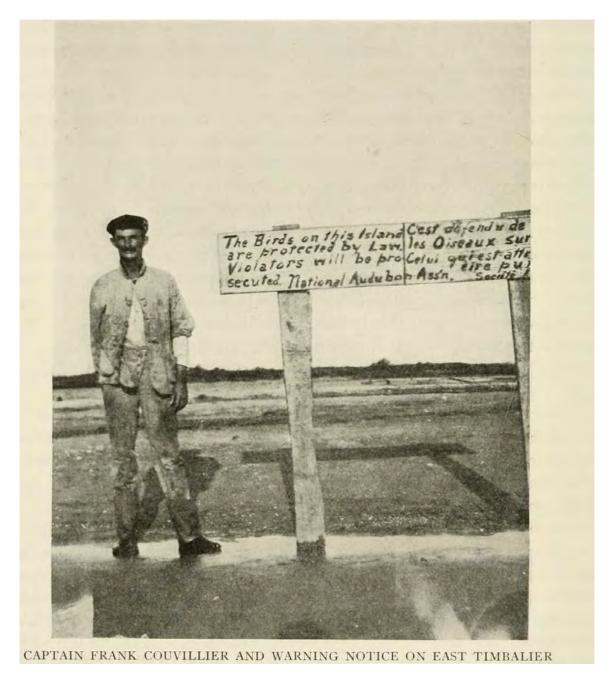
A Catalog of Louisiana's Nesting Seabird Colonies



(from Kopman, 1908)

Fontenot, W. R., S. W. Cardiff, R. A. DeMay, D. L. Dittmann, S. Hartley, C.W. Jeske, N. Lorenz, T. C. Michot, R. D. Purrington, M. Seymour, W.G. Vermillion

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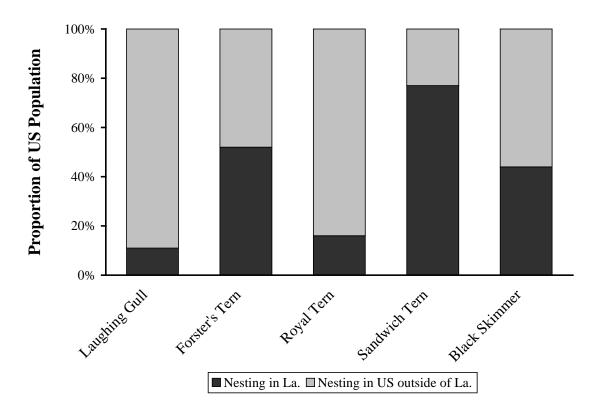
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Introduction

Summarizing his colonial nesting waterbird survey experiences along the northern coast of the Gulf of Mexico in a paper presented to the Colonial Waterbird Group of the Waterbird Society (Portnoy 1978), bird biologist John W. Portnoy stated, "This huge concentration of nesting waterbirds, restricted almost entirely to the wetlands and estuaries of southern Louisiana, is unmatched in all of North America; for example, a 1975 inventory of wading birds along the Atlantic Coast from Maine to Florida [Custer and Osborn, in press], tallied 250,000 breeding [waterbirds] of 14 species, in contrast with the 650,000 birds of 15 species just from Sabine Pass to Mobile Bay." The "650,000 birds" to which Portnoy referred, were tallied by him in a 1976 survey of coastal Louisiana, Mississippi, and Alabama (see below, under "Major Surveys" section).

According to the *National Atlas of Coastal Waterbird Colonies in the Contiguous United States: 1976-82* (Spendelow and Patton 1988), the **percentages of the total U.S. populations** of Laughing Gull (11%), Forster's Tern (52%), Royal Tern (16%), Sandwich Tern (77%), and Black Skimmer (44%) which annually nest in Louisiana are significant – perhaps crucially so in the cases of Forster's Tern, Sandwich Tern, and Black Skimmer.



Nearly three decades after Spendelow and Patton's determinations above, coastal Louisiana still stands out as the major center of colonial wading bird and seabird nesting in all of the United States. Within those three intervening decades, however, the

collective habitats which comprise Louisiana's now fragile coastal zone have taken major hits from commercial/residential, oil & gas, and other industrial development, primarily in the form of coastal erosion exacerbated by these and other factors (Portnoy 1978, Spendelow and Patton 1988, Martin and Lester 1990, Green, *et al.* 2006). Moreover, during this same period, both geologic subsidence rates (Tornqvist *et al.* 2008) and mean sea-level (Tornqvist *et al.* 2002) have increased, along with significant tropical storm activity; all of which have combined to impact available marsh, barrier island, beach, and dredge spoil nesting habitat for waterbirds, especially seabirds, throughout the coastal zone of Louisiana.

The primary objective of this publication is to detail those coastal Louisiana colonial seabird nesting sites for which we have reasonably accurate data, in a tabular, site-by-site format. All major survey (1976-2008) data of site-by-site seabird species counts, as well as several smaller data sets, referred to in the site history tables as "miscellaneous observations" obtained during the May-June seabird breeding period, are included.

It is our hope that these data will provide a dependable foundation from which future colonial seabird nesting surveys might be planned and carried out, as well as showcase the importance of coastal Louisiana's seabird rookeries, and contribute to their conservation.

Major Surveys

Large-scale, coast-wide seabird rookery surveys in coastal Louisiana date back to Audubon Society field agent H.H. Kopman's sailboat surveys of May-June 1907 (Kopman 1907) and July-August 1908 (Kopman 1908). These surveys not only provided species status reports on all major rookery sites known at that time, but were also conducted to provide feasibility information for potential procurement of new "reservations" by the Audubon Society or various governmental agencies; and, ultimately, to determine the feasibility of protecting seabird nesting at these sites via "policing."

First-reported coast-wide aerial surveys in Louisiana were undertaken in 1958, 1959, 1965, and 1972-75 by Florida Audubon Society biologist Alexander Sprunt IV (Portnoy 1977). During those years, Sprunt covered many seabird and wading bird nesting sites between Sabine Pass and the Chandeleur Islands.

Major seabird rookery surveys, as defined by this publication, began in 1976, with biologist John W. Portnoy's (1977) aerial and ground survey of the Louisiana/Mississippi/Alabama coasts, in which documentation of latitude/longitude coordinates and a discrete numbering system for each individual rookery site was first utilized. Since 1976, numerous large-scale surveys have followed Portnoy, the most recent of which was completed in 2008. As with Portnoy, all of these survey efforts were undertaken in May-June, peak nesting season for Louisiana seabirds; and most are

combined with wading bird (herons, egrets, allies) survey work, primarily undertaken during March-April of each survey year. The U.S. Fish & Wildlife Service (USFWS) numbering system employed by Portnoy and Keller (1984) was changed in 1990 (Martin and Lester 1990) to a Louisiana Department of Wildlife and Fisheries (LDWF) numbering system, when the survey focus shifted exclusively to Louisiana colonies. Taken together, these major surveys provide an in-depth history of nesting seabird and wading bird life in coastal Louisiana.

Most major seabird rookery survey data are archived in the Louisiana Department of Wildlife and Fisheries' Louisiana Natural Heritage Program (LDWF-LNHP) database in Baton Rouge, Louisiana, and are summarized by LDWF colony site/number. Note that within the individual site listing section of this publication, each survey is referred to by "year" (e.g. "1990" = Martin and Lester's 1990 survey) rather than by surveyors' names, as many of the surveyors have been involved in multiple-year survey efforts.

1976 – Portnoy, J. W. (1977). Contracted and funded by the USFWS. Biologist Portnoy headed the survey, aided by biologists Brent Ortego and Robert Ruhe. Survey area included Sabine Lake, Louisiana, eastward to Mobile Bay, Alabama, undertaken during the 1976 breeding season.

Study objectives: 1) to compile all available historic records of colonial nesting within the study area, 2) to survey the Louisiana-Mississippi-Alabama coastal zone to locate present-day seabird and wading bird breeding colonies, 3) estimate nesting abundance by species at each colony, and 4) document nesting chronology for each species.

The survey was conducted via aerial (fixed-wing) photographic counts, visual aerial (fixed-wing and helicopter) estimates, and on-ground, belt-transect sampling. In all, 78 coastal Louisiana seabird rookery sites were surveyed, mapped, and cataloged from barrier beaches, coastal islands, spoil areas, and shell reefs. Colonies were plotted on 1972 United States Geological Survey (USGS) 1:250,000-scale topographic maps, with "precise location[s]...difficult on this rapidly changing coast...colonies were plotted within 1.8 km (1 nautical mile) accuracy." In addition, relative salinity, habitat type, and nest substrate type were cataloged for each site.

In all, Portnoy, *et al.* documented 168 colonial waterbird rookery sites from coastal Alabama, Mississippi, and Louisiana, 96 of which contained nesting seabirds. Seventy-eight of those 96 active seabird rookeries were located in coastal Louisiana.

Note: In his 1977 publication, Portnoy reported species numbers as <u>total</u> <u>individual adult birds present at each site</u>. To make Portnoy data comparable to subsequent major survey data sets, all of which were reported *as pairs present at site*, all Portnoy counts reported in this publication *are halved* for each site.

1983 – Keller, C. E., J. A. Spendelow, and R. D. Greer (1984). Conducted in cooperation with the Coastal Management Section of the Louisiana Department of

Natural Resources (LDNR), and contracted/funded by the USFWS. Biologist Keller headed this survey. Aerial surveys were conducted in coastal Louisiana, Mississippi, and Alabama in May and June of 1983.

A major objective of the survey was "to provide up-to-date locations of active colony sites," while simultaneously checking on sites previously reported by Portnoy in 1976 and 1978*. Additional objectives included "estimate overall colony size," and actively search for new sites. Numbers of individual species were not taken. Both seabird and wading bird colonies were surveyed.

Note: * We have not been able to locate Portnoy's 1978 data set.

As with Portnoy (1977), a colony was defined as groups of birds nesting together and separated by at least one kilometer from other groups of nesting birds. Exceptions to this involve colonies nesting on separate islands that are less than one kilometer apart.

During the survey, Spendelow determined species composition, nesting habitats, and colony sizes. Keller "assisted" with species compositions and colony size estimates, acted as navigator, and plotted colonies on USGS 1:250,000 scale maps. Greer simultaneously plotted colony locations on 1:24,000 scale maps.

Aerial surveys using fixed-wing aircraft (Cessna 172) were conducted on seven days, from 02-17 May 1983. A second set of surveys were conducted via helicopter (Bell Jet Ranger) on six days, from 02-14 June 1983.

In total, 257 wading bird and seabird nesting sites were visited and surveyed, 102 of which were "new" (not recorded by Portnoy). In all, 99 active seabird sites were recorded, 94 of which were located in coastal Louisiana.

1990 – Martin, R. P. and G. D. Lester (1990). This survey was conducted under contract by the USFWS by Richard Martin and assisted by Gary Lester, both (at the time) biologists with the LDWF-LNHP. Aerial and ground surveys were conducted late April through early May and late May through late June in 1990. A total of nine survey days via fixed wing aircraft were logged. Additionally, less-comprehensive aerial survey data taken by Martin and Lester during the 1986-89 nesting seasons were incorporated into this (1990) data set, as well as ground count data from the Breton National Wildlife Refuge (NWR) staff (primarily, biologist Charlie Hebert), the Barataria Basin (biologist Gary Peterson), the Atchafalaya Basin (biologist Rebecca Howard), and parts of northeastern Louisiana (amateur birder, Joyce Bennett). As with those before it, this major survey included both wading bird and seabird nesting colony data.

Objectives of this study were to 1) document the activity status and location of all previously recorded nesting colonies, 2) survey additional coastal areas and major river drainages for previously unrecorded colonies, 3) estimate colony size and relative species composition for all active colonies, 4) map all colonies on appropriate USGS topographic maps for future reference, 5) compare nesting colony data from 1976, 1983, and 1990,

and 6) provide suggested breeding/nesting activity windows that would minimize disturbance to nesting colonial waterbirds.

Note: Martin and Lester counted and reported data as "number of nesting adults...which, for some species, closely mirrors the number of nesting pairs," and "Because many pairs do not initiate nesting until relatively late in the season, our estimates should be considered a conservative estimate of the total number of nesting pairs in a given colony."

Unlike the Portnoy 1976 and Keller 1983 surveys, the Martin and Lester 1990 survey was limited to Louisiana only.

As with Portnoy (1977) and Keller (1984), Martin and Lester also reported general habitat types and nesting substrates associated with individual colonies.

Martin and Lester's survey data included a total of 356 waterbird colony sites, 95 of which had not been previously documented, and 68 of which hosted nesting seabird colonies in 1990.

1993-1999 – Vermillion, W. G. and M. R. Carloss (Unpublished data archived in LDWF-LNHP Database). Helicopter surveys were conducted annually by LDWF biologists Bill Vermillion and Mike Carloss, utilizing post-hurricane Andrew funds specifically earmarked for assessment of colonial waterbird (wading birds and seabirds) nesting sites in coastal Louisiana, from Freshwater Bayou (Vermilion Parish, Louisiana) eastward through the eastern boundary of Louisiana.

In each flight, Vermillion acted as counter, Carloss as navigator. The team surveyed all previously (through 1990) discovered colony sites, and recorded new sites discovered during each flight. Each year, surveys were conducted for 5-8 day periods in late May through early June. Besides per colony species determinations and adult counts, basic nesting habitat and substrate type information was also noted.

1997* – Visser, J. M. and G. Peterson (1999). Under contract by LSU and the Louisiana Applied and Educational Oil Spill Research and Development Program, coastal scientists Jenneke Visser and Gary Peterson visited by air and then by boat, many colonial seabird nesting sites documented in previous surveys, collecting species/numbers data of all seabirds found nesting at those sites.

Survey objectives included, "a) To perform a complete ground survey of all seabird colonies on the Louisiana coast. b) To increase survey accuracy by taking Global Positioning System (GPS) readings at each colony. c) To increase the knowledge base about each colony by observing the habitat used by each species of seabird, and d) To assemble comprehensive historical information on each colony, from 1976 to the present (1997)."

Aerial surveys for the purpose of discovering new colonies and eliminating sites which no longer existed on the historical list were conducted on 08 and 09 May 1997. Bay colonies were surveyed by boat on 15-29 May 1997. Barrier island and beach colonies were surveyed by boat and on foot on 19 June through 23 July 1997.

In all, Visser and Peterson surveyed 215 historical nesting seabird colony sites along the Louisiana coast, determining 102 (18 of which were new) of those to be active, 98 of which are included within this manuscript.

2001 – **Michot, T. C., C. W. Jeske, J. C. Mazourek, W. G. Vermillion, and R.S. Kemmerer (2003).** This survey was funded by the USFWS, the Barataria-Terrebonne National Estuary Program (BTNEP), and the USGS National Wetlands Research Center (USGS-NWRC). This effort was headed by USGS-NWRC research biologists Tommy Michot and Clint Jeske. All of the aerial surveys were piloted by either Michot or USFWS pilot F. Roetker, and with either Jeske or Vermillion as observer, estimating species composition and numbers for each colony encountered. On some occasions, an additional person assisted as navigator. This represented the first major colonial waterbird nesting site survey in Louisiana in which aircraft were configured to collect GIS-ready spatial data. Following Martin and Lester (1990), Michot, *et al.* limited aerial surveys to two periods: late April into early May, and late May through June.

In addition, ground counts were conducted at Sabine NWR (Ben Mense, USFWS), Cameron Prairie NWR (Glen Harris, USFWS), Lacassine NWR (Wayne Syron, USFWS), Mandalay NWR (Janet Ertel, USFWS), and Breton NWR (James Harris, USFWS) during the same periods.

This survey included both wading bird and seabird nesting colony data from Louisiana only. Habitat type was also determined at each surveyed site.

The objective of this study was to update the status of previously recorded colony sites, and to search the study area (all of coastal Louisiana and northward through Evangeline, Avoyelles, and Pointe Coupee Parishes) for new colonies.

In all, 496 colonial waterbird nesting colony sites were surveyed, 36 of which were new, 198 of which were reported as active, and 79 of which were active seabird nesting sites.

2005 – **Green, M. C., M. C. Luent, T. C. Michot, C. W. Jeske, and P. L. Leberg (2006).** Funded by the LDWF-LNHP, the primary objective of this study was to conduct a <u>statewide</u> (not limited to coastal or southern half) Louisiana inventory of all known wading bird and seabird nesting colonies. Survey data from previous years, as well as information from NWR and WMA managers were used in planning the survey routes. Secondary objectives included 1) to evaluate two survey methods (adaptive cluster and line transect) for estimating the total number of colonies in a given area, 2) examine temporal variation in colony composition and size in selected colonies, 3)

evaluate survey biases associated with aerial and ground surveys, and 4) examine the possible use of visible indicator species to predict presence of less detectable species.

The survey included ground count data taken by University of Louisiana at Lafayette (ULL) biology students (Brice Adams, Alan Hitch, Melissa Collins, Kevin Purcell), as well as ground count data taken by USFWS biologists from Lacassine NWR (Wayne Syron), Cameron Prairie NWR (Glen Harris), Southwest Louisiana NWR complex (Steve Reagan), Mandalay NWR (Paul Yakupzack), Rockefeller State Wildlife Refuge (Jeb Linscombe) and White Lake Preserve (Wayne Sweeny).

Data specific to colonial nesting seabirds sites were collected primarily during a nine day period in late May through early June 2005, using a fixed-wing aircraft (Cessna 185) outfitted with a voice GPS/moving map system which linked the GPS unit with the intercom system, and with onboard laptop computers, which allowed for geospatial/colony points, current aircraft position, flight track, and location of recent observations to be simultaneously displayed on a digital 1:250,000 scale map on a computer monitor screen mounted on the aircraft's instrument panel. In all fixed wing seabird survey flights, Clint Jeske acted as the observer, and Tommy Michot as pilot/navigator. Relative salinity, site habitat type, and nesting substrate notes were not taken during this study.

In all, 672 sites were surveyed (northern half of Louisiana included), 265 of which were designated as "active," and 76 of which were "active with seabirds."

2006 – **Baka, E., M. Carloss, R. DeMay, C. Jeske, and W. Vermillion** (**unpublished data archived in LDWF-LNHP database**) – After the hurricanes of 2005, BTNEP coordinated and funded a helicopter survey of coastal Louisiana south of Interstates 10 and 12 to assess impacts of Hurricanes Katrina and Rita to nesting seabirds and wading birds. This survey took place during the early summer 2006 nesting season between 05-14 June.

Bill Vermillion, Mike Carloss and Clint Jeske were primarily responsible for pair counts. Eric Baka and Richard DeMay were responsible for navigation and transcription of data. It was decided by the surveyors that only colonies active since 2000 would be revisited, meaning that if a known colony was visited during the 1990s and found to be inactive or abandoned, that location would not be revisited during the 2006 survey.

Maps and other information were developed by the surveyors and LNHP data manager Nicole Lorenz for the purpose of identifying known colony sites. These maps included all known colony sites — including those that were not to be surveyed — and were color coded accordingly. This was done to assure surveyors that potentially new colony sites were not in fact old colony sites that had reestablished. These maps also facilitated planning survey days and flight lines.

Surveyors recorded nesting pairs at active known colony sites, as well as at new sites encountered along flight paths. As with past surveys, this effort was not conducted

in a fashion that would provide for statistical analysis. Rather, the survey was designed to 1) determine whether post-2000 historical colonies were still active, and 2) document species composition and number of pairs found at both old and new colonies. Surveyors noted that drought conditions during the survey period confounded efforts to determine the storms' impacts, as dry conditions may have discouraged nesting colony establishment during this period. Additionally, Tropical Storm Alberto that went ashore along the west coast of Florida during the latter half of the survey period caused excessive high tides in Louisiana. Surveyors noted many islands either submerged or non-existent, particularly along the eastern side of the state.

Of the 244 sites surveyed (including 22 new) a total of 59 sites exhibiting active seabird rookeries were documented.

2008 – Carloss, M., M. Seymour, and M. Susko (unpublished Louisiana Department of Wildlife and Fisheries [LDWF-LNHP] database). USFWS realized that the hurricanes of 2005 likely created measurable changes in rare animal communities from pre-hurricane levels and funded several projects that sought to quantify these differences post-hurricanes. One such project included a census of all known waterbird nesting colonies south of Interstates 10 and 12 (for the most part) that were active at least once during the last three survey periods (2001, 2004-05, 2006).

Utilizing 100% USFWS monies, LDWF contracted a helicopter and pilot (Jesuit Bend Helicopters, Eric Covell) and surveyed the coastal zone from 26-29 May 2008. Each flight consisted of one observer and one navigator. Seymour as observer was primarily responsible for pair count estimates and recording data, whereas Carloss and Susko were primarily responsible for navigation. Frequently, during the first day of counting, Carloss and Seymour would independently count and compare estimates, because Seymour was new to this type of aerial survey.

As with the 2006 survey, LNHP data manager, Nicole Lorenz, developed color-coded maps to assist in colony location and identification. In addition to the printed map, Carloss and Susko were also furnished with a Panasonic Toughbook laptop and Garmin 76 Map Csx to provide real-time navigation to known colonies. Seymour recorded nesting pairs encountered at previously known colonies, as well as new colonies discovered while traveling between known colonies. As in 2006, statistical analysis of the data was not a primary concern, so a statistician was not consulted prior to the flights nor was it expected post flight. Instead, LDWF sought to update the colony database records to provide current information for permitting and conservation purposes.

A total of 227 sites were surveyed, 134 of which were active, and 72 of which were active with nesting seabirds.

Miscellaneous Observations of Nesting Seabird Colonies

Hundreds of records involving Louisiana nesting seabird colonies exist – most involving observations/species counts from 1-15 colony sites – are archived within the "3x5" or "American Birds" card files, currently located at the Louisiana State University Museum of Natural Science (LSUMNS; Foster Hall, LSU Campus, Baton Rouge, Louisiana). Additional information regarding documentation of rare and/or vagrant species (*e.g.* Kelp Gull) is archived in the Louisiana Ornithological Society's Louisiana Bird Records Committee (LOS-LBRC) report files, also currently housed at the LSUMNS. All records of significance are published in the central-southern regional reports appearing in *North_American Birds* (formerly known as *Bird Lore, American Birds*, and the National Audubon Society's *FieldNotes*), or in publications of the LOS, such as *LOS News* or the *Journal of Louisiana Ornithology*. A few are also archived within the LDWF-LNHP database (Baton Rouge, LA).

For the purposes of this publication, a problem arises in presenting much of this miscellaneous data in that, unlike the major survey efforts, the majority of the miscellaneous records do not include site location coordinates, nor do they follow the site numbering protocol first established by Portnoy (1977) and later revised by Martin and Lester (1990). Thus, assigning much of these data to officially-numbered major survey sites possessing specific location coordinates becomes problematic.

For example, 19 distinct sites have been individually mapped, cataloged, and surveyed from the Atchafalaya Delta Wildlife Management Area in the northeastern corner of Atchafalaya Bay. Consequently, it is not possible to assign a miscellaneous observation report which lists "location" merely as, "Atchafalaya Delta Wildlife Management Area," to a proper site/location.

Still, much of Louisiana's miscellaneous nesting seabird observation records are of importance; and in a number of cases, given location information is adequate for the purpose of assigning individual observations to official USFWS/LDWF numbered sites.

Due in no small part(s) to 1) "the biomass effect" (the spectacle of tens of thousands of nesting gulls, terns, skimmers in single locales), and 2) the possibility of observing rare/unusual seabird species (Magnificent Frigatebird, Kelp Gull, Sooty Tern, etc.), birding enthusiasts have historically focused their efforts on colonies at the southern end of Louisiana's Chandeleur Island chain, from which the vast majority of miscellaneous archived records originate.

Listed below are summaries of several significant and "locatable" miscellaneous observation efforts for Louisiana. The results of some of these also appear in tabular form within the individual site histories section of this publication.

Metro New Orleans "Rooftop Data." Instances of various species of gulls, terns, and Black Skimmers nesting upon flat, gravel-covered roofs of commercial buildings have been documented from various U.S. locations since the early 1960s

(Paynter 1963, McGowan 1969, MacFarlane 1977, Fisk 1978). Two instances of tern and skimmer roof-nesting on multiple sites within the metro New Orleans area have been documented by Marcella Lowell (1988) in 1983-84, and by Alfred Smalley, *et al.* (1991) in 1988.

In Lowell's unpublished University of New Orleans MS thesis, <u>A study of the</u> nesting success of a colony of *Sterna antillarum*, the least tern, nesting on an urban rooftop in east New Orleans, Louisiana, she documents Least Terns and Black Skimmers nesting atop two commercial rooftops in eastern New Orleans.

Lowell, who made many observations throughout the entire developmental stages of nesting and brooding of both the Least Terns and the Black Skimmers, concluded, "Because of the harsh environment on this gravel rooftop, it is doubtful that the population in this study can maintain itself over time without immigration of birds from other colonies." Moreover, it is doubtful that gravel-roof technology will persist for very much longer, probably discounting its potential as a conservation tool for Gull-billed Terns, Least Terns, and Black Skimmers – all of which, ironically, seem to be declining in numbers in Louisiana.

Smalley, *et al.* (1991), documented the nesting of Gull-billed Terns, Least Terns, and Black Skimmers on the roof of the New Orleans Arena on the University of New Orleans campus in eastern New Orleans.

2000* – Visser, J. K. and W. G. Vermillion (archived in the LDWF/LNHP database). Assisted by bird biologist Bill Vermillion, coastal biologist Jenneka Visser (University of Louisiana-Lafayette) surveyed 13 historic major survey sites, primarily for the purpose of collecting ecological site data related to the nesting presence of Brown Pelicans. But the presence and counts of all nesting seabird species found at each site were also recorded during this effort. This data set has been incorporated (as "2000*" the same designation in which it is archived in the LDWF-LNHP database) within the site listing section of this publication.

MO1968 – Jacob M. Valentine (1969; Hoese and Valentine 1972). USFWS biologist Jacob ("Jake") M. Valentine surveyed nesting seabirds along the Chandeleur Island chain annually from 1962-1971. In *USL studies on the Chandeleur Islands* (Hoese and Valentine 1972) and *Royal and sandwich terns of the Chandeleur Islands* (1969), Valentine characterizes each of the seabird species nesting in that region, providing "example" (ranging between 1961-1971) nest counts for most. His 1968 survey results from Stake/Curlew Island are the most "site and species specific" and have been included in the appropriate site table (LDWF #176) of this publication under "MO1968".

In *The tern colony at Curlew Island, Louisiana* (Purrington 1988), Purrington uses some of Valentine's 1962-1968 Royal Tern and Sandwich Tern nest counts from that site.

MO1985 – Robert D. Purrington (1988). From the early 1960s through the present, Purrington visited the Chandeleur Island chain on many occasions, and has provided numerous reports on the status of nesting seabird colonies there. See especially *The tern colony at Curlew Island, Louisiana* (Purrington 1988). A data set taken from Curlew Island on 10 May 1985 (appearing under the heading "MO1985" on the Curlew Island site [LDWF #176] sheet) is particularly representative.

MO1998 and MO2004 – Donna L. Dittmann and Steven W. Cardiff. Between 1994-2004 these two LSUMNS field ornithologists visited selected sites within the Chandeleur Island chain primarily for the purpose of documenting and monitoring the "Kelp-Herring Gull phenomenon" (see the "Kelp Gull" account under the Louisiana Nesting Seabird Species section below). During this period Dittmann and Cardiff worked on Curlew, North Gosier, South Gosier, New Harbor, Freemason, South Breton, and North Islands.

In addition to recording data on the large gulls that were breeding there, they also made observations and recorded data for other nesting seabirds. Included in the appropriate site tables of this publication are data obtained during their May-June trips only, and are listed as "MO1998" and "MO2004".

MO2003 – Robert D. Purrington, B. M. ("Mac") Myers III, and David P. Muth. In recent years, this group of veteran New Orleans area birders took a number of boat trips to the Chandeleur Island chain during seabird nesting season (May-June), recording individual numbers of all birds encountered. Their 26 May 2003 trip results (reported as individual birds as opposed to "breeding pairs") from Curlew, North Gosier, South Gosier, and South Breton Islands are incorporated (under "MO2003") at the appropriate sites within the site listing section of this publication.

Louisiana Nesting Seabird Species

The term "seabird" is often used amongst wildlife biologists as well as ornithologists, to refer to birds that use the marine environment. In Louisiana, nesting seabirds include gulls, terns, and skimmers (family Laridae), and pelicans (Pelicanidae).

Worldwide, approximately 100 bird species belong to the family Laridae; nearly half of which regularly occur or at least have been recorded in North America. Twenty-seven species of gulls, terns, and skimmer have been recorded in Louisiana – mostly within the coastal zone – but only nine of which are known to nest here on a regular basis: Laughing Gull, Sooty Tern (rare but regular), Least Tern, Gull-billed Tern, Caspian Tern, Forster's Tern, Royal Tern, Sandwich Tern, and Black Skimmer. Three additional species, Herring Gull, Kelp Gull, and Common Tern have been documented nesting in coastal Louisiana on a very rare and irregular basis. Lastly, one additional nesting seabird species, the Brown Pelican (family Pelecanidae), is included for consideration in coastal Louisiana, bringing the historical Louisiana nesting seabird species total to 13.

Worldwide and North American species distribution information for this section comes from <u>Seabirds</u>, <u>An Identification Guide</u> (Harrison 1983) and <u>The Sibley Guide to Bird Life & Behavior</u> (Elphick, *et al.* 2001). Taxonomy complies with the most recent American Ornithologist's Union's supplements (Banks *et al.* 2006, 2008) to its <u>Checklist</u> of North American Birds.

Brown Pelican (*Pelecanus occidentalis*) – Along with other large, fish-eating birds in the United States, such as the Bald Eagle and the Osprey, the Louisiana population of the Brown Pelican suffered greatly as a result of dangerously high environmental levels of the pesticide DDT and its derivatives. Prior to the banning of DDT in the late 1960s, bird bander Lovett E. Williams interviewed a Chandeleur Island fisherman in June, 1962, who characterized the Brown Pelican as "a thing of the past." Williams' only Brown Pelican sighting of his 06-08 June 1962 trip to the Chandeleur Island chain consisted of "6 or 7. . . standing on a [sand] bar. . ." on North Island. (Williams 1962).

After being completely extirpated from Louisiana waters and many other U.S. sites by the late 1960s, the Brown Pelican was placed on the Federal Endangered Species List in 1970 (USNFWL, 1980). Reintroductions of Florida nestlings into Louisiana waters occurred between 1968-1980 (Williams and Joanen 1974, Nesbitt *et al.*1978, McNease *et al.* 1984). Brown Pelican numbers have steadily increased over the ensuing four decades. Today, tens of thousands of breeding adults are spread throughout the Louisiana coastal zone. Most recently, LDWF Brown Pelican biologists Tom Hess and Jeb Linscombe reported 11,240 nesting pairs on the Chandeleur Island chain alone on 01 May 2008.

In addition to Louisiana waters, the Brown Pelican is a New World endemic, breeding down the Pacific coast through Panama and on into South America, as well as the Gulf and southern Atlantic Coasts of the southeastern United States and the Caribbean region. Pelicans place their nest on living marsh vegetation, wrack, or sand/shells of spoil islands and barrier island beaches within most coastal estuaries.

Brown Pelican has been detected on 34 of the 319 historic and present-day colonial seabird nesting sites surveyed from 1976-2008. Both Michot, *et al.* (2003) and Green, *et al.* (2006) characterized this species as substantially increasing in breeding numbers. In Louisiana, this species' breeding season extends from late fall through winter, spring, and into early summer. Martin & Lester's (1990) Louisiana incubation window for Brown Pelican is 01 November-15 June.

Laughing Gull (*Leucophaeus atricilla*) – Breeding is largely restricted to the tropical and sub-tropical coasts of the New World including the West Indies, Venezuela, French Guiana, Central America, Mexico, and the Atlantic and Gulf coasts of the southeastern United States. In Louisiana, this medium-sized gull places its nest on living marsh vegetation, wrack, or sand/shells of spoil islands and barrier island beaches within most coastal estuaries.

This species is one of the most abundant of the state's nesting seabirds, having been recorded at 162 of the 319 sites featured in this publication. Louisiana breeding activity period documented by (Portnoy, 1977) was 16 April-15 July; while (Martin & Lester 1990), identified the Louisiana incubation period as 16 April-15 June.

Herring Gull (*Larus argentatus*) – This large, cosmopolitan species is split into at least nine subspecies or races. *Larus argentatus smithsonianus* is the North American breeding race, which regularly nests from southern Alaska east to northern Greenland, and south through the mid-Atlantic coast of the United States. In coastal Louisiana, it is a rare and irregular summer species, with major colonial seabird nesting site survey detections confined to site #s 003, 047, 082, 083, 091, and 176.

For the most part, away from traditional nesting colonies, summer observations of Herring Gull as far south as the Gulf of Mexico almost always involve <u>non-breeding</u> birds. However, on 31 July 1990, Richard Martin photographed a Herring Gull, apparently paired with a "black-backed-type" gull, and attending a large juvenile gull (see Kelp Gull account below for more details) on North Grand Gosier Island (site #082). This observation represented the first breeding record of Herring Gull for Louisiana. Four years later (23 July 1994), documentation of <u>seven Herring Gull pairs</u> on Curlew Island (site #176) by Dittmann, Cardiff, and Laurence O'Mealie represented the first breeding record of pure-pairs south of traditional mid-Atlantic Coast (North Carolina) colonies; and the first for the Gulf of Mexico.

Instances of Herring Gull breeding continued to be documented on Curlew Island through 1999, on Grand Gosier South (site #083) through 2000, and at Barataria Pass (site #003) through 2001.

Kelp Gull (*Larus dominicanus*) – Previously unknown/unrecorded anywhere in North America, a displaying pair of this Southern Hemisphere species of large, white-headed/black-backed gull was photographed on Curlew Island on 08 July 1989. Identification of these birds, originally discovered by Robert D. Purrington and Laurence O'Mealie was later determined to represent Kelp Gulls (see LOS-LBRC report: http://losbird.org/lbrc/9th.pdf).

Subsequent evaluation of the large black-backed gull observed and photographed 31 July 1990 on North Gosier Island paired with a Herring Gull and guarding a presumed hybrid chick by seabird surveyor Richard Martin was also determined to be a Kelp Gull, thus representing the first breeding record of Kelp Gull in the Northern Hemisphere.

From 1994 through 2004, Dittmann and Cardiff documented breeding Kelp Gulls or Kelp x Herring gull hybrids on the southern Chandeleur Islands. For additional information, see Dittmann and Cardiff (2005; also available online at http://www.aba.org/birding/v37n3p266.pdf).

Representative examples of Kelp Gull pair and first generation (F1) hybrid Kelp x Herring Gull pair numbers tallied by Dittmann and Cardiff include:

Curlew Island (site #176) - a) 23 July 1994, one Kelp Gull pair, one mixed Kelp Gull/Herring Gull pair, and one mixed Kelp Gull/Kelp x Herring (F1 hybrid) Gull pair; b)11 June 1999, one mixed Kelp Gull/Kelp x Herring Gull pair, and eleven Kelp x Herring (F1 hybrid) Gull pairs.

South Gosier Island (site #083) – a) 11 June 1999, two Kelp x Herring (F1 hybrid) Gull pairs; b) 27 June 2000, two Kelp x Herring (F1 hybrid) Gull pairs.

South Breton Island (site #047) – a) 08 June 2004, six Kelp x Herring (F1 hybrid) Gull pairs.

Additional data involving Kelp Gull, Kelp Gull/Herring Gull, and Kelp x Herring Gull F1 hybrid pairings can be viewed under MO1998 and MO2004 data sets incorporated within the appropriate sites in the Louisiana's Nesting Seabird Sites section of this publication.

Sooty Tern (*Onychoprion fuscatus*) – Sooty Terns are a medium-large, pantropical/sub-tropical species that breeds throughout the earth's equatorial zone. Highly pelagic, spending most of its time over open water, this species comes to land only to nest, typically only on remote islands. Within continental U.S. waters, the only three documented breeding areas (Purrington, 1970) have been on the Dry Tortugas (in Gulf of Mexico, south-southwest of Key West, Florida; a major site, annually hosting thousands of breeding pairs), Pelican Island area, along the southern coast of Texas (a minor site), and the Chandeleur Island chain (coastal southeastern Louisiana; a minor site where it is considered a rare but regular nesting species).

The Sooty Tern's recorded history in Louisiana dates back to 05 June 1933 when two voucher specimens were collected on Curlew Island in order to establish its documented presence in the state (Oberholser 1938). LSUMNS card files contain over 20 Sooty Tern breeding reports (mostly from Curlew/Stake Island [site #176]; but also from the northern portion of Chandeleur Island, Monkey Island, South Breton Island [site #047], North Island [site #153], and South Gosier Island [site #083]) filed from 1962-2004.

Louisiana Sooty Tern nests have usually been located beneath shrubs, rather than on open beach perhaps as a response from pressure of aerial predation (e.g., Laughing Gull, Magnificent Frigatebird).

Martin & Lester (1990) give Louisiana incubation activity window of 16 May-15 July for this species.

Least Tern (*Sternula antillarum*) – As its common name implies, the Least Tern is the smallest of all North American terns. It breeds throughout much of the temperate and tropical zones of the New World seacoasts and interior rivers, where it prefers open areas, generally free of vegetation. In North America, Least Terns breed along all coasts

from San Francisco south through the Baja, both Mexican coasts, and northward through the entire Gulf and Atlantic coasts of the United States. Interiorly, it breeds through much of the Red River and western Mississippi River watersheds, from South Dakota, southward through Oklahoma, northern Texas, northern Louisiana, and central Arkansas.

Portnoy (1977) characterized its coastal Louisiana nesting preferences as "any flat, unvegetated substrate near good feeding areas . . . formed in sand or shell in such diverse situations as barrier beaches, spoil islands, vacant house lots, and airports." Also utilized are flat chert/gravel roofs of commercial buildings (metro New Orleans) and shell parking lots (Lake Charles, Louisiana; sites #352-353), where a substantial number of recent nesting records have been obtained.

Least Terns were detected at 76 of Louisiana's 319 historical and present-day nesting sites, but reported as substantially declining by both Michot, *et al.* (2003) and Green, *et al.* (2006).

Due to its small body size, cryptic coloration, and propensity to nest in relatively small groups (Zdravkovic and DeMay, 2006), monitoring the nesting activities of this species via aircraft is problematic. It is likely that this species may be routinely undercounted in beach and barrier island surveys conducted solely via aircraft.

Louisiana breeding activity window for coastal birds (Portnoy 1977) is 16 April-31 July; incubation window (Martin & Lester 1990) is 01 May-15 July.

Gull-billed Tern (*Gelochelidon nilotica*) – Global in distribution, this mid-sized tern occurs from central North America and Eurasia southward through central South America and Africa. In the United States, this species breeds on the Pacific, Atlantic, and Gulf (of Mexico) coasts, where it prefers sparsely-vegetated sites. Interestingly, as recently as 1938 (Oberholser 1938), ornithologist Harry C. Oberholser reported the Louisiana status of this species as "a rare permanent resident," with "no authentic breeding record for the State, although this has several times been reported."

USFWS biologist Jacob M. Valentine, Jr. (Hoese and Valentine 1972) noted that zoologist George H. Lowery, Jr. (1960) reported the first coastal Louisiana breeding record for Gull-billed Tern from Isle au Pitre in 1941.

Gull-billed Tern has been detected at 41 of Louisiana's 319 historical and present-day seabird nesting colony sites. It has also been detected nesting in numerous years, upon flat, chert/gravel roofs of selected commercial buildings in metro New Orleans. Gull-billed Terns are considered to be substantially declining by Green, *et al* (2006), in that they found no nesting sites anywhere in coastal Louisiana during their 2005 survey.

In coastal Louisiana, Portnoy (1977) characterized its habitat preferences as "barrier beaches, salt marsh shell berms, and spoil islands," and mentioned that it "nested most often beside driftwood." Dittmann notes that it often nests adjacent to Black Skimmer nesting colonies.

Martin & Lester (1990) give Louisiana incubation window as 16 May-15 July.

Caspian Tern (*Hydroprogne caspia*) – The Caspian Tern is a large tern, nearly worldwide in distribution. In North America, Caspian Terns breed spottily throughout Canada, the Great Lakes region, southern Alaska, the Pacific Northwest, southern California, along the Atlantic coast, the northern coast of the Gulf of Mexico, and the Baja and Pacific coasts of Mexico. In coastal Louisiana, Portnoy (1977) categorized its nesting distribution and habitat preferences as ". . . on barrier islands near royal and sandwich tern colonies. . . also nested on shell berms in salt marshes in St. Bernard parish. . ."

Detected in 45 of the 319 seabird rookery sites covered by major surveys, the Caspian Tern is considered to be increasing (compared with Portnoy's 1976 numbers) as a Louisiana breeding species by Martin & Lester (1990).

Portnoy (1977) gives its Louisiana breeding activity window as 16 April-31 July while Martin & Lester (1990) put its incubation season window at 01 May-15 July.

Common Tern (*Sterna hirundo*) – Superficially similar in both size and appearance to Forster's Tern, the Common Tern breeds throughout the temperate regions of the Northern Hemisphere; in North America, mostly well north (Canada, middle/northern Atlantic Coast) of the U.S. Gulf Coast.

Common Tern reports are on file for the late-spring/early summer season in coastal Louisiana; but the only *bona fide* nesting records for this species in Louisiana are: 1) a single female on a nest with two eggs "near Monkey Island [29d 48' N 88d 52' W]" at the southern end of Chandeleur Island on 12 June 1971, found by Mac Myers, Jake Valentine, Burt Robinson, and Dan Purrington (photographed by Purrington; Myers 1971). 2) Freemason Island (site #280), 17 June 1997, pair on nest with two eggs (Jane Ledwin, Donna Dittmann, Daniel F. Lane [photo], and Pon Dixson); and 3) Freemason Island, 11 June 1999, pair on nest with two eggs and small chick (Steven W. Cardiff, Donna L. Dittmann [photo], Jim Graham).

Examples of (apparently) non-breeding Common Terns noted during coastal Louisiana seabird breeding season include Curlew Island (Site #176), 26 May 2003, one individual (Purrington, Myers, Muth); North Gosier Island (Site #082), 26 May 2003, seven individuals (Purrington, Myers, Muth); Curlew Island, 08 June 2004, one individual (Cardiff, Dittmann).

In another apparent example regarding breeding Common Terns on the northern coast of the Gulf of Mexico, Portnoy (1977) states, "We found this species nesting near beach dunes on Dauphin Island, Alabama. Eggs were placed in a scrape dug in the sand."

Martin & Lester (1990) give a Louisiana incubation window of 01 May-15 July for this species.

Forster's Tern (*Sterna forsteri*) – This medium-small sized tern is the most common of all of Louisiana's nesting tern species. In the United States, this species breeds throughout many temperate and sub-tropical wetlands, from the prairie provinces of Canada through southern California; and from coastal Texas east through the Gulf coast and northward into the northern Atlantic coast.

In Louisiana, Portnoy (1977) noted nesting most often on matted vegetation (wrack) within salt marsh habitats.

Forster's Tern has been detected breeding on 172 of Louisiana's 319 historical and present-day seabird rookery sites; but has been considered to be significantly and continually declining as a nesting species between 1976-2005 (Martin/Lester, 1990; Michot, *et al.*, 2003; Green, *et al.*, 2006).

Louisiana breeding activity window (Portnoy 1977) 16 March-15 June; incubation window (Martin & Lester 1990) 01 April -31 May.

Royal Tern (*Thalasseus maximus*) – A large tern, similar in size and appearance to the Caspian Tern; but as a breeder, more limited in distribution to North and Central America and a small part of the west African coast. In the United States, this species nests in coastal southern California, as well as along the Atlantic and Gulf of Mexico coasts.

In coastal Louisiana, Valentine (Hoese and Valentine 1972) and Portnoy (1977) characterized Royal Tern as commonly nesting together with Sandwich Terns on unvegetated barrier island beaches.

Far more abundant in coastal Louisiana than the Caspian Tern, Royal Terns were routinely detected in 61 of the 319 seabird rookery sites covered by the major surveys. Nest numbers considered to be increasing (compared to Portnoy's 1976 numbers) by Martin & Lester (1990); but then declining(1990-2001) by Michot, *et al.* (2003).

Louisiana breeding activity window (Portnoy 1977) 16 April-31 July; incubation window (Martin & Lester 1990) 01 May-15 July.

Sandwich Tern (*Thalasseus sandvicensis*) – A mid-sized tern native to much of southern North America and Eurasia. In the United States, this species breeds mostly along isolated barrier island beaches in the middle and southern Atlantic coast and Gulf coast. In Louisiana, it nests on bare, isolated beaches, most often in the company of Royal Terns (see Royal Tern species account, above). This strongly-Neotropical migrant is almost never detected in coastal Louisiana during the winter months.

Historically, Sandwich Tern nesting colonies have been detected on 41 of Louisiana's 319 seabird rookery sites covered by the major surveys. Hoese and Valentine (1972) reported this species to be "increasing since the early 1960s." However, Michot,

et al (2003) reported numbers of nesting birds to be declining in coastal Louisiana between 1990-2001.

Louisiana breeding activity window (Portnoy 1977) 16 April-31 July; incubation window (Martin and Lester 1990) 01 May-15 July.

Black Skimmer (*Rynchops niger*) – Nearly the size of a Royal Tern, this medium-large, long-winged seabird is endemic to the New World, nesting from the central and northern coasts of South America, northward through the Pacific and Gulf Coasts of Central America and Mexico, and up through the Gulf and southern Atlantic Coasts of the United States.

In Louisiana, Portnoy (1977) characterized this species as nesting "on various unvegetated substrates, always near shallow estuaries."

Along with Laughing Gull and Forster's Tern, Black Skimmer is among the most ubiquitously-distributed nesting seabirds in Louisiana, detected at 164 of the 319 historical and present-day seabird nesting sites. On the other hand, the Black Skimmer has been reported as in substantial decline as a Louisiana nesting species from 1990-2005 (Martin and Lester 1990, Michot, *et al.* 2003, Green, *et al.* 2006).

Louisiana breeding activity window (Portnoy 1977) is 01 May-31 July. Incubation window as determined by Martin and Lester (1990) is 16 May-15 July.

Conservation Issues

Under the "Research and Management Needs" section of his 1978 paper, *Colonial waterbird population status and management on the north Gulf of Mexico coast* (Portnoy 1978), waterbird biologist John Portnoy provided the following suggestions for additional research:

- 1) Annual colonial waterbird nesting surveys are advisible, "Because of a lack of comprehensive, coast-wide historical information, recent population trends cannot be discerned without additional monitoring."
- 2) Foraging ecology studies on a species-by-species basis are paramount, because in order "To manage wetland habitat for each colonial species, the observed patchiness of breeding distributions should be studied with emphasis on each species' feeding ecology."
- 3) Effects of habitat disturbance on nesting waterbirds should be elucidated, "in view of a long history of petrochemical activity, mining, navigational improvement, and marsh alteration in this region of exceptional waterbird abundance."
- 4) Water quality studies "present a valuable opportunity for following water quality changes in a watershed system that drains much of North America." Portnoy advises, "To accomplish this, productivity and pesticide levels of

- various species could be annually sampled at selected large waterbird colonies within the Mississippi and Atchafalaya deltas."
- 5) Education is vital, as "... currently the real need is for informative colony posting, along with public education... during the field work, it became evident that a large segment of the North Gulf Coast human population was simply unaware of these birds' legal protection."

According to the Louisiana Comprehensive Wildlife Conservation Strategy (Lester, et al. 2005; aka "Louisiana Wildlife Action Plan" or WAP), the Brown Pelican, all of Louisiana's nesting terns, and Black Skimmer species are considered "Species of Conservation Concern." Moreover, the Louisiana breeding populations of Caspian Tern, Common Tern, and Interior Least Tern have been ranked "S1" (= critically imperiled because of extreme rarity [5 or fewer known extant populations] or because of some factor(s) making it especially vulnerable to extirpation); Brown Pelican and Gull-billed Tern are "S2" (= imperiled because of rarity [6-20 known extant populations] or because of some factor(s) making it very vulnerable to extirpation), the two highest-priority conservation rankings for the state.

From a seabird breeding habitat perspective, professional wildlife management planners are equally concerned. Under Louisiana's WAP, all tern nesting habitat (barrier islands, salt marsh, and vegetated pioneer emerging delta) conservation recommendations include 1) conduct research to determine the factors affecting overall [nesting seabird] population densities, 2) continue with surveys of breeding sites, 3) develop a comprehensive survey methodology to determine long-term trends in population abundances, 4) develop partnerships to strengthen the protection and restoration of barrier islands, salt marsh, and vegetated pioneer emerging delta habitats, specifically including a) supporting Natural Resources Conservation Service (NRCS) and Louisiana Department of Natural Resources (LDNR) efforts for shoreline stabilization and habitat restoration, b) work with Louisiana Coastal Area (LCA) and Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) to support coastal restoration projects, specifically targeting important nesting areas and species of conservation concern, c) work with NRCS Plant Materials Center and BTNEP to develop viable [plant] cultivars for restoration efforts.

Given the currently accelerated pace of coastal habitat loss due to salt water intrusion and increased erosion and subsidence rates, it is imperative that researchers and agencies work together to coordinate their efforts for maximum benefits.

Louisiana's Colonial Seabird Nesting Sites

A total of 319 colonial seabird nesting sites for Louisiana have been included within this section, many of which have been steadily monitored for the past 35 years. Of this total, 202 can be considered "minor sites" (two or fewer total seabird species nesting on the site and/or site was active on two or fewer total major surveys), 79 can be classed as "important sites" (more than two total seabird species nesting on the site and/or site

was active on five or more total major surveys), and 34 can be classed as "major sites" (more than four total seabird species nesting on the site and/or more than 1,000 total seabird pairs involved and/or site was active on five or more total major surveys).

From 1976-1990, each surveyed site received a six-digit "USFWS number," with the first three digits corresponding to the particular USGS 1:250,000 map in which it was located. In 1990, all previously surveyed sites received a LDWF-LNHP database number; and thereafter, all newly-discovered sites (1993-2008) have been numbered solely adhering to the LDWF-LNHP database numbering system. Generally, sites are named after the name of the quarter-quad map in which they are located. Often, multiple sites occur within each quarter-quad map, resulting in alphabetized site names (*e.g.* "Jacko Bay Northeast-A, Jacko Bay Northeast-B, etc.).

Of the 309 sites treated in this section, 97 of them have remained active through the 2006 and/or 2008 major survey efforts, hosting at least one nesting seabird species during those surveys.

Salinity, substrate composition, and other habitat-type data were noted and documented by most major surveyors between 1976-2001, and published in at least four (Portnoy 1977, Keller 1984, Martin and Lester 1990, Michot *et al.* 2001) reports. From this information it can be concluded that within coastal Louisiana, the vast majority of seabird nesting sites are confined to the following habitats: 1) barrier island beaches or dune vegetation, 2) shell "berms" within salt-marsh habitat, 3) quasi-permanently located shell keys or exposed reefs, and 4) artificially created "spoil" banks, levees, islands, and spits resulting from dredging operations.

Upon these substrates of sands, shells, or mixed/dredged sediments, most tern and Black Skimmer species excavate shallow depressions, called "scrapes," for nesting purposes. Forster's Tern is an exception in that it more often nests upon "wrack," dead vegetation (mostly shrub, grass, and forb stems) which is worked into "wrack lines" over existing marsh or dune grasses by high tides. Brown Pelican, and often Laughing Gull nest atop low vegetation such as dense tufts of marsh grasses or sturdy small shrubs, especially black mangrove (*Avicennia germinans*).

As most major surveyors have commented in their survey reports, seabirds tend to return to previously selected colony sites year after year (breeding site philopatry), undoubtedly because such sites have proven their worthiness over time, being relatively free of natural predators and safe from high tides. Nevertheless, a substantial percentage of Louisiana's seabird nesting sites have proven to be highly ephemeral, geospatially shifting over time or even disappearing altogether, and then reappearing as a result of the normal "reworking" process associated with tidal action, nearshore currents, as well as the higher winds, waves, and tides generated by tropical and winter storm events.

In *The tern colony of Curlew Island, Louisiana* (Purrington 1988), Purrington writes, "Prior to 1969 there were large colonies on both Curlew Island and Stake Island. . Hurricane Camille reduced both to shoals in August of that year and the tern colonies

moved to the lower end of Chandeleur Island itself. . . By 1973, terns were again nesting on rapidly emerging Curlew Island."

Island migration phenomena in coastal Louisiana have been fairly well documented since the mid-twentieth century (Gunter 1952, Treadwell 1955, Drennan 1963, Hoese and Valentine 1972, Williams *et al.* 2006), presenting major challenges to nesting seabirds and seabird surveyors alike.

Notes on Counting Methodology in Various Major Surveys

All seabird species numbers reported for each site on most of the major surveys are meant to represent estimates of breeding pairs present. The actual methodology employed in order to arrive at these estimates has been to count the total number of nesting adult birds present, under the assumption that such a number would be a fair representation of the number of breeding pairs.

In their 1990 atlas/census report (p. 5), Martin and Lester elucidate: "Our survey estimates are of the number of nesting adults present in the colony, which, for some species, closely mirrors the number of nesting pairs [Erwin 1980]. Because many pairs do not initiate nesting until relatively late in the nesting season, our estimates should be considered a conservative estimate of the total number of nesting pairs in a given colony."

All of the subsequent major surveys followed the counting protocol established by Martin and Lester. Prior to 1990, however, Portnoy (1977, p. 17) ". . . converted all nest counts to breeding adult counts, simply by assuming one pair of breeding birds per active nest. For example, aerial photographic counts of incubating sandwich terns (equivalent to active nests) or results of belt transect sampling (of active nests) were doubled to produce bird counts."

In her 1983 survey, Keller (1984) focused only on "size class" (a numerical digit code indicating the size range [i.e. "1 = 2-200, 2 = 200-500, etc.] of the collective nesting colony) of each colony, resulting in most cases with individual species data being limited to a simple "yes" as opposed to an actual number of breeding adults, breeding pairs, etc.

Note: Sites having LDWF identification numbers that are preceded by an "x" represent sites which were "dropped" from future monitoring due to a lack of nesting activity between 1978-90. Their original LDWF site identification numbers were reassigned to other/newly-discovered sites in 1990 by Martin and Lester.

Below is a listing of 319 seabird nesting sites from coastal Louisiana in tabular form. Each site citation is accompanied by a table depicting its individual survey history, which includes all major survey data and any of the more significant miscellaneous observational data collected. In instances in which a site was surveyed on a particular

year but no nesting activity was detected, that year is included on the table, but with no accompanying count data.

Table Abbreviations/Symbols

Site Identification Numbers

Site #000 = LDWF-LNHP number

(000000) = old USFWS number (used in Portnoy [1977] and Keller [1983] reports)

x000 = numbers for sites which were dropped from monitoring as of 1990

Site Identification

Each colony site was identified for this publication. Each identification usually is represented in three pieces. The first segment represents the quad name where the colony is found followed by a forward slash "/". The second segment represents the quarter quad designation while the third segment represents the order in an ascending numerical sense.

Site Coordinates

Coordinate-fixing technology has advanced substantially from 1974-present; and most site coordinates reported in various major surveys were fixed from moving aircraft. Thus, coordinates of individual sites often vary significantly from report to report. Unless otherwise noted, site coordinates listed below reflect those archived in the LDWF-LNHP database.

Site Information

Information about each site is provided when available. In some instances, island names are given along with reference to commonly known locations. Distances and direction are given from known arbitrary points to aid in the positioning of the colony. In addition habitat descriptions and nesting substrate descriptions are given when included with the original survey data or as provided through the Natural Heritage Database managed by the Louisiana Department of Wildlife and Fisheries.

Survey Year/Surveyor and Report Reference

MO1968 = Valentine (1969); Hoese and Valentine (1972)

1976 = Portnoy (1977)

1978 = Portnoy (alluded to in Martin and Lester 1990; unpublished?)

1983 = Keller, et al (1984)

MO1985 = Purrington (1988)

1984-1989 = Martin and Lester (partial surveys; LDWF-LNHP database)

1990 = Martin and Lester (1990)

1992-1999 = Vermillion and Carloss (unpublished; LDWF-LNHP database)

1997* = Visser and Peterson (1999)

MO1998 = Dittmann and Cardiff (personal field notes)

2000* = Visser and Vermillion (unpublished; LDWF-LNHP database)

2001 = Michot, *et al.* (2003)

MO2003 = Purrington, *et al.* (personal field notes)

MO2004 = Dittmann and Cardiff (personal field notes)

2005 = Green, et al. (2006)

2006 = Baka, *et al.* (unpublished; LDWF-LNHP database)

2008 = Seymour, *et al.* (unpublished; LDWF-LNHP database)

Seabird Species

BLSK = Black Skimmer

BRPE = Brown Pelican

CATE = Caspian Tern

COTE = Common Tern

FOTE = Forster's Tern

GBTE = Gull-billed Tern

HERG = Herring Gull

KEGU = Kelp Gull

LAGU = Laughing Gull

LETE = Least Tern

ROYT = Royal Tern

SATE = Sandwich Tern

SOTE = Sooty Tern

Seabird Numbers

Unless otherwise noted, seabird numbers are reported as **breeding pairs**. Exceptions include some miscellaneous numbers reported as **individuals** ("ind" *e.g.* "100-ind") or **nests** ("nests" *e.g.* "100-nests").

Site #003 (603002) Barataria Pass/Southwest-A 29.3000 -89.9500

Queen Bess Island, north of Grand Terre Island. 27.3km east-northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh (1976) on a coastal island (1983); Nesting on shrubs and herbaceous vegetation (1976, 1983, 1997*), shell (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976	24								264	
1978										
1983	Yes								yes	
1990	342						100	250	300	
1993	500	100							600	
1994	400								1000	
1995	600	75					50	300	250	
1996	1600	100							2700	
1997	1700	75					450	1050	1000	
1997*	2600	120					700	1650	9000	
1998	540						75		70	
1999	500						200	300	2300	
2000*	1300						1830	1850	8600	
2001	445						425		1805	HERG (1)
2005	1665								1020	
2006	550						150	250	1300	
2008	4000						400		4000	

Site #004 (603047) Barataria Pass/Southeast-A 29.2832 -89.9000

Grand Terre Islands. 30.5km east-northeast of LA Hwy. 1 at Port Fourchon complex. Barrier island beach; nesting on bare sand (1976, 1983, 1990, 1997*)

Year	BRPE	BLSK	FOTE	,	LETE		LAGU	OTHER
1976					50			
1978								
1983		1000- 5000						
1984								
1985								
1986					100			
1987		yes			yes			
1988		250						
1990		40			25			

1993					
1994					
1995	30				
1996			200		
1997					
1997*	2		160		
1998					
1999					
2001					
2005					

Site #005 (603076) Bastian Bay/Southeast-A 29.2833 -89.6500 (603076; same USF&WS # as LDWF #6; two small nearby islands surveyed as a single site through 1983, split into two distinct locations by Martin and Lester, 1990)

Lanaux Island. 28.4km west-northwest of Venice Marina. Renumbered as Site #006, and listed as "Surveyed/Inactive" in 1997*. Coastal island; beach (1983, 1990); nesting on bare sand (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		500- 1000								
1989										
1990										
1993										
1997*										
2005										

Site #006 (603076) Bastian Bay/Southeast-B 29.2832 -89.6500 (603076; same USF&WS # as LDWF #5; two small nearby islands surveyed as a single site through 1983, split into two distinct locations by Martin and Lester, 1990)

Lanaux Island. 28.4km west-northwest of Venice Marina. Same coordinates as site #005, but survey histories between the two sites are different. Coastal island beach (1983, 1990); nesting on bare sand (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989										
1990										
1993										

199	94					
199	97					
199	97*					

Site #007 (603007)

Bay Batiste/Southeast-A

29.4166 -89.8666

Big Island in upper Barataria Bay. 41.8km northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh (1976, 1983, 1990) on a coastal island (1983, 1990); nesting on shrubs, herbaceous vegetation, and wrack (1983, 1990). Surveyed and denoted as "no land feature" (2005, 2006). Appears to be same as Site #748 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				19						
1978				?yes						
1983				yes						
1988										
1990										
1993				20						
1994										
1995										
1996										
1997*										
2001		20		75						
2004										
2005										
2006										

Site #008 (603008)

Bay Batiste/Southeast-B

29.4166 -89.8500

Salt-marsh on a coastal island in upper Barataria Bay. 42.9km northeast of LA Hwy. 1 at Port Fourchon complex. Birds nesting on wrack and shrubs (1976, 1983, 1990). Surveyed and denoted as "no land feature" (1997, 1998, 1999, and 2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				172						
1978				?yes						
1983				yes						
1988				150						
1990										
1993				10						
1994										
1995				150						

1997					
1998					
1999					
2005					

Site #009 (602062)

Bay Dosgris/Northwest-A

29.4583 -90.0833

34.6km north of LA Hwy. 1 at Port Fourchon Complex. Characterized as coastal island, marsh habitat; birds nesting on driftage (1990). Surveyed and denoted as "no land feature" (1997, 1997*, and 2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100- 500						
1988				250						
1989				200						
1990				5						
1993										
1994										
1995										
1997*										
2005										

Site #010 (602047)

Bay Tambour/Southwest-A 29.2861 -90.0750

Island in upper Caminada Bay. 29.2km North of LA Hwy. 1 at Port Fourchon Complex. Saline, marsh, birds nesting on shrubs (1976), coastal island, marsh, birds nesting on shrubs and driftage (1990). Listed as "No Land Feature" in 2005.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes						
1988										
1989										
1990									25	
1993										
1994										
1995										
1997										
1997*										
2005										

Site #011 (602048) Bay Tambour/Southwest-B 29.2652 -90.0888

Island in upper Caminada Bay. 14.8km north-northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on coastal island; birds nesting on shrubs (1976, 1983, 1990). Surveyed and denoted as "no land feature" in 2005.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978										
1983										
1988				200					250	
1990				150						
1993										
1994				50					25	
1995									25	
1996									20	
1997*										
1998										
1999										
2001										
2005										

Site #012 (602049) Bay Tambour/Southwest-C 29.2666 -90.0708

Island in upper Caminada Bay. 16.0km north-northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs and wrack (1976, 1983, 1990). Surveyed and denoted as "no land feature" (1997* and 2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978										
1983				yes						
1988				250						
1990										
1994										
1997*										
2005										

Site #013 (602050) Bay Tambour/Southwest-D 29.2499 -90.0888

Island in the middle of Caminada Bay. 13.4km north-northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs, herbaceous vegetation, and wrack (1976, 1983, 1990). Surveyed and denoted as "no land feature" (1997). Appears to be same as Site #728 (fide Vermillion). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				39						
1978										
1983				yes						
1988				250					100	
1990									500	
1993										
1994										
1995										
1997*										
2005										

Site #014 (602051) Bay Tambour/Southeast-A 29.2527 -90.0555

Island in the middle of Caminada Bay. 15.9km northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs and wrack (1976, 1983, 1990). Surveyed and denoted as "no land feature" (1997* and 2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				247						
1978										
1983				yes						
1988				20						
1990										
1993										
1994										
1997*										
2005										

Site #016 (602063) Bay Tambour/Southwest-E 29.2791 -90.0688

Island in upper Caminada Bay. 17.2km north-northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs and wrack (1983, 1990). Surveyed and denoted as "no land feature" (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes						
1988										
1989										
1990				50					50	
1993										
1994				250						
1995				100						
1996										
1997				20						
1997*										
1998				120						
1999										
2001				450						
2005									110	
2006										
2008										

Site #017 (602064) Bay Tambour/Southwest-F 29.2735 -90.0666

Island in upper Caminada Bay. 16.8km north-northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs and wrack (1983, 1990). Surveyed and denoted as "no land feature" (1997*, 2005, 2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes						
1988										
1989				yes					yes	
1990									100	
1993										
1994										
1997*										
2001										
2005										
2006										

Site #018 (602065) Bay Tambour/Southwest-G 29.2679 -90.0652

Island in upper Caminada Bay. 16.5km northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs and wrack (1983, 1990). Surveyed and denoted as "no land feature" (1997* and 2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes						
1988				10						
1990										
1993										
1994										
1997*										
2005										

Site #025 (601023)

Creole/Northwest-A

29.8500 -93.1000

24.2km east-northeast of Cameron Ferry. Surveyed and listed then as "Bayou Labouve" in 1983. Intermediate marsh on an inland island; birds nesting on wrack (1983, 1990, 2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes						
1989										
1990										
1997*										
2001										
2005										

Site #026 (602043)

Belle Pass

29.1166 -90.1666

Fourchon Beach. 4.7km south-southeast of LA Hwy. 1 at Port Fourchon complex. Mainland beach habitat (1983, 1990), listed as saline (1976, 2001); sand/shell washover (1997*); birds nesting on bare sand (1976, 1983, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						25				
1978						?yes				
1983		yes				yes				
1990		250				1000				
1993		50				200				
1994						4				
1995						200				

1996			2		
1997					
1997*			370		
1998			50		
1999					
2001					
2005					

Site #027 (603027) Black Bay North/Northeast-A 29.6916 -89.5458

Island in Lake Calebasse. 15.5km south-southeast of Hopedale Bridge near MRGO. Saltmarsh on a coastal island; birds nesting on shrubs, herbaceous vegetation, and wrack (1976, 1983, 1990, 1997*). Surveyed and denoted as "no land feature" (2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				3					100	
1978				?yes					?yes	
1983									yes	
1988				100						
1990										
1993									60	
1994				50					75	
1995									30	
1996									50	
1997									20	
1997*									80	
1998									10	
1999										
2001										
2005										

Site #028 (603059) Black Bay North/Southeast-A 29.6374 -89.5555

Snake Island in upper Black Bay. 20.8km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation and wrack (1983, 1990). Surveyed and denoted as "no land feature" (1997*, 2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes		yes					yes	
1988		45								
1990										

1994					
1997*					
2005					

Site #029 (603060) Black Bay North/Southwest-A 29.6292 -89.5946

Gallega Island in eastern Black Bay. 20.9km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation, bare ground, wrack (1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes					yes	
1988										
1990										
1993				2						
1994										
1995				200						
1996										
1997				150						
1997*				350						
1998				90						
1999				250						
2001				80						
2005			20	60					290	
2006										
2008				10						

Site #030 (603067) Black Bay North/Northwest-A 29.7166 -89.5708 (603067; same USF&WS # as LDWF #31; two small nearby islands surveyed as a single site through 1983, split into two distinct locations by Martin and Lester, 1990)

Island in lower Lake Coquille. 12.0km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs, herbaceous vegetation, and wrack (1976, 1983, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes					yes	
1988										
1989				150						
1990										

1993					
1994					
1997*					
2001					
2005					

Site #031 (603067) Black Bay North/Northwest-B 29.7138 -89.5638 (603067; same USF&WS # as LDWF #30; two small nearby islands surveyed as a single site through 1983, split into two distinct locations by Martin and Lester, 1990)

Island in lower Lake Coquille. 12.5km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation and wrack (1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes					yes	
1988				75			25			
1990										
1993				130						
1994										
1995				80						
1996				200						
1997										
1997*				130					8	
1998				70						
1999				20						
2001				30						
2004										
2005				13						
2006										
2008				75						

Site #032 (603068) Black Bay North/Northwest-C 29.7041 -89.5667 (603068; same USF&WS # as LDWF #33; two small nearby islands surveyed as a single site through 1983, split into two distinct locations by Martin and Lester, 1990)

Island along the northern rim of Lake Calebasse. 13.4 km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on wrack (1983, 1990).

Year	BRPE	BLSK	FOTE	GBTE	ROYT		OTHER
1983			500- 1,000				
1988						100	
1990							
1993							
1994							
1995							
1996							
1997							
1997*							
2001			195				
2005			10				
2006							
2008			5				

Site #033 (603068) Black Bay North/Northeast-B 29.7014 -89.5625 (603068; same USF&WS # as LDWF #32; two small nearby islands surveyed as a single site through 1983, split into two distinct locations by Martin and Lester, 1990)

Island along the northern rim of Lake Calebasse. 13.8km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on wrack (1983, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				500- 1,000						
1988				1,000						
1990				25						
1993				150						
1994										
1995										
1996										
1997*										

2001					
2005					

Site #034 (603024) Black Bay South/Northeast-A 29.6139 -89.5611

Lonesome Island in Black Bay. 23.2km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs, herbaceous vegetation, bare sand, wrack (1976, 1983, 1990, 1997*). Surveyed and denoted as "no land feature" (2005, 2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				1						
1978				?yes						
1983		yes		yes					yes	
1988		2500		500			500		750	
1989		250								
1990										
1993		1					50		400	
1994				10					25	
1995		30							125	
1996		10	40						400	
1997			30						600	
1997*			50						900	
1998									60	
1999			40	60					500	
2001									225	
2005										
2006										

Site #035 (603026) Black Bay South/Northwest-A 29.5638 -89.5833

Coastal island on the eastern edge of Bay Crabe. 28.4km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island (1976, 1983, 1990); birds nesting on shrubs, herbaceous vegetation (1976, 1997*), and wrack (1976, 1983, 1990). Surveyed and denoted as "no land feature" (2005, 2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				253					33	
1978				?yes						
1983				100- 500						
1988		1		75						

1990					
1993				75	
1994				50	
1995		60		150	
1996	2	200		100	
1997				60	
1997*				150	
1998	1	80			
1999	60	40			
2001	10			10	
2005					
2006					

Site #036 (603069) Black Bay South/Northeast-B 29.5771 -89.5611

Belle Isle on the eastern rim of Bay Crabe. 27.2km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island (1983, 1990); birds nesting on shrubs and bare sand (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes							yes	
1988										
1990										
1993										
1994										
1997*										
2005										

Site #037 (603070) Black Bay South/Northwest-B 29.5738 -89.5666

Belle Isle on the eastern rim of Bay Crabe. 27.5km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island (1983, 1990); birds nesting on wrack (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100- 500						
1988										
1990										
1993										
1994										
1996										
1997*										

2001					
2005					

Site #038 (603071) Black Bay South/Northeast-C 29.5749 -89.5994

Coastal island on the northern edge of Bay Crabe. 27.0km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island (1983, 1990); birds nesting on wrack (1983, 1990) and herbaceous vegetation (1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				2-100						
1988										
1990				250						
1993		10		75					75	
1994		50		300					100	
1995									100	
1996				40					200	
1997									100	
1997*									100	
1998										
1999				20						
2001										
2005										
2006										
2008										

Site #040 (603073) Black Bay South/Southeast-A 29.5235 -89.5611

Coastal island on the eastern edge of Long Bay. 33.1km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on wrack (1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				2-100						
1988										
1990				25						
1993				40						
1994										
1995										
1996				100						
1997				80						

1997*	200				
1998	60			10	
1999	100			20	
2001	275	20		125	
2005	20			175	
2006					
2008				200	

Site #041 (603074) Black Bay South/Southwest-A 29.5166 -89.5777

Coastal island along the northeastern edge of Long Bay. 33.6km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island (1983, 1990); birds nesting on wrack (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100-						
				500						
1988										
1990										
1993										
1994										
1995										
1997*										
2001										
2005										

Site #042 (603075) Black Bay South/Southeast-B 29.5041 -89.5305

Coastal island along the northern rim of California Bay. 32.7km north-northwest of Venice Marina. Salt-marsh on a coastal island; birds nesting on bare sand and wrack (1983, 1990, 1997*). Appears to be same as Site #726 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes		yes						
1988										
1989				250			100			
1990				250						
1993		155		105					400	
1994									150	
1995									70	
1996				100					50	
1997				20						

1997*		4		480		500	
1998		30		30			
1999		50		270		400	
2000*	20					2000	
2001		40	205	195		1120	
2005	930					120	
2006							
2008	500		300			1500	

Site # 046 (603034) Breton Islands/Northeast-A 29.4833 -89.1666

Breton Islands. 32.0km north-northeast of Venice Marina. Barrier island beach; birds nesting on bare sand (1976, 1983, 1990).

Year	BRPE		FOTE	LETE	ROYT	SATE	LAGU	OTHER
1976		410						
1978								
1983		yes		yes				
1988				yes				
1990		490						
1993								
1994								
1995		10						
1996								
1997								
1997*								
1998								
1999								
2001								
2005								

Site # 047 (603049) Breton Islands/Northwest-A 29.4666 -89.2000

Breton Islands. 28.6km north-northeast of Venice Marina. Barrier island beach; birds nesting on bare sand (1976, 1983, 1990) and shrubs (1983, 1990). Surveyed and denoted as "no land feature" (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						50				

1978									
1983		yes							
1985	yes								HERG-yes
1988									
1990		100							
1993									
1994		250							
1995									
1996									
1997									
1997*									
1999		600							
2001									
MO2003	10,000 ind	2000 ind			6 ind	" few"	"few"	20,000 ind	Hybrid KEGU/HERG (6 ind)
MO2004	10,000 ind	425		30		5000 ind	9000 ind	7000 ind	Hybrid KEGU/HERG (6); SOTE (3)
2005	1313		750			1500	40	1600	
2006									
2008									

Site #049 (602099) Calumet Island/Northeast-A 29.0832 -90.2499

West Belle Pass. 10.8km south-southwest of LA Hwy.1 at Port Fourchon complex. Barrier island beach (1983, 1990); birds nesting on bare sand (1983).

Year	BRPE				ROYT		OTHER
1983		100-					
		500					
1989							
1990							
1993							
1994		400					
1995		250					
1996		300					
1997							
1997*							
1999							

2001					
2005					

Site #051 (602042) Calumet Island/Southwest-A 29.0613 -90.3738

Barrier island between East Timbalier and Timbalier Islands. 21.8km west-southwest of LA Hwy. 1 at Port Fourchon complex. Barrier island beach; birds nesting on bare sand (1976, 1983, 1990), shrubs, and herbaceous vegetation (1990). Surveyed and denoted as "no land feature" (2005, 2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		2431	20			30	637	2732		
1978										
1983		yes					yes	yes	yes	
1987		yes					yes	yes		
1988		yes					yes	yes		
1989		4150	25				3150	2700	75	
1990	15	230				30	550	560	1800	
1993										
1994		200								
1995										
1996										
1997										
1998										
1999										
2001							85			
2005										
2006										

Site #055 (602097) Cat Island Pass/Northwest-A 29.0833 -90.6000

Wine Island. 41.9km west-southwest of LA Hwy.1 at Port Fourchon complex. Coastal island beach; birds nesting on bare sand (1983, 1990, 1997*) herbaceous vegetation (1997*), shrubs (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		100- 500								
1985		1000								
1986		1925								
1987		1600								
1988		1800								

1989		600							
1990		650					100		
1993		750				200	2000		
1994		500			400	750	1500		
1995		1100				2800	11000		
1996		1200				10800	7200	200	
1997	30	600	500			5750	18750	1500	
1997*	190	1640	80	10		9100	8700	12000	
1998	200	550				1000	13000	1500	
1999	220	1300				8000	12000	4000	
2000*	70	250	50			700	2300	4200	
2001						635		815	
2005	180	_	_			_		710	
2006	50	150				725	1450	750	
2008	400					5000			

Site #056 (602098) Cat Island Pass/Northwest-B 29.0833 -90.5666

Small barrier island just west of Timbalier Island. 38.7km west-southwest of LA Hwy.1 at Port Fourchon complex. Coastal island beach (1983, 1990); birds nesting on bare sand (1983). Surveyed and denoted as "no land feature" (1997*, 2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		500- 1,000								
1989										
1990										
1993										
1994										
1997*										
2005										

Site #058 (602056) Central Isles Dernieres/SE-A 29.0499 -90.7833

Whiskey Island, Isle Dernieres. 38.7km east-southeast of mouth of Oyster Bayou. Barrier island beach; birds nesting on bare sand (1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes				yes		yes		
1989		50								
1990		250								
1993		100								

1994	30				
1996	100				
1997					
1997*	250		350		
1998					
1999					
2001					
2005					

Site #059 (602094) Central Isles Dernieres/SW-A 29.0499 -90.8666

Western edge of Whiskey Island. 31.9km east-southeast of mouth of Oyster Bayou. Barrier island beach (1983, 1990); birds nesting on bare sand (1983, 1997*). Surveyed and denoted as "no land feature" (2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes						yes	yes	
1989										
1990										
1993										
1994		100								
1996		200								
1997		600								
1997*		1600			60	40				
1998		350			50					
1999		1,500								
2001										
2005										

Site #060 (601009)

Fearman Lake

29.6833 -92.2000

Spoil island in Belle Isle Lake. 19.0km north-northeast of mouth of Freshwater Bayou. Spoil in fresh to brackish water (1976); Inland island spoil (1983, 1990); birds nesting on bare ground (1976, 1983, 1990).

Year	BRPE	DI CK	CATE	FOTE	CRTE	TETE	DOVT	CATE	LAGU	OTHER
1 cai	DKI E	DLSK	CATE	TOIL	GDIE		KOII	SAIL	LAGU	OTHER
1976		30				250				
1978		?			?	?				
1983		yes			yes	yes				
1990		20			3	50				
1997*										

2001					
2004					

Site #065 (603041)

Dixon Bay/Southwest-A

29.0110 -89.3305

Spoil along the left descending bank of Southwest Pass. 26.7km south-southeast of Venice Marina. Spoil in brackish water (1976); mainland spoil (1983, 1990); listed as saline in 2001; birds nesting on bare ground (1976, 1983, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		690								
1978		?								
1983		yes			yes					
1988										
1989		1500								
1990										
1993										
1994										
1995										
1997*										
2001										
2005										

Site #066 (590009)

Door Point/Southeast-A

30.0333 -89.1833

Brush Island along the very western edge of the Chandeleur Sound. 47.9km east-northeast of Hopedale Bridge near MRGO. Shell berm in salt-marsh (1976); Salt-marsh on coastal island (1983, 1990); birds nesting on bare ground, wrack (1976, 1983, 1990, 1997*, 2006) and herbaceous vegetation (1976, 1997*, 2006).

Year	BRPE	BLSK	CATE	FOTE		LETE	ROYT	SATE	LAGU	OTHER
1976		83		15					15	
1978										
1983		yes		yes	yes	yes				
1988										
1989		600		300			900			
1990										
1993		200		50			100	4000	700	
1994		100		40					2000	
1995		230		140					900	
1996		500		100				140	1800	
1997		400					200	1000	5000	

1997*		570				60	70	5000	
1998	10	175	30			400	5000	800	
1999		240		50					
2000*		150				700	800	12000	
2001	8					450		5770	
2005			20			420	3000	3285	
2006						1500		60	
2008								500	

Site #068 (590032)

Door Point/Southwest-B

30.0199 -89.2241

Coastal island along the eastern rim of West Karako Bay. 43.7km east-northeast of Hopedale Bridge near MRGO. Mainland marsh (1983, 1990), saline (2001); birds nesting on wrack (1983, 1997*, 2006); herbaceous vegetation (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100- 500						
1988										
1990										
1993										
1994										
1997*				100						
1999				50						
2001										
2005				10					75	
2006				18					20	
2008									1400	

Site #069 (590033)

Door Point/Southwest-B

30.0172 -89.2180

Coastal island along the eastern rim of West Karako Bay. 44.1km east-northeast of Hopedale Bridge near MRGO. Marsh on coastal island (1983, 1990); saline (2001); birds nesting on herbaceous vegetation (1983, 1990), bare ground and wrack (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983									100- 500	
1988				150			25			
1990										
1993										
1994										

1997*						
1998		20				
1999		10				
2001					65	
2005						
2006						

Site #070 (590034)

Door Point/Northwest-A

30.0666 -89.2000

Coastal island along the very western edge of Chandeleur Sound. 48.5km east-northeast of Hopedale Bridge near MRGO. Marsh on coastal island (1983, 1990); saline (2001); birds nesting on bare ground (1983, 1990); herbaceous vegetation and wrack (2006).

Year	BRPE	BLSK					SATE	LAGU	OTHER
1983		yes	yes	yes					
1988									
1989		300				900		1800	
1990									
1993									
1994								50	
1995									
1996									
1997									
1997*									
2001		110			40			230	
2005		40						2645	
2006								165	
2008	1700							300	

Site #071 (590035)

Door Point/Northwest-B

30.0666 -89.2166

Coastal island along the very western edge of Chandeleur Sound. 47.1km east-northeast of Hopedale Bridge near MRGO. Marsh on coastal island (1983, 1990); saline (2001); birds nesting on bare ground (1983, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes			yes					
1988							10		25	
1989										
1990										
1993										

1994					
1997*					
2001					
2005					

Site #073 (602032) Eastern Isles Dernieres/NW-A 29.0658 -90.7249

Small coastal island immediately north of Trinity Island in Lake Pelto. 43.0km east-southeast of mouth of Oyster Bayou. Salt-marsh on coastal island (1976, 1983, 1990); birds nesting on shrubs (1976, 1983, 1990), herbaceous vegetation, bare ground (1990), and wrack (1976, 1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				10						
1978				?						
1983										
1986				20						
1987										
1988		55		yes						
1989		25								
1990									50	
1993										
1994										
1997*										
2005										

Site #074 (602096) Eastern Isles Dernieres/SW-A 29.0499 -90.6999

Trinity Island, Isle Dernieres. 46.0km east-southeast of mouth of Oyster Bayou. Barrier island beach; birds nesting on bare ground (1983, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		100- 500								
1989						50				
1990										
1993										
1994										
1997*										
2005										

Site #082 (603035) Grand Gosier Islands/NE-A 29.5666 -89.0500

Grand Gosier Islands. 46.3km north-northeast of Venice Marina. Barrier island beach; birds nesting on herbaceous vegetation and bare sand (1976, 1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE		ROYT		LAGU	OTHER
1976		894					55		2692	
1978										
1983		yes							yes	
1988									350	
1990	62	50							200	
1993	1500	150					1000	8000	500	
1994	4000							200		
1995	2000	25								
1996	1600	200								
1997	800								1000	
1997*	2500	1040			20	10			3900	HERG (2)
1998	2000	160							200	
MO1998	3000	600							4000	HERG (9) SOTE (2) KEGU/HYB (1); HYB/HYB (1)
1999										
2001		360					131	894		
MO2003			5 ind				60 ind	50 ind		COTE (7 ind) HYB/HYB (2 ind)
MO2004		150	215		15-20	10			200	HYB/HYB (1)
2006										

Site #083 (603051) Grand Gosier Islands/SW-A 29.5333 -89.0833

Gosier Islands. 41.4km north-northeast of Venice Marina. Barrier island beach; birds nesting on bare sand (1976, 1983, 1990, 1997*) and herbaceous vegetation (1997*). Surveyed and denoted as "no land feature" (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		300								
1978										
1983		yes	yes							
1985		250								
1988										

1990		200			11000	21000		
1993		700				10000		
1994		900			700	10000		
1995		450				6000	200	
1996	800	100				1000	200	
1997	2000				150	350	3000	
1997*	3000	350	30		200	200	6100	HERG (4)
1998	3450	60					350	
MO1998	1000+ ind	1000					2000	SOTE (1 ind) HERG (2); HERG/HYB (1); HYB/HYB (1)
1999	1000	50			4500	12500	2000	
2001	400	200			8493	29562		
MO2003		150	275	26 ind	5625	16975		SOTE (3-4 ind); HYB/HYB (2 ind)
MO2004	500	1000		125	15000 ind	23000 ind	1000	SOTE (7) HYB/HYB (2)
2006								

Site #091 (601002)

Cameron/Northeast-A

29.8500 -93.3833

Rabbit Island. 6.3km north-northwest of Cameron Ferry. Brackish marsh and beach on an inland island; birds nesting on shrubs, herbaceous vegetation, bare ground, wrack (1976, 1983, 1990, 2006). Appears to be same as Site #764 (*fide* Vermillion).

Year	BRPE	BLSK	FOTE	GBTE	LETE	ROYT	LAGU	OTHER
1976		25	2263					
1978		?	?					
1983		yes	yes				yes	
1990			500					
1996							100	
1997*								
2001							4500	
2004							3865	
2005	80		416				9116	HERG (50)
2006	175	50	800				7500	
2008								

Isle au Pitre. 54.3km northeast of Hopedale Bridge near MRGO. Salt-marsh shell berm on a coastal island; birds nesting on herbaceous vegetation, bare shell (1983, 1990 1997*), and wrack (1976).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		641	22	101	10				958	
1978		?	?	?	?				?	
1983		yes				yes			yes	
1988										
1989										
1990										
1993										
1994										
1997*						50				
1999										
2001										
2005										

Site #095 (602058)

Jacko Bay/Northwest-A

29.2166 -90.4666

Coastal island in northeastern Terrebonne Bay. 28.8km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on wrack and shrubs (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes						
1988										
1989										
1990										
1993										
1994										
1995										
1997*										
2005										

Coastal island in northeastern Terrebonne Bay. 26.8km west of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island (1983, 1990); birds nesting on shrubs (1983), herbaceous vegetation and wrack (1990, 1997*), sand (1997*).

Year	BRPE	BLSK	Ī			ROYT		OTHER
1983								
1988				200		100		
1989				yes				
1990								
1993								
1994								
1995								
1997*		4	2				160	
1999								
2005								

Site #106 (603022) Lake Athanasio/Southwest-A 29.6833 -89.4500

Coastal island at the mouth of Bayou Frenepiquant. 21.7km southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on wrack (1976, 1983, 1990) and bare ground (1983, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				700						
1983		yes		yes						
1988				50						
1993										
1994										
1995										
1997*										
2001										
2005										

Site #107 (603023) Lake Athanasio/Southwest-B 29.6516 -89.4630

Coastal island along the east rim of Lake Fortuna. 23.4km southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on wrack (1976, 1983, 1990, 2006); shrubs (1976); herbaceous vegetation (2006)...

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				166						
1978										
1983				2-100						
1988				150			50			
1990										
1993				25					50	
1994									4	
1995										
1996				100					25	
1997										
1997*										
1998										
1999										
2001				250					10	
2005				145						
2006				80					35	
2008									800	

Site #108 (603057) Lake Athanasio/Northwest-A 29.7333 -89.4500

Island in Lake Athanasio. 18.3km east-southeast of Hopedale Bridge near MRGO. Saltmarsh on a coastal island; birds nesting on bare ground, wrack (1983, 1990, 1997*), herbaceous vegetation (1997*) and shrubs (1983).

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Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes		yes	yes					
1988				200					75	
1989				100					50	
1990				200						
1993		15		75					300	
1994				4					300	
1995									300	
1996				20					500	
1997									300	
	1	1	1	1	I	1		1		1

1997*		2				1000	
1998						100	
1999						80	
2001	10					175	
2005							
2006							

Site #109 (603058) Lake Athanasio/Nothwest-B 29.6817 -89.4638

Island along the eastern side of Lake Fortuna. 20.6km southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs and herbaceous vegetation (1983, 1990, 1997*, 2006) and wrack (1997*).

Year	BRPE				ROYT	SATE	LAGU	OTHER
1983							yes	
1988		20	70		125		140	
1989			150				50	
1990			100					
1993								
1994								
1995			130					
1996			200				50	
1997			200				50	
1997*			400				300	
1998			70				130	
1999							50	
2001							10	
2005			30					
2006							55	
2008		150	50				50	

Site #110 (602067) Lake Felicity/Southeast-A 29.2666 -90.3999

Island along the southeastern side of Lake Felicity. 24.7km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island (1983, 1990); birds nesting on wrack (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100- 500						
1988										
1990										

1993		12			
1994					
1995					
1997*					
1998					
2005					

Site #111 (602068)

Lake Felicity/Southeast-B

29.2666 -90.4166

Island along the southeastern side of Lake Felicity. 26.1km west-northwest of LA Hwy.1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on wrack (1983, 1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100- 500						
1988				75						
1990				50						
1993				10						
1994		15		50						
1995										
1997*										
1998										
2005										

Site #112 (602069)

Lake Felicity/Southeast-C

29.2499 -90.4333

Island along the southeastern side of Lake Felicity. 26.8km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island (1983, 1990); birds nesting on wrack (1983, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100-						
				500						
1988										
1990										
1993		15								
1994										
1996										
1997*				30						
1998										
2005										

Site #113 (602101) Lake Felicity/Southeast-D 29.2666 -90.4333

Island along the southeastern side of Lake Felicity. 27.2km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island (1983, 1990); birds nesting on wrack (1983, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100- 500						
1988										
1990										
1993										
1994										
1997				30						
1997*				110						
1998										
1999										
2001										
2005										

Site #133 (590029)

Malheureux Point

30.0833 -89.4666

Le Petit Pass Island. 32.6km north-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs, herbaceous vegetation, bare ground, and wrack (1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes		yes	yes				yes	
1988										
1989		800					1600		1600	
1990				200						
1993		150							1200	
1994		50					75		1100	
1995		75		50					600	
1996		200	50						1000	
1997	5	30	60						700	
1997*		60	100						2000	
1998		50	70				30		400	
1999			100					20	300	
2000*										
2001			25						125	

2005					
2006					

Site #137 (603010) Mitchell Island/Northwest-A 29.9666 -89.2000

Martin Island along the western edge of Chandeleur Sound. 43.1km east-northeast of Hopedale Bridge near MRGO. Salt-marsh shell berm on a coastal island; birds nesting on herbaceous vegetation, bare shell, wrack (1976, 1983, 1990, 1997*, 2006) and shrubs (1976).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		59		42					418	
1978										
1983		yes	yes	yes	yes				yes	
1988									250	
1989		150					200	250	600	
1990										
1993				100					300	
1994				75					1000	
1995		25		115					925	
1996		125		200					2000	
1997		140							3500	
1997*		270							3000	
1998		100		20					850	
1999	20	150							2000	
2001	65	10							1090	
2005	1300	10							2450	
2006	50								2025	
2008									1000	

Site #138 (603011) Mitchell Island/Southwest-A 29.9333 -89.2000

Coastal island along the western edge of Chandeleur Sound. 41.9km east-northeast of Hopedale Bridge near MRGO. Salt-marsh shell berm on a coastal island; birds nesting on herbaceous vegetation (1976, 1983, 1990), and man-made object (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		113		293					199	
1978										
1983		yes					yes	yes	yes	
1989									50	

1990					
1993					
1995					
1997*					
2005					

Site #139 (603013) Mitchell Island/Southwest-B 29.9166 -89.2500

Coastal island in Drum Bay on the western edge of Chandeleur Sound. 36.7km east-northeast of Hopedale Bridge near MRGO. Salt-marsh shell berm on a coastal island; birds nesting on herbaceous vegetation and bare ground (1976, 1983, 1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		82							220	
1978										
1983		yes	yes						yes	
1988									50	
1989										
1990										
1993										
1994										
1995										
1997*										
2005										

Site #140 (603015) Mitchell Island/Southwest-C 29.8998 -89.2000

Mitchell Island along the western edge of Chandeleur Sound. 40.9km east-northeast of Hopedale Bridge near MRGO. Salt-marsh shell berm on a coastal island; birds nesting on bare ground (1976, 1983, 1990, 1997*), herbaceous vegetation (1983, 1997*), and wrack (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		228								
1978										
1983		yes			yes		yes	yes	yes	
1988		100						8	400	
1989		150		150			300		900	
1990				50						
1993		100		150					1000	
1994		100		100			200	150	1200	

1995		150		100		380	400	415	
1996		25		200		500	2100	1000	
1997		50		100		600	1300	2000	
1997*		150	20			900	1500	2500	
1998	1	60				30		700	
1999	30	100				500	500	1200	
2000*	50	60				400	600	1600	
2001	95	40	50			550		300	
2005									
2006									

Site #141 (603055) Mitchell Island/Northwest-B 29.9833 -89.2166

Coastal island along the western edge of Chandeleur Sound. 41.9km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs and herbaceous vegetation (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983									yes	
1988							150			
1989		300			25		100		600	
1990										
1993		500		30			4		30	
1994									50	
1995		4		25					40	
1996		150		20					30	
1997										
1997*		50								
1998										
1999										
2001						40				
2006										

Site #142 (603065) Mitchell Island/Northwest-C 29.9499 -89.2000

Coastal island along the western edge of Chandeleur Sound. 42.5km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983									yes	

1988		150				
1989					100	
1990						
1993						
1994						
1997*						
2005						

Site #143 (603017) Morgan Harbor/Southwest-A 29.7999 -89.3500

Coastal island along the eastern side of Treasure Bay. 25.8km east of Hopedale Bridge near MRGO. Salt-marsh on a coastal island (1976, 1983, 1990); birds nesting on shrubs, herbaceous vegetation (1976, 1997*), and wrack (1983, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978										
1983				100- 500						
1988										
1990										
1993				200						
1994				100						
1995				50					75	
1996				50					150	
1997				20					60	
1997*				60					250	
1998				20					40	
1999										
2001										
2005										

Site #144 (603018) Morgan Harbor/Southeast-B 29.7998 -89.2666

Point Paulina along the western edge of Chandeleur Sound. 33.5km east of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on wrack (1976, 1983, 1997*), herbaceous vegetation and bare shell (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				100						
1978										
1983				yes					yes	

1988		250			
1989	600	400			
1990					
1994					
1995					
2005					

Site #145 (603056) Morgan Harbor/Northeast-A 29.8333 -89.3000

Point Eliza along the western edge of Chandeleur Sound. 30.2km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs, bare ground, wrack (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes							yes	
1988										
1989							100		900	
1990										
1993										
1994									800	
1995										
1996										
1997										
1997*										
2001									33	
2006										

Site #146 (603066) Morgan Harbor/Northeast-B 29.8190 -89.3100

Coastal island along the western edge of Chandeleur Sound. 29.3km east of Hopedale Bridge near MRGO. Salt-marsh on a coastal island (1983); birds nesting on wrack (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				2-100						
1988										
1990										
1993										
1994										
1995										
1997*										

2005		255			2	
2006						
2008	60	80				

Site #147 (603038) Freemason Island/Northeast-A 29.8499 -88.8833

New Harbor Islands. 70.7km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island (1976, 1983, 1990); birds nesting on herbaceous vegetation (1976, 1990, 1997*), and wrack (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976									274	
1978										
1983									500- 1000	
1988									100	
1990									350	
1993									2000	
1994										
1995										
1996									200	
1997*									400	
1998										
1999	200			20					700	
MO2004	100									
2005										

Site #148 (603039) Freemason Island/Northeast-B 29.8666 -88.9000

North Islands. 69.2km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation (1983) and shrubs (1976). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978									?	
1983									100- 500	
1988		150					200		300	
1990										
1993										
1994		30						150	400	

1995					150	
1996						
1997*						
1999						
2001						
2005						

Site #149 (603062) New Harbor Islands/NW-A 29.8499 -88.8666

New Harbor Islands. 72.2km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation (1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983									5000- 10000	
1988							200		2500	
1990									2100	
1993									3850	
1994									1500	
1995									900	
1996									700	
1997*									4200	
1998									950	
1999	5								3700	
2005									6210	
2008									100	

Site #150 (603063) Freemason Island/Northeast-C 29.8499 -88.8833

New Harbor Islands. 70.7km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs, herbaceous vegetation (1983, 1990, 1997*) and wrack (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983									yes	
1988							100		400	
1990				75					2000	
1993									1850	
1994									400	
1995									400	

1996					600	
1997*					800	
1998					5	
1999					760	
2005						

Site #151 (603050) Freemason Island/Northeast-D 29.8563 -88.9127

Coastal island immediately west of the Chandeleur Islands. 67.9km east-northeast of Hopedale Bridge near MRGO. Beach on a coastal island (1976, 1983, 1990); birds nesting on bare sand (1976, 1983, 1990, 1997*).

Year	BLSK				ROYT	SATE	LAGU	OTHER
1976	25				387	1054		
1978								
1983	yes	yes						
1988	75				100		125	
1990	60							
1993							300	
1994	25							
1995								
1996								
1997*	12			2				
1998								
1999								
2001								
2005								

Site #153 (603040)

North Islands

29.8833 -88.8666

North Islands. 72.5km east-northeast of Hopedale Bridge near MRGO. Salt-marsh shell-berm (1976); coastal island beach (1983, 1990); birds nesting on shrubs, herbaceous vegetation, and bare shell/sand (1976, 1983, 1990, 1997*).

	,				, ,	,	, , .			
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		142							1831	
1978		?							?	
1983	yes									
1988	850	50					400		1500	
1990	1500	650							2500	
1993	35	70					20		2200	

1994	50						100	
1995	200	30					530	
1996	400	40					530	
1997*	400						1800	
1998	160	40	20				550	
1999	650				2250	2750	2500	
2001	1100	15	20		1103	2827		
MO2004	1000						500	HYB/HYB (1)
2006	250	20				450	150	
2008	100						1500	

Site #154 (603009) Oak Mound Bayou/Southwest-A 29.9263 -89.3430

Island along the southern side of Shell Island Lake. 28.4km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on wrack (1976, 1983), and herbaceous vegetation (1983, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				40						
1983				yes					yes	
1990										
1993									75	
1994				150					150	
1995				25					100	
1996				40					600	
1997*									700	
1998									75	
1999									100	
2001									145	
2005										
2006										

Site #155 (603012) Oak Mound Bayou/Southeast-A 29.9208 -89.2625

Coastal island along the western edge of Drum Bay. 35.7km east-northeast of Hopedale Bridge near MRGO. Salt-marsh and shell berm; birds nesting on shrubs (1976, 1983), wrack (1976, 1983, 1997*, 2006), herbaceous vegetation (1976, 1997*, 2006) and bare ground (1976).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				86					999	

1978			
1983		yes	
1988		50	
1989	100	150	
1990			
1993		500	
1994		500	
1995		600	
1996		800	
1997		1260	
1997*	20	1450	
1998		100	
1999		370	
2001		340	
2005		1660	
2006		150	
2008		200	

Site #157 (602066) Pelican Pass/Northeast-A 29.2411 -90.3097

Island along the eastern edge of Lake Raccourci.15.7km northwest of LA Hwy. 1 at Port Fourchon Complex. Salt-marsh on a coastal island; birds nesting on shrubs and wrack (1983); wrack (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes						
1988				500						
1989				100						
1990										
1993				400						
1994										
1995				200						
1996				200						
1997				100						
1997*				800						
1998				100						
1999				60						
2005										

Pointe au Fer Headland. 14.6km west-northwest of mouth of Oyster Bayou. Mainland beach (1976, 1983); saline (1976); brackish (2001); birds nesting on bare sand (1976, 1983, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						25				
1978										
1983		2-100								
1989										
1990										
1993										
1994						4				
1995										
1997*		20				100				
1999										
2001										
2005										

Site #161 (602093)

Point au Fer/Northwest-A 29.3289 -91.3525

Coastal island just west of the Pointe au Fer Headland. 24.7km west-northwest of mouth of Oyster Bayou. Mainland beach (1983, 1990); brackish (2001); birds nesting on bare sand (1983, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		2-100								
1989										
1990										
1993										
1994										
1995										
1997*		1000			60	100				
1999										
2001										
2005										

Site #163 (602081) Point Au Fer NE/Northeast-A 29.4433 -91.2925

Atchafalaya Delta. 29.3km north-northwest of mouth of Oyster Bayou. Marsh on a coastal island; birds nesting on shrubs (1983, 1990). Probably emergent delta island or dredge spoil (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983										
1989										
1990										
1991						30				
1993										
1994										
1995										
1996										
2001										
2005										

Site #165 (603019) Point Chicot/Northwest-A 29.7499 -89.3666

Deadman Island along the western edge of Chandeleur Sound. 25.0km east-southeast of Hopedale Bridge near MRGO. Salt-marsh shell berm on a coastal island; birds nesting on wrack (1976, 1983, 1990, 1997*), bare shell/sand (1976), and herbaceous vegetation (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		344		10						
1978										
1983				500- 1000						
1988				150					200	
1989				400					1600	
1990				125						
1993										
1994										
1995				200						
1996										
1997										
1997*				10						
1998										
1999				30						
2001				15						

200)5					700	
200)6						
200)8						

Site #166 (603021) Point Chicot/Northeast-A 29.7333 -89.2666

Chicot Island along the western edge of Chandeleur Sound. 34.8km east-southeast of Hopedale Bridge near MRGO. Salt-marsh shell berm on a coastal island; birds nesting on herbaceous vegetation, bare shell/sand, wrack (1976, 1983, 1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		37		66					569	
1978										
1983		yes					yes		yes	
1988		300						100	600	
1989				100			50		150	
1990				75						
1993										
1994										
1995										
1997*										
2005										

Site #172 (603043) South of South Pass/Northeast-A 28.9772 -89.1547

The Mudlumps at the southern edge of South Pass. 36.4km southeast of Venice Marina. Beach on coastal island (1976, 1983, 1990); brackish (1976); saline (2001); birds nesting on bare sand (1976, 1983, 1990), herbaceous vegetation, and wrack (1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				25						
1978										
1983				500- 1000						
1988							750		250	
1989									2500	
1990	27						250	250	750	
1993							30	100	250	
1994										
1995				200					25	
1996				100					100	

1997		60			30	
1997*					300	400 Common Tern
1998				50	60	
1999				50	150	
2000*						
2001						
2005						

Site #173 (603078) South of South Pass/Northeast-B 28.9999 -89.1666

Beach along the western descending bank of South Pass. 33.6km southeast of Venice Marina. Beach on coastal island; birds nesting on bare sand (1983, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes			yes					
1988										
1989		150								
1990		250								
1993										
1994										
1995										
1997*										
2001										
2005										

Site #176 (603037) Curlew Islands/Southwest-A 29.6333 -88.9666 (USFWS #603036 and #603037 were combined into LDWF #176 by Martin & Lester. Numbers below reflect this combination, both prior to Martin & Lester, as well as after.)

Curlew Islands. 57.2km northeast of Venice Marina. Barrier island beach; birds nesting on herbaceous vegetation and bare sand (1976, 1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER	
MO1968			60 nests				3100 nests	27900 nests			
1976		312	24		3		7839	22211	820	SOTE	(10)
1978		yes					yes	yes			
1983		yes					yes	yes	yes		
MO1985	25 ind			2 ind	20 ind		29000 nests	49000 nests	7000 ind		SOTE (25 ind)

2006									
2005									
MO2004		350	30	10	2	3800	3800	1000	COTE (1 ind) HYB/HYB (8)
MO2003	160 ind	100 ind	60 ind		15 ind	500- 600 ind	1500 ind	2007 ind	COTE (1 ind) SOTE (1 ind) HYB/HYB (8 ind)
2001	142		17						
1999	1600	100				400	400	2800	
MO1998		300	75	36		13000 ind	17000 ind	5000 ind	SOTE (78) HERG (6) KEGU/HERG (1); KEGU/HYB (1)
1998							10000		SOTE (20)
1997*		1790	360	30		3800	5300	37600	HERG (10)
1997		200				4550	8450	4000	
1996		240		100		300	15000	500	
1995		160				1000	4500	200	
1994		500				20	2500	500	
1993		500	650			650	11700	500	
1990		125				11000	19500	650	

Site #177 (603064) Curlew Islands/Northeast-A 29.6999 -88.9333

Barrier island at the southern tip of the Chandeleur Island chain. 64.9km north-northeast of Venice Marina. Barrier island beach (1983); coastal island beach (1990); birds nesting on bare sand (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE		CATE		ROYT	LAGU	OTHER
1983		yes	yes			yes	
1988							
1990							
1993		10					
1994							
1995							
1996							
1997*							
2001							
2005							

Site #178 (603079) Curlew Islands/Northeast-B 29.7333 -88.8833

Chandeleur Islands. 70.9km north-northeast of Venice Marina. Barrier island beach; birds nesting on bare sand (1983, 1990) and herbaceous vegetation (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes	yes				yes	yes	yes	
1988										
1990		25								
1993										
1994										
1995										
1997*										
2001										
2005										

Site #180 (602061) Three Bayou Bay/Southwest-A 29.5218 -90.0875

Inland island in Bay Dosgris. 41.3km north-northeast of LA Hwy. 1 at Port Fourchon complex. Marsh on inland island (1983, 1990); saline (2001); birds nesting on wrack (1983, 1990, 1997*), and herbaceous vegetation (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				100- 500						
1988										
1990				300						
1993										
1994				500						
1995										
2005										

Site #181 (590030) Three Mile Bay/Southeast-A 30.0499 -89.2500

Island in Northwest Jack Williams Bay. 43.5km northeast of Hopedale Bridge near MRGO. Marsh on coastal island (1983, 1990); saline (2001); birds nesting on herbaceous vegetation and wrack (1983, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983				yes					yes	
1989									1000	
1990										
1993										

1994	75			
1995	100		100	
1996	160		120	
1997	100		1000	
1997*	150	2	600	
1998	50		720	
1999			650	
2001			450	
2005			2500	
2006				
2008			150	

Site #182 (590031) Three Mile Bay/Southeast-B 30.0166 -89.2666

Shell Island in West Karako Bay. 40.0km east-northeast of Hopedale Bridge near MRGO. Marsh on coastal island (1983, 1990); saline (2001); birds nesting on shrubs and herbaceous vegetation (1983, 1990, 1997*); birds nesting on shell (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983									yes	
1989							800		3200	
1990										
1993		100					20		500	
1994		50							200	
1995		40							125	
1996		80	45						125	
1997		50							30	
1997*		60							150	
1998		30								
1999										
2001									450	
2005										
2006										

Site #186 (602031) Western Isles Dernieres/SE-A 29.0531 -90.9301

Raccoon Island, Isle Dernieres. 26.9km southeast of mouth of Oyster Bayou. Barrier island beach (1976, 1983, 1990) and marsh (1976); birds nesting on shrubs, herbaceous vegetation, and bare sand (1976, 1983, 1990, 1997*). Appears to be same as Site #737 (fide Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		1542					218	96	17326	
1978										
1983		yes					yes	yes	yes	
1988										
1990	250	450					7000	5000	15000	
1993		750					9000	5700		
1994	840	480					9000	7070	3318	
1995	1600	200					5200	3800	50000	
1996	600	250					1500	500	5500	
1997		150	20				1120	1680	10000	
1997*	1560	110					1710	600	35300	
1998	3000	70					2000	500	5000	
1999		570					7000	9000	12000	
2000*							1400	1350		
2001	3270							4925	780	
2005	5905	300					13250	750	2710	
2006	3300	350					600	1150	3050	
2008	5500	350					9000		2500	

Site #187 (603001) Wilkinson Bay/Northwest-A 29.4499 -89.9500

Coastal island in upper Barataria Bay. 39.3km north-northeast of LA Hwy. 1 at Port Fourchon complex. Brackish (1976) marsh on a coastal island (1983, 1990); birds nesting on wrack (1976, 1983, 1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				166						
1978										
1983				2-100						
1988										
1990										
1993										
1994										

1995					
1997*					
2005					

Site #188 (603006) Wilkinson Bay/Southeast-A 29.3999 -89.8833

Big Island in upper Barataria Bay. 39.3km northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs (1983), wrack (1976, 1983, 1990), herbaceous vegetation, and bare ground (1983, 1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				172						
1978										
1983		yes		yes					yes	
1988										
1989										
1990				50						
1993										
1994										
1995										
1997*										
2005										

Site #191 Bay Dogris/Northeast-A 29.4752 -90.0083

Island in Mud Lake. 38.9km north-northeast of LA Hwy. 1 at Port Fourchon complex. Marsh and spoil on a coastal island; birds nesting on shrubs, herbaceous vegetation, bare ground, and wrack (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990				50						
1993										
1994				50						
1995										
1996				100						
1997										
1997*										
1998										
1999										
2005										

Site #196 Timbalier Island/Northwest-A 29.0646 -90.4855

Timbalier Island. 31.6km west-southwest of LA Hwy. 1 at Port Fourchon complex. Barrier island beach (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1987						15				
1989										
1990										
1993										
1994										
1997*										
2001										
2005										

Site #204 (590001) Saint Joe Pass/Southwest-A 30.1533 -89.4744

Grassy Island on the northeastern side of Lake Borgne. 39.5km north-northeast of Hopedale Bridge near MRGO. Salt-marsh shell berm on a coastal island; birds nesting on bare shell/sand, wrack (1976, 1983, 1990, 1997*), and herbaceous vegetation (1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		400		2750						
1978										
1983		yes		yes	yes				yes	
1988		150		1000			200			
1989		100					300		600	
1990				75						
1993									300	
1994		40		50					500	
1995				75					225	
1996									800	
1997									900	
1997*		60							500	
1998	5								490	
1999									600	
2001									675	
2005									500	
2006										
2008										

Site #205 (590027) Saint Joe Pass/Southeast-A 30.1366 -89.4305

Half Moon Island on the northeastern edge of Lake Borgne. 39.5km north-northeast of Hopedale Bridge near MRGO. Salt-marsh (1983, 1990) and beach (1990) on a coastal island; birds nesting on ground, wrack (1983, 1990, 1997*, 2006), and herbaceous vegetation (1990, 2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1983		yes		yes	yes					
1988										
1989		150		50			100		200	
1990				50						
1993		205		485						
1994		250		220						
1995		130		390						
1996				150						
1997		140		240						
1997*		180		600			30			
1998		140		295						
1999		190		140					100	
2001			65						120	
2004										
2005				560						
2006									100	
2008				25					300	

Site #206 Door Point/Northwest-C 30.0960 -89.2366

Coastal island in southern Oyster Bay. 47.7km northeast of Hopedale Bridge near MRGO. Upland forest on a coastal island; birds nesting on wrack (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988				20						
1990										
1993										
1994										
1997*										
2001										
2005										

Door Point on western edge of Chandeleur Sound. 50.4km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on bare ground and wrack (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988				200						
1989		100		50			100		250	
1990										
1993									2000	
1994										
1995										
1996										
1997										
1997*										
2001										
2005		150							2500	
2006										
2008		60							300	

Site #208

Door Point/Southwest-C

30.0110 -89.2297

Coastal island along the eastern edge of West Karako Bay. 42.2km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation and wrack (1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988				50					100	
1990										
1993									1100	
1994									1000	
1995									400	
1996									400	
1997									500	
1997*									500	
1998									50	
1999									80	
2001	2	10					10		240	
2005				30					50	
2008		120		5						

Coastal island along the eastern edge of West Karako Bay 42.2km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation and wrack (1990, 1997*), and shell (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988				50					50	
1990				125						
1993									300	
1994				50					500	
1995									300	
1996									50	
1997		40		100					50	
1997*		50		150					20	
1998									100	
1999		15							120	
2001										
2005										

Site #210 Mitchell Island/Northwest-D

29.9938 -89.2238

Coastal island in Cranetown Bay. 42.3km east-northeast of Hopedale Bridge near MRGO. Beach on coastal island; birds nesting on bare sand (1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988		25							100	
1990										
1993										
1994		200		40					40	
1995										
1996										
1997										
1997*										
2005										

Deadman Island in Eloi Bay. 26.8km east-southeast of Hopedale Bridge near MRGO. Salt marsh on a coastal island; birds nesting on wrack (1990, 2006).

Year	BRPE	BLSK	CATE		GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988				150						
1990										
1993										
1994										
1995										
1996				50						
1997										
1997*										
1998		40		130						
1999		220		190					180	
2001	20	125	20	110					675	
2005	325						825		1800	
2006									5	
2008									320	

Site #212 Black Bay North/Northeast-C

29.7024 -89.5420

Coastal island along the northeastern rim of Lake Calebasse. 14.2km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs and herbaceous vegetation (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988									350	
1990										
1993										
1994										
1995										
1997*										
2001										
2005				60						
2006									375	
2008				12					3000	

Island along the southern edge of Lake Felicity. 25.8km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on coastal island; birds nesting on shrubs (1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988				150					100	
1990										
1993										
1994				25						
1996										
1997*										
2005										

Site #217

Jacko Bay/Northwest-C

29.2119 -90.4422

Coastal island along the north edge of Jacko Bay. 26.3km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on coastal island; birds nesting on wrack (1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1988				150						
1990										
1993										
1994										
1995										
1997*										
2005										
2008										

Site #218 (603004)

Barataria Pass/Northeast-A

29.3574 -89.8906

Coastal island in lower Barataria Bay. 35.8km northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs (1976, 1990), herbaceous vegetation, and wrack (1976, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				20						
1978										
1983										
1988				500			150			
1990				100						

1993	30		50					
1994			100					
1995			50					
1996			200					
1997	20		350					
1997*			1310					
1998			60					
1999	10		300					
2001			30		120		30	
2005		70			225	40	100	
2006							135	

Site #219 (603005) Wilkinson Bay/Southeast-B 29.3723 -89.8932

Cat Island in lower Barataria Bay. 36.8km northeast of LA Hwy. 1 at Port Fourchon complex. Marsh on a coastal island; birds nesting on shrubs, wrack (1990, 1997*), and herbaceous vegetation (1990). Keller (1984) refers to this site as "Barataria Pass."

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978										
1983										
1988										
1990				50						
1993				500						
1994										
1995										
1996										
1997*				60						
1999										
2001										
2005			20	120					390	
2006									90	
2008				1500					1500	

50.3km east-northeast of Cameron Ferry. Freshwater marsh on mainland; birds nesting on shrubs (1976), and wrack (1976).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		200		50						
1978										
1983										
1989										
1990										
1993										
1995										
1996										
1997*										
2001										
2005										

Site #231 (601014)

Creole/Southwest-A

29.7563 -93.1147

Rutherford Beach. 22.8km east-southeast of Cameron Ferry. Mainland beach (saline); birds nesting on bare sand (1976, 1990). Keller (1984) refers to this site as "South of Bayou Labauve."

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						15				
1978										
1983										
1989						25				
1997*										
2001										
2005										
2006										

Site #232

Hog Bayou

29.7022 -92.9388

Mainland beach west of Rockefeller Refuge. 40.8km east-southeast of Cameron Ferry. Mainland beach (1990); saline (2001); birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989						50				
1997*										
2001										

		5		5		
2005						

Site #233

Cow Island

29.6438 -92.7936

Mainland beach in Rockefeller Refuge. 48.5km west-northwest of mouth of Freshwater Bayou. Mainland beach (1990); saline (2001); birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989		75								
1996						150				
1997*										
2001										
2005										

Site #234

Rollover Lake/Northwest-A

29.5786 -92.6000

Mainland beach just east of Rockefeller Refuge. 28.7km west of mouth of Freshwater Bayou. Mainland beach (1990); saline (2001); birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989						50				
1996						100				
1997*										
2001										
2005										

Site #235

Rollover Lake/Northwest-B

29.5758 -92.5816

Mainland beach just east of Rockefeller Refuge. 26.9km west-northwest of mouth of Freshwater Bayou. Mainland beach (1990); saline (2001); birds nesting on bare sand (1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989						50				
1996										
1997*						60				
2001										
2005										

Mainland beach just east of Oyster Bayou. 2.7km southeast of mouth of Oyster Bayou. Mainland beach (1976, 1983, 1990, 1997*); saline (1976, 2001); birds nesting on bare sand (1976, 1990, 1997*). Keller refers to this site as "Oyster Bayou."

Year	BRPE			LETE		OTHER
1976				25		
1983						
1989				150		
1990				150		
1993				100		
1995				4		
1996				30		
1997*				200		
1999						
2001						
2005						

Site #238 (602057) Eastern Isles Dernieres/NE-A 29.0641 -90.6405

East Island, Isle Dernieres. 46.2km west-southwest of LA Hwy.1 at Port Fourchon complex. Barrier island beach (1983, 1990); birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1978										
1983										
1989						50				
1990										
1993										
1994										
1997*										
2001										
2005										

Site #239 (602053) Timbalier Island/Southeast-A 29.0566 -90.4341

Timbalier Island. 27.3km west-southwest of LA Hwy. 1 at Port Fourchon complex. Barrier island beach; washover (1997*); birds nesting on bare sand (1976, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						30				
1978										

1983					
	200		150		
1989	200		150		
1990					
1993					
1994					
1995					
1997*			30		
1999					
2001					
2005	50			225	
2006					
2008			20		

Site #240 Cat Island Pass/Northeast-A 29.0888 -90.5377

Timbalier Island. 35.8km west-southwest of LA Hwy. 1 at Port Fourchon complex. Barrier island beach; birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989		250								
1990										
1993										
1994										
1995										
1997*										
2001										
2005										

Site #241 Leeville 29.1439 -90.1297

Fourchon Beach. 5.4km east-southeast of LA Hwy.1 at Port Fourchon complex. Mainland beach (1990); saline (2001); birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989						300				
1990						100				
1993		100				100				
1994										
1995						4				
1996										
1997										

1998					
1999	10		4		
2001					
2005					

Site #243 (603042)

Dixon Bay/Southwest-B

29.0241 -89.3213

Spoil along the eastern descending bank of Southwest Pass. 25.4km south-southeast of Venice Marina. Brackish spoil on the mainland (1976, 1983, 1990, 2001); birds nesting on bare ground (1976, 1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		512				400				
1978										
1983										
1989		600								
1990		150								
1993		200								
1994										
1995										
1996										
1997*										
2001										
2005										

Site #244

Coquille Point

29.4102 -89.4755

Sable Island along the southwestern edge of Breton Sound. 21.0km north-northwest of Venice Marina. Beach on coastal island; birds nesting on bare ground (1990, 1997*), and wrack (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989		125								
1990										
1993		15								
1994										
1995		85	20	50						
1996		300		80						
1997		200	40	150						
1997*		1100	100	900					30	
1998		270	20							

1999	200	225	20		900	375		
2000*	300					2000		
2001	85							
2005								
2006								

Site #245 Black Bay South/Southeast-C

29.5169 -89.5311

Coastal island along the southwestern edge of Breton Sound. 33.9km north-northwest of Venice Marina. Salt-marsh on coastal island; birds nesting on herbaceous vegetation, bare ground, wrack (1990, 1997*).

Year		CATE	·	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989			250					500	
1990			300					500	
1993			25					300	
1994								200	
1995								75	
1996		50	100					500	
1997		50						200	
1997*		150						1000	
1998		40						40	
1999								20	
2000								50	
2001								25	
2005									
2006									

Site #246 Black Bay South/Southeast-D

29.5275 -89.5311

Coastal island along the southwestern edge of Breton Sound. 32.7km south-southeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation and bare ground (1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1989									2500	
1990									2000	
1993		35		20					925	
1994									1200	
1995									575	
1996									2000	

1997		30			60	
1997*					900	
1998						
1999					2000	
2001					1600	
2005					1765	
2006						

Site #263 Point Au Fer NE/Southwest-A

29.4349 -91.3183

Atchafalaya Delta. 29.9km north-northwest of mouth of Oyster Bayou. Mixed swamp and marsh on a coastal island; birds nesting on bare ground (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990		1000			150					
1993										
1994										
1995										
1996										
1997*										
2005										
2006										
2008										

Site #266 Point Au Fer NE/Southwest-B

29.4236 -91.3197

Community Island. Atchafalaya Delta. 29km north-northwest of mouth of Oyster Bayou. Mixed swamp and marsh on a coastal island; birds nesting on shrubs (1990).

Year	BRPE	BLSK		GBTE	ROYT		OTHER
1990							
1993		100	75				
1994			75	50			
1995							
1996							
1997							
1997*							
1998							
1999							
2001							
2005							

Site #269 Caminada Pass/Northeast-A

29.2491 -90.0261

Coastal island along the eastern rim of Caminada Bay. 17.9km east-northeast of LA Hwy. 1 at Port Fourchon complex. Beach on a coastal island; birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990				50						
1993										
1995										
1997*										
2005										

Site #276

Morgan Harbor/Northeast-C

29.8327 -89.3088

Coastal island in White Log Lake. 29.4km east of Hopedale Bridge near MRGO. Saltmarsh on a coastal island; birds nesting on wrack (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990				30						
1993				150						
1994										
1995										
1996										
1997*										
2001										
2005		40		10					998	

Site #277

Morgan Harbor/Northeast-D

29.8419 -89.3088

Dry Bread Island. 29.5km east-northeast of Hopedale Bridge near MRGO. Salt-marsh on a coastal island; birds nesting on shrubs and herbaceous vegetation (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990										
1993									2000	
1994										
1995										
1996										
1997*										
2001				55			45		345	
2006										

Site #278 Black Bay South/Northwest-C 29.5744 -89.5733

Belle Isle. 27.3km south-southeast of Hopedale Bridge. Salt-marsh on a coastal island; birds nesting on shrubs and herbaceous vegetation (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990										
1993										
1994										
1995										
1996				10						
1997										
1997*										
1998										
1999										
2001										
2005										

Site #280 (603052) Freemason Island/Northwest-A 29.8161 -88.9772

Coastal island just west of the Chandeleur Island chain. 61.5km east of Hopedale Bridge near MRGO. Barrier island beach; birds nesting on bare sand (1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1978		?	?							
1990		70								
1993		45				20				
1994		25								
1995		50								
1996		100				2				
1997*		200				30				
1998		30				5				
1999		60								
2001										
2005		255								
2006		45								
2008		600					1500	3500	1500	

Breton Islands. 33.1km north-northeast of Venice Marina. Wading birds nesting on shrubs and herbaceous vegetation on barrier island in 1988 (1990). Inactive in 1993, 1994, 1995, 1996 and (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990										
1993										
1994										
1995										
1996										
2001										
2005		300							600	
2006					525		350	2625	1700	

Site #283

Bay Coquette

29.2385 -89.5491

Barrier island fronting Scofield Bay. 18.4km west-southwest of Venice Marina. Barrier island beach; birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990		75								
1993										
1994										
1995										
1997*										
2001										
2005										

Site #284 (603045)

Bastian Bay/Southeast-C

29.2891 -89.6727

Bastian Island. 30.7km west of Venice Marina. Barrier island beach; birds nesting on bare sand (1976, 1983, 1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						25				
1978										
1983										
1990						500				
1993										
1994										
1997*						90				

1999			50		
2001					
2005					

Site #285

Bay Ronquille/Southwest-A

29.3093 -89.8558

Grand Terre Islands. 35.6km east-northeast of LA Hwy. 1 at Port Fourchon complex. Barrier island beach; birds nesting on bare sand (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990						100				
1993										
1994										
1995										
1997*										
2005										

Site #286

Caminada Pass/Southwest-A

29.1616 -90.0913

Elmer's Island. 8.5km east of LA Hwy. 1 at Port Fourchon complex. Mainland beach (1990); washover (1997*); saline (2001); birds nesting on bare sand (1990, 1997*).

Year	BRPE	T .	· / /	· ` ` ·	GBTE	1	ROYT			OTHER
Year	BRPE	BLSK	CATE	FUIE	GBIE	LEIE	KUYI	SAIL	LAGU	OTHER
1989						500				
1990		400				75				
1993		100								
1994										
1995		20								
1996		50				2				
1997										
1997*						800				
1998						50				
1999		10								
2001										
2005										

Site #287 Burrwood Bayou West/Northeast-A 28.9341 -89.4016

Spoil along the eastern descending bank of Southwest Pass. 35.3km south of Venice Marina. Coastal island spoil (1990); barren wetland (2001); birds nesting on bare ground (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1990		200								
1993		50								
1994										
1995										
1996										
1997*										
2001										
2005										

Site #288 South Pass/Southwest-A 29.0235 -89.2044

Spoil along the western descending bank of South Pass. 29.4km south-southeast of Venice Marina. Coastal island spoil (1990); saline (2001); birds nesting on shrubs and herbaceous vegetation (1990, 1997*).

Year	BRPE			LETE	ROYT	SATE	LAGU	OTHER
1990		150		25	100		50	
1993		10						
1994								
1996							25	
1997								
1997*							400	
1998								
1999								
2001								
2005								

Island along the southeastern rim of Bay Dosgris. 37.5km north-northeast of LA Hwy. 1 at Port Fourchon complex. Brackish marsh 1976, (2001) on a coastal island (1983); mainland (1990); birds nesting on wrack (1976, 1983, 1990) and herbaceous vegetation (1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				900						
1978				1800						
1983										
1990										
1994										
1995										
1997*										
1999										
2001										
2005										

Site #298 Pelican Pass/Southeast-A 29.1713 -90.2961

Coastal island along the western edge of Timbalier Bay. 11.5km west of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on herbaceous vegetation and wrack (1990, 1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1986				yes						
1987				yes					yes	
1988				yes					yes	
1989				yes						
1990				50					50	
1993									200	
1994									600	
1995									100	
1996				40					200	
1997				40					360	
1997*				150					700	
1998				90					180	
1999									180	
2001										
2005										

Coastal island along the western edge of Timbalier Bay. 12.3km west-northwest of LA Hwy. 1 at Port Fourchon complex. Marsh on a coastal island (1990); wetland barren (2001); birds nesting on shrubs, herbaceous vegetation, and wrack (1990, 1997*) and bare sand (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1986				yes						
1987				yes						
1988									100	
1989				yes					yes	
1990				50						
1993				100					100	
1994				50					100	
1995				80					150	
1996				60						
1997		70		260					240	
1997*		150	30	400					500	
1998				40					80	
1999		60					20		100	
2000*										
2001										
2005										

Site #300 (602039) Pelican Pass/Northwest-A 29.1910 -90.3241

Philo Brice Islands along the western edge of Timbalier Bay. 14.6km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs (1976, 1983, 1990), herbaceous vegetation, and wrack (1990). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978										
1983										
1986				yes						
1987										
1988				yes					yes	
1989										
1990				20						
1993		75		25					25	

1994					
1995					
1996					
1997*					
2001					
2005					

Site #301 (602038)

Pelican Pass/Northwest-B

29.1982 -90.3499

Northwest Island along the western edge of Timbalier Bay. 17.3km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh on a coastal island; birds nesting on shrubs (1976, 1983, 1990), herbaceous vegetation (1983, 1990), and wrack (1990).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978										
1983										
1984										
1985										
1986										
1988				yes					yes	
1989									yes	
1990				100						
1993				150						
1994		40	40	75						
1995				300						
1996										
1997										
1998										
2005										
2008										

Site #305 (601013)

Grand Bayou

29.7694 -93.1711

Rutherford Beach. 17.3km east-southeast of Cameron Ferry. Mainland beach (1976, 1983, 1990); saline (1976, 2001); birds nesting on bare sand (1976, 1983, 1990). Referred to as "Cameron" by Keller (1984).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						50				
1983										

1990		100			
1997*					
2001					

Site #317

Caminada Pass/Northeast-B

29.5180 -90.1786

Bay Dosgris. 14.9km east-northeast of LA Hwy. 1 at Port Fourchon complex.

Year	BRPE	BLSK	FOTE	GBTE	•		LAGU	
1976								
1983								
1990								
1993			50				700	
1994							200	
1995								
1996								
1997								
1997*								
1998								
1999								
2001								
2005								

Site #318 South of South Pass/Northeast-C

28.9841 -89.1508

Island along the west descending bank of South Pass. 35.9km south-southeast of Venice Marina.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978										
1983										
1990										
1993		250				20	50			
1994										
1995										
1996										
1997*										
2001										
2005										

Coastal island along the western edge of Cranetown Bay. 39.6km east-northeast of Hopedale Bridge near MRGO. Wetland barren (2001).

Year	BRPE	BLSK			ROYT	SATE	LAGU	OTHER
1976								
1978								
1983								
1990								
1993			40				40	
1994								
1995		1	150					
1996								
1997								
1997*								
1998								
1999								
2001								
2005								

Site #320 Oak Mound Bayou/Northeast-A 29.9369 -89.2858

Island in Fishing Smack Bay. 34.2km east-northeast of Hopedale Bridge near MRGO. Characterized as saline (2001); birs nesting on wrack and herbaceous vegetation (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978										
1983										
1990										
1993									60	
1994				25					150	
1995									125	
1996				75					125	
1997				50					10	
1997*		2		150					20	
1998				40					50	
1999									80	
2001									75	
2005				10					50	

• • • •						
2006						

Site#352

West Lake/Northeast-A

30.2300 -93.2911

PPG Parking Lot. 47.5km north of Cameron Ferry.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1994						15				
2005										

Site #353

West Lake/Northeast-B

30.2227 -93.2836

PPG Parking Lot. 46.8km north of Cameron Ferry.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1994						50				
2005										

Site #357

Point au Fer NE/Southwest-C

29.4105 -91.3288

Horseshoe Island, Atchafalaya Delta WMA. 28.5km northwest of mouth of Oyster Bayou. Newly created dredge spoil island (1994); Overgrown with vegetation (1999); Freshwater (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1994				500	200					
1995		500			100					
1996										
1997										
1997*										
1999										
2001										
2005										

Site #360 Eastern Isles Dernieres/Southwest-B

29.0435 -90.7341

Trinity Island, Isle Dernieres. 43.2km east-southeast of mouth of Oyster Bayou. Barrier island, sand beach, marsh (1994); Sand washover (1997*) Saline (2001).

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Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1994		300								
1996										
1997										
1997*						20				

1998					
1999					
2001					
2005					

Site #361 South Pass/Southwest-B

29.0222 -89.2044

Coastal island north of East Bay. 29.5km south-southeast of Venice Marina. Recently created dredge spoil island near mouth of the Mississippi River at South Pass (1994); Spoil island; overgrown (1998); freshwater (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1994		200			40		50			
1995		20		80						
1996										
1997										
1997*										
1998										
2001										
2005										

Site #362 Three Bayou Bay/Southwest-B

29.5219 -90.0972

Island in Bay Dosgris. 41.1km north-northeast of LA Hwy. 1 at Port Fourchon complex. Marsh on a wishbone-shaped unnamed island near junction of Bayou St. Denis and Turtle Bay (1994). Brackish (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1994				500						
1995				200						
1996				80						
1997				70						
1997*				300						
1998										
1999										
2001										
2005										

Dymond Island in Adams Bay. 29.9km west-northwest of Venice Marina. Marsh island (1995); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995						20				
1996										
1997										
1998										
2001										
2005										

Site #387

Taylor Pass/Southeast-A

29.3752 -89.3052

East side of Baptiste Collette Bar Channel. 14.9km north-northeast of Venice Marina. Dredge spoil island (1995); Intermediate (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995						20				
1996						10				
1997										
1997*		300							300	
1998										
1999										
2001										
2004										

Site #388

Taylor Pass/Southeast-B

29.3752 -89.3052

Shell/sand island on east side of Baptiste Collette Bar Channel. 17.7km north-northeast of Venice Marina. Dredge spoil islands (2) created by the U.S. Army Corps of Engineers. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		1500						30		
1996		500		40				50		
1997							900	2100		
1997*							1000	1000	100	
1998		3					600	1400		
1999		60	80							
2001										
2005										

West side of Southwest Pass levee at mile 9 below head of pass; dredge spoil island created by USACOE. 23.5km south-southeast of Venice Marina. Island overgrown (1998, 1999); Intermediate (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		750			20					
1996										
1997										
1998										
1999										
2001										
2005										

Site #392 Morgan Harbor Southeast-B

29.8041 -89.2852

Coastal *Spartina* islet (formerly peninsula) southwest of Comfort Island, across from Morgan Harbor Pass (1995). 31.7km east of Hopedale Bridge near MRGO. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995				215					190	
1996									25	
1997*		10		750					100	
1998				90					200	
1999									630	
2001									475	
2005				75					300	
2006										
2008				150					100	

Site #393

South Pass/Southeast-A

29.0077 -89.1791

Recently accreted land or dredge spoil on west side of South Pass. 32.2km south-southeast of Venice Marina. Freshwater (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		200								
1996		300	80		2					
1997		200	20		20					
1997*		400			20	30			150	
1998		260		30	100					

1999	220		100		200	
2001						
2005						

Site #394

Burrwood Bayou East

28.9633 -89.3672

Southwest Pass, Mississippi River. 31.9km south of Venice Marina. Intermediate (2001); birds nesting on bare sand and herbaceous vegetation (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		150		4						
1996										
1997										
1997*		400			20	30			150	
2001										
2005										

Site #401

Triumph

29.2663 -89.3894

About 2.5 mi. SE of Boothville Cemetery. 3.3km west-northwest of Venice Marina. *Phragmites* in intermediate marsh (1995); Freshwater (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995										
1996										
1997										
1998										
1999										
2001									610	
2006										

Site #402

Bastian Bay/Southeast-D

29.2838 -89.6405

Sand/Shell island (recently accreted or dredge spoil?) in Shell Island Bay. 27.5km west of Venice Marina. Saline (2001).

V CITICO	wiaiiiia	. Duillie	(2001)	•						
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		100								
1996		2								
1997		75								
1998		40								
1999		180								
2001										

2005						
2005						
-000						

Site #403

Bastian Bay/Southeast-E

29.2832 -89.6500

Sand/Shell island in Shell Island Bay (recently accreted or dredge spoil?). 28.4km west of Venice Marina. 1993 topographic map does not indicate land at above coordinates; hence "M" precision. Updated quad shows small islands (1995); Gone (1999)? This colony has the same latitude/longitude as colonies 5 and 6. Although these colonies have the same location, different species counts were obtained for each colony during WNC surveys. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		100								
1996										
1997		50								
1998										
1999										
2001										
2005										

Site #404

Bay Dogris/Northeast-B

29.4677 -90.0123

Small island at confluence of Bayou Dogris with Mud Lake. Marsh island, birds nesting on wrack (1995, 1997*); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995				250						
1996										
1997				40						
1997*				400						
1998										
1999										
2001				475						
2005				50						
2006										

Site #405

Timbalier Island/Northeast-A

29.0772 -90.4053

Newly formed[?] island in Timbalier Bay. 23.4km west-southwest of LA Hwy. 1 at Port Fourchon complex. Birds nesting on bare sand/shell island (1995, 1997*); Saline (2001). Surveyed and denoted as "no land feature" (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		50								

1996	75						
1997	750			240	560		
1997*	900			550	850		
1998							
1999	300						
2000*	700						
2001				75			
2005				125			
2006							
2008	300			100			

Site #406 Pelican Pass/Southwest-A

29.1716 -90.3483

Southernmost island in the Philo Brice Islands. 16.6km west of LA Hwy. 1 at Port Fourchon complex. Coastal island, marsh (1995); Saline (2001). Birds nesting on wrack, herbaceous vegetation, and bare sand (1997*)

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995				200						
1996		40		40			50		100	
1997		25	100	60					100	
1997*		80	50	100					300	
1998							500			
1999										
2001										
2005										

Site #407 Pelican Pass/Northwest-C 29.2031 -90.3532

Northwest Island, Lake Raccourci. 17.3km west-northwest of LA Hwy. 1 at Port Fourchon complex. Marsh (1995); Saline (2001). Birds nesting on wrack, herbaceous vegetation and bare sand (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995				300						
1996		5		200						
1997		5		320					40	
1997*		10		1600					150	
1998		30		100					400	
1999		25	60						1300	
2001									800	

2005		20			30	
2006					175	
2008					60	

Site #408 Pelican Pass/Southwest-B 29.1452 -90.3458

Northernmost Island in the Casse-Tete Islands. 16.3km west-southwest of LA Hwy. 1 at Port Fourchon complex. Marsh (1995); Saline (2001). Birds nesting on herbaceous vegetation and bare sand (1997*)

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		25	20	150					500	
1996		50		30					100	
1997		80							60	
1997*		250							150	
1998		120					200		50	
1999		80					1500		170	
2000*							1200	300	500	
2001										
2005										

Site #409 Pelican Pass/Southwest-C 29.1436 -90.3468

One of the Casse Tete Islands in Timbalier Bay. 16.5km west-southwest of LA Hwy. 1 at Port Fourchon complex. Marsh island; birds nesting on wrack (1995, 1997*); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995				200						
1996				20						
1997				60						
1997*				100						
1998				120						
1999									200	
2001	195						125		1575	
2005	570								50	
2006	450									
2008	1500								50	

Mainland beach on Rockefeller Refuge. Approximately 12.6km west of the mouth of Joseph Harbor Bayou. Coastal sand/shell beach (1996); Saline (2001)

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1996						50				
1997*										
2001										
2005										

Site #439

Bayou Lucien/Northeast-A

29.6063 -91.8911

Small island in lake at south end of Bayou Platte, Marsh Island. 41.0km east-northeast of mouth of Oyster Bayou. Marsh island augmented with dredge spoil (1994); Saline (2001). Shell island (2006).

Year	BRPE	BLSK	_ ´	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1994		75			10					
1995		400			100					
1996		150			40	50				
1997		75			10	25				
1997*										
1998		100			50	100				
1999		100			100					
2001		1500			150					
2005		450		600					40	
2006		400			200				65	
2008		350		100					75	

Site #440

Lake Felicity/Southwest-A

29.2646 -90.4449

Large island along the southern rim of Lake Felicity. 28.5km west-northwest of LA Hwy. 1 at Port Fourchon complex. Coastal island, marsh; birds nesting on wrack (1996); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1996				40						
1997				30						
1997*										
1999		50		800						
2001		40		205	145				525	
2005			20	100					755	

2006		40			790	
2008					5000	

Site #441 Lake Athanasio/Southwest-C

29.6713 -89.4716

Small *Spartina* island in Lake Fortuna. 21.3km southeast of Hopedale Bridge near MRGO. Birds nesting on wrack (1996); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1996				40						
1997				20						
1997*										
1998										
1999				40					100	
2001									55	
2005									200	
2006										
2008				20						

Site #442 Oak Mound Bayou/Northeast-B

29.9935 -89.2600

Spartina islet in Kerchimbo Bay. 39.3km east-northeast of Hopedale Bridge near MRGO. Saline (1996, 2001); birds nesting on wrack and herbaceous vegetation (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1996									50	
1997				10					50	
1997*				12					200	
1998									50	
1999									30	
2001									4	
2005										
2006										

Site #444 Barataria Pass/Northeast-B

29.3313 -89.8947

Small island in Cat Bay just north of east Grand Terre. 33.7km east-northeast of LA Hwy. 1 at Port Fourchon complex. Marsh island; birds nesting on wrack, sand/shell beach (1996, 1997*). Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1996		25		450						
1997		20		300						

1997*	70	1000			
1998	5	200			
1999	70	200			
2001	115	85			
2005					
2006					

Barataria Pass/Northeast-C

29.3330 -89.8902

Small island in Cat Bay just north of East Grand Terre. 34.1km east-northeast of LA Hwy. 1 at Port Fourchon complex. Marsh, birds nesting on wrack (1996); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1996				50						
1997										
1999										
2001										
2005										
2008										

Site #446

Bay Batiste/Southeast-C

29.4305 -89.8423

Small island in Bay Batiste. 44.5km northeast of LA Hwy. 1 at Port Fourchon complex. Marsh; birds nesting on wrack (1996, 1997*). Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	ROYT	LAGU	OTHER
1996				100				
1997				70				
1997*				610				
1998				40				
1999				1				
2001								
2005				80				
2006								

Site #447

Bastian Bay/Southeast-F

29.2763 -89.6300

Sand/shell barrier island in eastern part of Shell Island Bay. 26.4km west of Venice Marina. Sand/shell island (1996); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1996		180								
1997		20		300						

1998					
1999					
2001					
2005					

Site #458 Black Bay South/Southeast-E

29.5241 -89.5389

Unnamed coastal island N of California Bay. 33.4km south-southeast of Hopedale Bridge near MRGO. Birds nesting on *Spartina*, sand/shell beach (1996); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1996		50							80	
1997*		140		50					330	
1998		20		20					50	
1999									40	
2001									570	
2005										
2006										

Site #460 Point au Fer NE/Southwest-D

29.4018 -91.3718

Donna Island, Atchafalaya Delta WMA. 30.9km northwest of mouth of Oyster Bayou. Dredge spoil island (1992). Freshwater (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1992		1000			300	75				
1994		650		200	200	25				
1995										
1996										
1997										
1999										
2001										
2005										

Site #461 South of Belle Isle/Southeast-A

29.3943 -91.3766

T-Pat Island, Atchafalaya Delta WMA. 30.7km west-northwest of mouth of Oyster Bayou. Dredge spoil island (1993). The 2001 spreadsheet containing the species counts for the colonies surveyed in 2001 did not have specific counts for this colony. Freshwater (2001). Spoil island now vegetated (2006), Appears to be same as Site #759 (fide Vermillion).

y	1	/-	1	1			1	1		1
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1993		1200			400	50				
1994										
1995										
1996										
1997										
2001				yes	yes			yes		
2005										
2006										

Site #462 South of Belle Isle/Southeast-B

29.3907 -91.3832

Skimmer Island, Atchafalaya Delta WMA. 31.0km west-northwest of mouth of Oyster Bayou. Dredge spoil island (1993). Freshwater (2001). Spoil island now vegetated (2006). Appears to be same as Site #758 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1993						100				
1994		700		150	140					
1995		875		500	200					
1996										
1997				500						
1998		1000		300	500	50				
1999		900		250	350					
2001				20	125			20		
2005										
2006										

South Pass/Southwest-C

29.0166 -89.1933

Coastal island fronting the gulf along the west descending bank of South Pass. 30.6km south-southeast of Venice Marina. Sand island [dredge spoil?] (1997). Intermediate (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997				50	10				50	
1998			50						30	
1999										
2001										
2005										

Site #471

Taylor Pass/Southeast-C

29.3868 -89.3022

Dredge spoil island at the mouth of Baptiste Collette Pass. 17.2km north-northeast of Venice Marina. Intermediate (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997		600		70					40	
1997*		300							300	
1998										
1999									1400	
2001	2600								3075	
2005	2350								2300	
2006	600							1900	2500	
2008										

Site #476

Black Bay South/Northwest-D

29.5691 -89.5867

Island in Bay Crabe. 27.8km south of Hopedale Bridge near MRGO. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997									50	
1998				40					60	
1999									80	
2001										
2005										

Pelican Island. Coastal Island in Bay Ronquille. 36.9km east-northeast of LA Hwy. 1 at Port Fourchon complex. Colony was active in 2001 but no species counts were given. Birds nesting on herbaceous vegetation, shrubs (1997); Saline (2001).

							,,		,	
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997										
1998				50						
1999				400					20	
2001 ?										
2005										
2006										

Site #478

Bay Ronquille/Southeast-A

29.3427 -89.8713

A marsh island, north of central Grand Terre Islands in Bay Ronquille. 36.3km east-northeast of LA Hwy. 1 at Port Fourchon complex. Marsh (1997); saline (2001); birds nesting on wrack (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997				75						
1997*				300						
1998				30						
1999				20					1000	
2001									550	
2005									330	
2006		45							30	

Site #479

Bay Ronquille/Southeast-B

29.3339 -89.8730

A marsh island, north of central Grand Terre Islands in Bay Ronquille. 35.7km east-northeast of LA Hwy. 1 at Port Fourchon complex. Marsh (1997); saline (2001); birds nesting on wrack and shell (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997		6		200						
1997*				500						
1998		60		250						
2001									5	
2005				235					40	
2006	75								600	
2008	175								2500	

Site #480 Central Isles Dernieres/Southeast-B 29.0555 -90.8035

Whiskey Island, Isle Dernieres. 36.7km east-southeast of mouth of Oyster Bayou. A thin strip of shell and sand on north side (1997); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997		95								
1998										
1999										
2001										
2005										
2008	2500									

Andrew Island, Atchafalaya Delta WMA. 28.3km north-northwest of mouth of Oyster Bayou. Dredge spoil island (1996); Freshwater (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1995		20		30	30	40				
1996										
1997										
1998										
1999										
2001										
2005										

Site #505 Three Mile Bay/Southwest-A 30.0316 -89.3167

Unnamed coastal island in north part of Bay Boudreau. 37.2km northeast of Hopedale Bridge near MRGO. Marsh (1998); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1998									600	
1999									1200	
2001			75						825	
2005									15	
2006										
2008									50	

Site #506 Three Mile Bay/Southwest-B

30.0363 -89.3167

Unnamed island in north part of Bay Boudreau. 37.5km northeast of Hopedale Bridge near MRGO. Marsh (1998); Saline (2001).

		,	/ ,	,						
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1998									140	
1999									150	
2001									450	
2005									900	
2006										

Site #507 Three Mile Bay/Southwest-C

30.0430 -89.3211

Unnamed coastal island in north part of Bay Boudreau. 37.6km northeast of Hopedale Bridge near MRGO. Marsh (1998); Saline (2001). Appears to be same as Site #719 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1998				20						
1999									150	
2001			30						125	
2005									125	
2006										
2008									500	

Site #508 Three Mile Bay/Southwest-D 30.

30.0552 -89.3486

Unnamed coastal island in northern Karako Bay. 36.6km northeast of Hopedale Bridge near MRGO. Marsh (1998); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1998		40		60						
2001									30	
2005									40	
2006										
2008										

Three Mile Bay/Southwest-E

30.0532 -89.3550

Unnamed coastal island on east side of Three Mile Pass at its entrance into Three Mile Bay. 36.1km northeast of Hopedale Bridge near MRGO. Marsh (1998); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1998				50						
1999		80								
2001								30		
2005										
2006										

Site #514 Lake Athanasio/Southwest-D

29.6568 -89.4650

Unnamed coastal island on east side of Lake Fortura. 22.9km southeast of Hopedale Bridge near MRGO. *Spartina* marsh (1998); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1998				50						
1999				30						
2001				125						
2005				20						
2006										
2008		200		400						

Site #517

Pelican Pass/Northeast-C

29.1933 -90.2986

Unnamed coastal island on east side of Pelican Pass. 12.3km west-northwest of LA Hwy. 1 at Port Fourchon complex. Marsh, beach (1998); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1998			20				430		260	
1999										
2001										
2005										

Site #518

Lake Eugenie

29.9168 -89.4189

Island in Lake Eugenie, E of Biloxi WMA boundary. 21.7km east-northeast of Hopedale Bridge near MRGO. Marsh; birds nesting on wrack (1997); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*				400					20	
2001				10						

2005		25			
2006					
2008		125			

Site #519 Oak Mound Bayou/Southeast-B

29.8977 -89.3003

Unnamed island in northwest portion of Drum Bay. 31.5km east-northeast of Hopedale Bridge near MRGO. Marsh; 1955 quad map shows one island; now eroded into three sections (1997); Saline (2001). Birds nesting on herbaceous vegetation and wrack (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*				250					1100	
2001									925	
2005									1875	
2006									100	
2008									400	

Site #520 Oak Mound Bayou/Southeast-C

29.8932 -89.3114

Small island in northwestern portion of Drum Bay. 30.3km east-northeast of Hopedale Bridge near MRGO. Marsh; birds nesting on wrack (1997); Saline (2001).

			, ,		0		(//		()	
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*				80						
2001										
2005										

Site #524

Taylor Pass/Southeast-D

29.3827 -89.3111

Dredge spoil island off mouth of Baptiste Collette Bayou. 16.3km northeast of Venice marina. Sand (1998). Appears to be same as Site 709 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1998		400	140		420		1300	12000		
2001										
2005										

Site #525 Oak Mound Bayou/Southeast-D

29.9057 -89.2950

Unnamed island in northwest portion of Drum Bay. 32.2km east-northeast of Hopedale Bridge near MRGO. Marsh; birds nesting on wrack and herbaceous vegetation (2006). 1955 quad map shows one island; now eroded into three sections (1997); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*				40						

2001	5				275	
2005		40			350	
2006					120	
2008					50	

Site #541 Three Mile Bay/Southeast-C

30.0516 -89.2617

Northeastern tip of unnamed island in southwest portion of northwestern Jack Williams Bay. 42.7km northeast of Hopedale Bridge near MRGO. Saline (2001). Birds nesting on wrack and herbaceous vegetation (2006).

				- (-	/ -					
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1999									50	
2001									201	
2005									100	
2006									30	
2008									150	

Site #542 Three Mile Bay/Southeast-D

30.0355 -89.2969

Unnamed island just southwest of Johnson Bay. 38.9km northeast of Hopedale Bridge near MRGO. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1999				60					20	
2001			25						175	
2005									830	
2006										
2008										

Site #543 New Harbor Islands/Northwest-B 29.7719 -88.8642

Barrier island formerly part of the big island in Chandeleur chain, separated by Hurricane Georges in 1998. 72.5km east of Hopedale Bridge near MRGO. Birds nesting on sand, shrub-scrub, marsh (1999); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1999	125	60							500	
2001										
2005										

Site #544 North Island OE/Southeast-A

29.8956 -88.8781

Northernmost end of North Islands, formerly part of larger island, now separate coastal island. 71.6km east-northeast of Hopedale Bridge near MRGO. Salt marsh, sand/shell beach (1999).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1999	15	25							160	

Site #545

Taylor Pass/Southwest-A

29.3753 -89.3125

Marsh along Baptiste Collette. Dredge spoil (?). 29.25km north of Venice Marina. Characterized as intermediate marsh; inactive in 2001.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1999		100			20	30				
2001										
2005										

Site #546

Taylor Pass/Southeast-E

29.3844 -89.3097

Marsh along Baptiste Collette. Dredge spoil (?). 29.25km north of Venice Marina. Saline marsh; inactive (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1999		260			20					
2001										
2005										

Site #548

Bay Ronquille/Southeast-C

29.3476 -89.8622

A marsh island, north of central Grand Terre Islands in Bay Ronquille. 37.27km northeast of LA Hwy. 1 at Port Fourchon Complex. Saline marsh (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1999				250						
2001									600	
2005										
2006									75	
2008	500									

Taylor Pass/Southeast-F

29.4025 -89.2978

Dredge spoil island along the mouth of Baptiste Collette. 29.25km north of Venice Marina. Saline marsh, inactive (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1999		60	80							
2001										
2005										

Site #551

Door Point/Northeast-A

30.1178 -89.1828

Pfiefer Keys along the northwestern edge of Chandeleur Sound. 53.19km northeast of Hopedale Bridge near MRGO. Saline marsh, inactive (2001). No land feature (2005).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*		4				120				
2001										
2005										

Site #552

North Islands OE W/Northeast-A

29.8342 -88.9203

Coastal island in Shoalwater Bay just west of the Chandeleur Islands. 29.81km east of Hopedale Bridge near MRGO. Saline marsh, inactive (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*		12				2				
2001										
2005										

Site #553

Bay Batiste/Southeast-D

29.4239 -89.8444

Marsh along the southern rim of Bay Baptiste. 29.16km east-northeast of LA Hwy. 1 at Port Fourchon Complex. Saline marsh, inactive (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*				200						
2001										
2005										

Oyster Bayou/Northwest-A

29.2228 -91.1919

Mainland beach along Pointe au Fer. 5.9km west of mouth of Oyster Bayou. Saline marsh, inactive (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*						20				
2001										
2005										

Site #555

Oyster Bayou/Northeast-A

29.2224 -91.1688

Mainland beach along Pointe au Fer. 3.7km west of mouth of Oyster Bayou. Sand/shell beach (1997, 1997*); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*					20	70				
2001										
2005										

Site #556 Central Isles Dernieres/Southwest-B

29.0438 -90.8230

Central part of Whiskey Island. 35.8km east-southeast of mouth of Oyster Bayou. Sand/shell beach, coastal barrier island (1997); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*		250			6	800				
2001										
2005										

Site #557

Jacko Bay/Northeast-A

29.2155 -90.4332

Small unnamed coastal island, southwestern portion of Fornation Islands. 25.6km west-northwest of LA Hwy. 1 at Port Fourchon complex. Sand/shell beach, marsh fringe (1997); Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*		4	2						160	
2001										
2005										

Jacko Bay/ Northwest-D

29.2482 -90.4443

Southern tip of coastal island between Lake Barre and Old Lady Lake. 27.7km west-northwest of LA Hwy. 1 at Port Fourchon complex. Marsh; birds nesting on wrack (1997): Saline (2001).

\ //		` /								
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*				30						
2001										
2005										

Site #559

South Pass/Southwest-D

29.0266 -89.2292

Coastal island fronting the gulf along the west descending bank of South Pass. Recently accreted material on dredge spoil? 27.9km south-southeast of Venice Marina. Sand/silt island (1997); Freshwater (2001).

	· //									
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1997*		1200	420		200		100	100	50	
2001			150				175		450	
2005		40								
2006										
2008										

Site #561

Calumet Island/Northeast-B

29.0796 -90.2735

East end of Timbalier Island; recently pumped sandy dredge spoil; spoil pumped as part of island restoration project. 12.7km southwest of LA Hwy. 1 at Port Fourchon complex. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2000*										
2001										
2005										

Site #575

Happy Jack

29.5638 -89.6297

Island along the western edge of Bay Crabe. 28.3km south of Hopedale Bridge near MRGO. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2001									305	
2006										

Three Mile Bay/Southwest-F

30.0390 -89.3222

Island along the eastern edge of Three Mile Bay. 37.3km northeast of Hopedale Bridge near MRGO. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2001									35	
2005									130	
2006										
2008										

Site #577

Three Mile Bay/Northeast-A

30.0786 -89.2600

44.7km northeast of Hopedale Bridge near MRGO. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2001									4	
2005				10						
2006										
2008										

Site #578

Three Mile Bay/Southeast-E

30.0060 -89.2554

Unnamed island north of Northwest Jack Williams Bay. 40.3km east-northeast of Hopedale Bridge near MRGO. Saline (2001).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2001		20							120	
2005		85	50				100		80	
2006										
2008										

Site #579

Black Bay South/Northwest-E

29.6092 -89.5479

Lonesome Island in Black Bay. 23.3km south-southeast of Hopedale Bridge near MRGO. Saline (2001).

	()									
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2001		40		10					325	
2005										
2006										

Site #580 Black Bay South/Northeast-D

29.5808 -89.5479

Stone Island in Black Bay. 27.1km south-southeast of Hopedale Bridge near MRGO. Saline (2001).

										I
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2001		150							75	
2005		5	20						30	
2006										
2008										

Site #637 Three Mile Bay/Southwest-G

30.0586 -89.3414

Marsh edge along the northeastern corner of Three Mile Bay. 37.4km northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005				80						
2006										
2008				20						

Site #664 Freemason Island/Northeast-E

29.8649 -88.8800

North/New Harbor Islands. 71.1km east-northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005	2345		300					3200	1616	
2006									200	
2008	175								150	

Site #666 New Harbor Islands/Northwest-C

29.8376 -88.8358

A fragment of Chandeleur Island chain near Redfish Point. 75.2km east of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005						40				
2006										
2008					50		100	7000	250	

Site #668 New Harbor Islands/Northwest-D 29.8143 -88.8462

A fragment of the Chandeleur Island chain. 74.2km east of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005						300				
2006										
2008										

Site #670 New Harbor Islands/Southwest-A 29.7899 -88.8600

A fragment of the Chandeleur Island chain. 73.0km east of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005		300						2000		
2006										
2008		50								

Site #674 Freemason Island/Southeast-A 29.7626 -88.8755

A fragment of the Chandeleur Island chain. 71.6km east of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005								20		
2006										
2008										

Site #677 Black Bay North/Southeast-B 29.6705 -89.5157

18.9km south-southeast of Hopedale Bridge near MRGO. Birds nesting on wrack, herbaceous vegetation, bare ground (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005				50					50	
2006									30	
2008				50						

Bayou Lucien/Northeast-B

29.6200 -91.8949

Island in Bayou Platte, Marsh Island State Refuge. 40.9km east-northeast of mouth of Freshwater Bayou.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005				300						
2006						30				
2008										

Site #683

Black Bayou South/Southwest-B

29.5498 -89.6222

Island in Bay Crabe. 29.8km south of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005									400	
2006										
2008										

Site #687

West of Point au Fer/Northeast-A

29.3655 -91.3996

Island in Atchafalaya Bay. 30.7km west-northwest of mouth of Oyster Bayou. Bare ground (2006).

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Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005		350		10						
2006										
2008		350		60				250		

Site #688

Bay Ronquille/Southeast-D

29.3650 -89.8628

A marsh island, north of central Grand Terre Islands in Bay Ronquille. 38.4km east-northeast of LA Hwy. 1 at Port Fourchon complex.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005				75						
2006									40	
2008	175									

Site #689

Jacko Bay/Northeast-B

29.2369 -90.3971

Fornation Islands. 23.0km west-northwest of LA 1 at Port Fourchon complex.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005				45						

2006		85			
2008		150			

Site #690 New Harbor Islands/Northwest-E

29.8507 -88.8323

Chandeleur Islands. 75.6km northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2005						20				
2006										
2008									200	

Site #694

Point au Fer/Southwest-A

29.2983 -91.3317

Beach at Point Au Fer. 21.35km west-northwest of the mouth of Oyster Bayou. Beach on coastal island (2006); birds nesting on bare ground (2006). Surveyed and listed as inactive on 2008.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		120								
2008										

Site #695 West of Point au Fer/Northeast-B

29.3533 -91.3817

Spoil island in Atchafalaya Bay near Point Au Fer. 28.5km west-northwest of the mouth of Oyster Bayou. Birds nesting on herbaceous vegetation, wrack, and bare ground (2006). Appears to be same as Site #757 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		70		600	10					
2008										

Site #696 Point Au Fer NE/Northwest-A

29.4433 -91.3817

Spoil island in Atchafaylaya Delta. 32.7km northwest of mouth of Oyster Bayou. Birds nesting on bare ground (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		60			40					
2008										

Bayou Blanc

29.5183 -91.8700

Man-made marsh terraces (linear sand-shell features) in Oyster Lake, Marsh Island State Refuge. 42.4km east of mouth of Freshwater Bayou. Birds nesting on bare ground (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		364		65	178	13				
2008										

Site #703

Big Constance Lake

29.6050 -92.6983

Mainland beach near mouth of Little Constance Bayou. 38.6km west-northwest of mouth of Freshwater Bayou. Birds nesting on bare ground (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006						80				

Site #708

Taylor Pass/Southeast-G

29.4063 -89.2907

Dredge spoil island off Baptiste Collette Pass created by USACOE (2006). 18.6km northnortheast of Venice Marina.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		125		700				2100		
2008										

Site #709

Taylor Pass/Southwest-B

29.3832 -89.3183

Island off Baptiste Collette Pass. 15.3km north-northeast of Venice Marina. Appears to be the same as Site #524 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		750					20			
2008										

Site #710

South Pass/Southwest-E

29.0079 -89.1932

Left descending bank of South Pass. 30.6km south-southeast of Venice Marina. Mainland beach; birds nesting on bare ground (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		50								
2008										

Bay Ronquille/Southeast-E

29.3655 -89.8358

Marsh fragment at north end of Bay Ronquille. 41.5km northeast of LA Hwy. 1 at Port Fourchon complex. Birds nesting on wrack (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006				25						
2008										

Site #712

Bay Ronquille/Southeast-F

29.3625 -89.8517

Marsh fragment at north end of Bay Ronquille. 39.1km northeast of LA Hwy. 1 at Port Fourchon complex. Birds nesting on marsh (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006				70					130	
2008										

Site #713

Bay Dogris/Northeast-C

29.4305 -90.0160

Marsh fragment northwest of Barataria Bay Waterway spoil deposition area. 34.1km north-northeast of LA Hwy. 1 at Port Fourchon complex. Birds nesting on wrack (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006				130						
2008										

Site #714

Bay Tambour/Northeast-A

29.3457 -90.0355

Marsh fragment northwest corner of West Champagne Bay. 25.0km northeast of LA Hwy. 1 at Port Fourchon complex. Birds nesting on wrack (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006				70						
2008										

Site #715

Bay Tambour/Southwest-H

29.2975 -90.0650

Marsh fragment north end of Bay Tambour. 19.0km northeast of LA Hwy. 1 at Port Fourchon complex. Birds nesting on wrack (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006				45					2	
2008										

Dixon Bay/Southwest-D

29.0132 -89.3220

Right descending bank of Southwest Pass, Mississippi River. 26.6km south-southeast of Venice Marina.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		50								
2008										

Site #719 Three-Mile Bay/Southwest-H

30.0420 -89.3223

Salt marsh islet. 37.5km northeast of Hopedale Bridge near MRGO. Birds nesting on wrack and herbaceous vegetation (2006). Appears to be same as Site #507 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006									150	
2008										

Site #720 Three-Mile Bay Southeast-F

30.0252 -89.2780

Salt marsh islet, West Karako Bay. 39.7km northeast of Hopedale Bridge near MRGO.

		,								
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006									230	
2008										

Site #721 Mitchell Island Northwest-F

29.9670 -89.2265

Salt marsh island west-northwest of Martin Island. 40.8km east-northeast of Hopedale Bridge near MRGO. Birds nesting on wrack and herbaceous vegetation (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006									23	

Site #722 Lake Athanasio/Northeast-A

29.7368 -89.3817

Near to or fragment of Deadman Island or Grass Island. 24.1km east-southeast of Hopedale Bridge near MRGO. Birds nesting on wrack (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006				35					3	
2008										

Site #723 Lake Athanasio/Southwest-E

29.6523 -89.4645

Salt marsh island west of Point Gardner. 23.3km southeast of Hopedale Bridge near MRGO. Birds nesting on wrack and herbaceous vegetation (2006). Appears to be same site as Site #107 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006				160					175	
2008										

Site #726 Empire

29.4975 -89.5373

Salt marsh island in California Bay. Coastal island (2006). 32.4km northwest of Venice Marina. Appears to be same as Site #42 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006	20			45			70		320	
2008										

Site #727 Black Bay South/Southeast-F

29.5383 -89.5348

Salt marsh island north of historic location (now submerged) of Telegraph Point. Coastal island (2006). 32.0km south-southeast of Hopedale Bridge near MRGO. Birds nesting on wrack, herbaceous vegetation, and bare ground (2006).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006	15	5		80			85		250	
2008										

Site #728 Black Bay South/Southeast-G

29.5308 -89.5522

Marsh island on north end of California Bay. 32.4km south-southeast of Hopedale Bridge near MRGO. Birds nesting on wrack and bare ground (2006). Apparently the same as Site #13 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006	10								10	
2008										

Site #729 Black Bay South/Southeast-H

29.5285 -89.5562

North end of California Bay, 32.6km south-southeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006	70							400	15	
2008										

Bayou Lucien/Southeast-A

29.5233 -91.8783

Man-made marsh terraces (linear sand-shell features) in Oyster Lake, Marsh Island State Refuge, 41.6km east of mouth of Freshwater Bayou.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2006		234			126					
2008										

Site #736

Point au Fer NE/Southwest-E

29.4283 -91.3283

Island in Atchafalaya Delta. 30km north-northwest of mouth of Oyster Bayou.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008									2000	

Western Isles Dernieres/Southwest-A 29.0513 -90.9548 Site #737

Raccoon Island, Isles Dernieres chain. 25.5km southeast of the mouth of Oyster Bayou. Appears to be the same as Site #186 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008		1050				50				

Site #743

Three Mile Bay/Southwest-I

30.0510 -89.3174

Salt marsh islet on north end of Bay Boudreau. 38.5km northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008									200	

Site #744

Door Point/Northwest-D

30.0674 -89.2072

Salt marsh island west of Door Point. 48km east-northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008		100					500	200		

Site #745

Oak Mound Bayou/Northwest-A 29.9633 -89.3143

Little Mud Grass Islands, 33km east-northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008									1000	

Site #746 Oak Mound Bayou/Southeast-E

29.9246 -89.3128

Salt marsh island on northwest side of Fishing Smack Channel. 31.3km east-northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008									3000	

Site #747 Oak Mound Bayou/Southwest-B

29.9234 -89.3152

Salt marsh island on northwest side of Fishing Smack Channel. 31km east-northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008									2000	

Site #748

Morgan Harbor/Northeast-E

29.8428 -89.3073

Dry Bread Island. Appears to be same as Site #007 (*fide* Vermillion). 29.7km east-northeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008									5000	

Site #749

Black Bay North/Northwest-D

29.7048 -89.5760

Salt marsh islet north end of Lake Calebasse. 13.1km south-southeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008				15						

Site #750

Lake Athanasio/Southwest-F

29.6515 -89.4559

Salt marsh island adjacent to (west) Point Gardner. 24km south-southeast of Hopedale Bridge near MRGO.

Year	BRPE	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008								400	

Site #751

Black Bay South/Southeast-I

29.5399 -89.5357

Salt marsh island north of historic (now submerged) Telegraph Point. 31.8km south-southeast of Hopedale Bridge near MRGO.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008		100		150						

Taylor Pass/Southeast-H

29.4047 -89.2914

Island off Baptiste Collette Pass. 18.4km north-northeast of the Venice Marina. Appears to be same as Site #708 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008		250					1000	2000	500	

Site #756

Point au Fer/Northwest-B

29.3132 -91.3433

Mainland beach at tip of Point Au Fer. 23.1km west-northwest of mouth of Oyster Bayou.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008		60								

Site #757 West of Point Au Fer/Northeast-C

29.3533 -91.3817

Island in Atchafalaya Bay near Point Au Fer. 28.5km west-northwest of mouth of Oyster Bayou. Appears to be same as Site #695 (*fide* Vermillion).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008				200					100	

Site #758 South of Belle Isle/Southeast-C

29.3860 -91.3859

Dredge spoil island engineered for colonial nesting seabirds in Atchafalaya Delta. Apparently same as Site #462 (*fide* Vermillion). 30.8km west-northwest of mouth of Oyster Bayou.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008		20						75		

Site #759 South of Belle Isle/Southeast-D

29.3972 -91.3776

Dredge spoil island engineered for colonial nesting seabirds in Atchafalaya Delta. Apparently the same as site #461 (*fide* Vermillion). 31km west-northwest of mouth of Oyster Bayou.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008				300						

Holly Beach/Northeast-B

29.8483 -93.3802

Rabbit Island, Calcasieu Lake. Apparently the same as Site #91 (*fide* Vermillion). 6.0km northwest of the Cameron Ferry.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
2008	12			250					3500	

Site #x307 (589021) Spanish Fort 30 03 -90 02 (as reported)

30.0500 -90.0333

Lakefront Airport, New Orleans. 48km west-northwest of Hopedale Bridge near MRGO. Brackish, man-made (1976); mainland (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						30				
1978										
1983										
1988										
1990										

Site #x316 (601011) Texas Point 29 44 -93 45 (as reported)

29.7333 -93.7500

Mainland beach just east of the Texas State Line. 40km west-southwest of Cameron Ferry. Beach, saline; birds nesting on bare ground (1976).

_										
Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		356				250				
1978										
1983										
1988										
1990										
1997*										

Site #x321 (602006) South of Bayou Lucien 29 26 -91 51 (as reported)

29.4334 -91.8833

Shell Keys. 42.76km east-southeast of the mouth of Freshwater Bayou. Beach, saline; birds nesting on bare ground (1976); coastal island (1983); shell key (1997*). According to Martin and Lester (1990), Portnoy found a large mixed colony here in 1978 as well.

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		500					1160	1337	45	
1978										

1983					
1988					
1990					
1997*					

Site #x322 (602007) Point au Fer NE/Southwest-F 29 24 -91 22 (as reported) 2

29.4000 -91.3666

Dredge spoil island at the mouth of the Atchafalaya River, Atchafalaya Delta, WMA. 30.3km west-northwest of mouth of Oyster Bayou. Freshwater, spoil, birds nesting on bare ground (1976); coastal island (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		202			8	37				
1978										
1983										
1988										
1990										
1997*										

Site #x323 (602008) Point au Fer NE/Southwest-G 29 23 -91 22 (as reported)

29.3834 -91.3666

Dredge spoil island at the mouth of the Atchafalaya River, Atchafalaya Delta WMA. 29.2km west-northwest of mouth of Oyster Bayou. Freshwater, spoil, birds nesting on bare ground (1976); coastal island (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		843		51	56					
1978										
1983										
1988										
1990										
1997*										

Site #x328 (601012) Cameron 29 46 -93 21 (as reported)

29.7667 -93.3500

Mainland beach near mouth of Calcasieu River. 4.14km south-southwest of Cameron Ferry. Beach, saline, birds nesting on bare ground (1976); mainland (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						10				
1978										

1983					
1988					
1990					
1997*					

Site #x331 (603054) Mitchell Island/Southwest-D 29 53 -89 14 (as reported)

29.9000 -89.2333

Coastal island in Drum Bay. 37.8km east-northeast of Hopedale Bridge near MRGO. Marsh, coastal island (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976										
1978		yes							yes	
1983										
1988										
1990										
1997*										

Site #x334 (602033) Eastern Isles Dernieres/Southwest-C 29 03 -90 43 (as reported) 29.0500 -90.7166

Trinity Island, Isle Dernieres. 44.5km east-southeast of mouth of Oyster Bayou. Beach, saline, birds nesting on bare ground (1976); barrier island, beach (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						50				
1978										
1983										
1988										
1990										
1997*										

Site #x335 (602034) Eastern Isles Dernieres/Northeast-B 29 04 -90 40 (as reported) 29.0666 -90.6666

East Island, Isle Dernieres. 48.3km east-southeast of mouth of Oyster Bayou. Beach, saline, birds nesting on bare ground (1976); barrier island (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						25				
1978										
1983										

1988					
1990					
1997*					

Site #x336 (602035) Lake Felicity/Southwest-B 29 17 -90 30 (as reported)

29.2833 -90.5000

Vicinity of Lake Barre. 34.2km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh, birds nesting on wrack (1976, 1983); coastal island (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				200						
1978				100- 500						
1983										
1988										
1990										

Site #x337 (602036) Jacko Bay/Northwest-E 29 12 -90 28 (as reported)

29.2000 -90.4666

Vicinity of Old Lady Lake. 28.4km west-northwest of LA Hwy. 1 at Port Fourchon complex. Salt-marsh, birds nesting on wrack (1976); coastal island (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				473						
1978										
1983										
1988										
1990										
1997*										

29.2500 -90.4166

East end of Old Lady Lake. 25.3km west-northwest of LA Hwy. 1 at Port Fourchon complex. Brackish marsh, birds nesting on wrack (1976); coastal island (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				30						
1978										
1983										

1988					
1990					
1997*					

Site #x340 (602041) Cat Island Pass/Northeast-B 29 04 -90 30 (as reported)

29.0667 -90.5000

Timbalier Island. 32.9km west-southwest of LA Hwy. 1 at Port Fourchon complex. Beach, saline, birds nesting on bare ground (1976); barrier island (1983). Surveyed and denoted as "no suitable habitat" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						17				
1978										
1983										
1988										
1990										
1997*										

Site #x341 (602044) Caminada Pass/Southwest-D 29 09 -90 07 (as reported)

29.1500 -90.1166

Vicinity of Fourchon Beach/Elmer's Island. 6.1km east-southeast of LA Hwy. 1 at Port Fourchon complex. Beach, saline, birds nesting on bare ground (1976); barrier island (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		1457				10				
1978										
1983										
1988										
1990										
1997*										

Site #x342 (602055) Central Isles Dernieres/Southwest-C 29 02 -90 49 (as reported) 29.0333 -90.8166

Whiskey Island, Isle Dernieres. 37km east-southeast of mouth of Oyster Bayou. Beach, saline, birds nesting on bare ground (1976); barrier island (1983). Surveyed and denoted as "sand/shell washover" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						90				
1978										

1983					
1988					
1990					
1997*			550		

Site #x343 (603003) Barataria Pass/Southeast-B 29 17 -89 54 (as reported)

29.2833 -89.9000

Grand Terre Islands. 30.46km east-northeast of LA Hwy. 1 at Port Fourchon complex. Beach, saline, birds nesting on bare ground (1976); coastal island (1983). *Fide* Martin and Lester (1990), Portnoy found a similar-sized colony here on 1978. Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		882							1	
1978										
1983										
1988										
1990										
1997*										

Site #x344 (603016) Wilkinson Bay/Northeast-A 29 26 -89 54 (as reported)

29.4333 -89.9000

Island in upper Barataria Bay. 40.8km north-northeast of LA Hwy. 1 at Port Fourchon complex. Salt-marsh, birds nesting on wrack (1976); coastal island (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				100						
1978										
1983										
1988										
1990										
1997*										

Site #x345 (603020) Morgan Harbor/Southeast-C 29 46 -89 16 (as reported)

29.7666 -89.2667

Vicinity of Point Lydia/Chicot Island. 33.96km east-southeast of Hopedale Bridge near MRGO. Salt-marsh, birds nesting on herbaceous vegetation (1976); coastal island (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976									300	
1978									1000-	

					5000	
1983						
1988						
1990						
1997*						

Site #x346 (603025) Black Bay South/Northwest-F 29 36 -89 34 (as reported) 29.6001 -89.5670

Coastal island in Black Bay. 24.6km south-southeast of Hopedale Bridge near MRGO. Salt-marsh, birds nesting on wrack (1976); coastal island (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				25						
1978										
1983										
1988										
1990										
1997*										

Site #x348 (603031) Dixon Bay/Northeast-A 29 06 -89 17 (as reported)

29.1015 -89.2835

Southwest Pass, Mississippi River, near Head of Passes. 18.14km south-southeast of Venice Marina. Freshwater spoil, birds nesting on bare ground (1976); mainland (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						50				
1978										
1983										
1988										
1990										

Site #x349 (603032) Burrwood Bayou West/Northeast-B 28 58 -89 23 (as reported) 28.9664 -89.3828

Southwest Pass, Mississippi River. 31.6km south-southwest of Venice Marina. Spoil, brackish, birds nesting on bare ground (1976); mainland (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976				25		25				
1978										

1983					
1988					
1990					

Site #x350 (603033) South of South Pass/Northeast-D 28 59 -89 09 (as reported) 28.9834 -89.1500

Coastal island fronting the gulf on the western edge of the mouth of South Pass. 36.03km south-southeast of Venice Marina. Spoil, brackish, birds nesting on bare ground (1976); mainland (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						250				
1978										
1983										
1988										
1990										
1997*										

Site #x351 (603044) Pass a Loutre West 29 08 -89 15 (as reported)

29.1333 -89.2499

Head of Passes, Mississippi River. 16.9km southeast of Venice Marina. Spoil, brackish, birds nesting on bare ground (1976); mainland (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		214								
1978										
1983										
1988										
1990										
1997*										

Site #x352 (603046) Bastian Bay/Southwest-A 29 18 -89 44 (as reported)

29.3000 -89.7333

Vicinity of Chaland Pass. 36.7km west-northwest of Venice Marina. Beach, saline, birds nesting on bare ground (1976); barrier island (1983).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976						10				
1978										
1983										

198	88					
199	00					
199	7*					

Site #x353 (603048) Black Bay South/Northwest-G 29 36 -89 34 (as reported) 29.6000 -89.5668

Coastal island in Black Bay. 24.6km south-southeast of Hopedale Bridge near MRGO. Beach, saline, birds nesting on bare ground (1976); coastal island (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		195								
1978										
1983										
1988										
1990										
1997*										

Site #x354 (603014) Mitchell Island/Southwest-E 29 54 -89 14 (as reported) 29.9000 -89.2333

Coastal island in Drum Bay. 37.8km east-northeast of Hopedale Bridge near MRGO. Beach/marsh, saline, birds nesting on bare ground, herbaceous vegetation (1976); coastal island (1983). Surveyed and denoted as "no land feature" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976			75				292		1243	
1978										
1983										
1988										
1990										
1997*										

Site #x355 (590002) Three Mile Bay/Southwest-J 30 03 -89 22 (as reported) 30.0500 -89.3666

Vicinity of Threemile Pass. 35.0km north-northeast of Hopedale Bridge near MRGO. Salt-marsh shell berm, birds nesting on bare ground (1976); coastal island (1983). Surveyed and denoted as "no BLSK habitat left" (1997*).

Year	BRPE	BLSK	CATE	FOTE	GBTE	LETE	ROYT	SATE	LAGU	OTHER
1976		20								
1978										

1983					
1988					
1990					
1997*					

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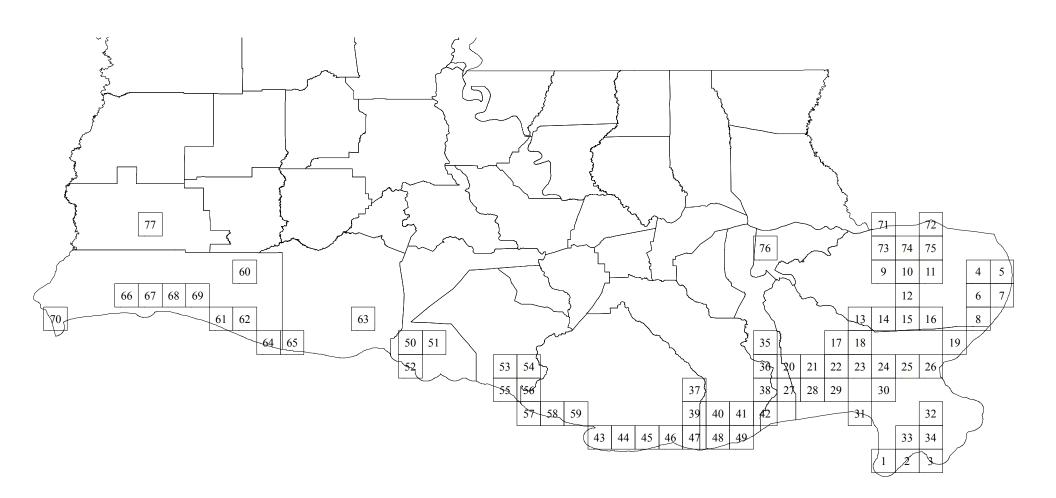
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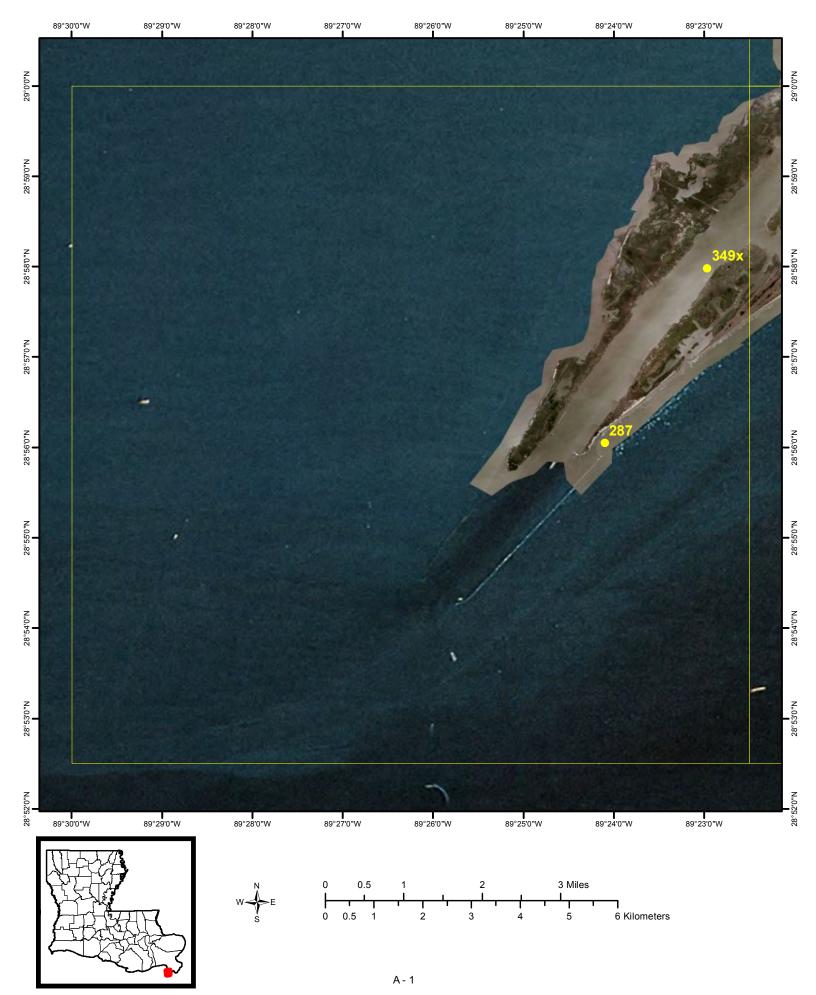
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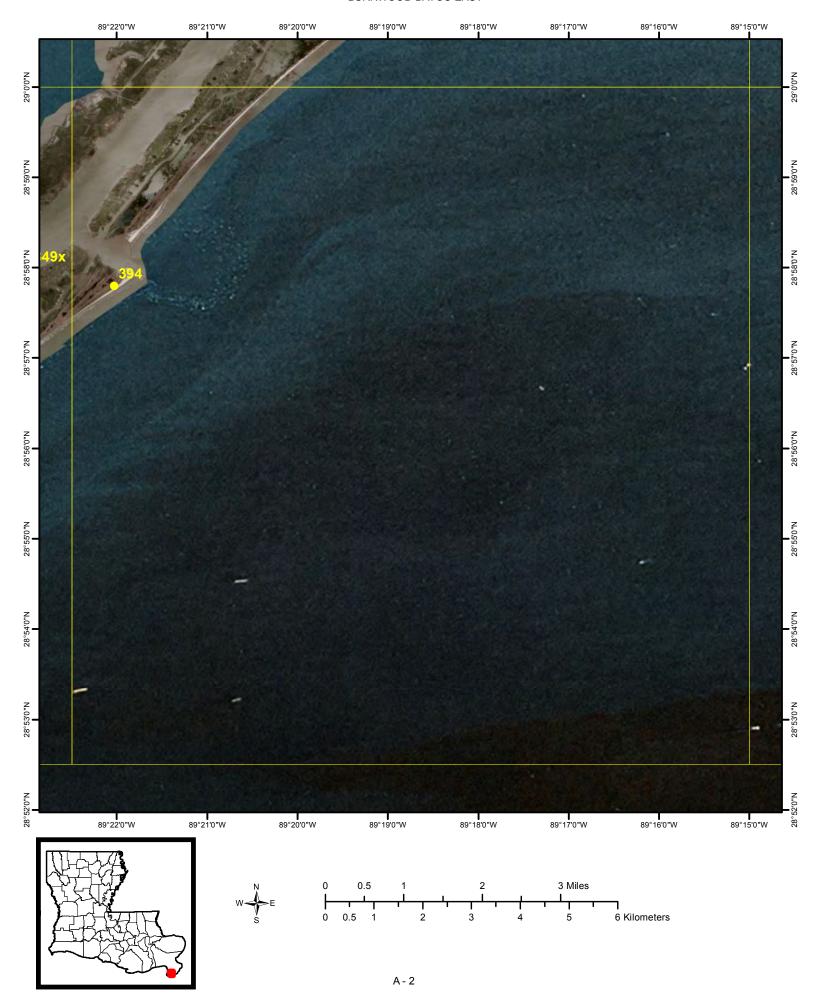
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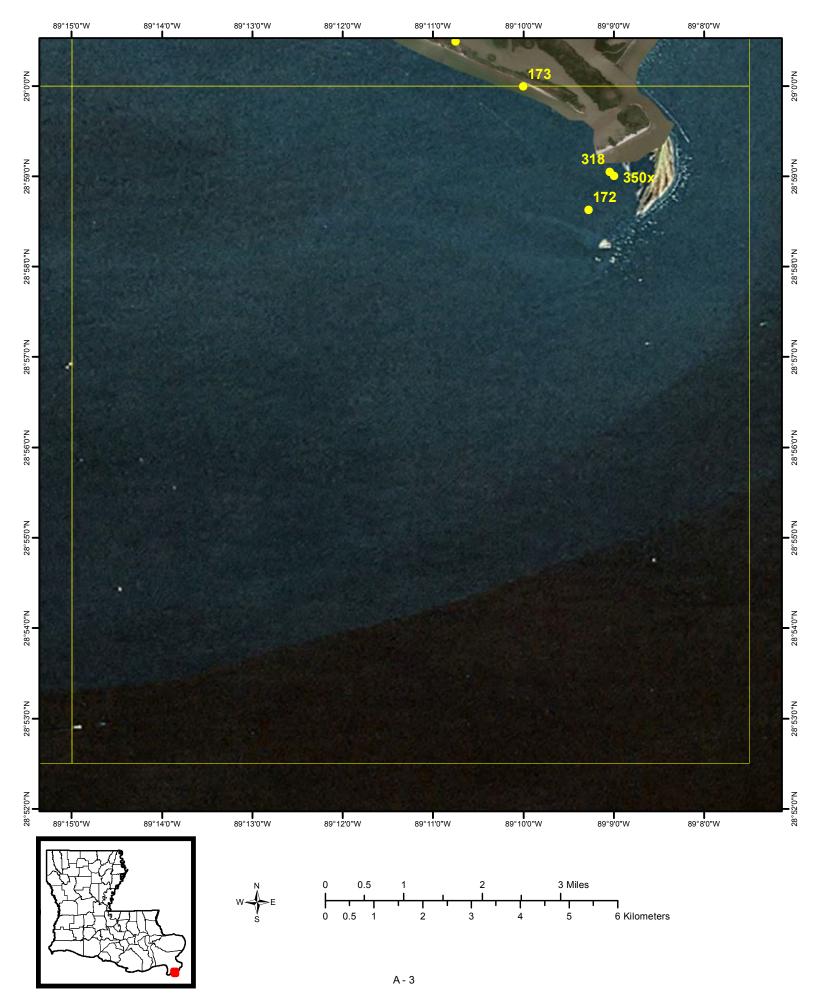
APPENDIX A

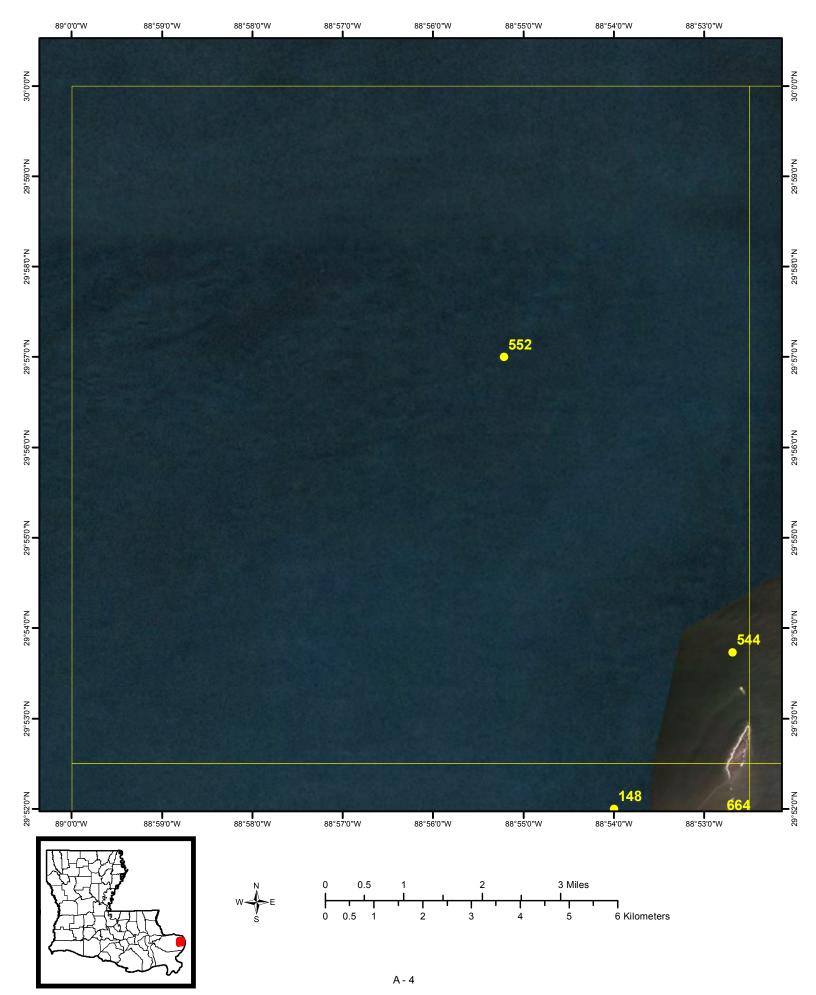
Some colony locations on the following maps are represented on what appears to be open water. There are several possible reasons for that: 1) islands have totally eroded away, 2) islands have eroded and colonies have shifted to remaining parts of the island but different from the original location recorded, or 3) colony locations were recorded from moving aircraft resulting in a source of error that hasn't been corrected.

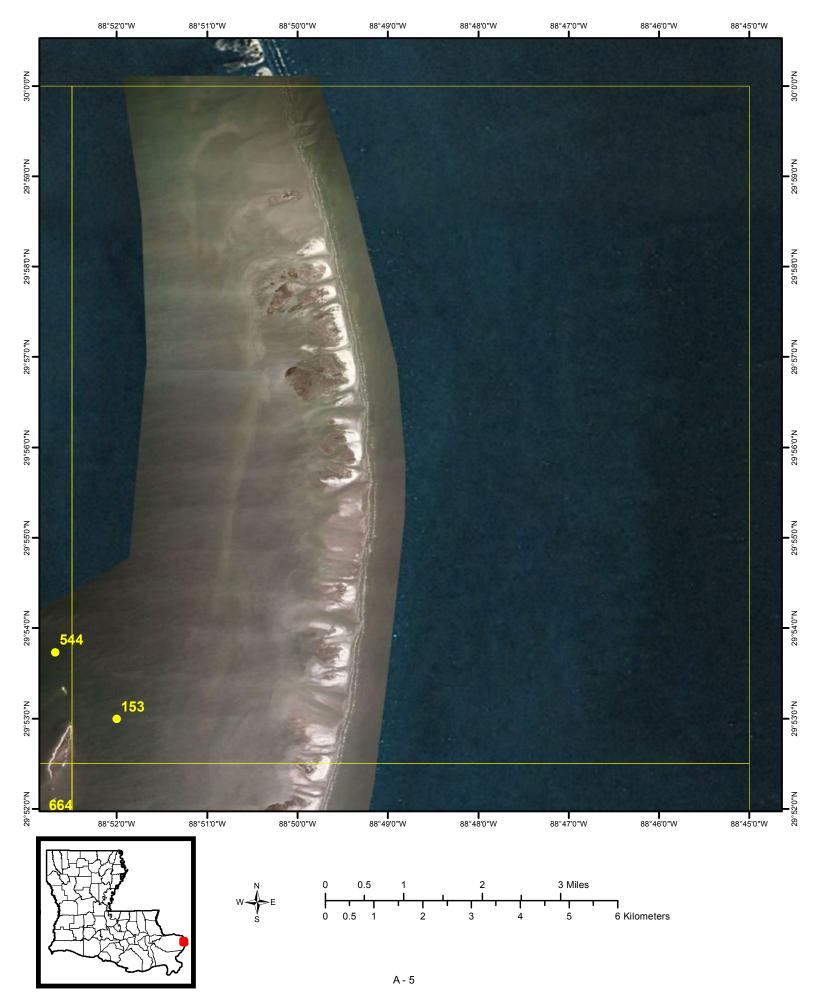


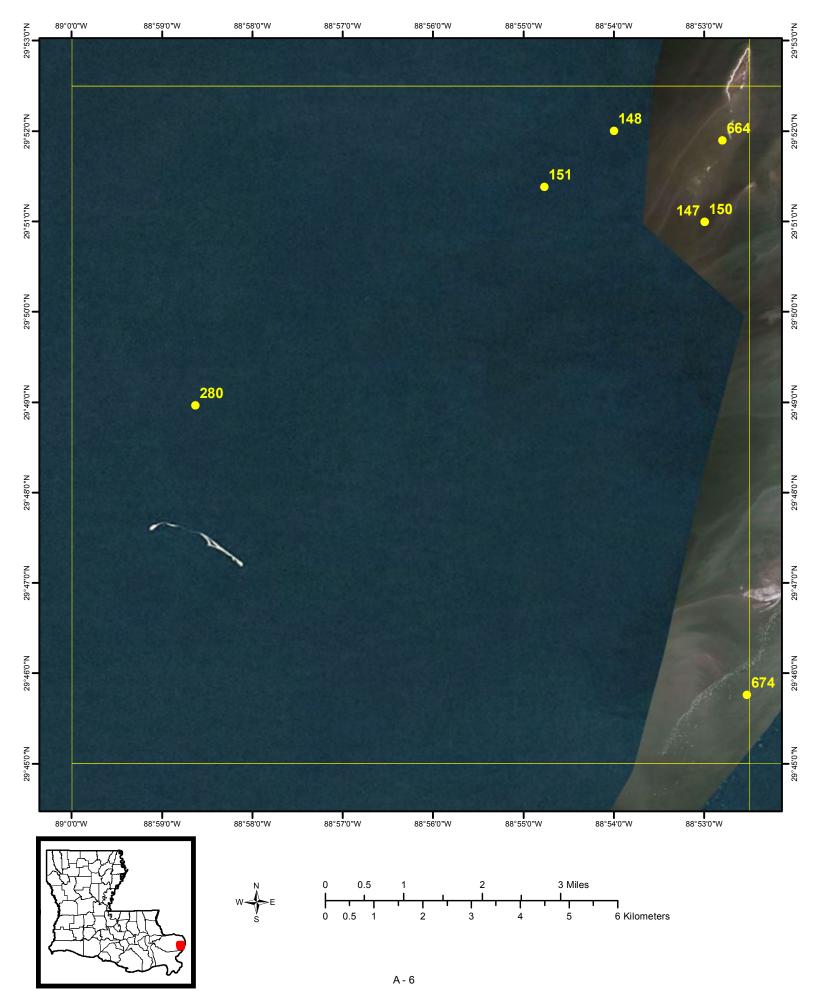


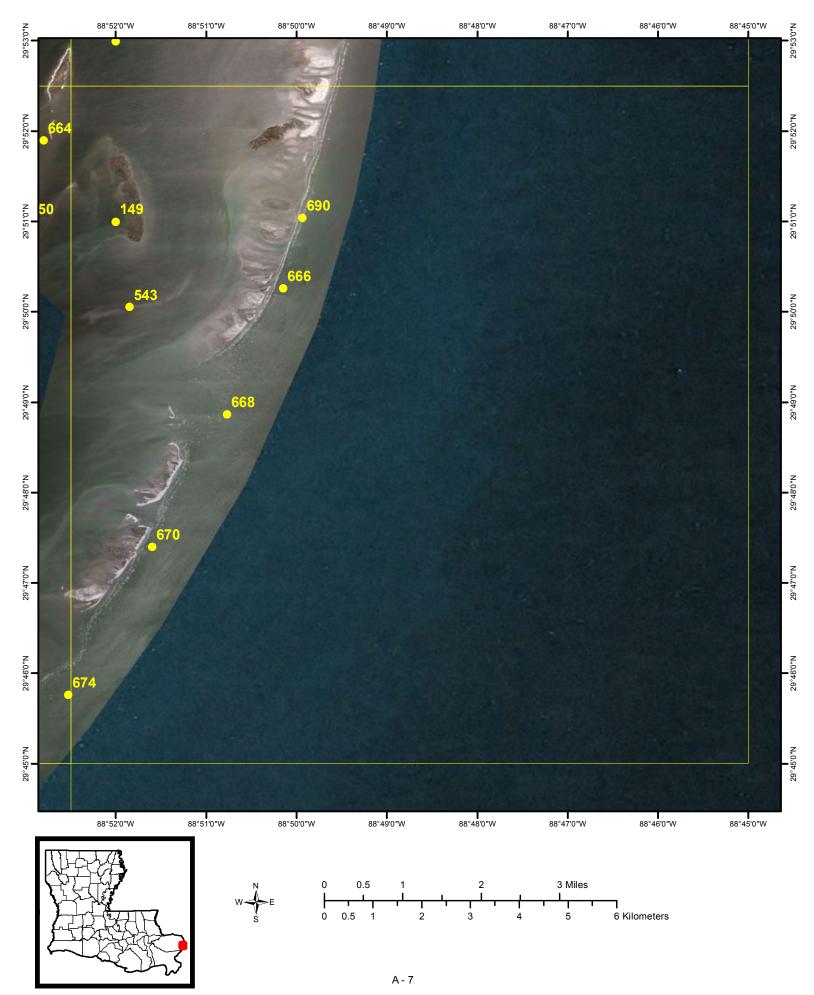


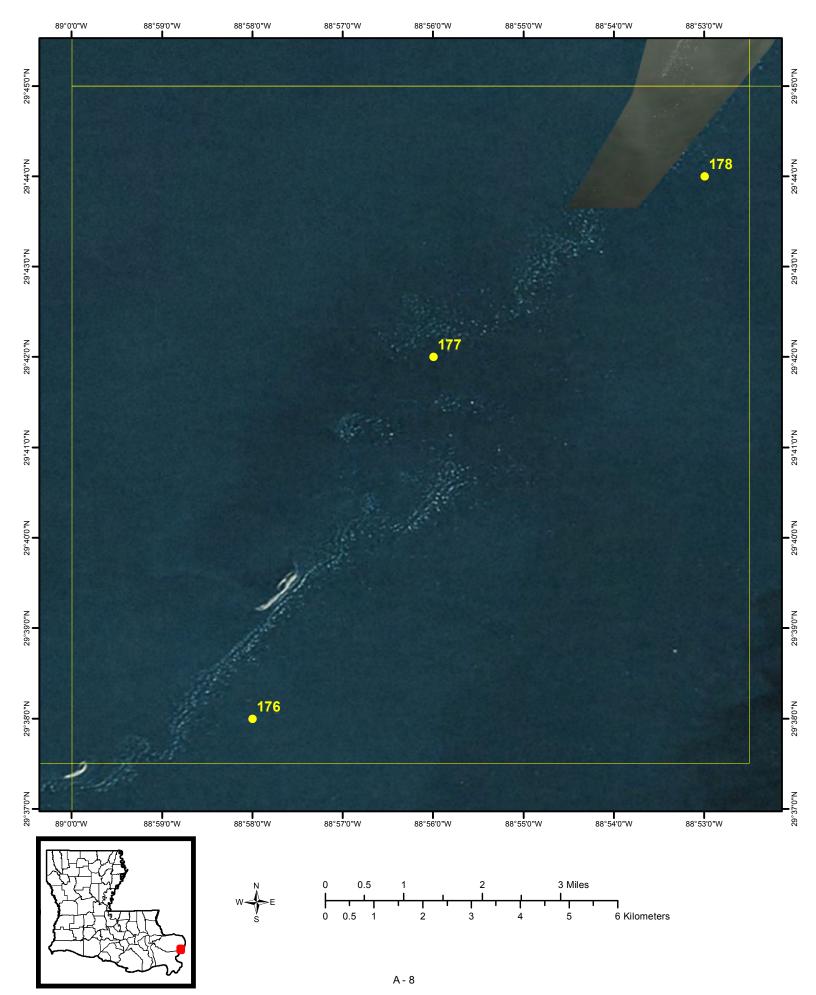


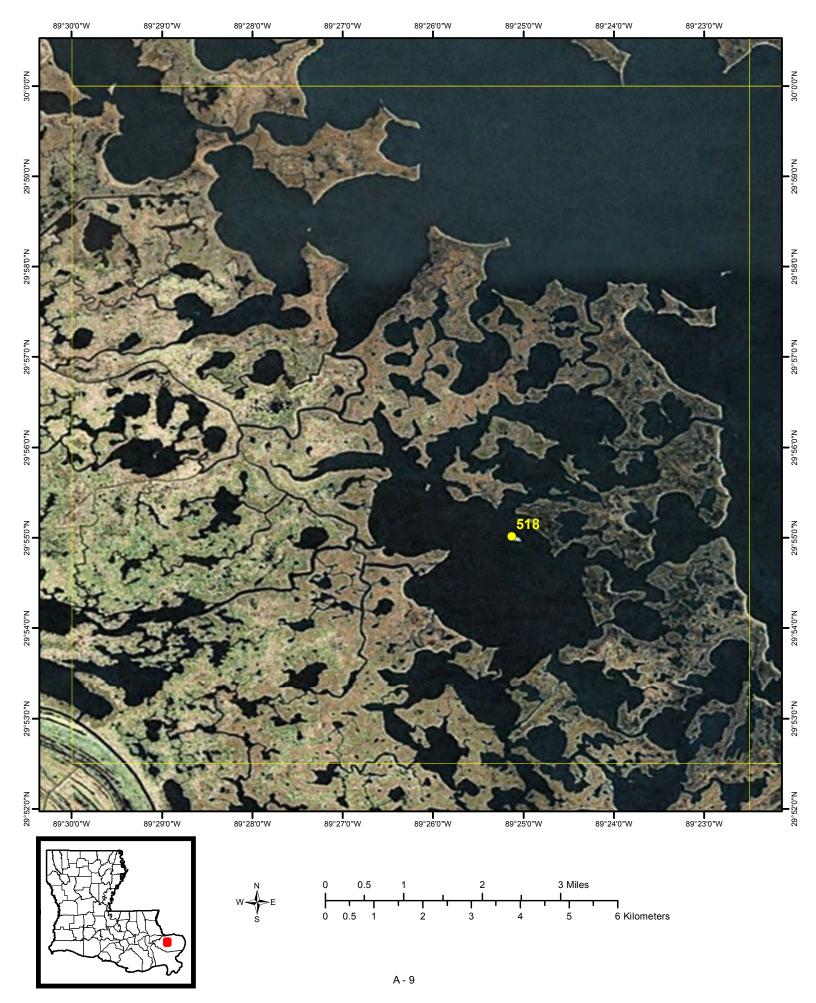


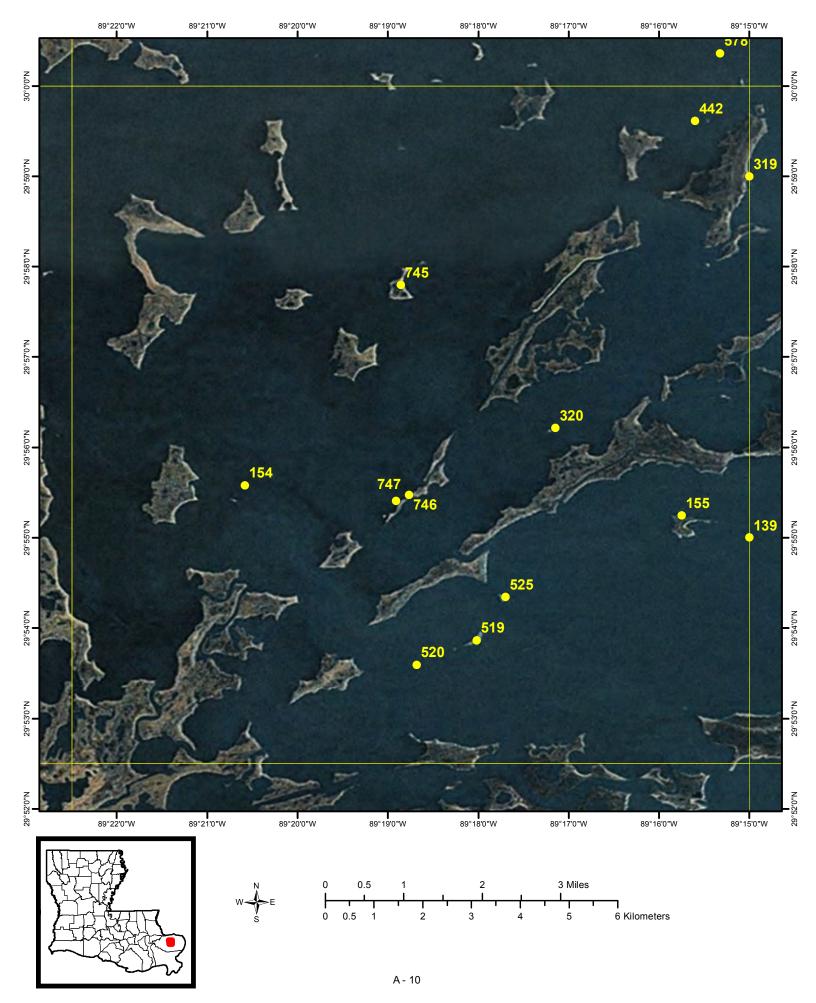


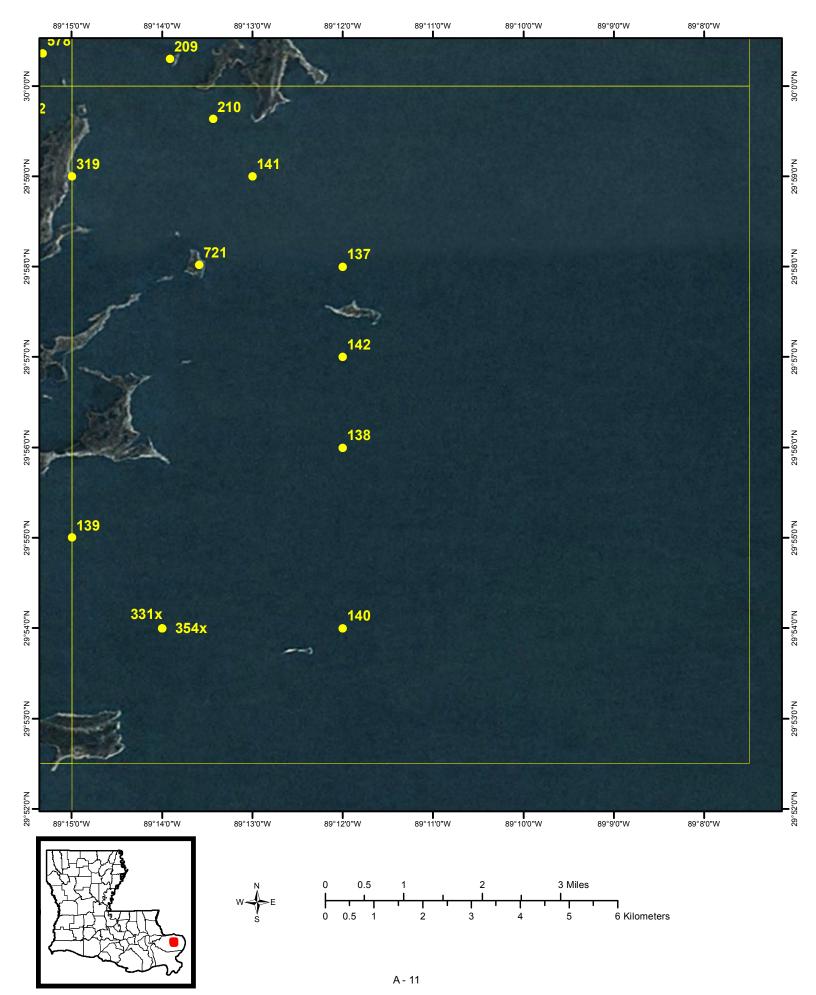


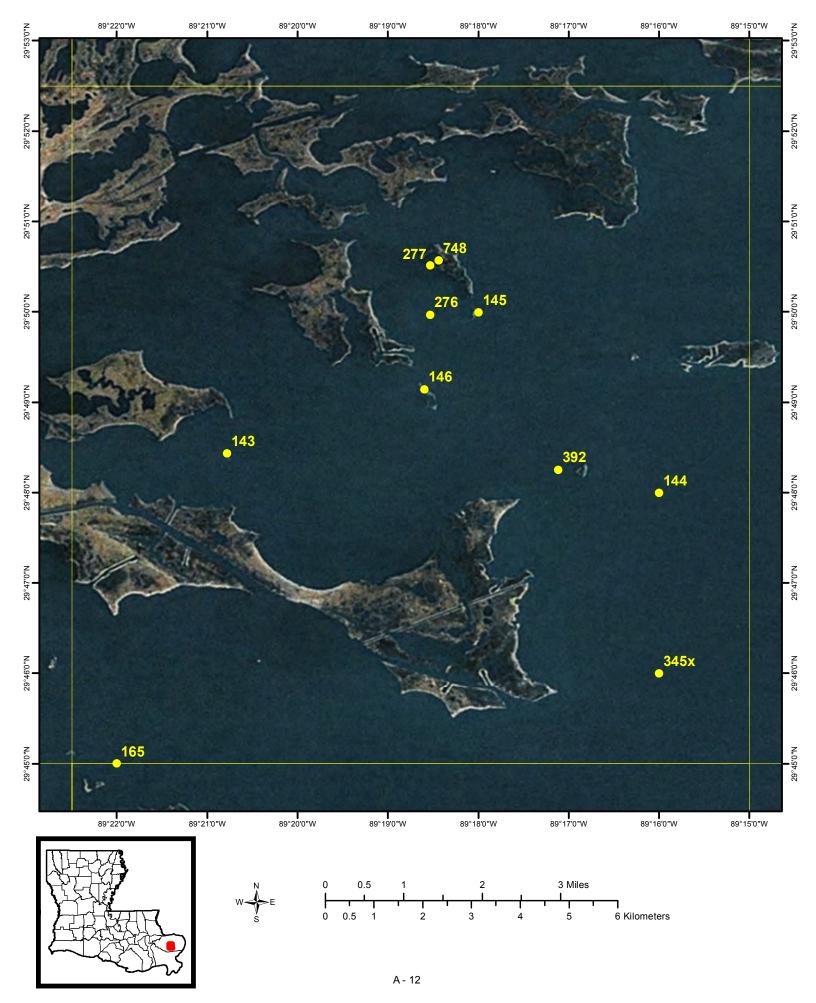


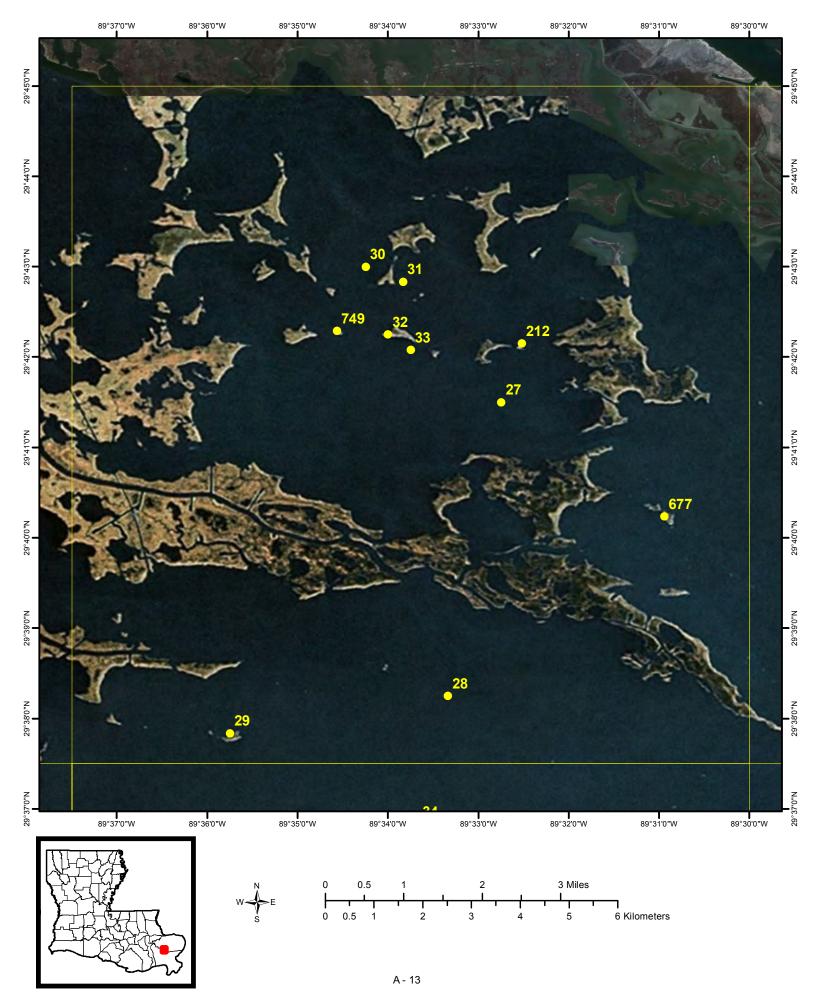


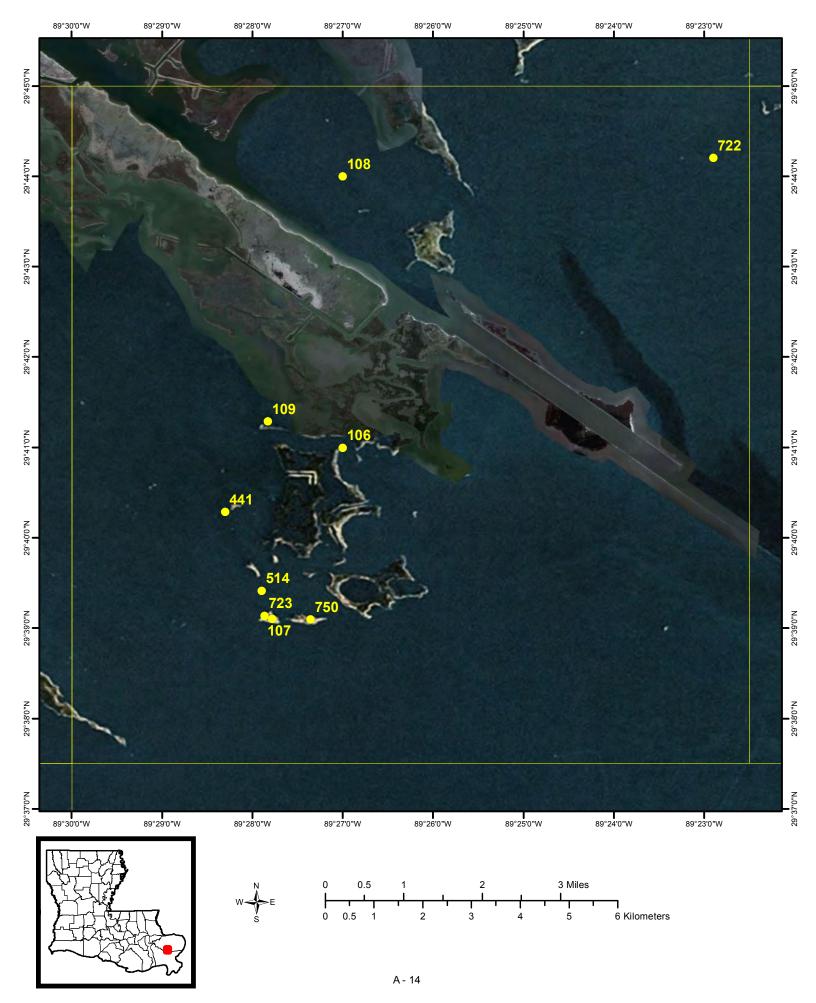


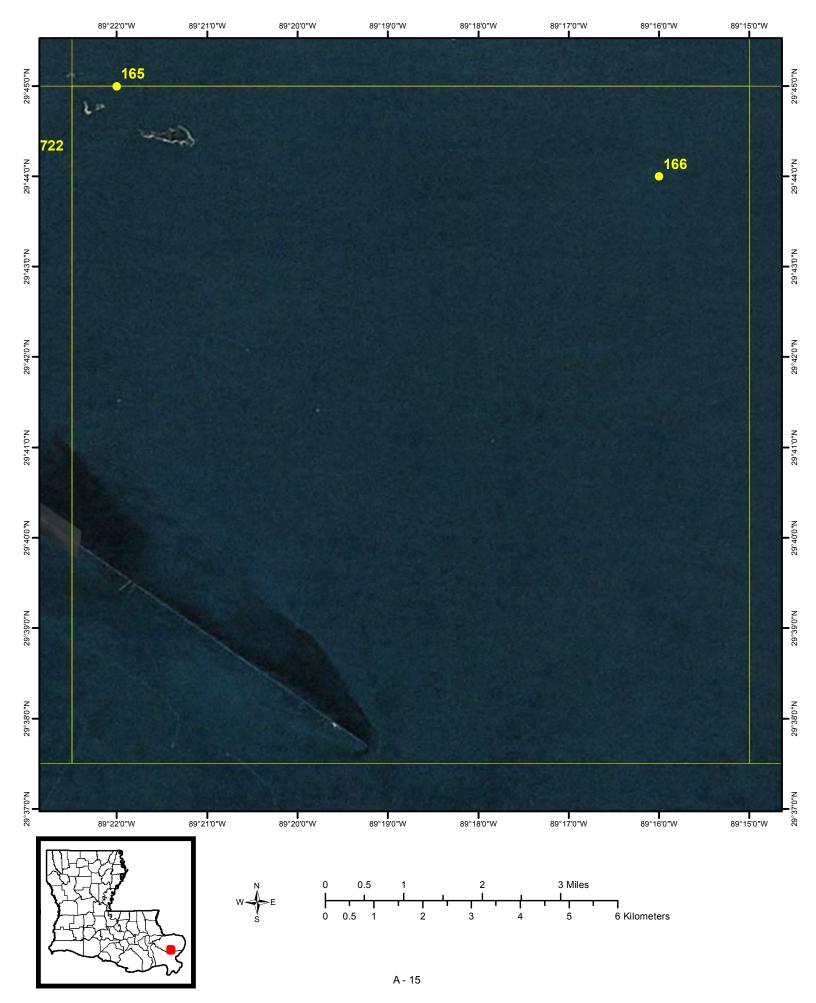


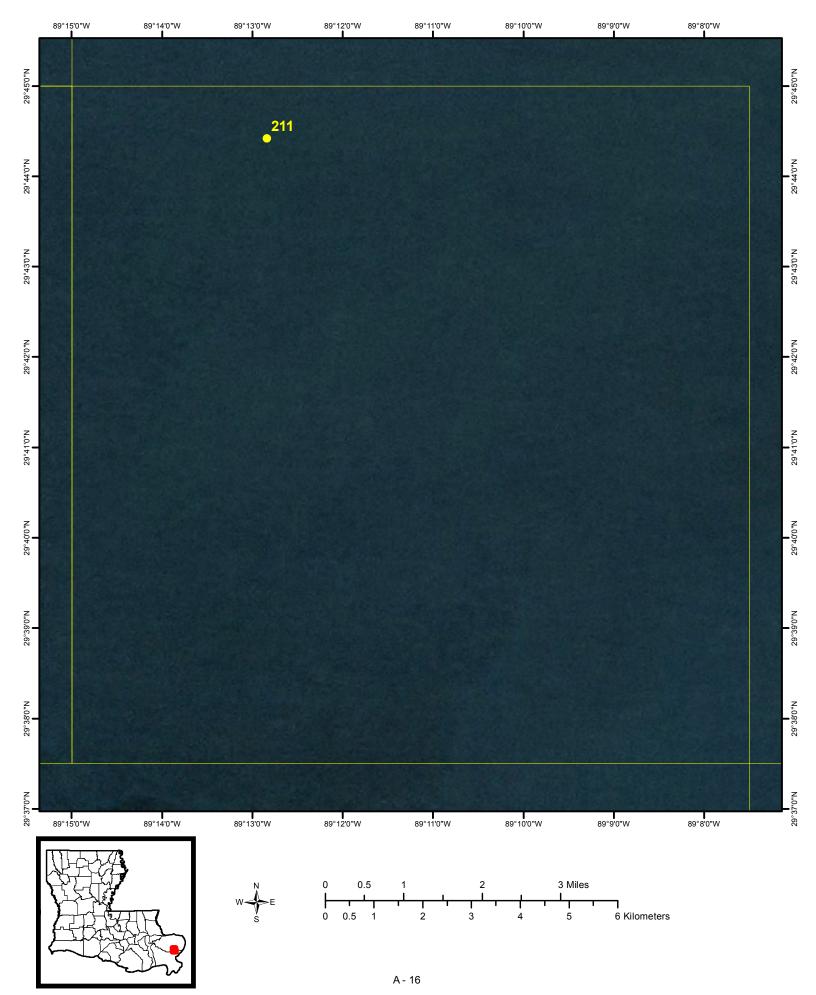


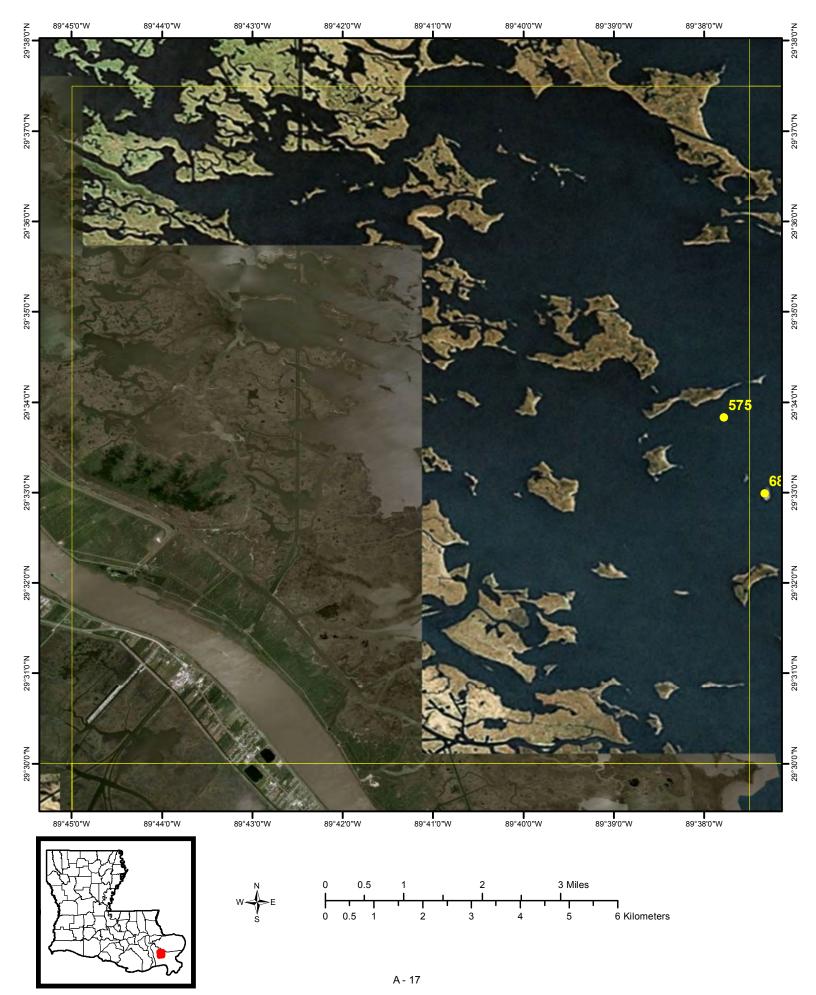


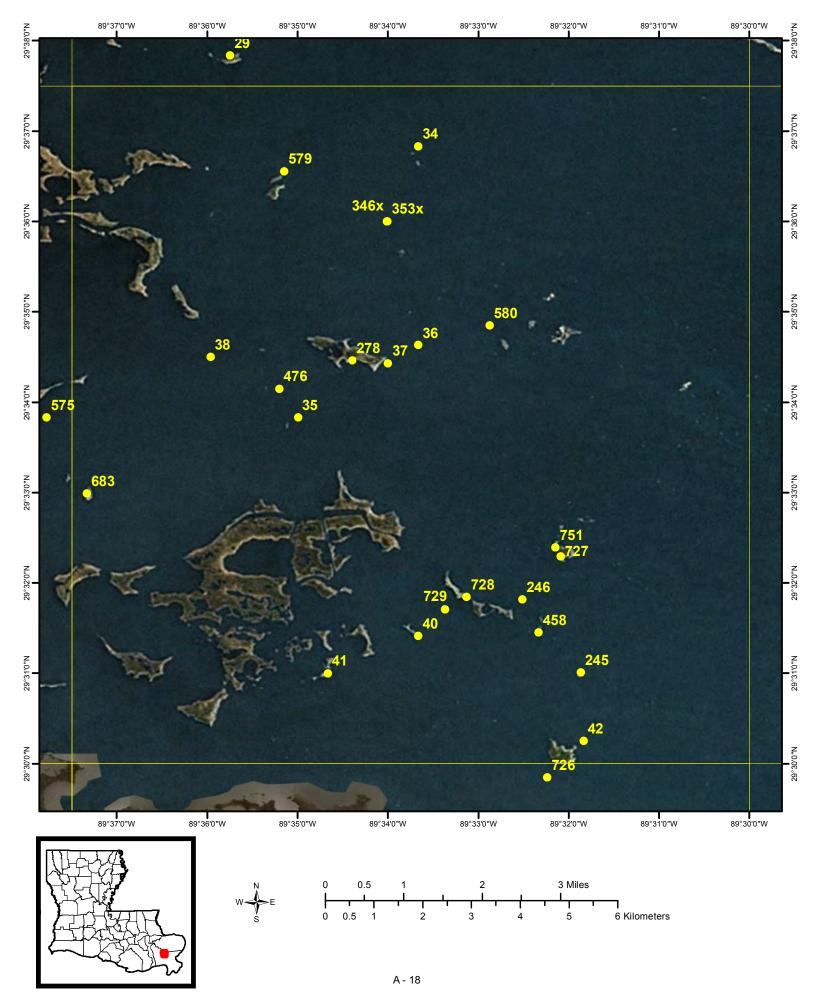


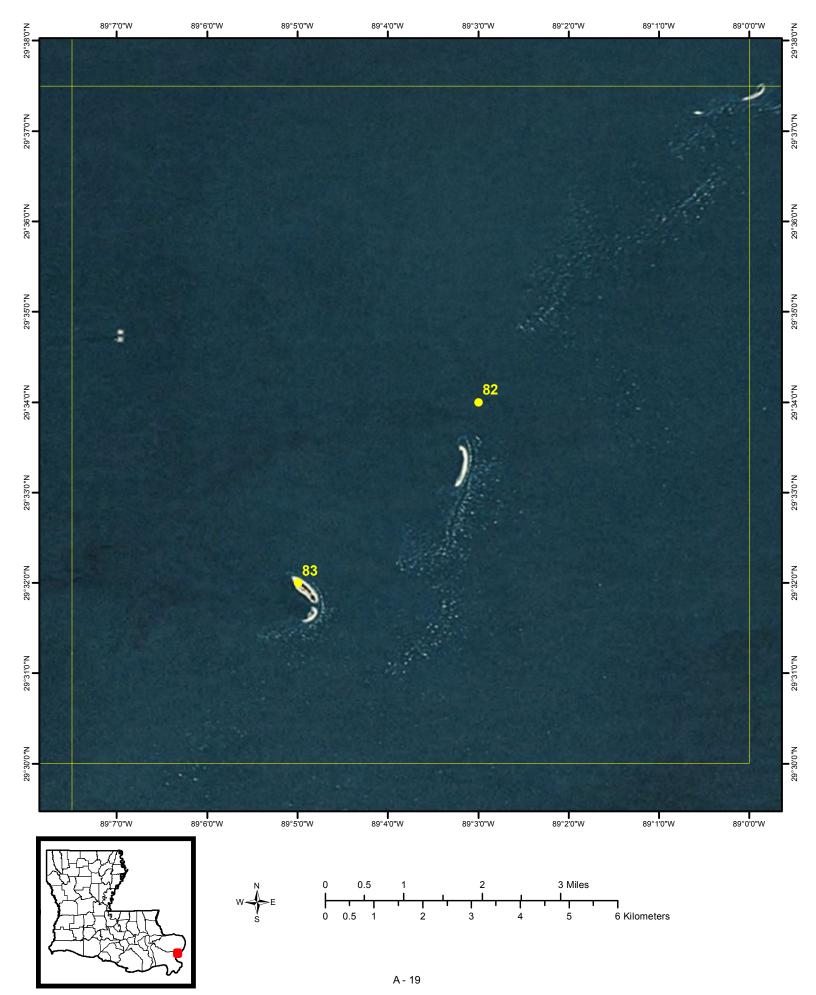


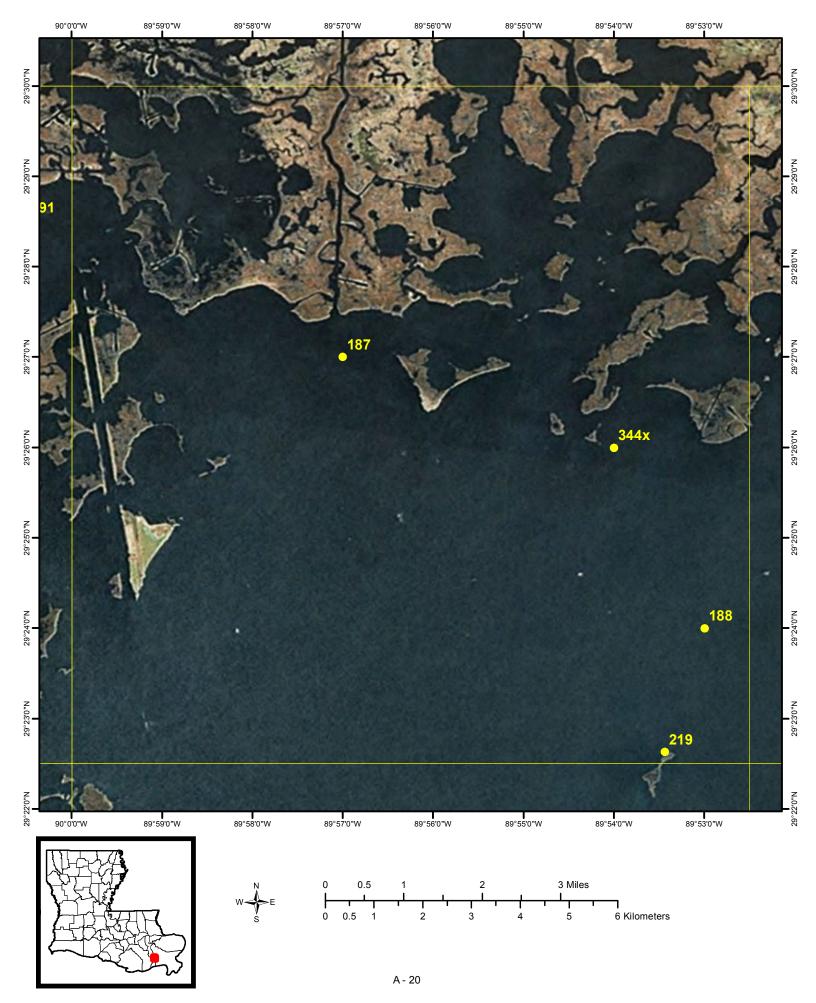


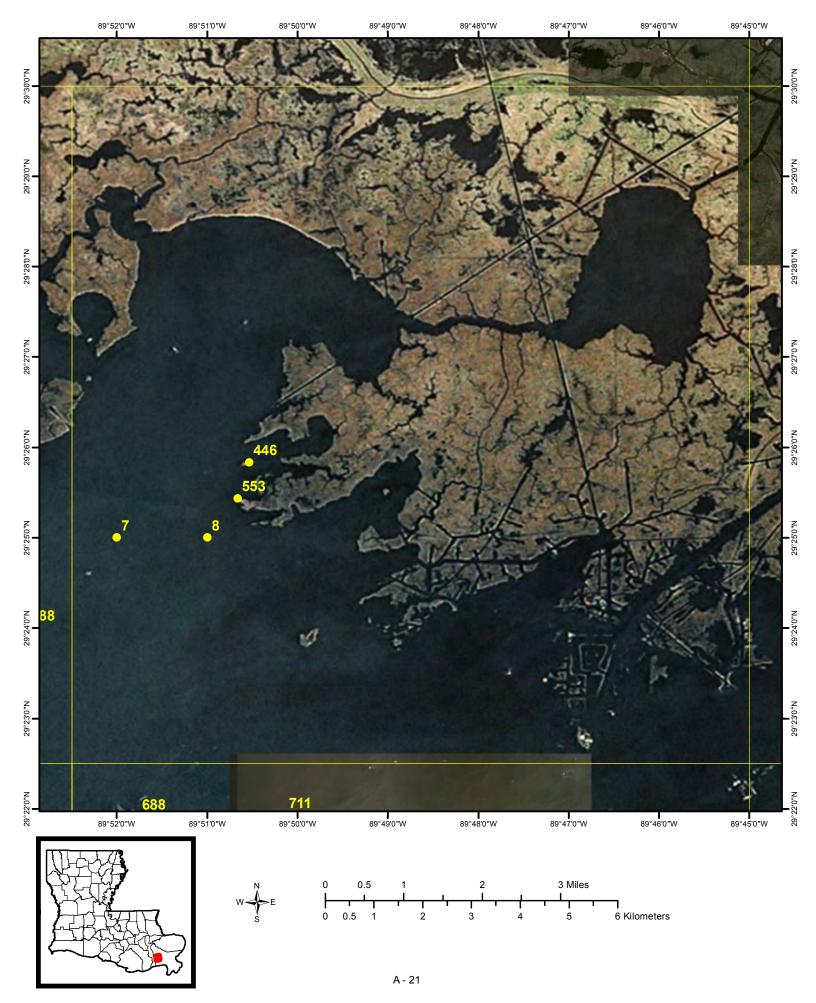


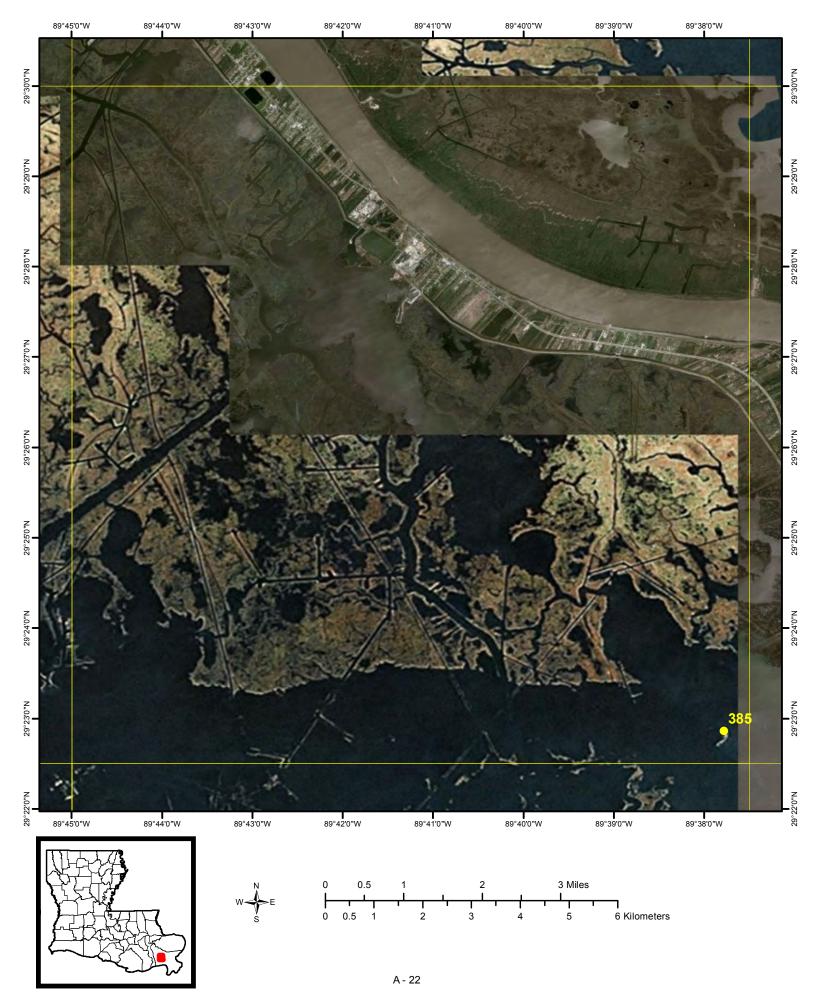


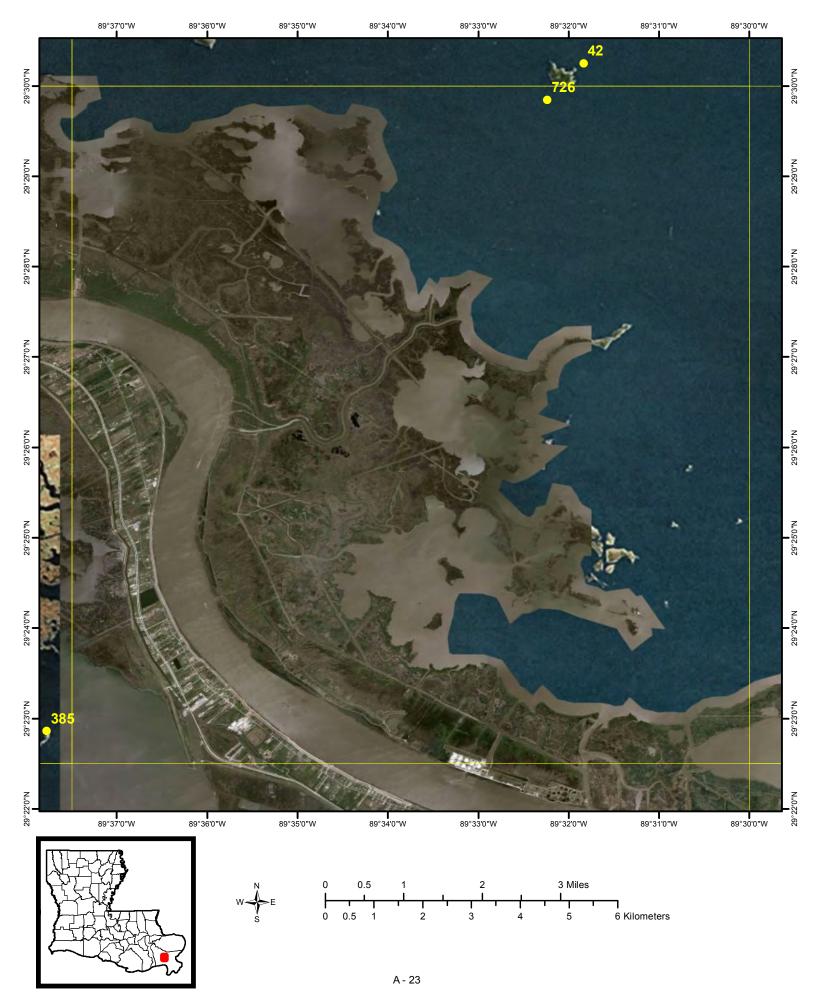


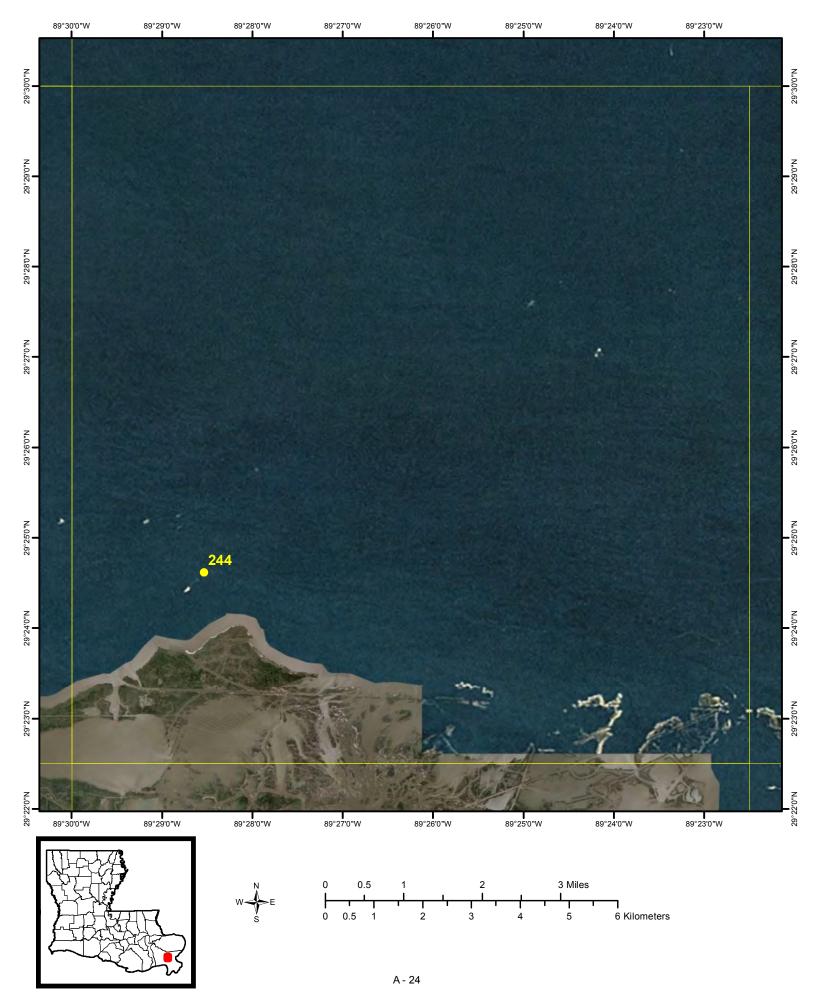


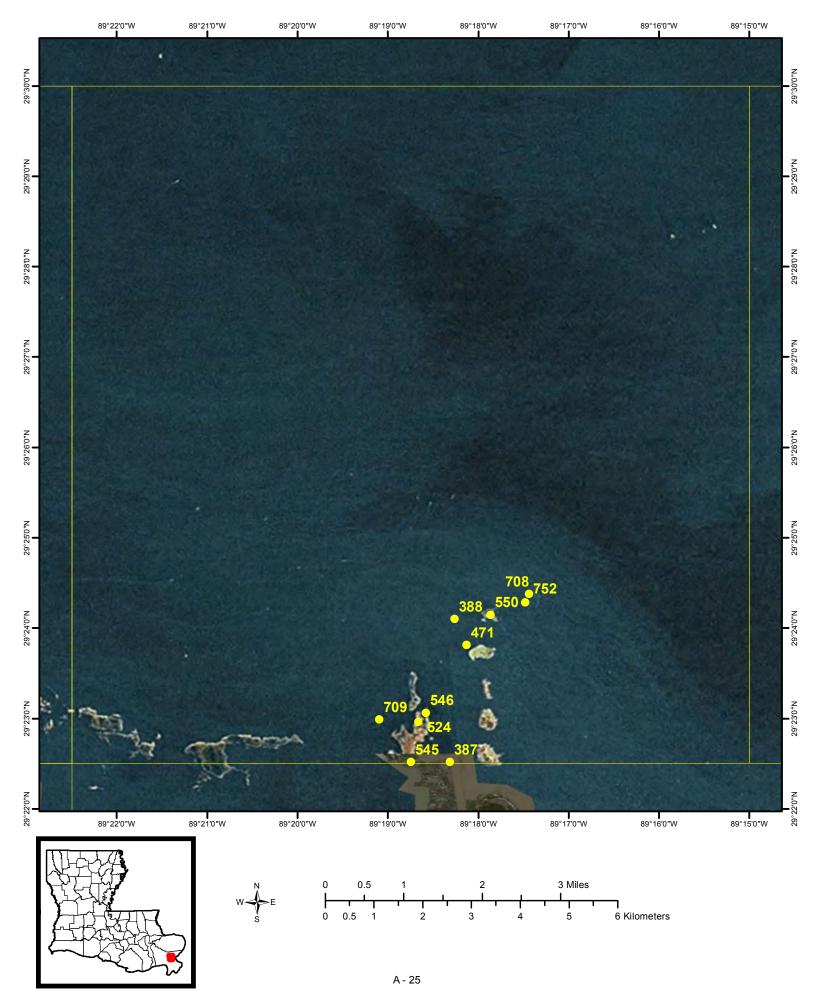


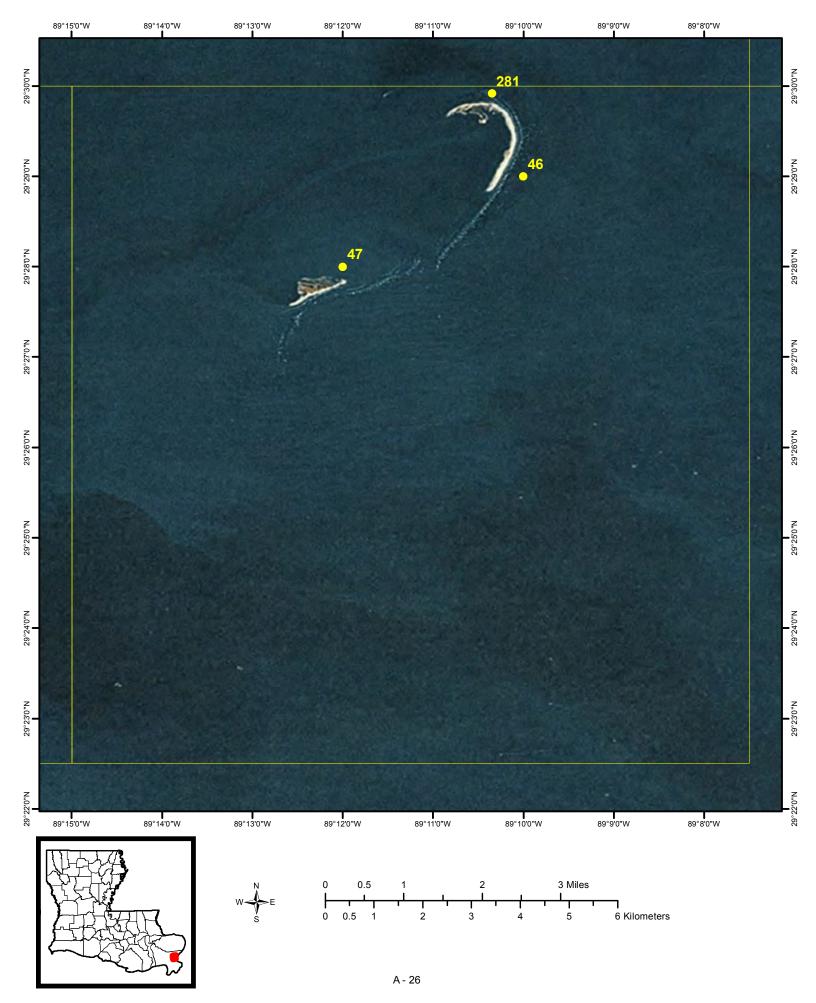


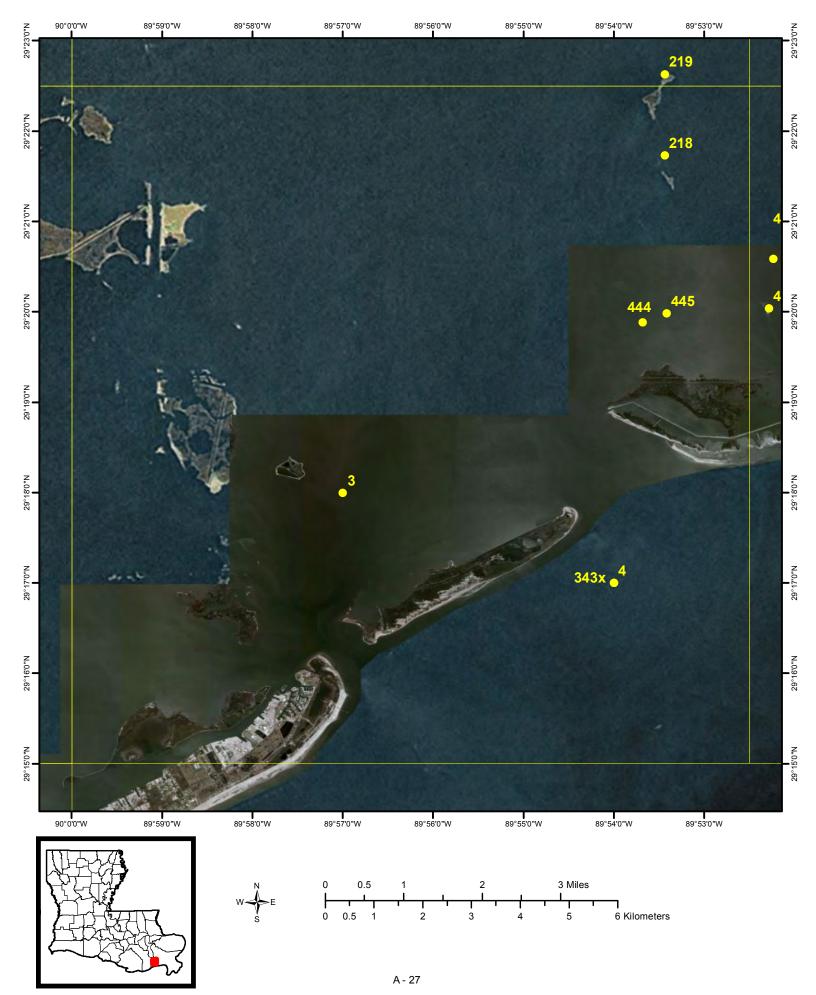


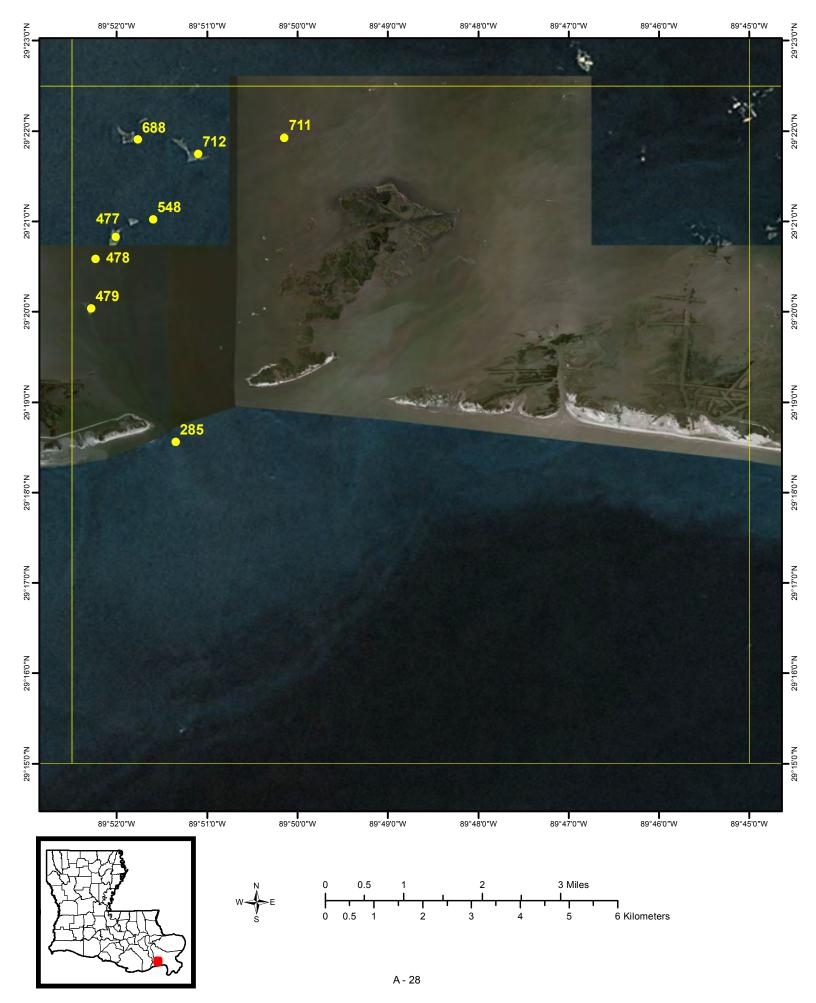


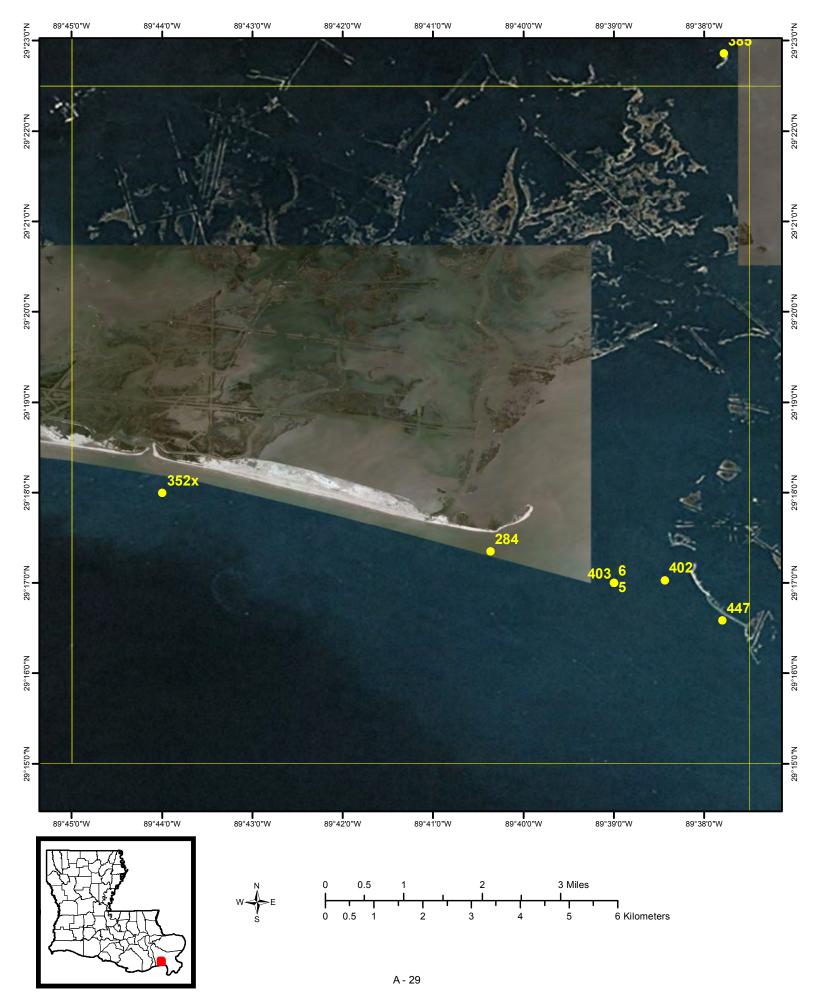


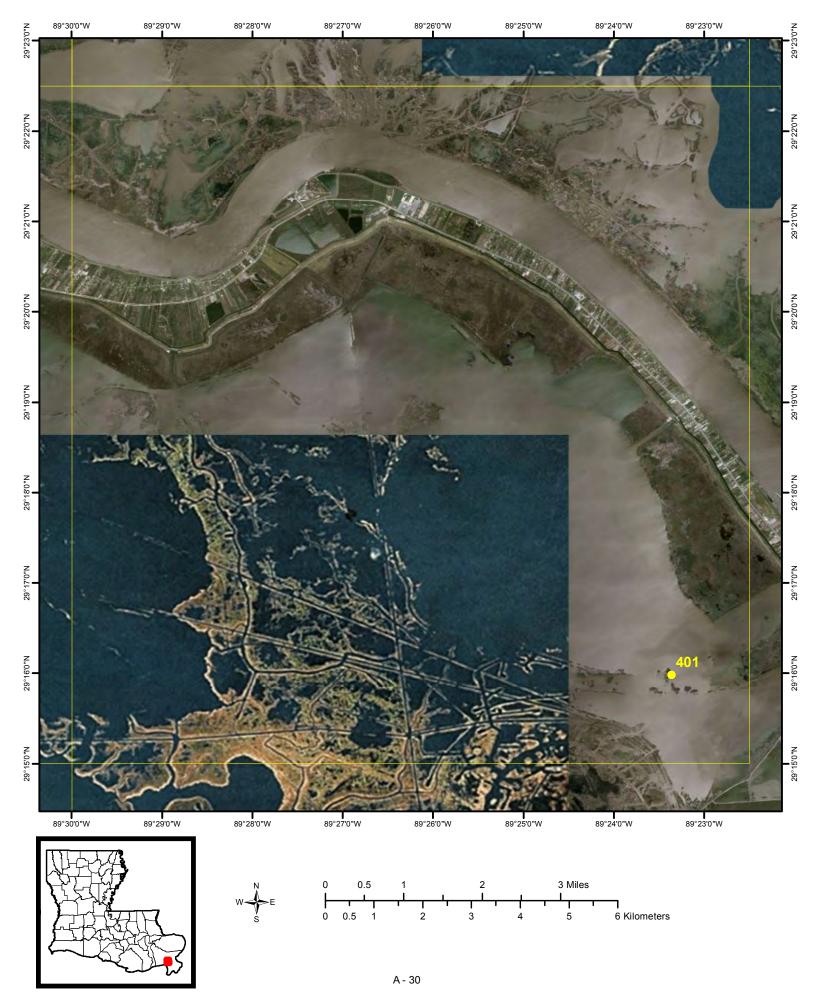




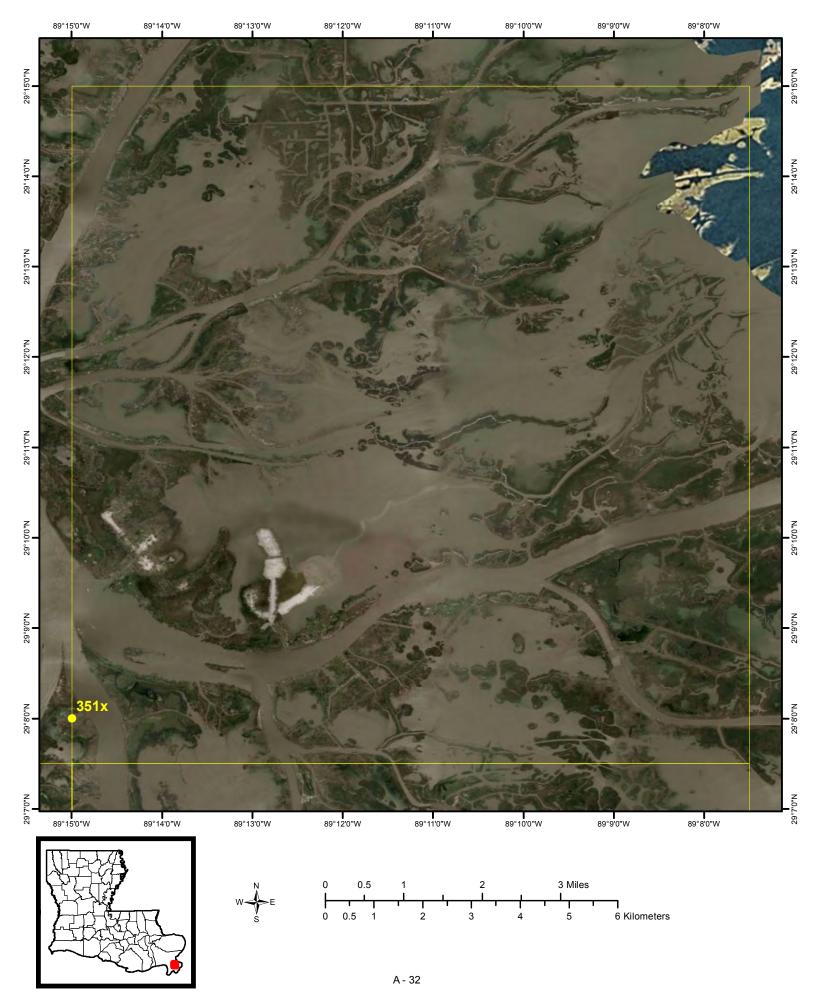


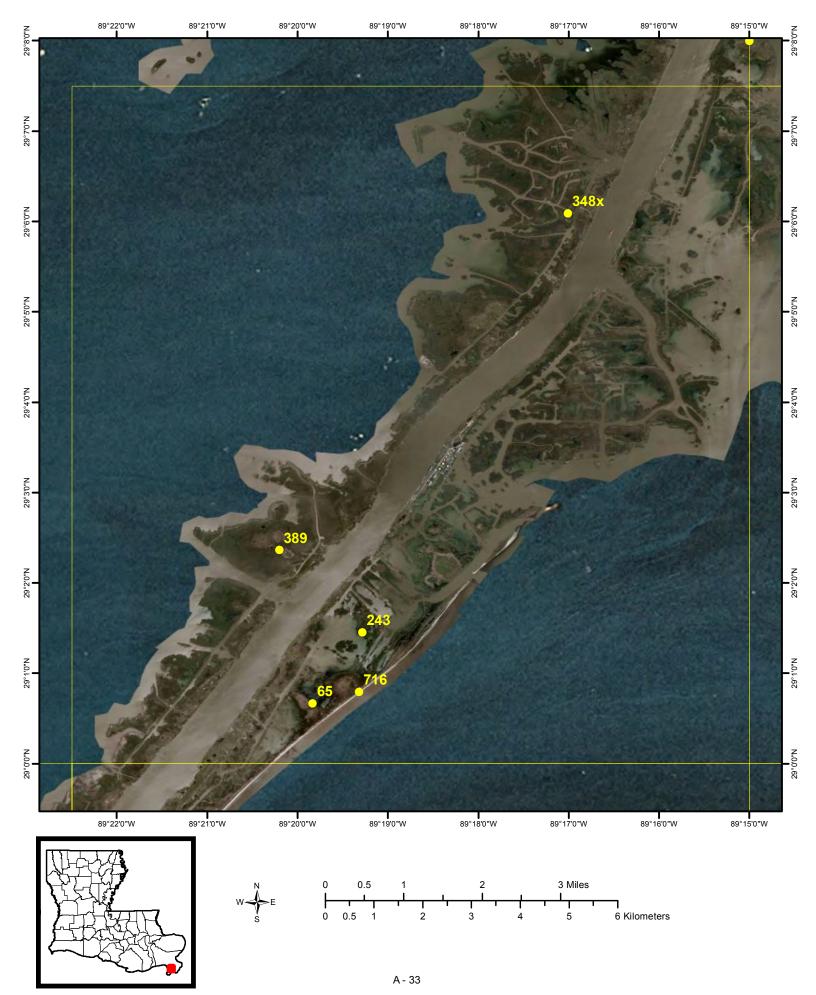


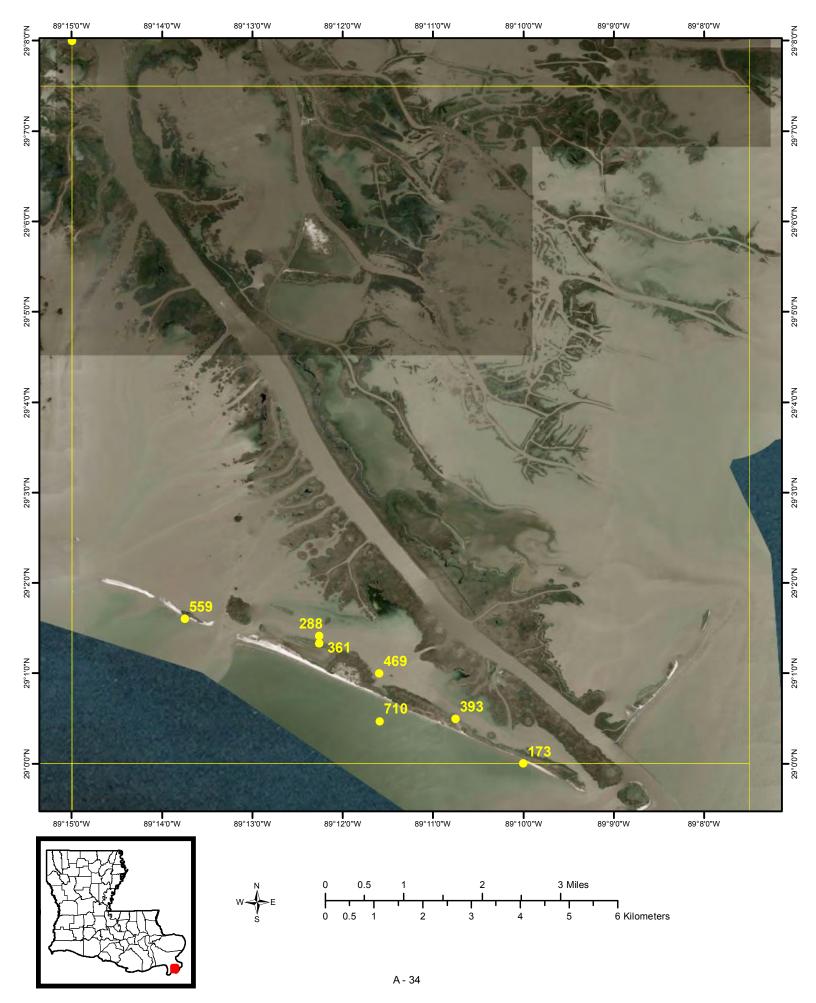


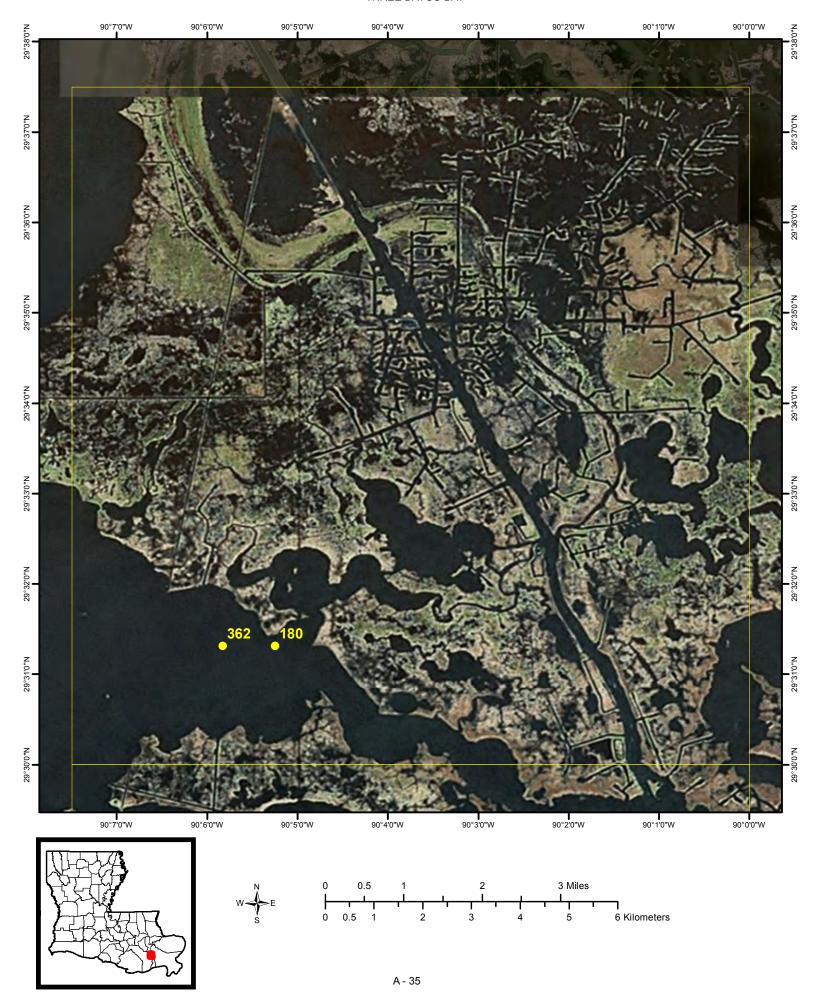


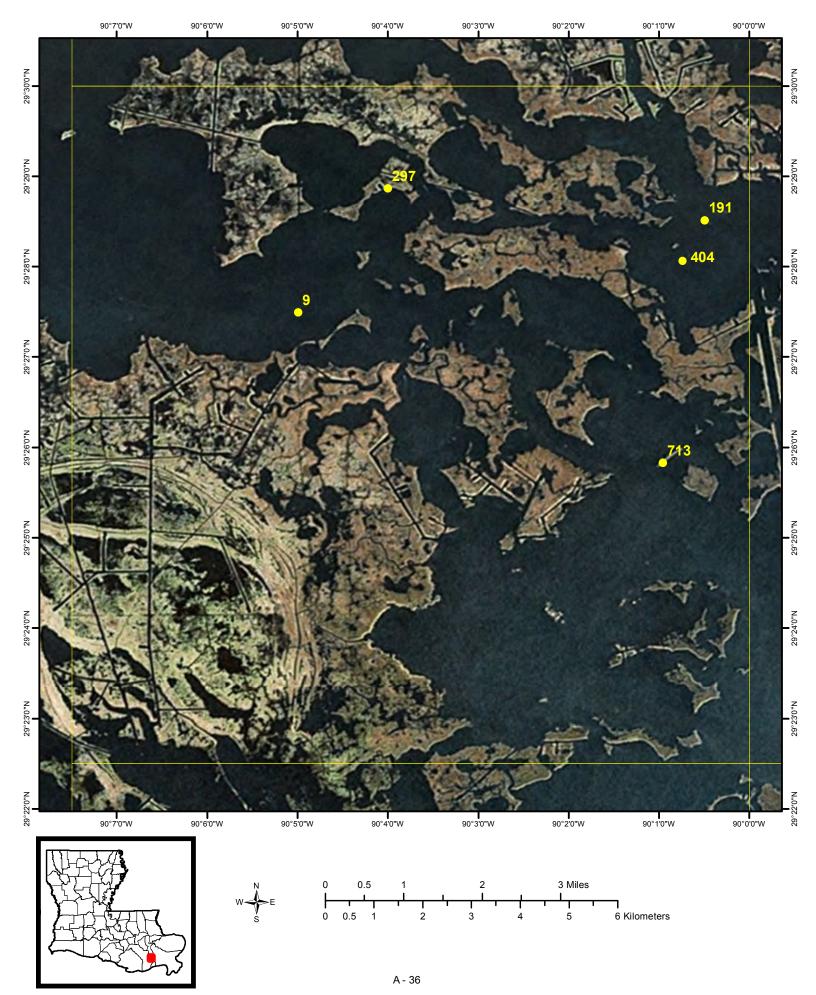


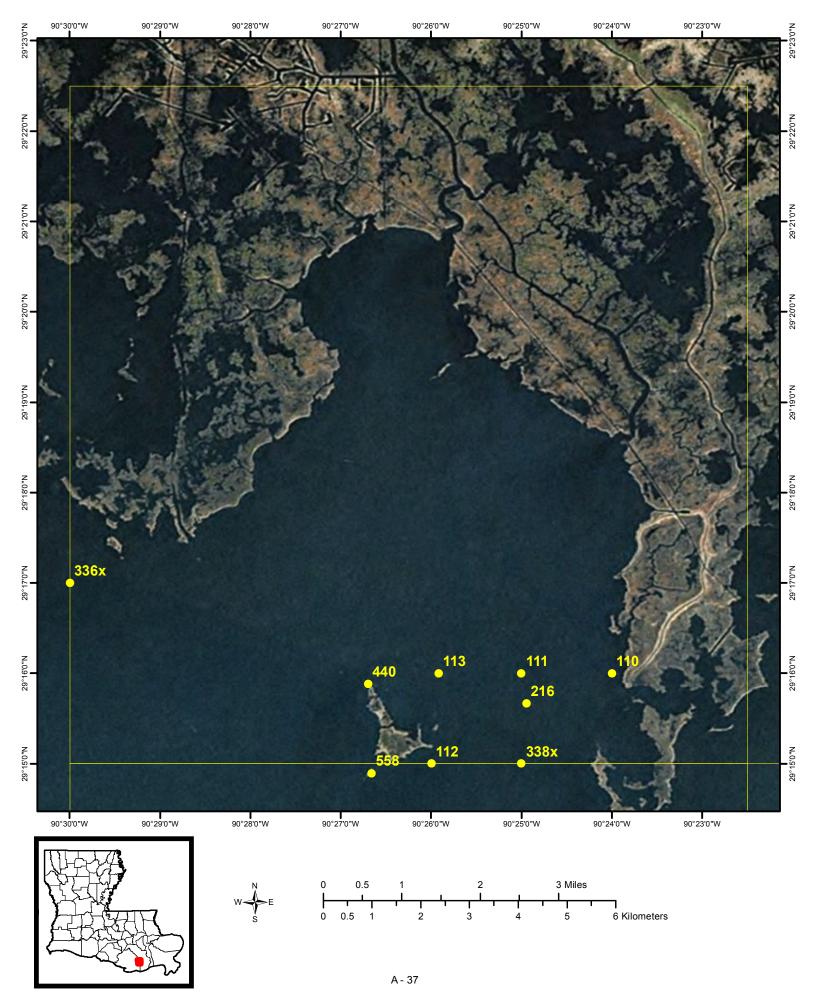


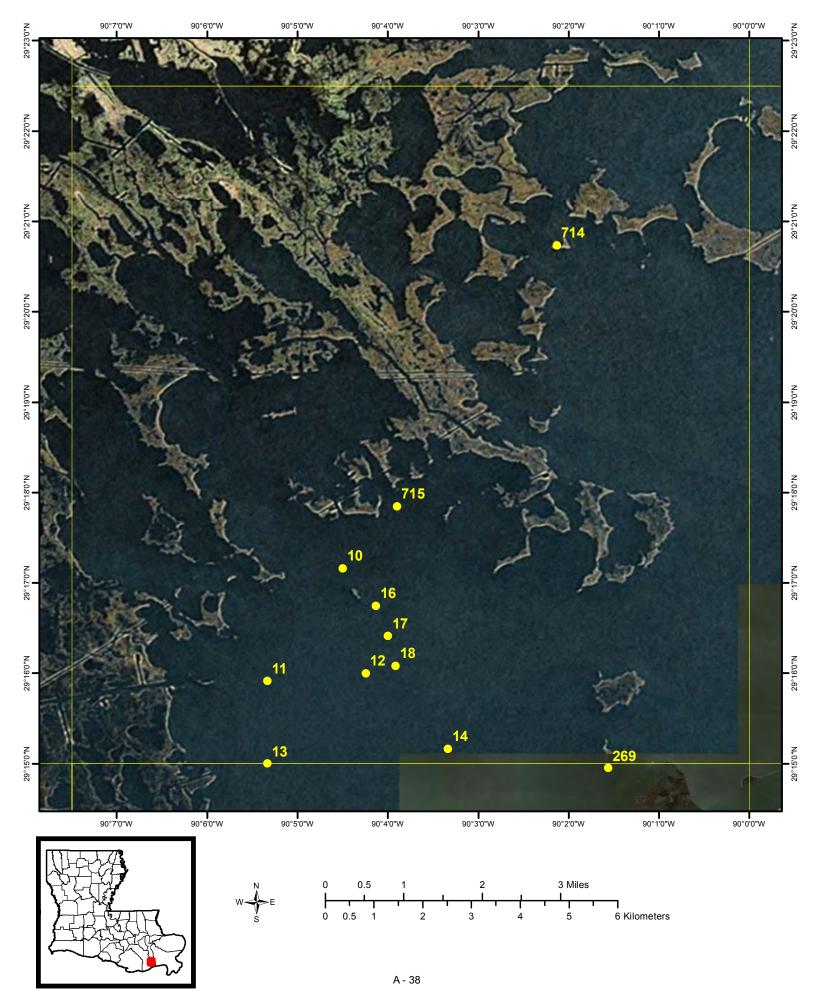


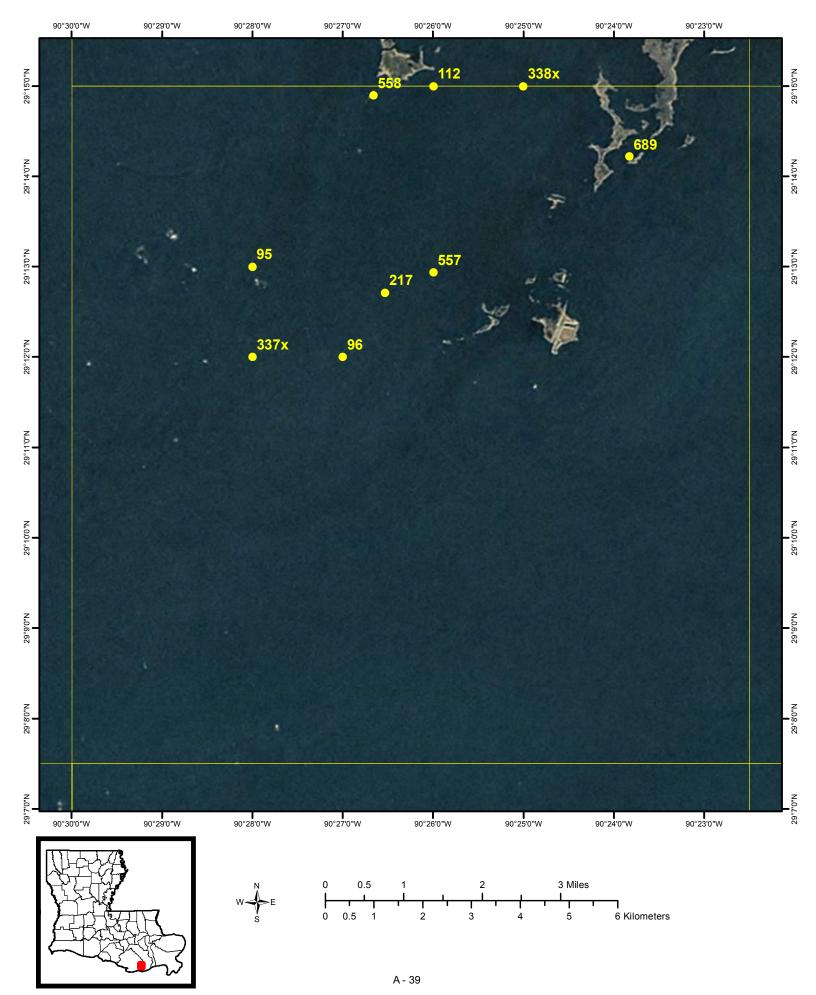


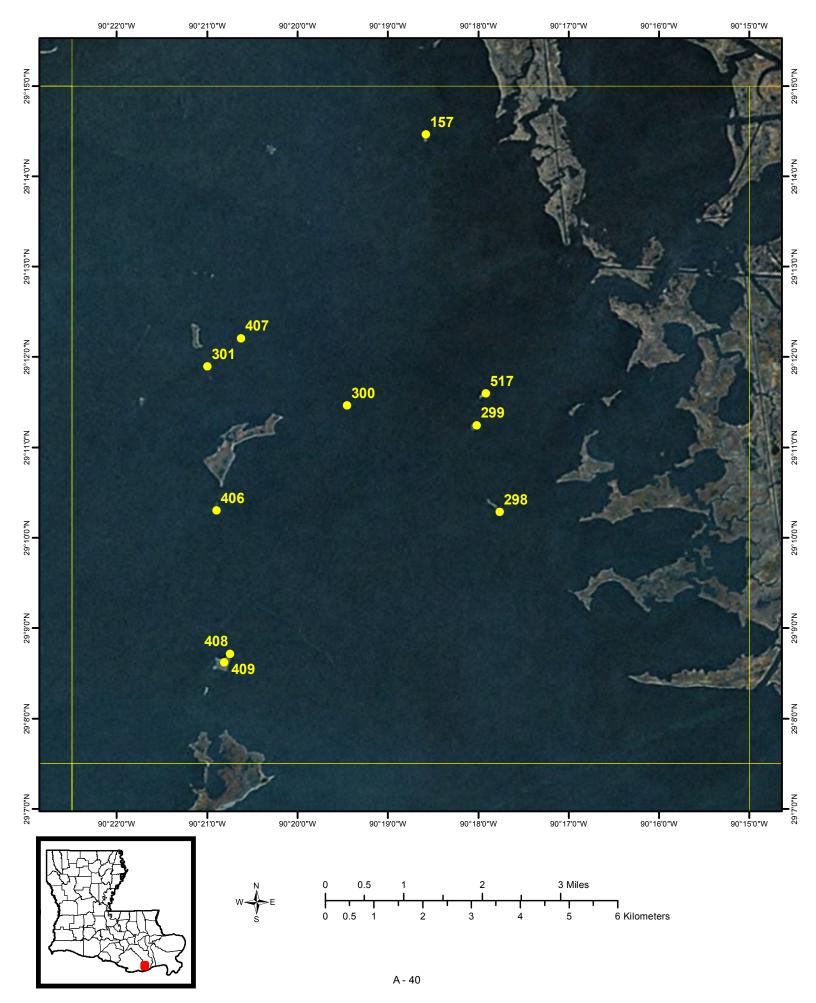


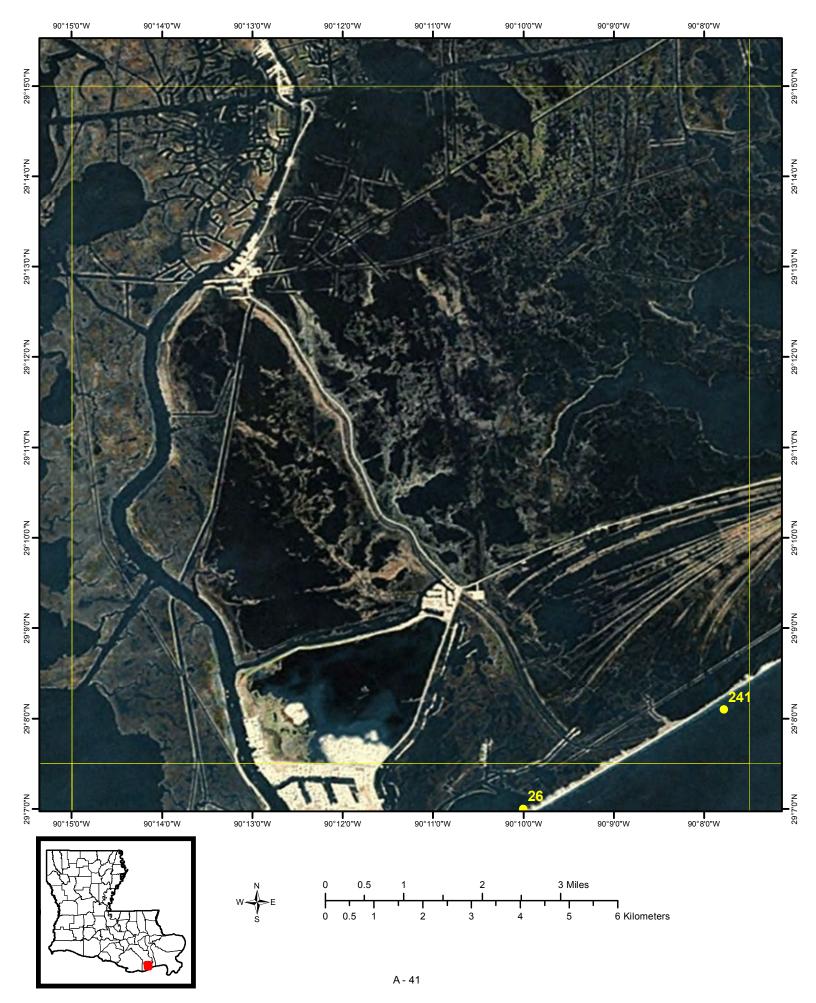


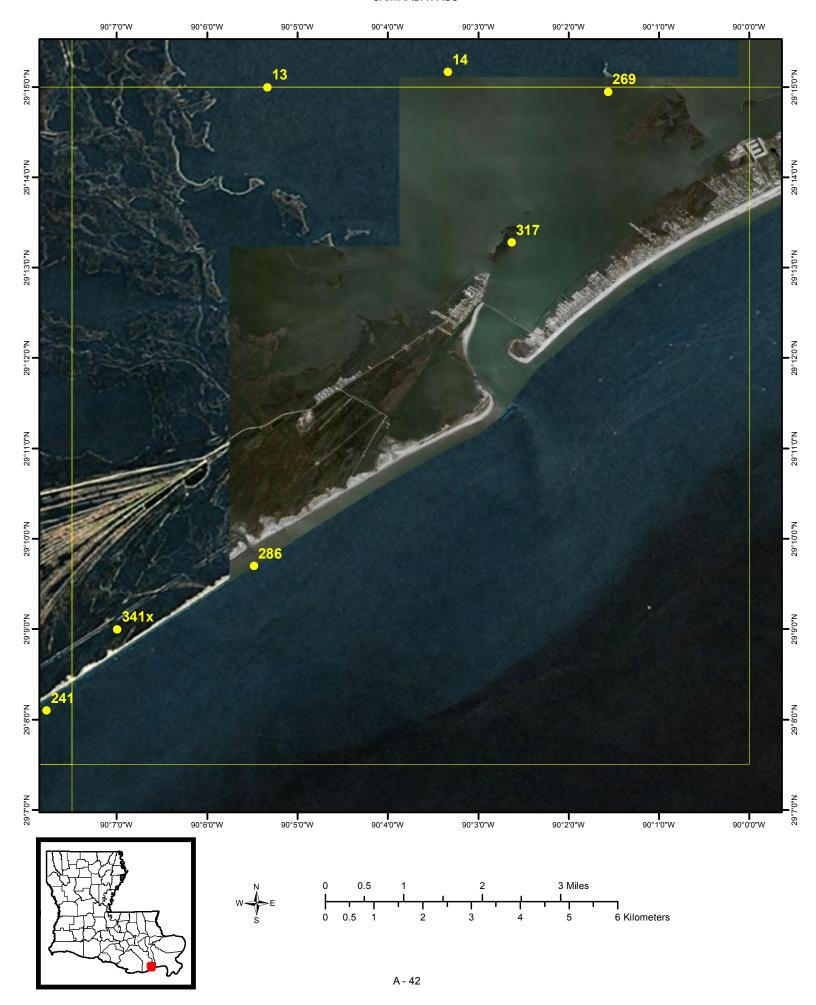


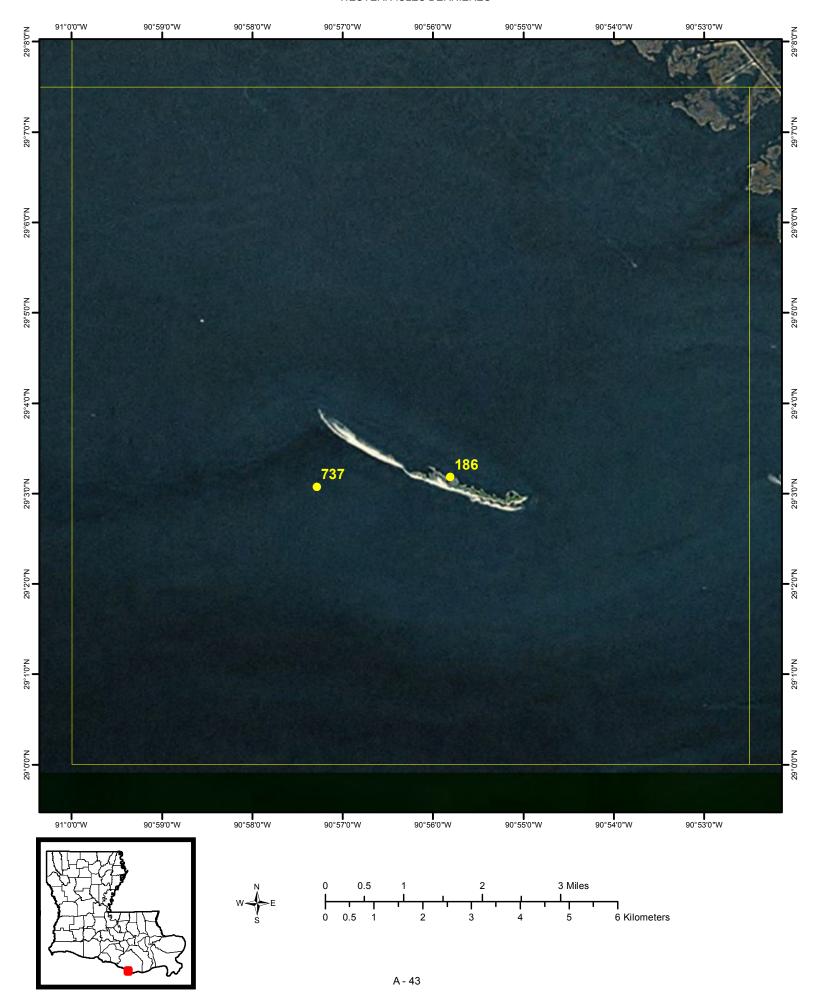


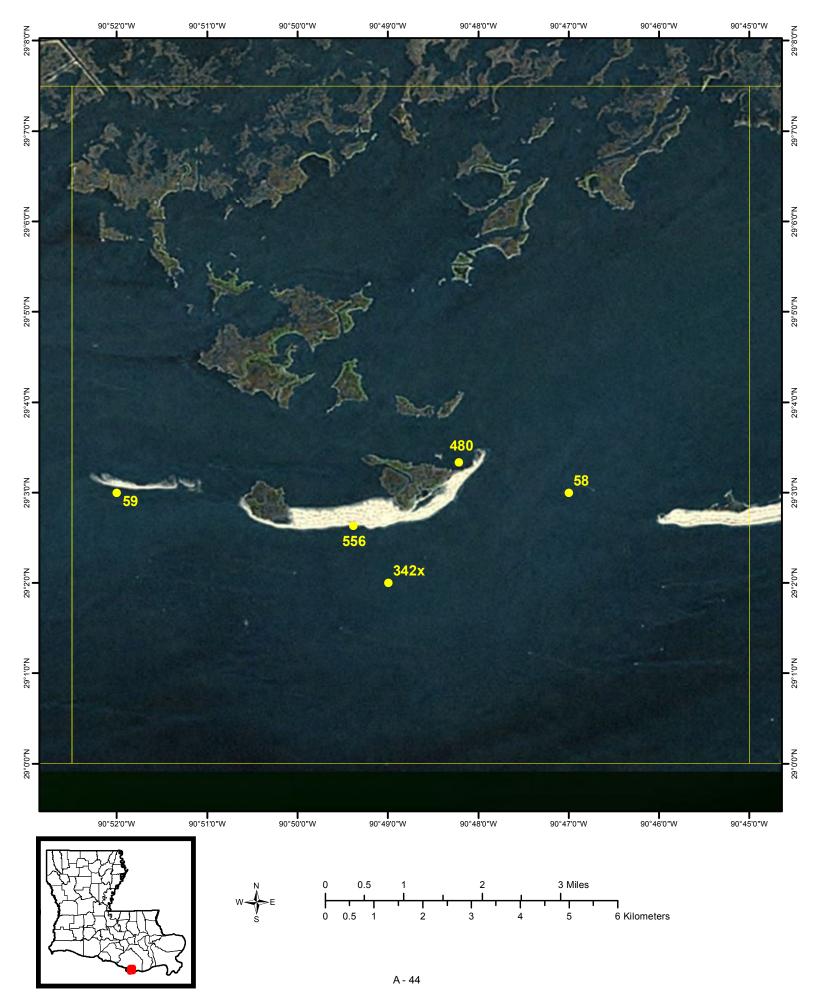


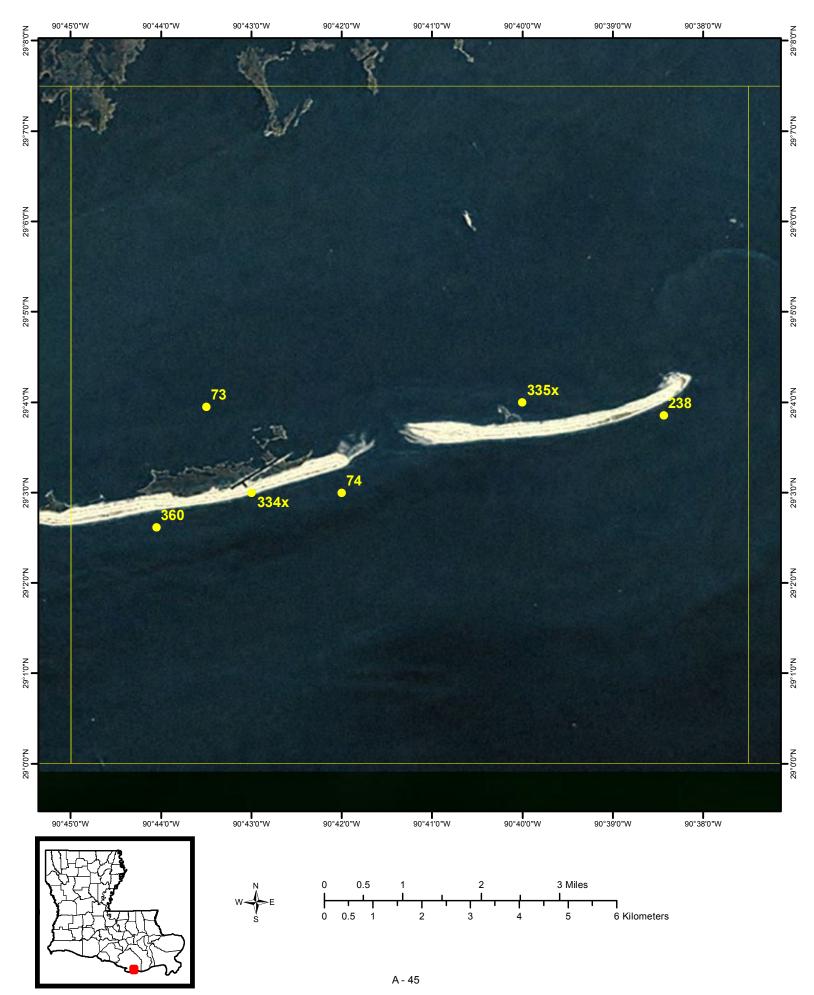


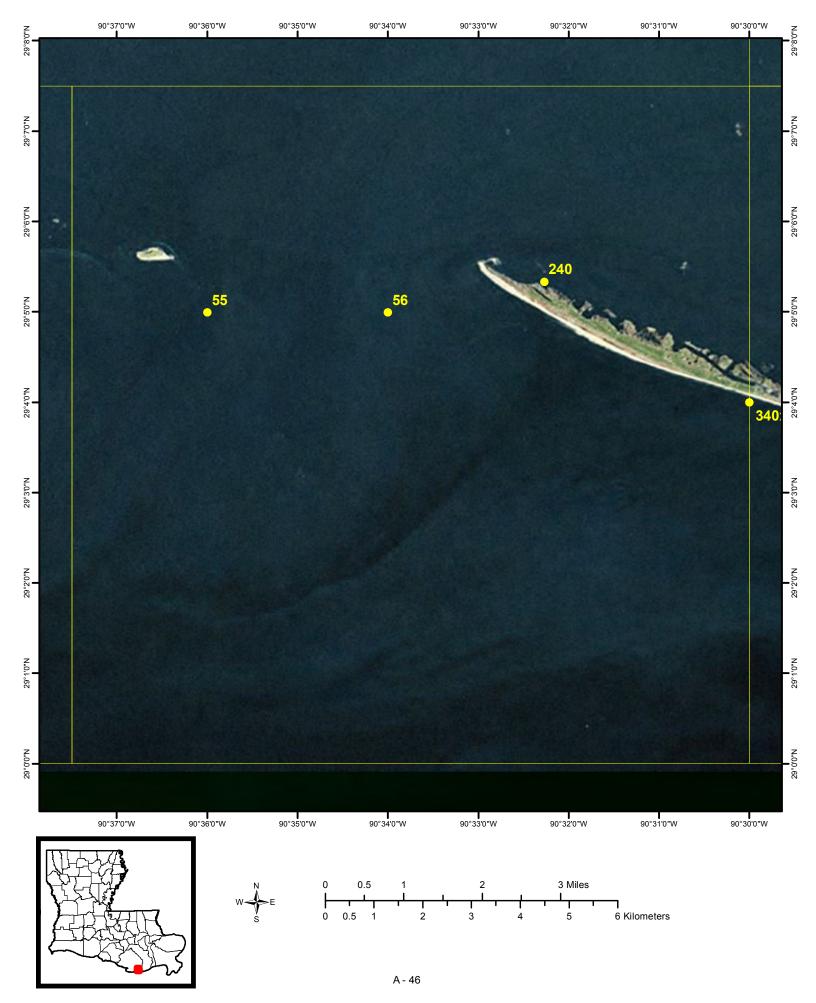


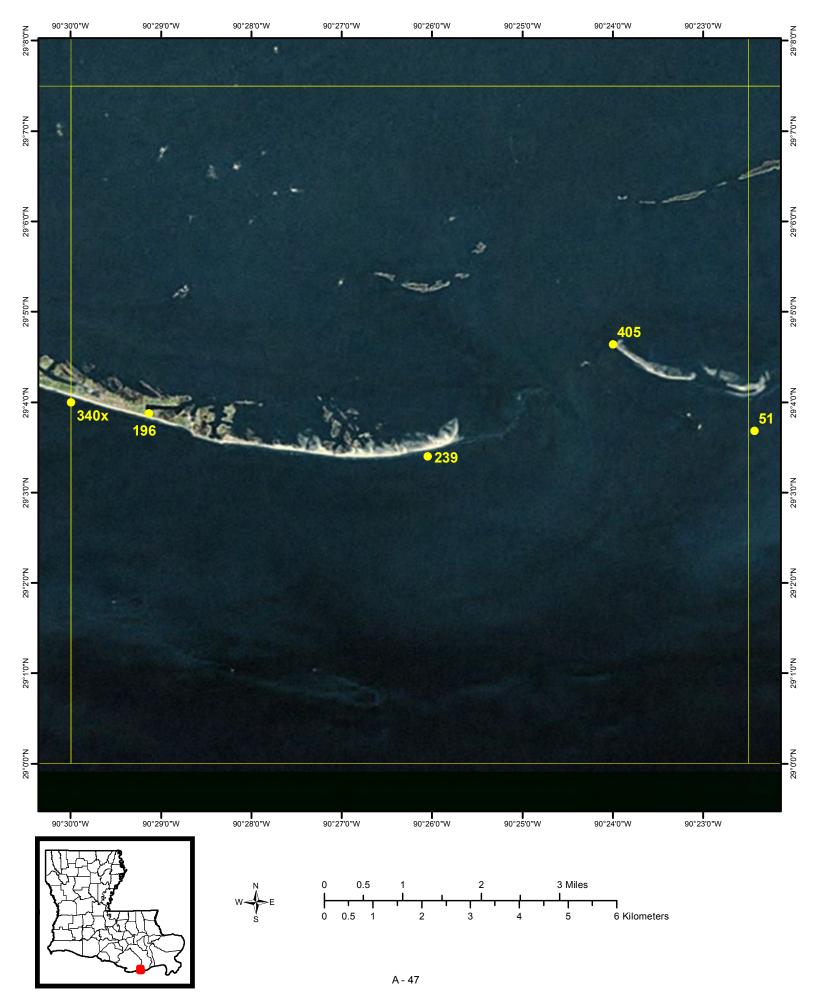


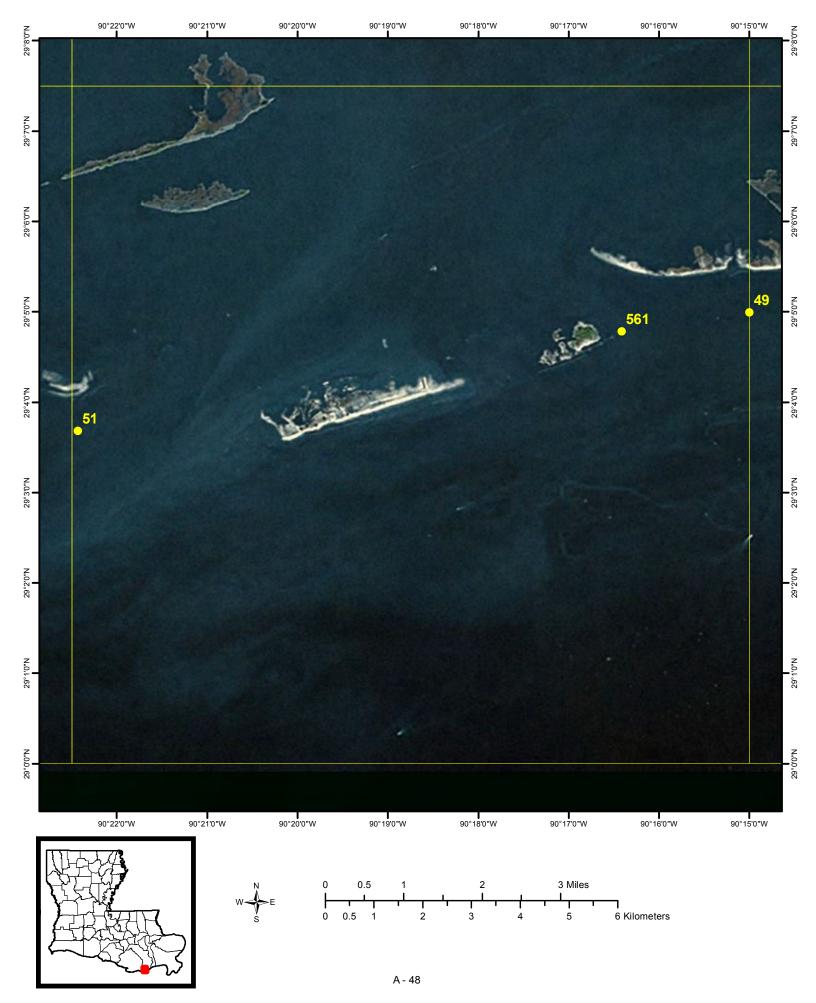




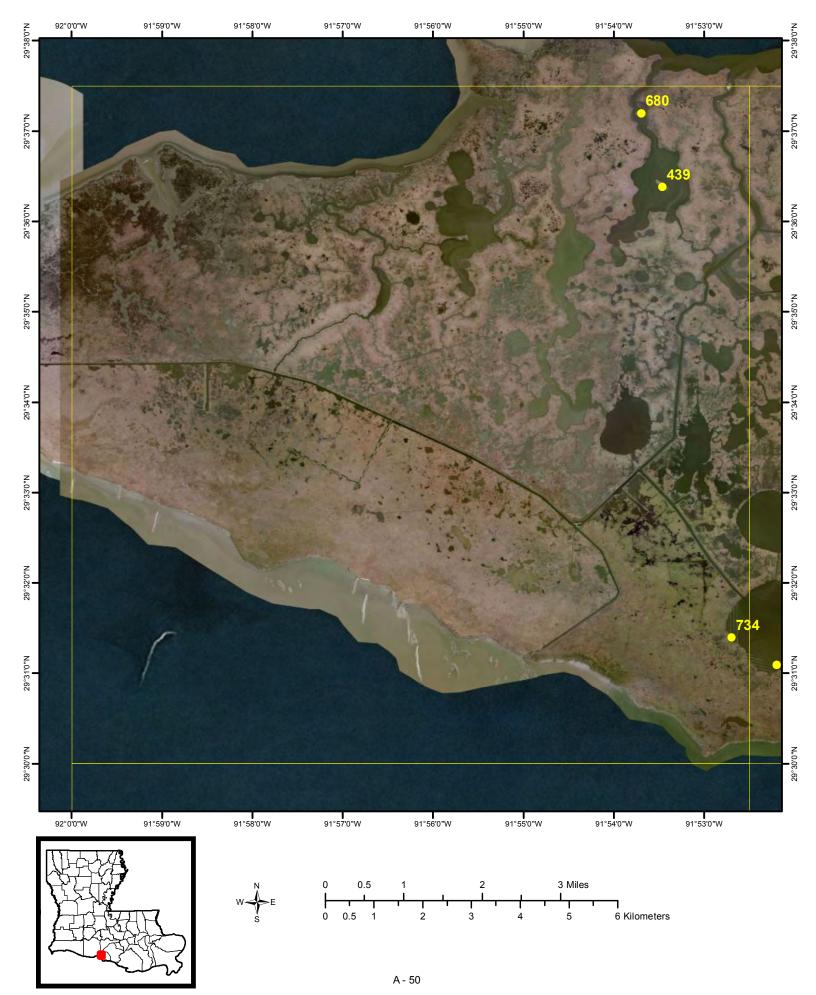


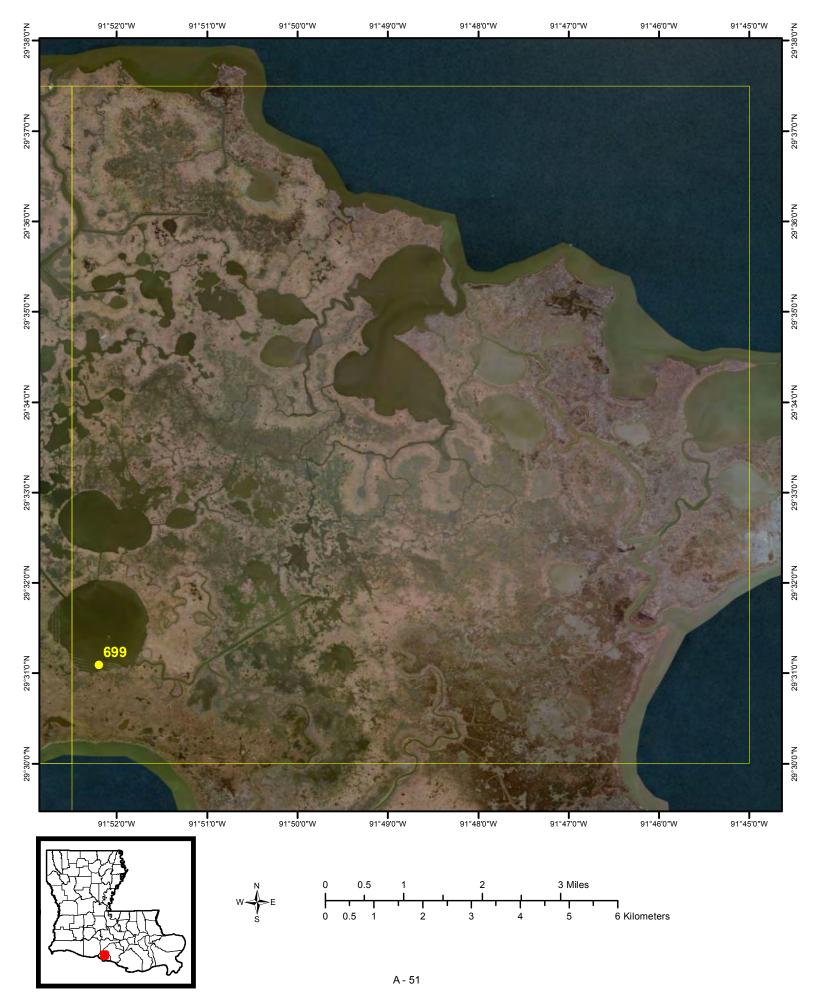


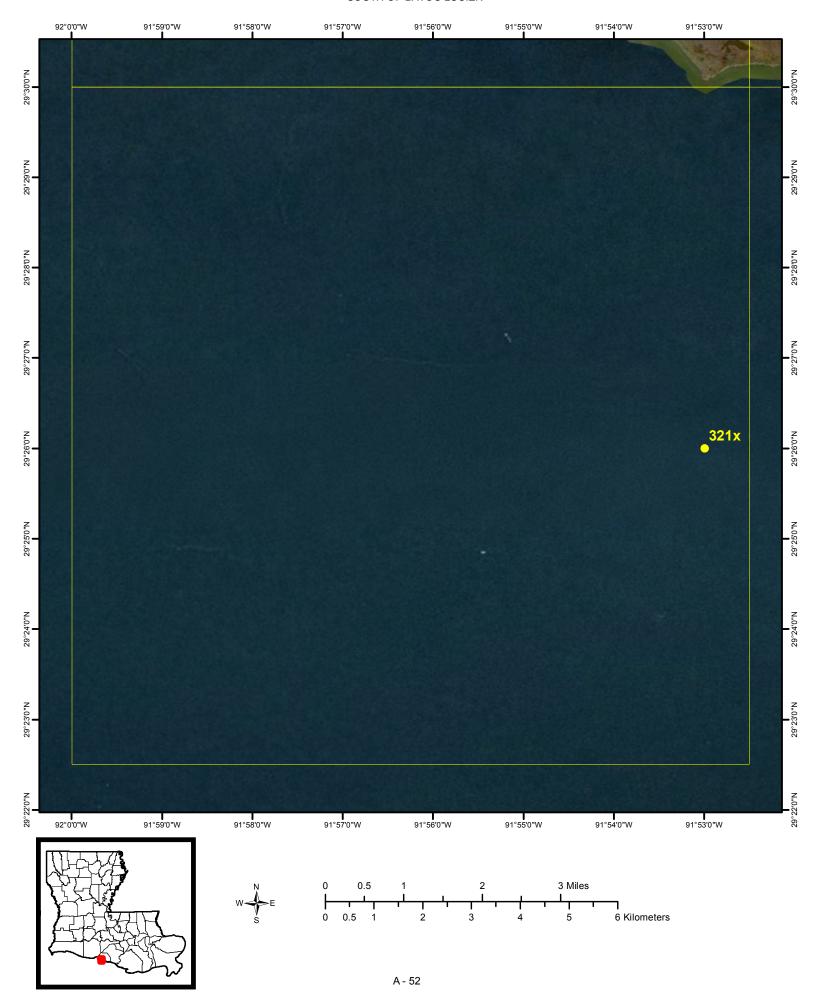


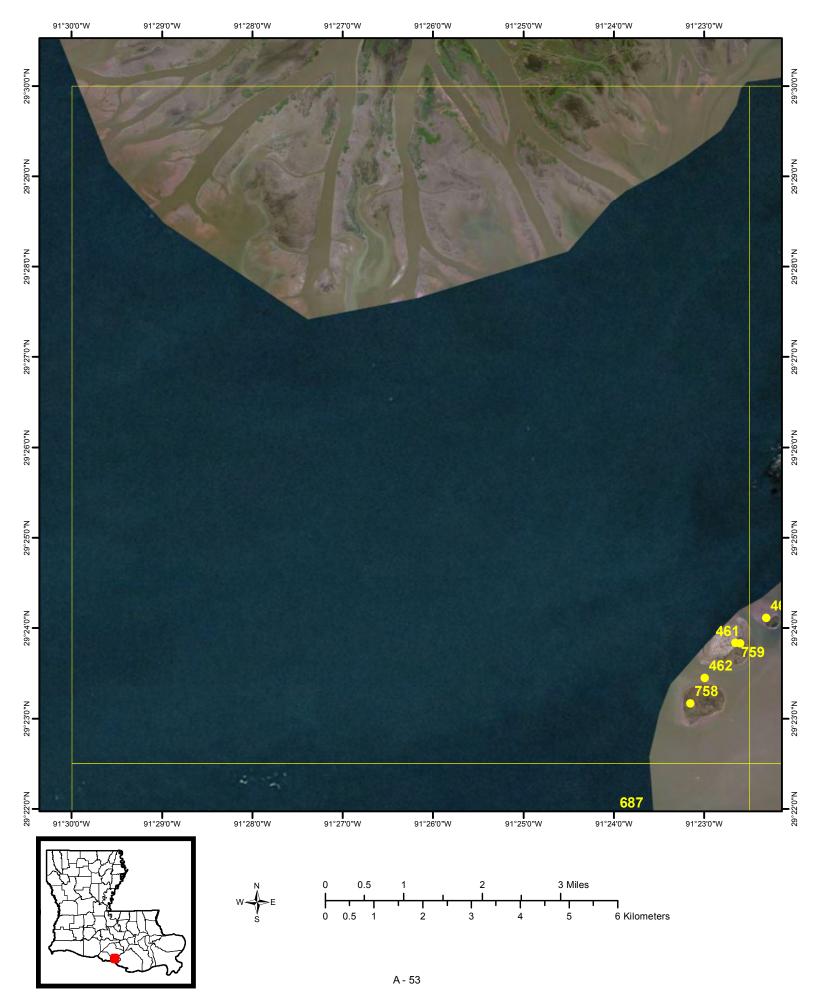


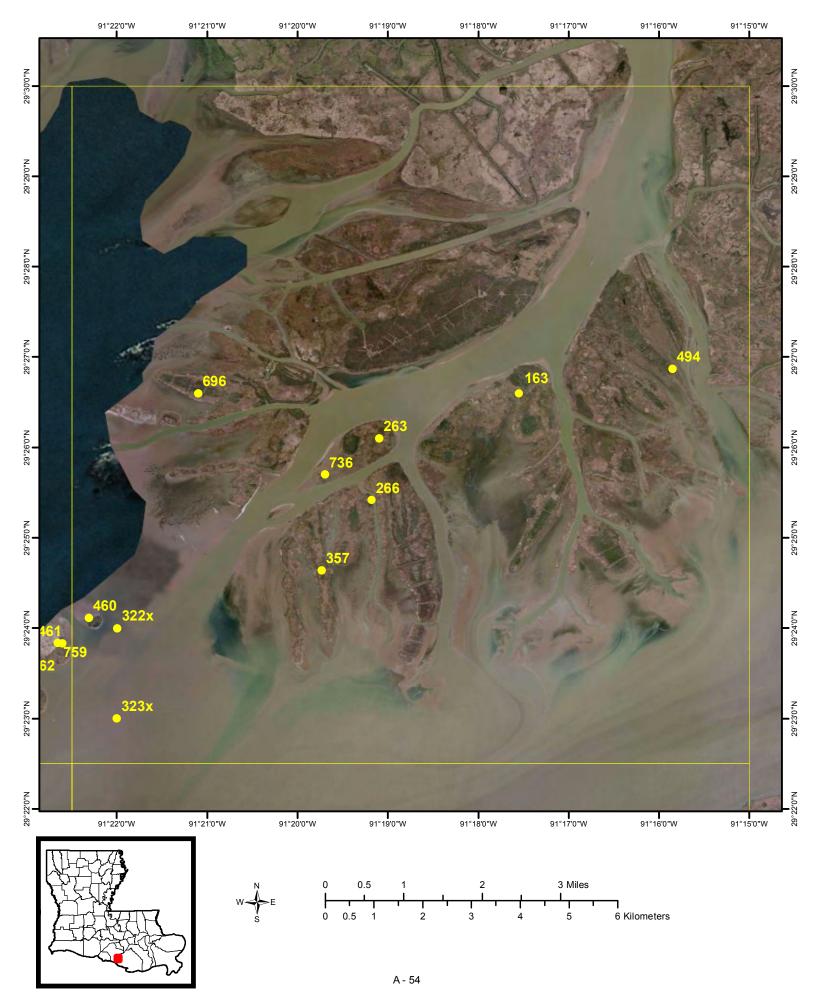


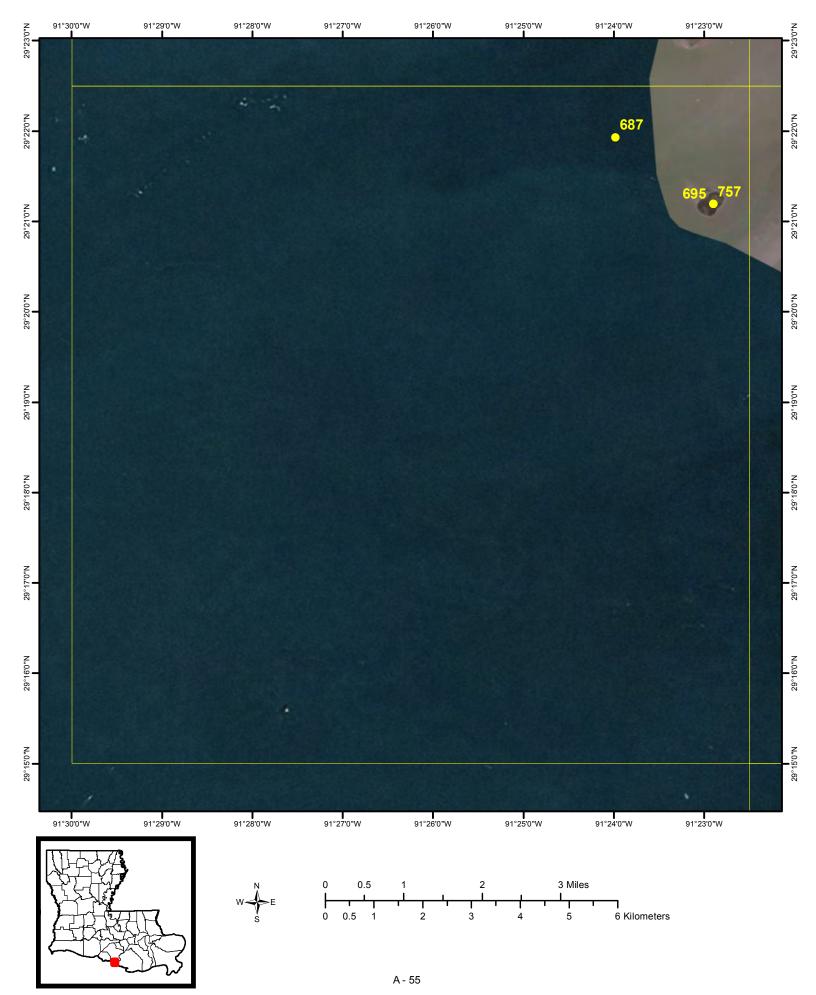


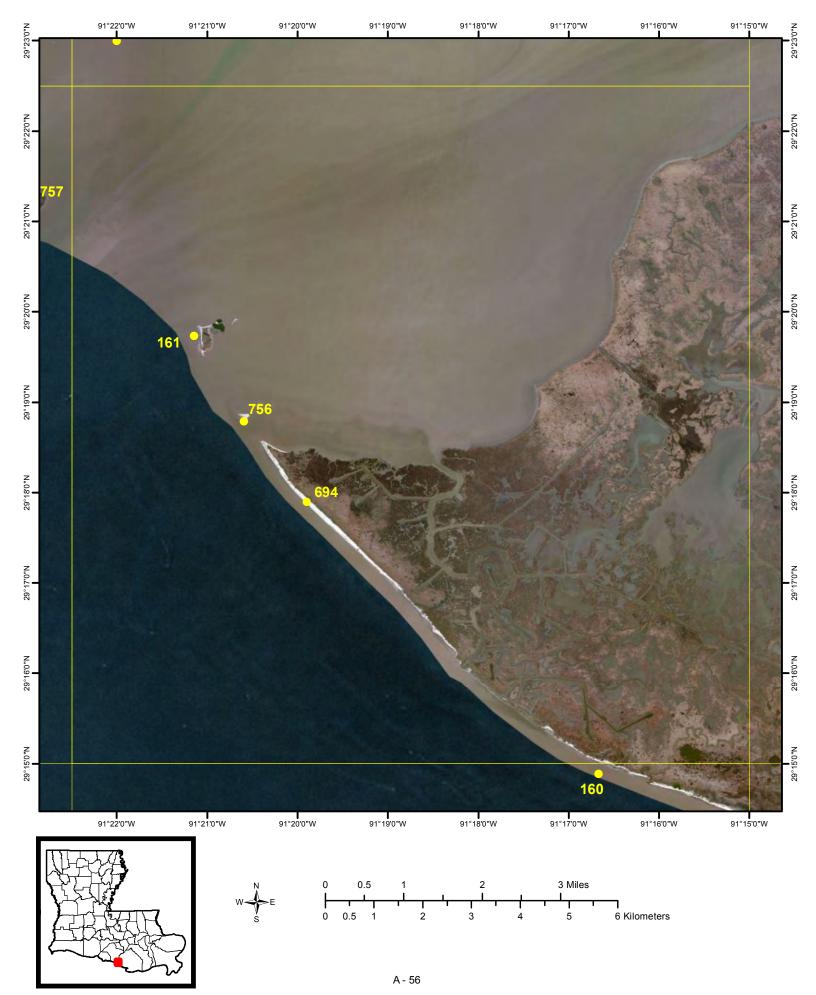


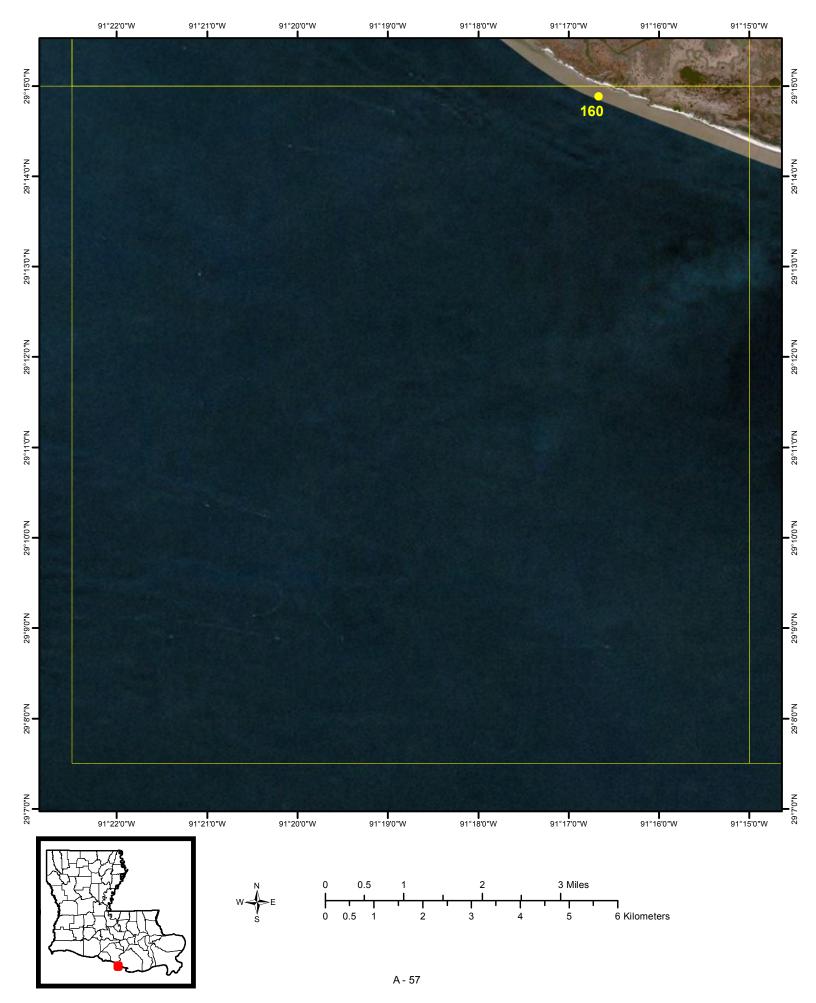


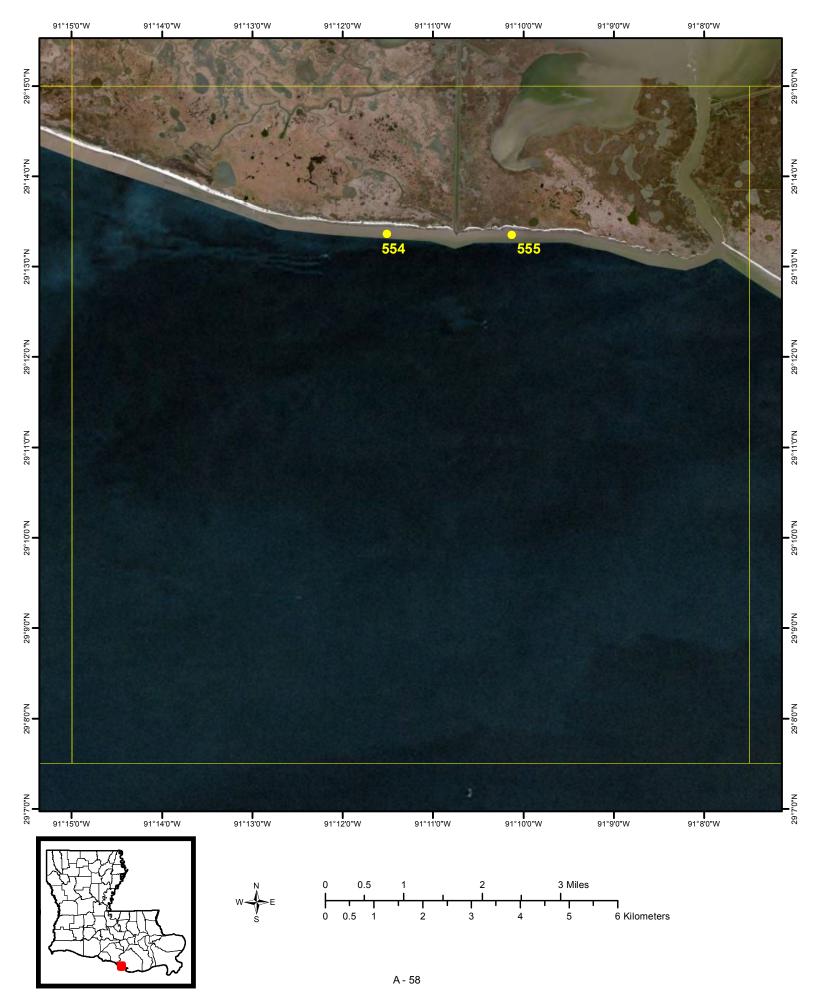




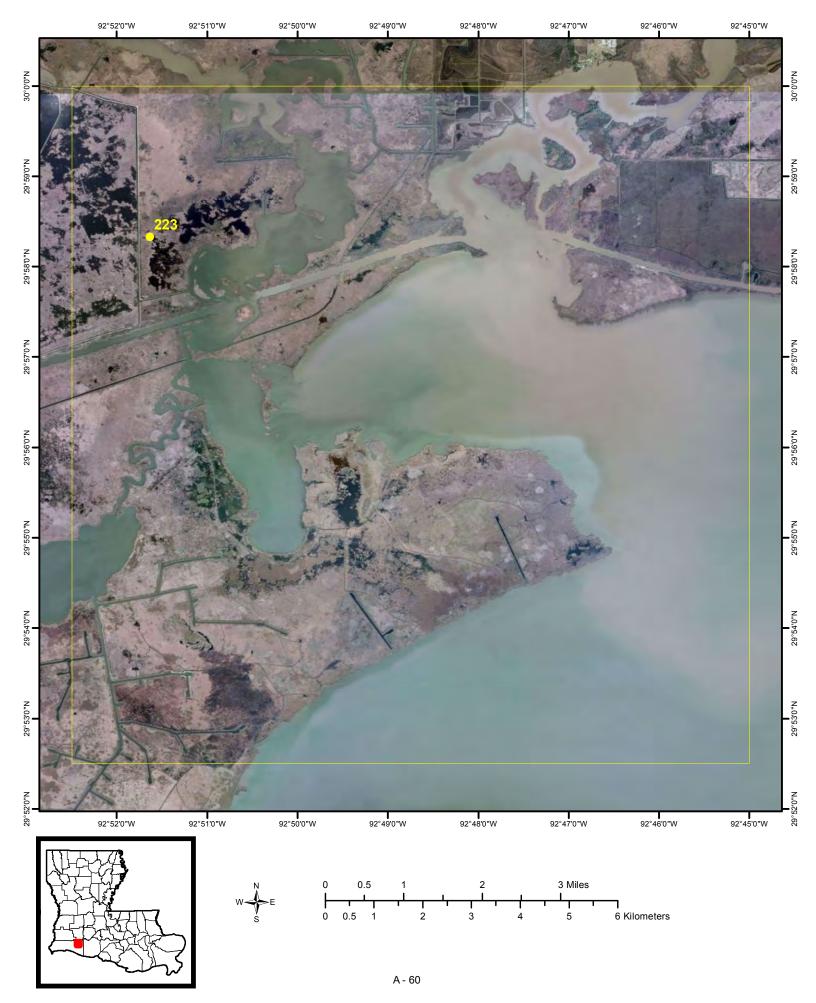


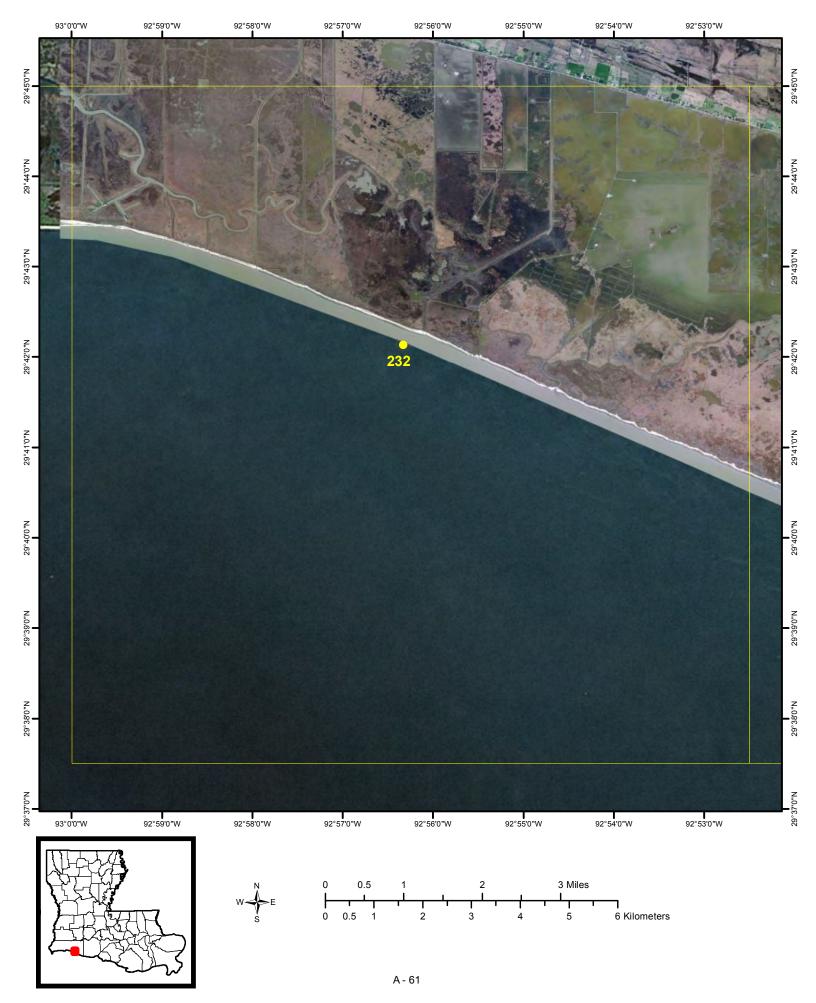


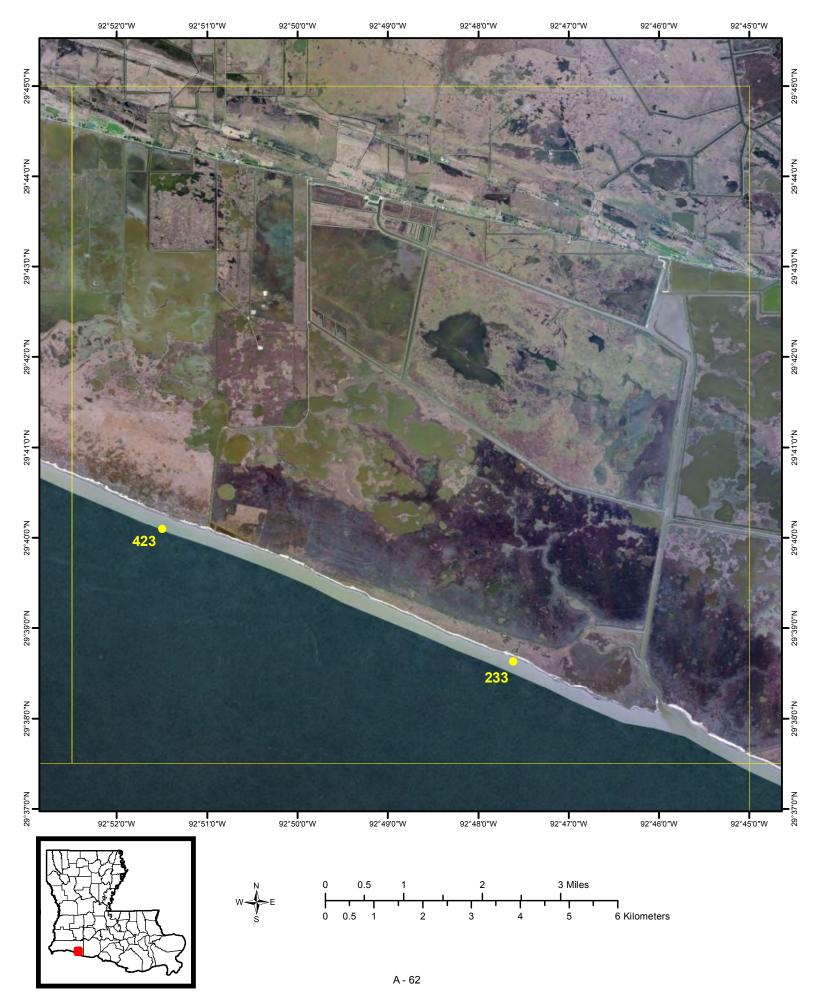


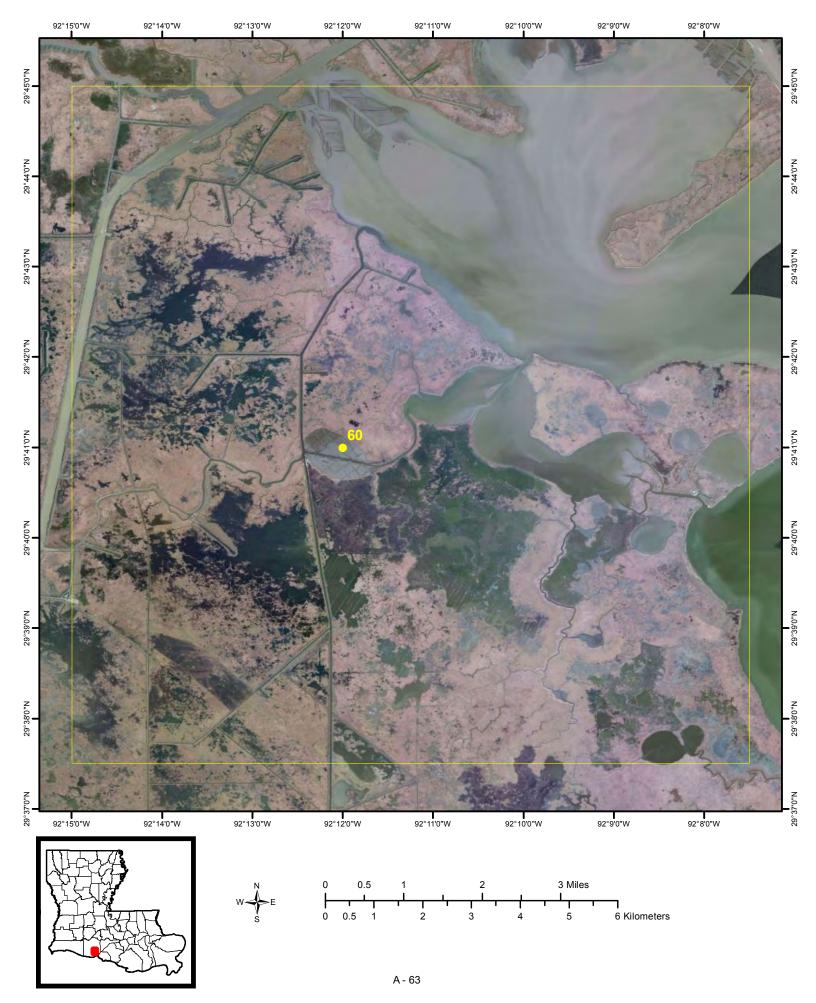


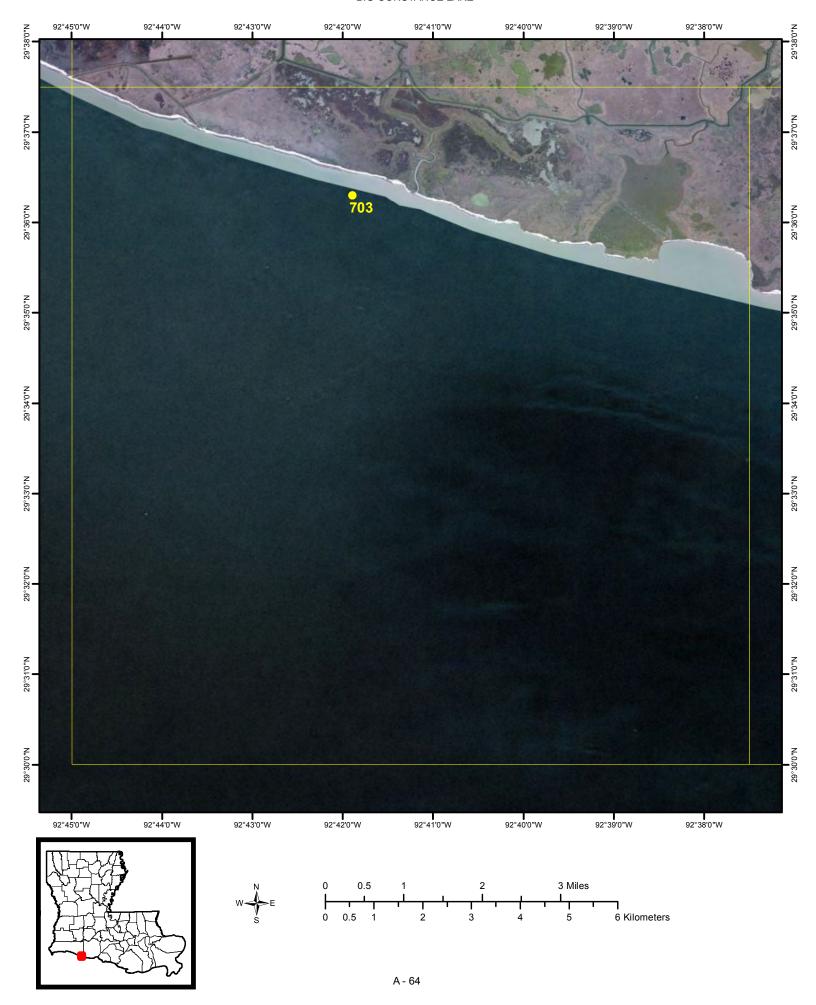


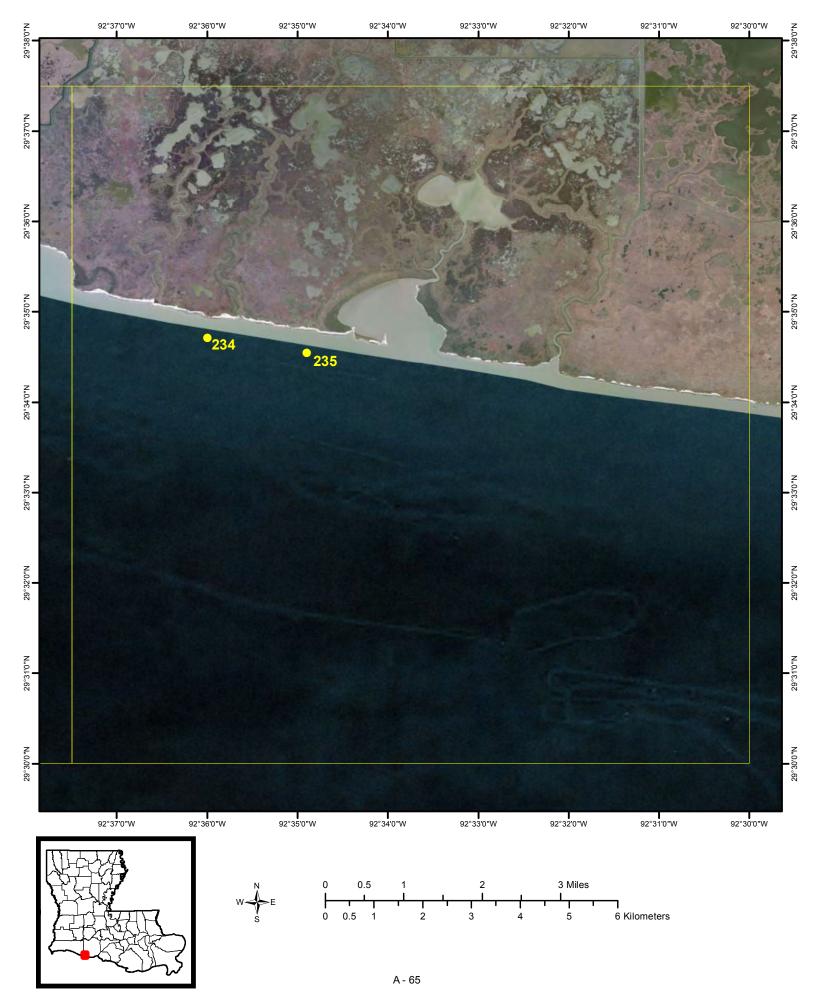


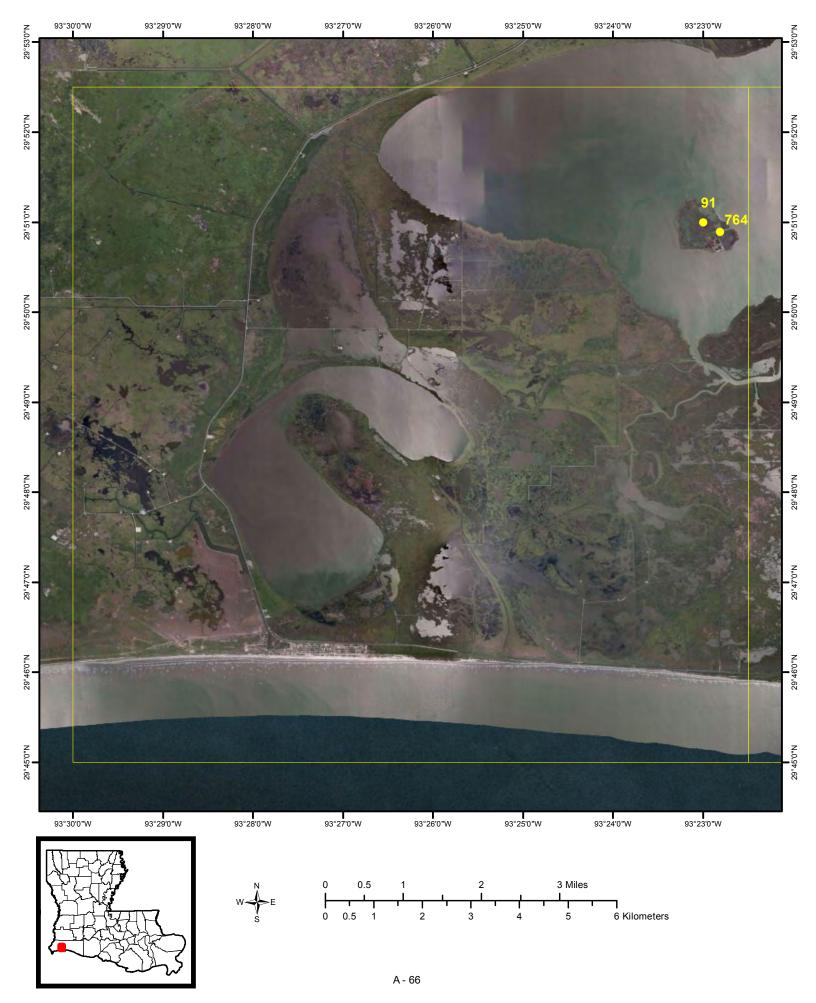




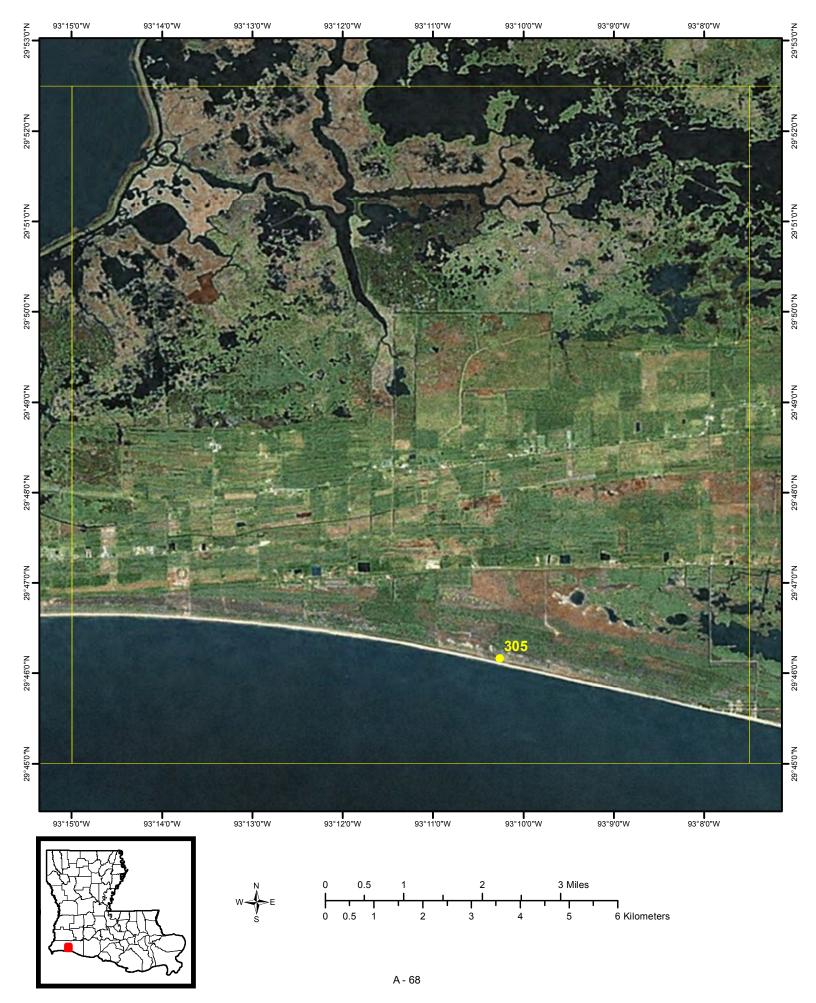


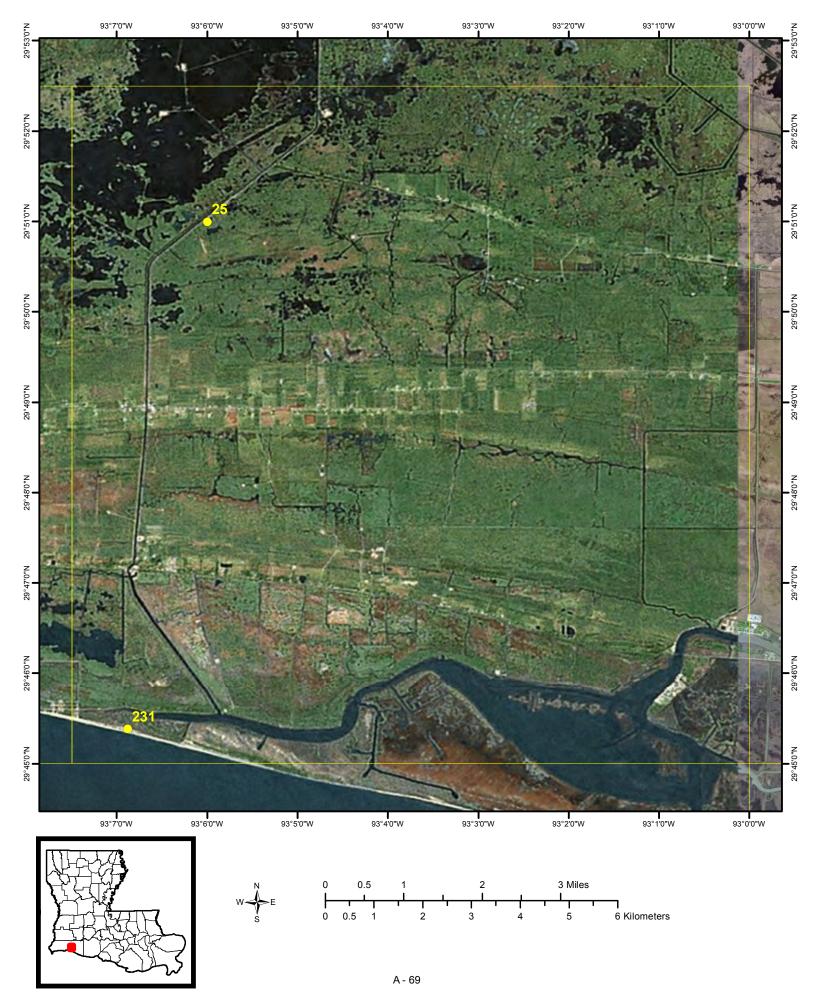


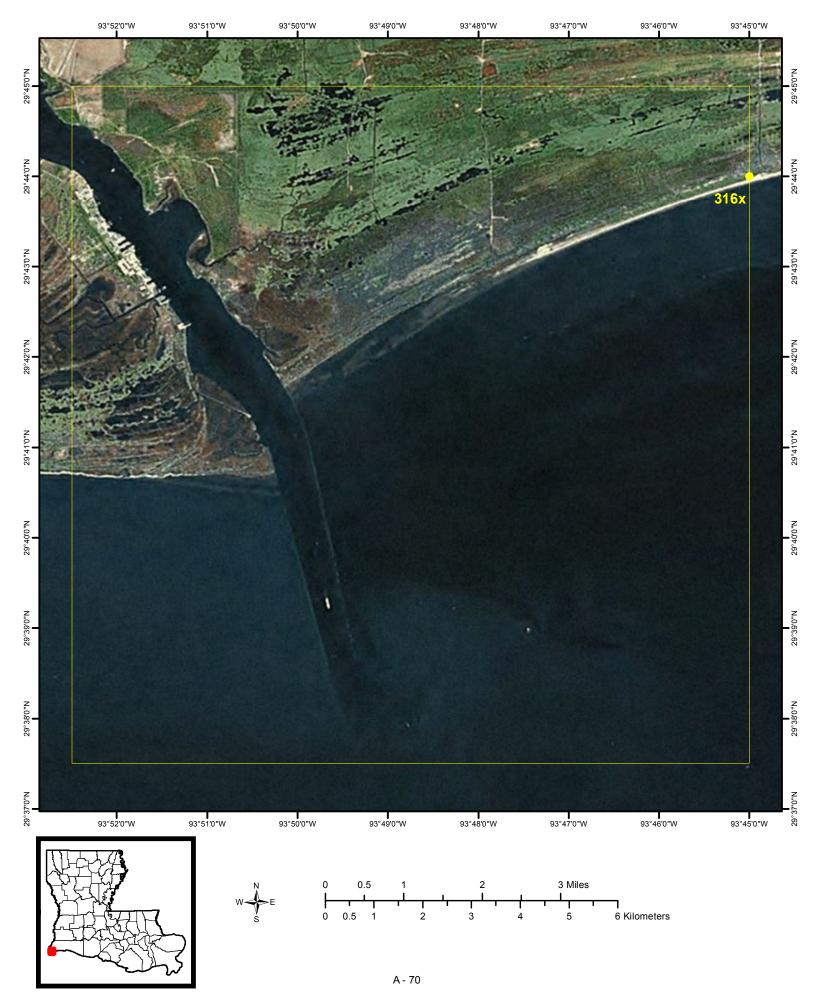


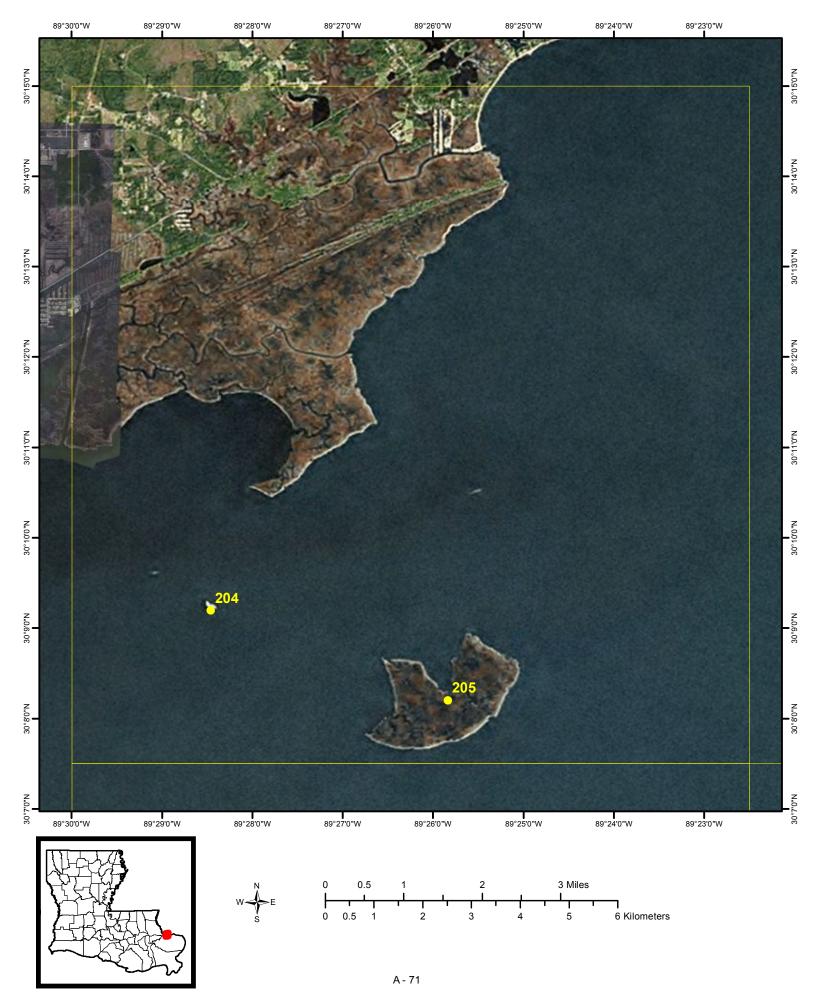


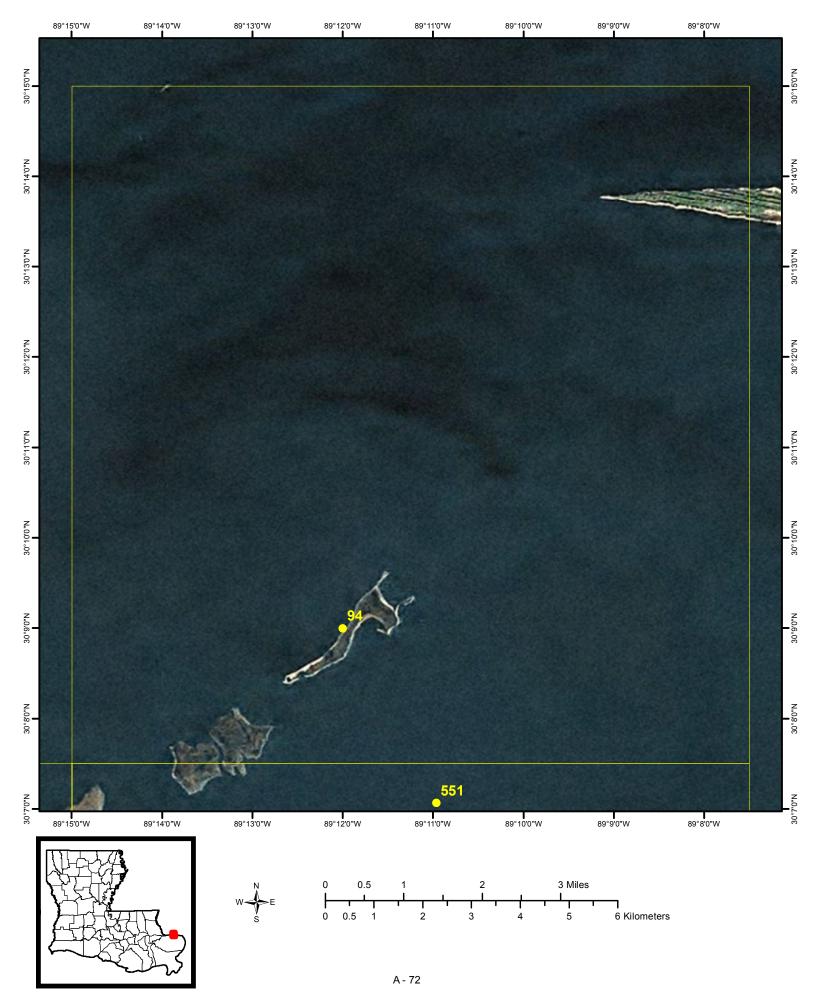


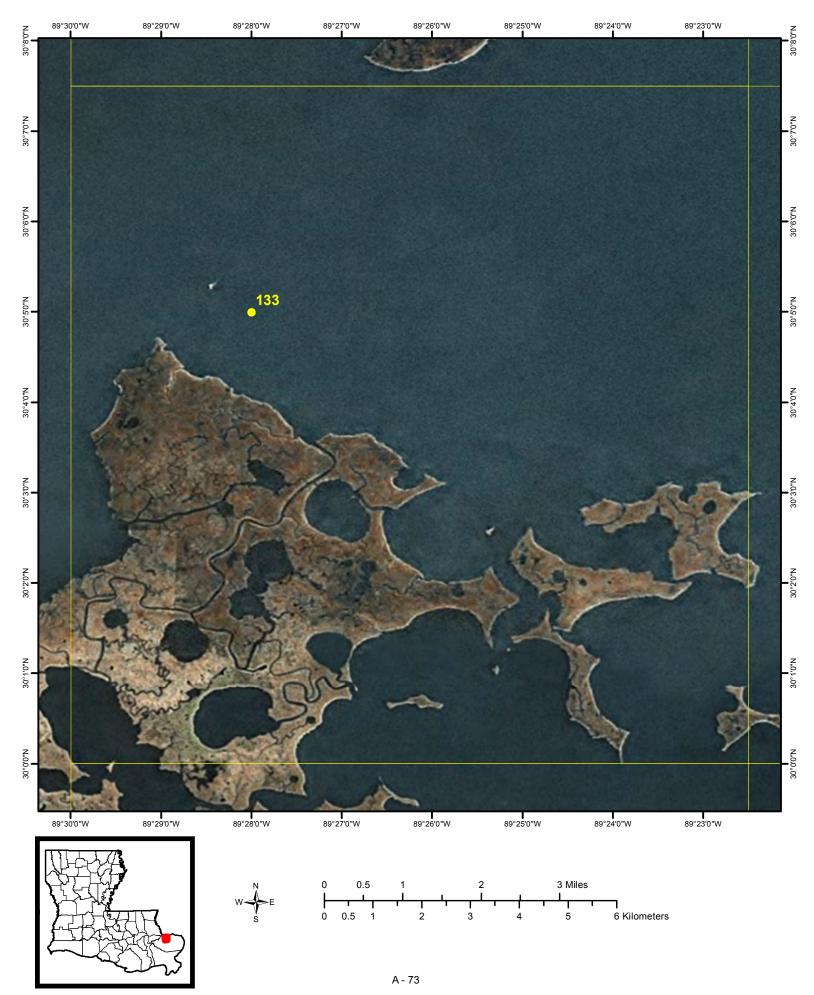


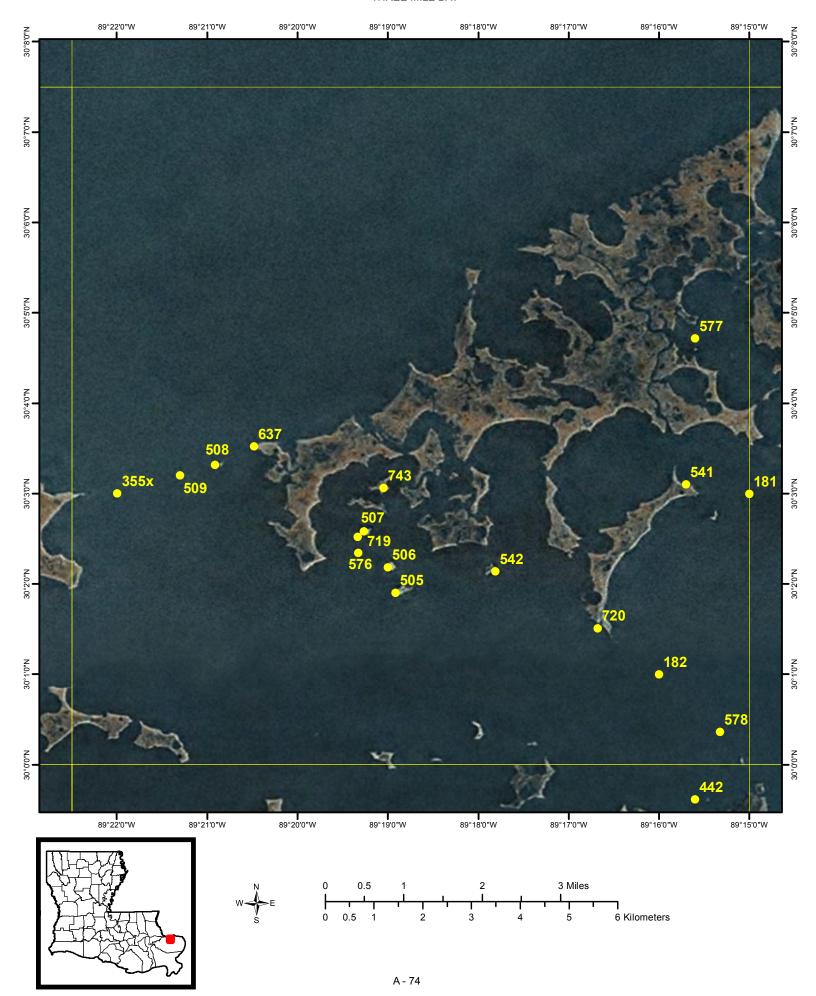


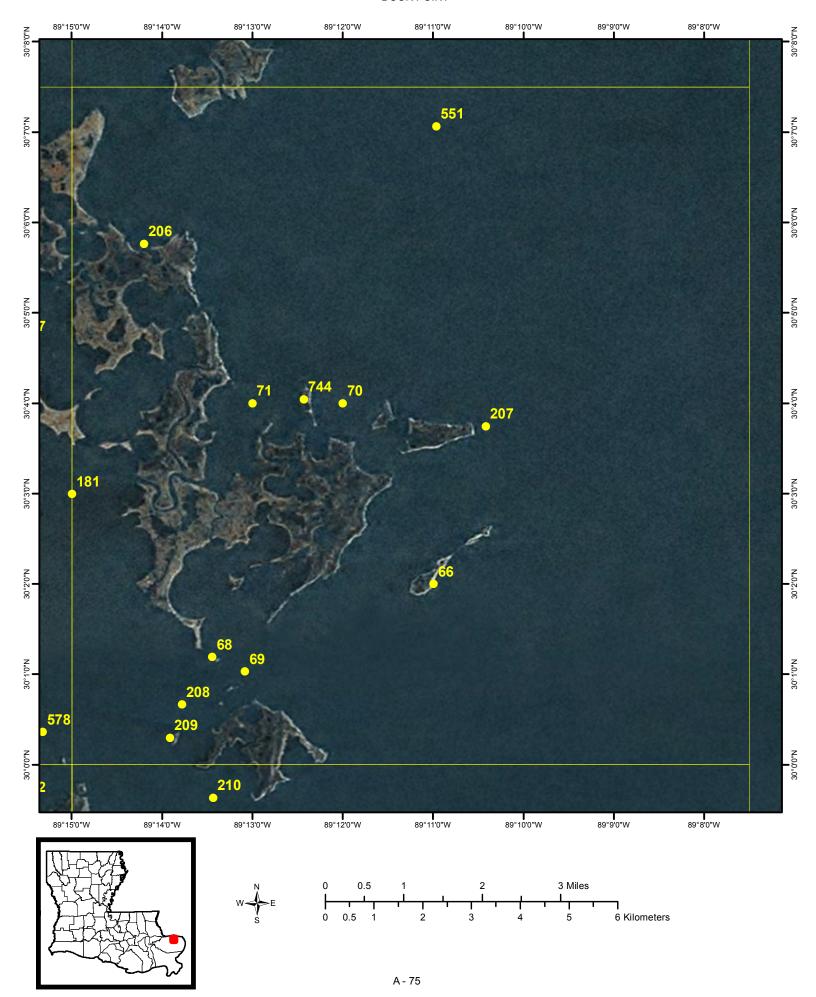


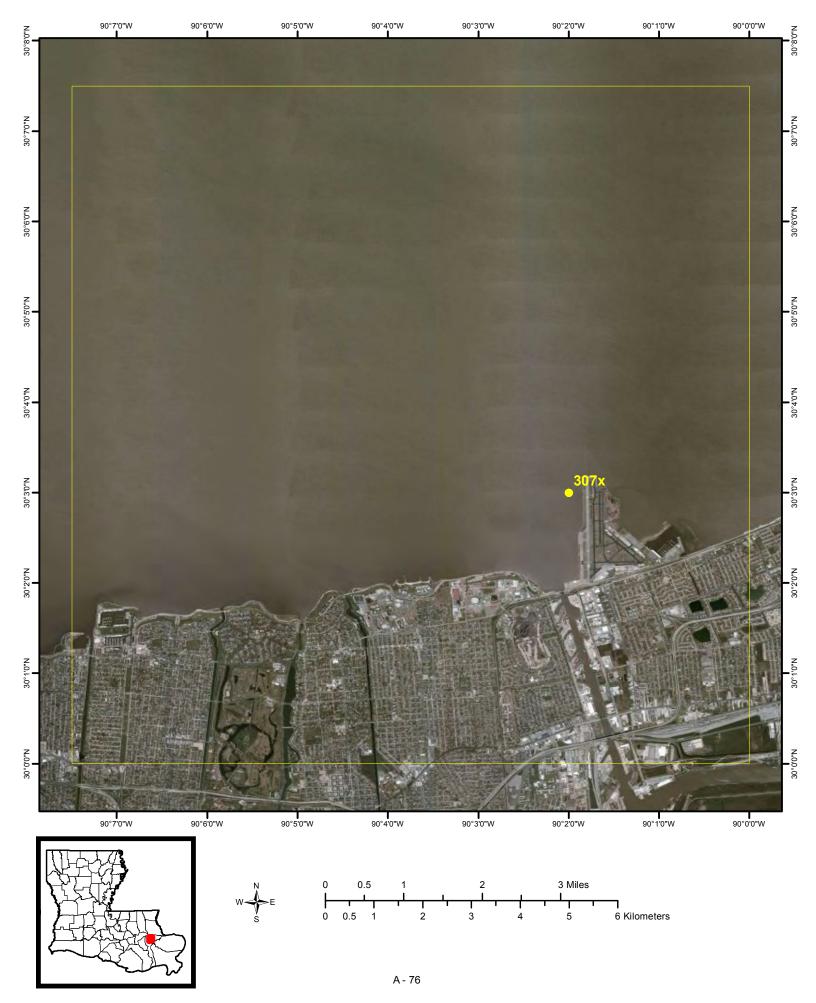


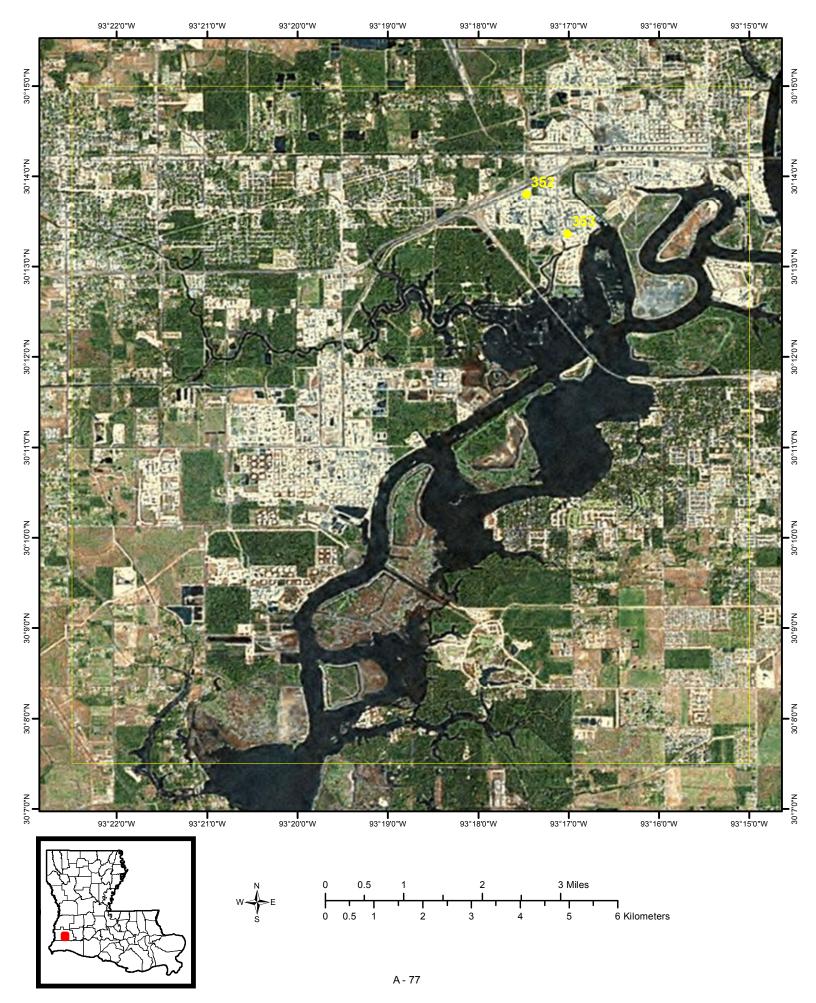












APPENDIX B The following maps depict the arbitrary points mentioned in the body of this document and surrounding seabird colony locations.

