, will be developed in consultation with appropriate State and Federal agencies following project authorization for removal of Dam 2.	2034
7	MVD	MVK	B4-YB, Upper Yazoo Projects, MS **,**	63.4	70	16250	12402.9	Purchase 16,250 ac of bottomland hardwood habitat, either cleared or agriculture land, for reforestation and management.	12,402 ac of cleared frequently flooded agricultural lands has been purchased and 10,327.94 ac has been reforested with BLH to date. 1,503 ac is in moist soil management and 272 ac were reforested in 2013. 3,847 ac remain to be acquired.	2025
8	MVD	MVK	J Bennett Johnston Waterway, LA *	69.1	89	14000	9679	Purchase 14,000 ac of bottomland hardwood for management and reforestation. Lands may be a mixture of agricultural for restoration or be already existing forest.	9,679 ac have been purchased to date, effort is ongoing to acquire land from willing sellers. 4,321 ac remaining.	2025
9	MVD	MVK	Mississippi River Levees- Construction, MS **	98	41.2	5200	5095	Mitigation is to reforest 5,200 ac of frequently flooded agricultural lands. These areas would be acquired in fee and planted in bottomland hardwood typical of the project area. For the 3 districts combined work in this project, these mitigation features would mitigate 100% of the wetland losses, 252% of the terrestrial losses, and 412% of the waterfowl losses. All attempts made to purchase lands in approximate vicinity of project impacts and within the state or levee district in which the losses occur.	Reforested approximately 5,095 ac of bottomland hardwoods of the required 5,200 ac. Remaining ac of mitigation will continue to be purchased concurrently with future construction efforts. To date, mitigation is ahead of construction.	2030

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
10	MVD	MVK	Yazoo Basin, Yazoo Backwater Maintenance, MS *,**	54	100	16193	11969	It was determined that 12,500 ac of frequently flooded agricultural lands were to be purchased in fee from willing sellers and reforested to create bottomland hardwoods. Requirement was reanalyzed to account for time the backwater levee was completed and mitigation construction was started (13 years). This resulted in an additional requirement of 3,693 ac.	8,807 ac at the Lake George tract were planted between 1988 - 1997. Seedling survival exceeds 50% for the bottomland hardwood species replanted. Funding being used to purchase and plant mitigation properties.	2035
11	MVD	MVM	Bayou Meto Basin, AR	1.2	14	4140	100	To date, ~ 65 ac of bottomland hardwood have been impacted for construction. ~27 ac of backwater habitat were also impacted due to construction of the inlet channel and flow regulating reservoir. ~100 ac of bottomland hardwood is being restored to mitigate impacts to this habitat to date, and 27 ac of impacts to backwater habitat would be completed with 1:1 in-kind mitigation. Mitigation requirements stem from NEPA, WQC, agency coordination.	A 100-ac tract of prior converted farmland was planted with BLH tree species in 2014. Informal monitoring concluded that tree survival is >90%. A new site for backwater mitigation has been identified and is in the acquisition process.	2021
12	MVD	MVM	Grand Prairie Region, AR	15.9	27	380	142.5	Project is required to restore a total of 380 ac of farmland for the purpose of compensatory mitigation. Wetland impacts will require restoration of 182 ac of BLH forest. Upland impacts will require 198 ac of upland habitat restoration. To date, approximately 50 ac of upland hardwoods were impacted during construction, and require mitigation. Coordination with the interagency team has revealed the preference for native prairie grass restoration at the site that has been acquired. In addition, approximately 40 ac of farmed wetlands were impacted and are being mitigated. Mitigation requirements stem from NEPA, WQC, and interagency coordination.	To date, 106 ac of farmland for wetland mitigation has been purchased with 40 ac of BLH species planted in 2014. In addition, 36.5 ac of upland farmland was purchased, of which 20 ac were planted with Arkansas native prairie grass in 2014 and replanted in 2018 as determine appropriate by the interagency team. Additional prairie restoration work is required.	2022

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
13	MVD	MVM	Mississippi River Levees (MRL),B1, AR, IL, KY, LA, MS, MO and TN *,**	20.8	99	1343	534.6	The MVM portion of the originally authorized MRL project mitigation required the acquisition of a total of 639 ac of farmland, restoration of hydrology, and planting of BLH forest. This requirement has increased to a total of 1,343 ac for impacts that were not anticipated in the 1998 Supplemental EIS. This compensatory mitigation is required for NEPA, WQC, and replacement of habitat values. While it is stated that 99% of project construction is complete, it is not the case that 99% of project impacts have been incurred. MVM is determining the current extent of project impacts, and the amount of mitigation required to be concurrent.	Purchased 2 tracts totaling approximately 200 ac in MO in 2018. MVM portion of MRL compensatory mitigation is approximately 41% complete as approximately 558 ac of the required 1,343 ac have been purchased and are in varying phases of restoration.	2025
14	MVD	MVM	St Francis Basin, AR and MO *	96.9	89	13500	13311	In the 1976 EIS it was determined that the acquisition of 13,500 ac of BLH forest habitat, as well as the completion of various environmental waterway features would fully mitigate project impacts.	Of the required 13,500 ac of BLH, 12,648 ac have been purchased in AR and 663 ac have been purchased in MO. The majority of the acreage was purchased as forested BLH around 1990. ~100 ac are not forested and have not been planted. A mitigation plan needs to be developed and continued search for remaining lands for acquisition.	2030
15	MVD	MVN	LP 30000-Jefferson, LA (Lake Pontchartrain & Vicinity Hurricane Protection Project)	100	100	725	725	Repair and rehabilitate the required compensatory mitigation by protecting and restoring a 5 mile reach of the Lake Pontchartrain shoreline and building marsh. The original mitigation project was constructed in 1995. The project has not performed as anticipated and the environmental benefits required to compensate for project impacts were not achieved. Construction of project modifications began in January of 2013. Insufficient material was available in 2013 and in 2015 another phase began to place more material. Construction complete June 2016.	This is in support of the existing hurricane levees and mitigation. Construction of initial segmented breakwaters was previously completed. Modifications to these breakwaters has been initiated pursuant to mitigation design modifications authorized in 2011. Additional fill was placed and construction completed in June 2016. Elevation requirements have been met. Qualitative monitoring was complete in spring 2018 which showed the site is self-vegetating. Initial success monitoring is scheduled for spring 2020.	2021

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
16	MVD	MVN	Comite River Basin, LA	100	20	596	596	As of the EA in 2012, project related impacts to 890 ac of BLH will remove 704.6 AAHUs. The mitigation goal is to acquire, reforest and manage cleared agriculture and other suitable land for BLH restoration and preservation to account for 704.6 AAHU's, or acquire mitigation bank credits. A supplemental EA is being completed to determine if there are any remaining mitigation needs.	Monitoring efforts continued on the Comite Floodplain tract in 2017, Currently all 39 ac planted are meeting success criteria on that tract. In 2015, 218.47 mitigation credits were purchased from 3 mitigation banks for a total of \$8.3M dollars. With success at the Floodplain tract in 2019, the project is 66 AAHUs ahead in required mitigation credits, but currently short 453 AAHUs for the total project. Supplemental EA is being completed to evaluate remaining mitigation needs. Control over invasive species tallow has also been successful.	2024
17	MVD	MVN	Lake Pontchartrain and Vicinity (LPV), Inner Harbor Nav Channel, Lake Borgne, LA	54.4	90	940	940	The programmatic IER was finalized in 2013 and only proposed moving forward with certain features of the plan, the purchase of mitigation bank credits, but required additional NEPA documentation to implement the Corps constructed projects once advanced design was achieved. MVN approved the project decision document in 2014. Mitigation bank credit purchase for E2F01 and E2F02 impacts was completed in 2014. A tiered IER, supplemental IER, and supplemental EA were completed for the Corps constructed projects in the mitigation plan.	Mitigation bank credits have been purchased for all E2F01 and E2F02 impacts that did not occur on Bayou Sauvage National Wildlife Refuge. Construction of the Milton Island Project is complete. Construction of the Turtle Bayou and Bayou Sauvage projects are approximately 90% complete. Construction of the New Zydeco Ridge Project is 20% complete.	2021
18	MVD	MVN	Larose to Golden Meadow, LA *	100	100	4598	4598	The required and authorized mitigation for the Larose to Golden Meadow 1985 Hurricane Protection Project calls for construction of a levee and water-control structure along the eastern boundary of the Pointe-au-Chien WMA Mitigation Site. These features will provide mitigation for the aforementioned impacts by enhancing the functional values of wetlands within the 4,598 ac mitigation site.	The primary component of the 1985 Mitigation plan involved construction of a 7-mile long levee and 3 water control structures (weirs). These features were the backbone of a regional water management system intended to enhance existing degraded wetlands within the mitigation site proper. This site encompassed 4,598 ac in the publicly owned Pointe-au-Chien Wildlife Management Area. Construction of the levee and weirs has been completed and indications are that enhancement of wetland habitats in the mitigation site is progressing favorably. The mitigation plan does not include specific success criteria or a monitoring program.	2035

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
19	MVD	MVN	Fed N.O. to Venice (New Orleans to Venice (NOV) Hurricane Risk Reduction Project)	0	20	698	0	Estimated mitigation AAHUs from constructing NOV 05, NOV 07, NOV 09, NOV 10, NOV 11, and (NOV 02, NOV 06b, NOV 08b, NOV 13, NOV 14, P14A, P17A) and for NFL Section 1, NFL Section 2, NFL Section 3, NFL Section 4, Section 2+4 Canals and Access Road, and Section 5 is approximately 191.5 AAHUs for BLH and swamp impacts, and approximately 53 AAHUs for fresh marsh impacts. Compensatory Mitigation for 105.6 AAHUs of impact to intermediate, brackish and saline marsh habitats will be addressed in a supplemental NEPA document.	A total of 36.77 AAHUs have been acquired to date by purchase of Mitigation bank credits for Fresh marsh impacts and a total of 17.53 AAHUs of Mitigation bank credits have been acquired for BLH impacts.	2023
20	MVD	MVN	MTC MRL Construction Program, IA, NE, KS, & MO (Missouri River Levee System)	64.0	83	85	75.4	There are three elements to the mitigation requirements: (1) remaining work items in the 1998 supplemental EIS (4.8 ac of creation/establishment of forested wetlands remains to be done); 2) Black Hawk levee slide, which is 3.35 ac of commercial mitigation bank forested wetlands; and 3) Old River Seepage, which is 2.25 ac of commercial mitigation bank forested wetlands.	20 of the 24.8 ac of mitigation necessary to compensate for impacts of work items included in the 1998 supplemental EIS have been reforested on Corps-owned property. In FY 2016, credits were purchased from two individual commercial mitigation banks to compensate for the 26.6 ac of impacts resulting from the Pointe Coupee Seepage work item and 0.8 ac of impacts resulting from the Algiers Forebay Stability Berm work item. No mitigation has been accomplished for the 3.35 ac of impacts resulting from the Blackhawk Levee Slide work item and the remaining 2.24 ac of impacts resulting from the Old River Seepage work item. A current combined total of 5.6 ac of impacts still requires mitigation for the Operation Watershed projects. The plan to provide mitigation is to purchase credits in commercial mitigation banks within the watersheds where the work items are located. In FY19 construction funds were used for 3 seepage projects. No mitigation work done.	2025

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
21	MVD	MVN	West Bank and Vicinity (WBV), FCCE - New Orleans, LA	34.3	100	2002.2	2013.5	Mitigation has been completed for 562.2 ac at the Netherlands site and 125 ac at bayou Segnette. The remaining mitigation requirement associated with the previously authorized mitigation plans is 1,211 ac of swamp/bottomland hardwoods (BLH) preservation; 12.8 ac of BLH-dry restoration; 90.9 ac of BLH acquisition, preservation, and management at the St Charles site.	Partial mitigation has been completed for Swamp, BLH, and marsh of ~562.5 ac (351 AAHUs) of marsh. No monitoring was required for this work. Construction was completed at Bayou Segnette and initial success monitoring in FY20. St Charles mitigation is still in design phase.	2021
22	MVD	MVN	West Bank and Vicinity (WBV), West Closure, LA	14.3	98	1115.8	1115.8	The programmatic IER presenting the plan for mitigating the WBV impacts was finalized in 2014. This document allowed the immediate purchase of mitigation bank credits for the PF01 impacts, but required additional NEPA documentation to implement the Corps constructed projects in the plan once advanced design was complete. The purchase of mitigation bank credits for a portion of the PF01 impacts is complete. A supplemental programmatic IER 37 has been completed for the remainder of the PF01 impacts. A Tiered EA and supplemental EA 548 for the PEM1, E2F01, and E2F02 impacts occurring on JLNHPP is complete.	JLNHPP BLH Restoration, Swamp Enhancement, Avondale Gardens, Yankee Pond, and Geocrib projects are under construction.	2022
23	MVD	MVP	Mississippi River: Lock and Dam 3 Navigation Safety and Embankments, MN and WI	100	100	562	562	The construction of the Upper Mississippi River Lock and Dam 3 Embankment Improvement project resulted in the loss of 67 ac of floodplain forest and 20 ac of channel border habitat. Interagency coordination determined that given the limited opportunities to provide functional mitigation features for affected channel border aquatic habitat in a cost effective manner, resource agencies concurred that an acceptable mitigation approach is to focus primarily on BLH restoration combined with freshwater marsh features. Restoration of 313 ac is required.	562 ac was required to be purchased in fee title to acquire enough land suitable for restoration. Grading, ditch plugs and re-routing of previously-modified drainage channels were successful in restoring natural hydrologic regime to key portions of the mitigation area. A total of 313 ac have been direct seeded or planted with seedlings or cuttings to initiate forest restoration. Supplemental plantings were completed in 2012 on areas with less than expected results. Monitoring in Summer 2013-2019 indicated that revegetation efforts are on track to meet criteria for success by 2022.	2022

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
24	MVD	MVR	B5 Mississippi Dredged Material Management (Hurricane Island Reach, Pool 11), WI	0	30	12	0	The project would impact approximately 11 acres of a mixed herbaceous wetland. The 1.4 sedge meadow acres were calculated at a 1.5:1 ratio to require 2.1 acres of mitigation. The 9.7 emergent wetland acres were calculated at a 1:1 ratio to require 9.7 acres of mitigation. This results in a total of approximately 12 acres of required mitigation to offset impacts at placement site.	Site preparation begin in 2018 and will conclude by 2024. Due to record flooding in 2019 mitigation activities not completed.	2024
25	MVD	MVR	B5 Mississippi River DMMP (Pool 13 Site Plan for the Sabula Reach (includes 4 dredge cuts)), IL**	50	50	12	6	12 ac of island creation at two locations (~6 ac of island at each site). MVR anticipates ~ 6 to 10 ac of wetlands would develop within the downstream "coves" or "shadows" of the islands through sediment accumulation and other natural processes. The banks of the islands would be armored with riprap to prevent erosion and to provide additional aquatic habitat (e.g., catfish spawning areas).	MVR built 1 of 2 mitigation islands (6 of the required 12 ac) in 2006. Excellent emergent wetland vegetation has grown on the island and in the shallows surrounding the island. Waterfowl, fish, and mussels are using the constructed habitat. Mitigation success has been met at the 1 st island. Since the remaining 6 ac has not yet been built, no monitoring is required at this time.	2025
26	MVD	MVS	Chain of Rocks, IL *	100	100	146.4	253.1	Habitat losses or impacts related to project construction were estimated at 59.0 ac of wetlands. (30.8 ac forested, 28.2 ac herbaceous) and 11.7 ac of non-wetland bottomland forest. Mitigation will consist of the development of 146.4 ac of habitats, including 134.7 ac of wetlands (92.4 ac forested and 42.3 ac herbaceous) and 11.7 ac of non-wetland bottomland forest.	In 2000, a 14-ac wet prairie was constructed. In 2004, 62 ac of forested wetlands and non-wetland forest were established. In 2008, a 97-ac tract was acquired for establishment of 34 ac of forested wetlands, 1 ac of herbaceous wetlands, and 54 ac of non-wetland forest, and protection of 8 ac of forested wetlands. In 2010/2011, site grading and vegetation plantings were accomplished on the 97-ac tract. In 2014, a 75-ac tract was acquired to complete the project's mitigation requirement, and construction of 35 ac of created herbaceous wetlands and forested wetlands was completed. Periodic inspections with the agencies started in 2004 and are on-going.	2024

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
27	MVD	MVS	Monarch-Chesterfield, MO	100	90	93.5	101.5	Total mitigation required is 93.45 ac. The initial mitigation requirement for creation of 9.2 ac of emergent wetlands and 6.8 ac of forested wetlands changed to preservation of 73 ac of forested wetlands and restoration of 14 ac of cropland due to proximity to an airport. The plan also includes the purchase of 6.45 mitigation banking credits (originally creation of 4.3 ac of open water wetlands at a distance from airport. Changed to 1.5:1 ratio due to time lag.	Construction completed for preservation of forested wetlands; in 2006 95-ac tract acquired and conservation easement placed on property. In 2010 native grasses planted within this tract in 14-ac crop field to allow for reforestation through natural succession. In 2010 planning commenced for the establishment of 4.3 ac of open water wetlands. Currently Corps (Regulatory and Environmental), MO Department of Conservation, and the landowner are developing a restoration plan to address the portion of the mitigation area that was altered in 2016. In 2016 an available mitigation bank was identified (Big Rivers), and 6.45 credits were purchased at 1.5:1 ratio on original 4.3 ac identified.	2024
28	NAD	NAN	Green-Brook, NJ (Segment U)	100	65	85	85	This Mitigation is for the Bound Brook construction element of the overall project; (Segments A, N, R1, R2, T, and U) and a portion of structural project elements proposed in Middlesex County that could not be mitigated on-site. The mitigation plan was to provide in-kind mitigation for 21 ac of wetlands impacted by the Green Brook Flood Control Project. The project also includes the enhancement of ~32 ac of existing forested wetlands, 6 ac of scrub-shrub wetland, 5 ac of emergent wetland and preservation of 6 ac of palustrine, 6 ac of upland forest and 27 ac of riparian forest and 800 lf of an unnamed stream.	The Finderne site was completed in 2006. To ensure compliance with Corps policy and the NJ DEP wetland mitigation regulations, the mitigation site was monitored for 5 full growing seasons. The site has met the hydric soil and wetland hydrology criteria as confirmed by a wetland delineation conducted in 2014. The site has not met the 85% plant survivability criteria nor the less the 10% aerial coverage of invasive plant species criteria. Adaptive management measures in the form of comprehensive invasive species management program involving herbicide treatments and mowing/cutting will be done with replanting of native vegetation species. In FY'19 - coordination with NJ DEP and task order for invasive species work.	2024

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
29	NAD	NAN	Minish Park, NJ (Joseph G. Minish Waterfront Park and Historic Area)	0	66.6	1.7	0	1.68 ac of mitigation is required for impacts to tidal mudflats.	The originally proposed mitigation site was removed from consideration due to the Superfund status of the project area, so no mitigation has been completed. As a result of Hurricane Sandy Disaster relief, funds have been appropriated to seek/select/develop the required new site alternative to meet the mitigation requirements. Site for mitigation has not yet been found, due to widespread HTRW issues in the watershed. Working with local sponsor, NJ DEP to find site perhaps in contiguous watershed. However, as of FY19, uncertain whether feature which would cause impacts is going to be implemented.	2026
30	NAD	NAO	Craney Island Expansion, VA	46.3	10	122.2	122.2	Mitigation for impacts to 522 ac of open water & benthic habitats. involves a total of 122.2 ac as follows: 56 ac of saltmarsh wetlands, 16 ac of oyster reefs, and 50.2 ac of sediment clean-up. As identified in Final EIS, synergistic benefits provide 487 ac of compensatory mitigation in the Elizabeth River watershed. Mitigation is required per the EIS.	11 ac of mitigation wetlands were constructed at Paradise Creek, VA. Construction started in 2010 and was completed in 2012. Monitoring for percent cover and invasive species began in 2013. Restored wetland vegetation is growing on site at present and has met expectations for growth and survival. In 2013, Oyster reef construction began for 5 reefs. Mitigation reef construction was completed in 2014 and annual monitoring of the reefs is ongoing for abundance, biomass, and demographics. Currently reefs are meeting performance objectives, but adaptive management may be needed in future.	2026

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
31	NWD	NWS	Shoalwater Bay Erosion, WA	0	100	0	0	Mitigation is dependent upon the presence of Dungeness crab and snowy plover at the time of construction and during beach nourishment cycles. During construction, the impact areas were surveyed for the presence of these species and the survey results determined that no mitigation was required for construction. After the initial placement, mitigation might be required for any adverse impacts to crabs and snowy plovers due to the periodic beach nourishment work (~ every 5 years). Placement activities will be monitored and mitigation formulated if needed. Habitat development will be monitored to assess if restoration is meeting projected targets	No mitigation sites are available to evaluate yet. Initial crab trawl data for 2012 was analyzed in FY2015 versus dredge amounts to determine if mitigation is required. It was determined that no mitigation will be required for the initial placement. Snowy Plover nested on beach in 2012. Currently the site has developed to the point where there is the largest concentration of snowy plover nests in WA. Construction operations were altered to avoid disruption to sites. Mitigation will be adaptively managed based on survey results for Dungeness crab and snowy plover. Crab trawls in 2018 indicated no crab mitigation is required.	2035
32	NWD	NWS	Howard Hanson Dam (HHD), Additional Water Storage Project, Phase I, WA	98.6	85	368.7	368.7	Mitigation consists of: 1. instream habitat restoration through culvert replacement engineered logjams and side channels. 2. riparian planting, thinning, protection and conservation, management of forest, pasture and emergent marsh. 3. creation of elk forage habitat.	Have set aside and managed 238 ac riparian buffer/managed forest, 12.7 ac instream habitat plus 118 ac of elk pasture. All the areas are being monitored. The emergent elk pasture has not has not developed as planned and is being monitored to determine the conditions required for success. There were 4 culverts replaced, 1,198 logs placed in logjams, and 1/2 ac of side channel created as mitigation. For the fish mitigation sites, preliminary monitoring has determined that on average the sites are performing as expected providing the intended improved habitat structure for aquatic organisms. The monitoring results have been inconclusive to date. Until review of BiOp from NMFS complete and requirements resolved, no further actions will be taken on the AWS Mitigation Plan.	2022

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
33	SAD	SAC	Charleston Hbr, SC - Post 45ft	76	20	698	68	Purchase and preserve ~ 665 ac of wetlands, and create ~ 33 ac of artificial reef habitat (for total of ~698 ac to be mitigated).	~1150 ac of upland forest and forested freshwater wetlands have been purchased and will be transferred to US Forest Service for incorporation into the Francis Marion National Forest in 2020. Acquisition will be considered complete at that time. Two offshore artificial reefs, totaling ~66 ac, have been constructed (completed 2019). Monitoring for benthic recruitment has begun. Both actions serve to mitigate for loss of habitat, the first for wetlands and the second for hard-bottom habitat, due to deepening of the Charleston Harbor.	2023
34	SAD	SAJ	Miami Harbor Deepening, Miami Harbor Phase III Expansion, FL	100	100	12.1	12.1	The seagrass mitigation shall consist of filling a portion of the dredge hole on the north side of the Julia Tuttle Causeway to restore at least 16.6 ac of a seagrass community. At a minimum, 7.15 ac of the mitigation area within the filled mitigation site shall be planted with seagrass. A total of 9.7 ac of artificial reef shall be constructed at 2 locations to mitigate for impacts to corals.	Project and mitigation construction physically completed on 2015. Monitoring for the Julia Tuttle Seagrass Mitigation Area was completed in 2019 and the Final Report is expected to be complete in 2020. Mitigation requirements were refined. For reef mitigation, 11.6 acres were constructed. As for the seagrass, of the 0.42 acres mapped, 0.13 were assess for impact and 0.238 acres of mitigation was calculated as the result of the Uniform Mitigation Assessment Method (UMAM). 0.5 acres of mitigation for seagrass was done and monitored for 5 years. So, in a nutshell, 26.3 acres of mitigation authorized, but only 12.1 acres of mitigation needed/created.	2020
35	SAD	SAJ	Mile Point, FL	75	100	18.8	18.8	Using the Uniform Mitigation Assessment Method, 18.84 ac of salt marsh mitigation is required to offset habitat loss. Loss of oyster habitat shall be offset by creating intertidal habitat along the west leg of the new training wall (0.76 ac) and reconfiguration of the east leg training wall (0.37 ac), total of 1.13 ac. Additional oyster habitat would be created by the construction of tidal channels within the restoration area at Great Marsh Isl (in excess of 1.6 ac).	Phase I completed in 2018, includes dredged material placement at Great Marsh Island to restore 18.84 acres of salt marsh. An additional 34.16 acres were also restored as a beneficial use of dredged material. Phase II shall include planting of salt marsh vegetation and oyster habitat creation in 2020.	2025

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
36	SAD	SAJ	Intracoastal-Waterway CR to AR (Maintenance Dredging, Cuts M-5, M-12, and M-14 and Longboat Pass cuts 2 and 3, Manatee County, FL)	0	100	0.7	0.7	Permit requires repair of previously damaged (prop scars and blowouts) sea grass habitat with appropriate material to the appropriate elevation to support sea grass.	Post construction monitoring indicates only a very small amount of impact (0.1 acre). SAJ is awaiting a response from Florida Department of Environmental Protection (FDEP) on the request to place O&M material from the next dredging event in Lonboat Pass Dridge Hole to raise elevation and create sea grass habitat.	2021
37	SAD	SAJ	Intracoastal-Waterway Jacksonville-Miami, FL (Construct Upland Disposal Sites IR-2 and SL-2) **	100	100	7.2	7.2	Create 5.95 ac of wetland mangrove and upper marsh and obtain perpetual conservation easement over an additional 1.23 ac of on-site wetlands.	(1) 5.95 ac of wetland mangrove and upper marsh created from a former citrus grove by grading to establish hydrology and by planting. (2) perpetual conservation easement over an additional 1.23 ac of on-site wetlands. (3) April 2013 monitoring indicated presence of native wetland and aquatic species. Planted red mangroves in one area are struggling. 5th and final mitigation monitoring report dated April 2018 (received FY19) indicated mitigation success has been achieved. Coordination with resource agencies on-going.	2020
38	SAD	SAJ	San Juan Harbor, PR	0	100	4	4	1.2 ac marine submerged aquatic vegetation established by raising and stabilizing bottom (to approximately -12 ft to -15 ft below the surface).	Mitigation not yet started. Mitigation has been relocated. No longer requires an LRR (if cost keep below cost increase limits of Section 902 for the Navigation project). In 2015, the EA/FONSI for the new mitigation site in Condado Lagoon was completed. Previous mitigation contracts were not awarded because there were no bidders. Anticipate completion of all environmental compliance and award contract for mitigation with award contract for deepening (post FY2019).	2021

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
39	SAD	SAS	Savannah Harbor, GA	100	100	1769	1411	In order to mitigate for the 311 ac of salt marsh lost a Long Term Management Strategy EIS was developed. The plan commits the Corps to providing bird habitats as follows; an annual production of 74 ac of bare ground nesting, 450 ac of wetland nesting, 505 ac of waterfowl feeding, and 740 ac of shorebird feeding. At the end of a 6 year cycle, project should be in compliance with each of the habitat acreages.	The EIS requires SAS to take the 6 year rolling average of each habitat type and report on mitigation status. For FY18, a lack of wetted areas within the DMCAs caused the project to produce 1,481 HUs of wildlife habitat, less than the annual mitigation requirement of 1,769 HUs. Both shorebird feeding habitat and wetland nesting habitat acreage were impacted as a result of the lack of wetted areas. Are awaiting the data from the FY 2019 monitoring season, but it is expected that that numbers will be very similar to the FY 2018 results.	2047
40	SAD	SAW	Manteo (Shallowbag) Bay, NC (O&M)	17.6	18	68	12	68 ac of oyster reef habitat in the general project area is to be constructed for the loss of 102.4 ac of estuarine shallow water habitat associated with the Manteo-Oregon Inlet channel and Old House Channel.	As of 1997, 12 of 68 ac of oyster reef habitat were constructed in association with completed project components; specifically dredged material disposal island expansion in the project vicinity (northern Dare County, NC). Monitoring of these 12 ac (6, 2-ac sites) was completed in 2000. No project construction or mitigation planning/construction occurred in FY2019. Additional consultation on mitigation plan occur in future years; however, resources needed to complete the remaining mitigation components of the project are unlikely to be fully obtained in the near future based on recent funding.	2035
41	SPD	SPK	American River Common Features, Natomas Basin, CA (Natomas Reach D)	0	35	17	17	Replace in-kind Giant Garter Snake upland refugia and canal habitat lost due to new alignment of the Vestal Drain, which is potential hibernacula for the snake.	17 ac of Vestal Drain alignment is considered upland refugia habitat of Giant Garter Snake and wetland habitat (formerly rice fields). New Vestal Drain alignment will be a large canal to provide upland and canal habitat. Old Vestal Drain alignment will be converted to upland refugia habitat. Work accomplished in FY2019 was completion of approximately 60% of the New Vestal Drain. Construction is ongoing, but is anticipated to be complete February 2020. Connectivity between New Vestal Drain and existing GGS habitat anticipating construction late January 2020. Current biological monitoring during construction has determined that several individual GGS already exist within the project footprint; success criteria will be met for in-kind mitigation once construction is complete.	2020

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
42	SPD	SPK	American River Common Features, Natomas Basin, CA (Reach I Contract 1) **	100	100	11.1	11.1	Mitigation for removal of approximately 44 trees, mostly valley oak and California sycamore, would take place at the Novak mitigation site, which covers approximately 11 ac near the intersection of Garden Highway and Powerline Road, in Sacramento County, CA. Tree mitigation entails installing and maintaining plants until they have reached self-sufficiency. Plantings would be surveyed annually for survival for 3-4 years. Replacement plantings would be added on an as-needed basis for 2 years.	Planted spring 2018. Mitigation will be considered successful if 60% survival is reached by 2027. Plants should reach a moderate height/growth to survive most potential hazards, barring wildfire. Habitat should have height in trees with sufficient understory to support multiple species. Activities in FY19 included irrigation, weeding, trash cleanup, and a full plant count. Results of the full plant count determined that additional plants would be necessary to fulfill the contract requirements (100% survival for the three year contract). 500 additional plants were installed March 2019.	2027
43	SPD	SPK	American River, Folsom Outlet Mods, CA (Folsom Joint Federal Project (JFP) - Auxiliary Spillway, Phase IV) **	100	100	14	14	Mitigation for JFP Phase IV impacts to 30 native trees consists of restoring approximately 14 ac of oak woodland habitat at an off-site location referred to as the "Rossmoor Bar 14-ac Mitigation Site". This mitigation was recommended in the FWCA Report prepared for this phase of the JFP. Mitigation for JFP Phase IV impacts to jurisdictional Waters of the United States consisted of purchasing 2.5 credits from a mitigation bank for the impacts to transitional wetlands and purchasing 11.0 credits from a mitigation bank for impacts to open water. This mitigation was necessary for compliance with the CWA.	Rossmoor Bar 14-ac Mitigation Site: Easement for land acquired in 2016. Initial site preparation work and initial planting of the site to restore oak woodland habitat was completed in 2016. Mitigation to compensate for JFP Phase IV impacts to jurisdictional Waters of the U.S. was fully completed in 2013 through the purchase of mitigation bank credits. Monitoring of Oak saplings at the mitigation site will continue through 2019, with success and transfer to sponsor likely to occur between 2019 and 2021. No mitigation work was done in FY19. There will be mitigation work for this project in FY20. The estimate for mitigation success is still on schedule.	2021
44	SPD	SPK	Isabella Lake DSP, CA	69.8	1	154.7	154.7	This Dam Safety Action Classification 1 dam repair project will provide a suite of measures to remedy hydrologic, seismic & seepage defects in view of serious life safety risks.	US Forest Service lands have been identified for mitigation, along with 154 ac conservation land purchased to fulfill BiOp requirements for reoperation of the reservoir. Activities to grow plant stock for habitat mitigation, and other initial restoration measures, are ongoing. The mitigation consists of planting and maintenance of vegetation (weeding and irrigation). Mitigation activities will occur for 5 years and started in FY17. FY19 was the 3rd year of mitigation.	2021

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
45	SPD	SPK	Sacramento River Bank Protection, CA (SAC at River Mile 77.2L) *,**	100	100	1	1	Mitigation required on-site for effects to riparian vegetation and associated habitat to include 0.71 ac of native riparian habitat, and IWM. Purchased 6.6 VELB credits (0.27 ac).	Purchased 6.6 credits (0.27 ac) for impacts to VELB from River Ranch VELB Conservation bank. After construction was completed, the 0.71 ac were replanted in 2011 with a native hydroseed mixture and native seedlings. While the site was weeded and watered for the 1st 3 years of establishment, a multiyear drought persisted through 2016, when the 5 year monitoring was mandated, and 2017 followed with extremely high flows from a very wet year. Results from the 3 rd monitoring year show all performance criteria being met except for percent vegetation cover, which missed the criteria by 8%. The site will continue to be monitored to determine if success criteria met.	2022
46	SPD	SPK	Sacramento River Bank Protection, CA (FHR at River Mile 7.0L) *,**	100	100	0.7	0.7	Following ESA consultation with the NMFS and USFWS on the levee repair along the Feather River at RM 7, the on-site mitigation for effects to riparian vegetation and associated habitat was determined to be 0.73 ac of native riparian vegetation and associated habitat, including IWM. The terms and conditions in the BiOp received from NMFS required revegetation of the disrupted area and a monitoring program for up to 5 years.	The site was replanted with 0.73 ac of native riparian vegetation for on-site mitigation in 2011. The 1 st 3 years of monitoring showed most performance criteria as being met. A multiyear drought extended through 2016, when the 5 year monitoring was due to end, and 2017-2019 followed with extremely high flows due to a very wet year. After the wet years, monitoring showed improved performance at other sites that had been struggling after being built just prior to the drought years, so believe that this site will respond in a like manner and meet the performance standards by the 10 year monitoring event.	2021
47	SPD	SPK	Sacramento River Bank Protection, CA (LAR at River Mile 10.0L) *,**	100	100	3.2	3.2	Following ESA consultation with NMFS and USFWS the on-site mitigation for effects to riparian vegetation and associated habitat was determined to be: installation of 0.65 ac of native riparian vegetation and associated habitat, including IWM; purchase of 33.6 VELB credits (1.39 ac); and purchase of 1.19 ac of spawning habitat, with monitoring for 3 years.	33.6 VELB credits (1.39 ac) were purchased from the River Ranch VELB Conservation Bank in 2013. 1.19 ac of spawning gravel credits were also purchased from the CVPIA Spawning Gravel Augmentation Program for impacts to Chinook salmon and steelhead in 2012. The 0.65 ac mitigation site was contoured, hydro seeded and replanted in 2011; and monitoring continues. After initial success, however, and while the site was weeded and watered for the 1st 3 years of establishment, a multiyear drought continued through 2016, when the 5 year monitoring was due to end. 2017 followed with extremely high flows due to a very wet year. Further monitoring will be needed in	2022

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
									upcoming years to achieve the success criteria. No work was conducted in FY19.	
48	SPD	SPK	Sacramento River Bank Protection, CA (SAC at River Mile 10.6L) **,**	100	100	0.77	0.77	Following ESA consultation with NMFS and USFWS the on-site mitigation required for effects to riparian vegetation and associated habitat were identified as 0.77 ac of native riparian vegetation plus 6.43 ac of VELB credits. The BiOp terms and conditions require vegetation monitoring for a minimum of 3 years. Mitigation consists of off-site mitigation including purchase of 255.6 credits at the River Ranch VELB Conservation Bank, and 0.77 ac of on-site mitigation consisting of revegetating the site with native riparian vegetation plus integrated weed management.	SPK purchased 155.6 off-site mitigation credits for VELB. The mitigation sites have been hydroseeded and replanted to meet requirement for 0.77 ac of on-site mitigation. The first 5 years of monitoring have been completed and the site is progressing well, but is not yet consistently meeting all monitoring criteria. A 10-year monitoring event will occur in 2021, simultaneous discussions are ongoing with resource agencies to revisit how performance criteria are determined.	2021

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
49	SPD	SPK	Sacramento River Bank Protection, CA (SAC at River Mile 16.8) **, **	25	100	0	0	Corps purchased salmon and steelhead "restoration" credits from a NMFS-approved conservation bank to fully compensate for project impacts to salmonids. The credits is necessary to mitigate for this significant temporal loss of riparian habitat. NMFS also required willow plantings on the riparian bench, requiring a Vegetation Variance Request. Although the willow plantings are expected to offset some impacts of vegetation removal, it will take time for the willows to mature enough to fully replace the benefits lost by removing the eleven trees.	Corps purchased 1.1 ac of Salmon credits in 2017 from the Fremont Landing Conservation Bank. The planting of willows at the site is pending approval of a Vegetation Variance. Monitoring at the site will continue for 10 years per compliance obligations. By purchasing restoration credits (vs. preservation credits), there is full replacement of the temporally lost habitat features & value. The veg and SAM surveys for this project occurred in the summer of 2019.	2029
50	SPD	SPK	Sacramento River Bank Protection, CA (SAC at River Mile 26.0) **, **	0	0	0.1	0.1	The Corps shall purchase salmon & steelhead credits from a NMFS-approved conservation bank to offset project impacts. Highest negative Standard Assessment Methodology. The purpose is to fully mitigate for project related effects using mitigation strategies already described in the Sacramento River Bank Protection Project (SRBPP) Phase 2 Programmatic BiOp. The construction of RM 26.0L in 2014 resulted in the loss of 0.03 ac of shallow water habitat, which will not be compensated for until the construction of RM 16.8L. To compensate for the temporal loss of shallow water habitat at RM 26.0L, the Corps proposed to construct a 0.1 ac wetland bench at RM 16.8L, which would create an additional 0.07 ac of shallow water habitat for delta smelt. As construction of RM 16.8L has not yet completed, the Corps deducted 0.07 ac of conservation credit from the Cache Slough/Yolo Bypass Mitigation Area.	Following ESA consultation with NMFS and USFWS, Sacramento River levee repairs at RM 26.0L, the Corps purchased 0.62 ac of salmonid riparian floodplain forest conservation credits from the Fremont Landing Conservation Bank in 2015. The on-site mitigation was planted in 2016, and replacement plantings were installed in 2017 due to damage and plant failure. The site has been monitored annually since 2017. As of 2018, the site met 3 of 4 performance standards, only failing in meeting the Combined Woody Vegetation Cover criterion (75%). The site is under a compliance mandate to monitor for 5 years, and to report annually on its performance. The veg and SAM surveys for this project occurred in the summer of 2019.	2021

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
51	SPD	SPK	Sacramento River Bank Protection, CA (SAC at River Mile 71.3) **, **	30	0	0	0	The Corps mitigated for project impacts to salmon and steelhead by purchasing credits from an approved mitigation bank at a 1:1 ratio. Specifically, a total of 0.635 ac of credits were purchased. The Corps purchased 0.2 ac of delta smelt habitat at a USFWS approved delta smelt conservation bank to mitigate for loss of delta smelt spawning habitat. To offset the loss of 0.27 ac of riverine habitat, the Corps purchased 0.9 ac (rounded up from 0.81 at 3:1 ratio) of delta smelt habitat at a USFWS approved delta smelt conservation bank. Onsite mitigation features include installation of a riparian bench, IWM, and installation of fascine bundles; all incorporated into the repair design for SAC 71.3R to the maximum extent possible.	Following ESA consultation with NMFS and USFWS on Sacramento River levee repairs at RM 71.3, the Corps purchased 0.64 ac of Salmon credits in Oct 2018 from the Fremont Landing Conservation Bank. The contract for planting at the site has been awarded, but the fascine bundle installation and plantings have been delayed due to river levels that have impeded access to the bench. In 2017, the Corps purchased 1.1 Delta Smelt Preservation Conservation Credits at the Liberty Island Conservation Bank. This project is still awaiting vegetation planting and had no mitigation performed in FY19.	2024
52	SPD	SPL	San Luis Rey River, CA *	81	100	243.2	197.7	Mitigation required for temporary & permanent impacts to waters of the U.S. and for riparian and endangered species habitat through the BiOp, CA Department of Conservation, WQC and CA Endangered Species Act permits. Listed species (vireo, flycatcher) and riparian/critical habitat mitigation overlap in most areas, totaling 241 ac to be completed in phases both on- and offsite: Pre-construction (32ac); Phase 1 (100.2ac); Phase 2 (35.4ac); Phase 3 Year 1 (51.8ac); Phase 3 Year 5 (21.6ac). Flycatcher habitat is also required (2.11ac), along with fish passage under bridges for which boulders will be reconfigured. An adaptive habitat management plan (AHMP) has been prepared.	A PACR is being prepared to increase the authorized cost, and support mitigation. Riparian habitat, including 32 ac, was established onsite before and during construction. Phase 1-3 habitat preservation is complete, and restoration begun in 2006 near complete. The Phase 1 onsite requirement (85ac) was met in 2011. More restoration and AHMP were completed in 2013 and 2014. Phase 2 and 3 drought impacts managed in 2015. Sponsor acquisition of offsite 45.5 ac is complete. Real Estate Plan and NEPA document are being finalized. Monitoring of restoration done continued in FY19.	2024

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
53	SPD	SPL	Santa Ana River Mainstem, CA	92.1	85	3657	3657	For this multi-phase flood risk management effort spanning much of watershed, requirements under ESA, FWCA and CWA have evolved over time. Primary requirements have been to: restore 92 ac of salt marsh, 5 ac of freshwater marsh, ~1,535 ac of riparian habitat (mostly through non-native vegetation removal, with monitoring), and over 14 ac perennial stream. Added requirements included: trapping of nest-predating cowbirds; wildlife corridor improvements; implementation of Habitat Management Plan for 1,100 floodplain ac downstream of Prado Dam; and implementation of Multi-Species Habitat Management Plan for 764 ac preserve area downstream of Seven Oaks Dam.	Full restoration of: 864 ac of riparian habitat, 92 ac of salt marsh, 5 ac of freshwater marsh and 11 ac perennial stream. Partial restoration of 900 ac of riparian habitat; plus ongoing management of 1,864 ac of river wash/floodplain; & acquisition/conservation of 150 ac. Fairview Park that turned over to sponsor. Initiating restoration of additional 204 acres of riparian habitat and 13 acres of coastal sage scrub. Mitigation required for upcoming construction at Norco Bluffs and elsewhere has been better defined as the design has progressed, and a new mitigation contract for over 200 acres of non-native removal and habitat restoration was awarded in FY19. This contract is primarily intended to offset temporary and permanent impacts to riparian and coastal sage scrub habitat caused by construction of Alcoa Dike (ongoing) and Norco Bluffs (upcoming). Note that additional mitigation may eventually be required for Norco Bluffs and other features as designs are finalized, impacts further assessed and mit measures identified.	2025
54	SPD	SPL	Murrieta Creek, CA	48.1	25	12.1	12.1	Phase I and IIa impacted native riparian vegetation communities & adjacent upland sage scrub. Under the FWCA, CWA and NEPA, mitigation detailed in the EIS and WQC includes an unmaintained habitat corridor in the channel bottom extending through all 4 phases to be vegetated with native cottonwood/willow. For Phase I, this corridor is ~70 ft x 3000 ft, and for Phase IIa is ~30-70 ft x 5000 ft. Mitigation also includes replanting of side slopes with sage scrub habitat. Phase I success criteria were established in a 2003 Revegetation and Monitoring Plan in coordination with resource agencies, and Phase II in a similar 2016 plan. Success metrics related to % cover & abundance of vegetation.	Revegetation of Phase I riparian corridor & adjacent side slopes. Observations as of July 2017 recorded successful establishment of a riparian corridor with high percent cover of natives, and a relatively low percent cover of non-native due to continued weeding efforts. While success criteria have been met for tree and shrub density, such other criteria as tree canopy and native cover have not been met. Monitoring continued in 2019.	2023

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
55	SPD	SPL	Nogales Wash, AZ	50.3	99	8.6	8.6	Mitigation entails on-site creation of 5.93 ac in Areas A-C with cottonwood, willow, and mesquite, with appropriate native understory vegetation, plus preservation of 2.7 ac of dense native riparian vegetation. Vegetation mitigation laid out in FWCA Report and NEPA document. Off-site mitigation entails establishment of two Gila minnow refugia. Gila minnow mitigation is laid out in the 2005 BiOp from USFWS. Monitoring and success criteria are to be developed with USFWS prior to implementation. A portion of the original project was de-scoped, and all outstanding mitigation may not be required. Evaluation of mitigation requirements cannot be completed, however, absent further funding.	Local sponsor has acquired 2.7 ac of willow/cottonwood riparian habitat for preservation. Revegetation of 3.28 ac of willow/cotton wood riparian in Area A is complete but was partially unsuccessful due to improper O&M of the irrigation system by local sponsor. As of Nov 2019, no changes have occurred. Further evaluation of mitigation success or work to bring mitigation into compliance will not occur without funding (project is at Section 902 funding limit so additional work cannot proceed).	2025
56	SPD	SPL	Rio De Flag - Flagstaff, AZ	0	52	3	1.2	Mitigation planting for impacts to cottonwood/willow and to wetland emergent vegetation is comprised of cattail, rushes, horsetail and sedges; and includes installation of 3.0 ac of riparian and wetland habitat preceded by exotic weed/invasive removal. ~1.2 ac will be mitigated on-site, and 1.8 ac off-site, under CWA commitments. The 2000 EIS addressed mitigation for temporary and permanent impacts under both the FWCA and CWA.	No mitigation has been accomplished to date. Construction has been delayed due to problems with previous work. The Clay Ave Wash Detention Basin (CAWDB) was finished in 2009, but deficiencies were identified in 2010. The CAWDB reconstruction was completed in Fall 2014. There has been a recent delay in the award of the Rio de Flag mainstem channel design. Mitigation is required for resources that will not be impacted until later in the construction process within the mainstem of Rio de Flag channel. A LRR for construction of the Rio de Flag was completed in 2016.	2032

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
57	SPD	SPL	Tucson Drainage Area, AZ	100	100	5.5	5.5	Compensatory mitigation requirements include 5.5 ac of mitigation to replace 4.1 ac of palo verde, mesquite, white thorn, and salt brush that would be impacted by construction of the flood detention basin complex. A draft Adaptive Habitat Management Plan was developed, and mitigation planting at Basin 1, 2 and 3 began in 2012. It was completed in 2014/ 2015. Monitoring started after the mitigation was completed in 2014/2015. For the project to perform, an additional FRM channel is proposed, called Arroyo Chico Channel. Associated mitigation requirements will be documented in an EA under development.	Mitigation of the initial required 5.5 ac is complete. Per annual monitoring conducted in 2014, survival was 90%. Annual monitoring was conducted in 2015, and results indicated an increase in biota. Preparation of a draft adaptive management plan was also completed. A Sep 2017 site visit by Corps to the Tucson Drainage Area Project included a visual examination of Basins 1, 2 and 3; at which time it was reported that the mitigation area was performing well. To ensure mitigation success criteria are met, the Corps is continuing coordination with resource agencies. .	2021
58	SPD	SPN	Oakland Harbor Deepening 50 ft, CA	92	100	15	15	Proposed dredging activities resulted in the direct removal and loss of eelgrass bed habitat. Mitigation for the potential loss of 5 ac of eelgrass bed includes establishment of 15 ac of eelgrass beds through the placement of dredged-material substrate in Middle Harbor Enhancement Area. Mitigation would be monitored for 10 years in accordance with NEPA, ESA and EFH requirements.	100% of the dredged material has been placed in the Middle Harbor area. Although 0 acres of habitat have been fully restored, mitigation activities accomplished in 2012 included additional material settling and initial bottom contour shaping. Funding for the project was not received in 2013 or 2014. Project construction, which consisted of final shaping, lowering of the rock containment walls, creation of the educational marsh template and construction of rock bird islands was completed in summer 2016. 2017-2018 monitoring shows that the modeled physical conditions have been achieved. Phase I planting was completed in June 2019. The 10-year monitoring plan will begin in January 2020.	2030

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
59	SPD	SPN	Upper Guadalupe River, CA	23	20	22.5	22.5	The authorized FRM project will cause loss of moist and dry riparian forests (total of 11.54 ac) and wetlands (1.1 acres); plus impacts to 5,395 lf of shaded riverine habitat. Restoration of stream habitat and the riparian zone in six reaches of the Upper Guadalupe River will compensate for construction impacts. Riparian forest will be mitigated on a 1.85:1 basis, and wetland and shaded riverine habitat on a 1:1 basis. Primary species benefiting from mitigation are the listed Central California Coast Steelhead Trout Endangered Species Unit in the river, and many species of migratory birds in the riparian forest. The basis for these mitigation requirements is NEPA, FWCA, ESA and Water Quality Cert.	Construction to date has restored stream morphology, aquatic habitat, floodplains, and riparian forest in 2 reaches. Final planting was complete in Dec 2017. Riparian forest mitigation success was delayed by drought in 2013-2015, but is now doing well and habitat conditions are rapidly improving. Monitoring started in 2013 in one reach and 2015 in other; to date goals nearly all met. Aquatic habitat doing well and benefiting from shade from riparian forest. Stream morphology stable. Listed fish species spawned in one restored area. In FY2019 monitoring conducted by non-federal sponsor.	2024
60	SWD	SWF	Waco Lake, TX	60	100	1540	1540	Increasing water storage impacted 712 ac of riparian BLH forest. Mitigation required the acquisition and reforestation of 1540 ac of land and included creating 174 ac wetland.	All lands for mitigation have been acquired. The 174 ac of emergent wetlands have been established and success has been met. 220 ac of riparian woodlands have been established and the success criteria have been met, making a total of 394 ac of mitigation requirements completed. An additional 186 ac were planted in FY2011 and are doing well, but have not meet the success criteria. In FY2014, the City of Waco planted/replanted 74 ac in mitigation site MX-3, however, survival was very low (~10%) due to continued drought. No other sites have met the success criteria. In FY2018, the City of Waco continued to plant trees, primarily in the MX-3 site and has achieved 60% survivorship to date. Monitoring survivorship of the planting efforts continues.	2026
61	SWD	SWF	Central City, Fort Worth, TX	0	5	148.6	148.6	Mitigation requirements include development of 1.43 ac of emergent wetland, establishment of 76.2 ac of riparian woodland, and establishment of 45.5 ac of upland forest.	Mitigation is onsite and project features have to be constructed before mitigation features can be completed; however, channel for mitigation has been completed. Construction is underway. Mitigation costs may be adjusted as Lewisville Aquatic Ecosystem Research Facility may be brought in to facilitate mitigation efforts.	2032

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
62	SWD	SWF	Dallas Floodway Extension, CON, TX	0.4	25	1540.1	1540.1	Acquisition, planting, and management of 1,179 ac of additional project lands.	All areas were planted/replanted and are waiting on the plants to mature to determine when success criteria will be met. Floods in 2016 impacted plantings. In Sept 2019, the Corps and USFWS revisited the planted areas and future mitigation sites to assess the quality of the habitats in an effort to determine what mitigation needs remained and what adaptive management efforts may be needed. The Corps (ERDC) is in the process of evaluating the results to determine how much mitigation is left to be established (areas not planted have matured resulting in an increase of habitat quality resulting from time before supplemental plantings could be established).	2025
63	SWD	SWF	Wharton/Onion, Lower Colorado River Basin (Yarabee Bend and Timber Creek NED/NER), TX	0	0	0	0	The proposed Wharton Project will include the construction of 144.9 ac of forest, shrub, and native prairie habitat and the creation of 39.9 ac of wetlands.	The mitigation requirements for the study are for the Wharton FRM phase only. Yarabee Bend and Timber are AER components of the overall project. The mitigation for Wharton is in design; with expected plantings expected to be phased over a three year period scheduled to start in FY22.	2028
64	SWD	SWG	Brays Bayou, TX	34	80	23.6	23.6	Construction of 27.9 ac of wetlands in Willow Waterhole Detention Basin in project area. However, only 23.6 ac of wetlands have been impacted by project construction. 4.3 ac of wetlands identified in a potential disposal area were not impacted because the disposal area is now not needed for the project and will not be constructed. As such, Harris County Flood Control (HCFCD), has coordinated a reduction in mitigation from 27.9 ac to 23.6 ac.	10.82 ac of wetlands at Willow Waterhole Detention Basin have been constructed. Construction on-going, but due to delays the estimated date of completion has been revised.	2028

	Division	District	Project Name	Percent Mitigation Physically Complete	Percent Project Physically Complete	Mitigation Total Acres of Land Required	Mitigation Total Acres of Land Acquired	Mitigation Requirements	Mitigation Accomplishments to Date	Estimated Date of Success
65	SWD	SWG	Corpus Christi Ship Channel, LaQuinta Extension, TX	10	100	15	15	Impacts to seagrasses would be mitigated through creation of 15 ac of submerged aquatic vegetation in Beneficial Use (BU) Site GH.	Mitigation consists of planting 15 acres of seagrass (<i>Halodule wrightii</i>) in BU site GH after sediment has consolidated sufficiently for planting. Surveys will be conducted to determine how much sea grass has naturally returned, and coordination with TPWD and USFWS will determine how much additional seagrass will need to be replanted. Surveys were not conducted in FY19, but are anticipated with resource agencies in FY20. Success date has been revised. Percent Mitigation Physically Complete also revised as was incorrect in FY18.	2026
66	SWD	SWT	Canton Lake, Dam Safety, OK	100	100	220	220	Required mitigation included relocation of existing prairie dog town impacted by project construction and replacement of lands licensed to the OK Department of Wildlife Conservation (ODWC) and impacted by construction.	All mitigation activities are complete. Prairie dog town moved before construction in coordination with USFWS and ODWC. Acquired lands are now part of the ODWC license area and managed by that agency. Monitoring was not required. In Nov 2018, final minor activities for leased lands were completed, associated with water well installation. In FY19, mitigation is completed and accepted by ODWC.	2019

* The requirements of Section 906 of WRDA 1986 is not applicable to the project since the authorization pre-dates WRDA 1986.

** Mitigation for these projects is managed programmatically over the geographic scope of the system. System-wide mitigation is progressing concurrently with construction.

TABLE 3. FY2019 COMPLETED MITIGATION PROJECTS INTERAGENCY CONSULTATION

Division	District	Project Name	Percent Mitigation Physically Complete	Mitigation Requirements	Consultation Date and Agency, Office, and Title of Party Consulted	Evaluate Ecological Success to Date	Likelihood of Success	Timeline for Achieving Success (fiscal year)
SAD	SAJ	Intracoastal-Waterway Jacksonville-Miami, FL (Construct Upland Disposal Sites IR-2 and SL-2)	100	Create 5.95 ac of wetland mangrove and upper marsh and obtain perpetual conservation easement over an additional 1.23 ac of on-site wetland.	Consultations with USFWS, NMFS, and State DEP on-going to review monitoring data and receive concurrence on success of mitigation.	Creation of 5.95 acres of wetland mangrove and upper marsh was completed on a former citrus grove by grading to establish hydrology and by planting. A perpetual conservation easement was obtained for 1.23 acres as required. Monitoring was conducted for 5 years and monitoring report from April 2018 (received in FY19) showed mitigation success had been achieved.	High	2020
SWD	SWT	Canton Lake, Dam Safety, OK	100	Relocation of existing prairie dog town impacted by project construction and replacement of lands licensed to the Oklahoma Dept of Wildlife Conservation (ODWC) and impacted by construction.	ODWC concurrence in November 2018 by acceptance of the Corps' last mitigation actions on their leased lands.	All mitigation activities are complete. Prairie dog town moved before construction in coordination with USFWS and ODWC. This was determined to be successful mitigation for the prairie dog town. Acquired lands are now part of ODWC and managed by that state agency. Monitoring was not required. Upon completion of final minor activities in FY19 on the leased lands (water well installation), the mitigation is determined to be successfully completed.	High	2019