

3. Database Management and Data Validation

3.1 Quality Assurance of New and Existing Data

The Status and Trends Project compiles, manages and analyzes monitoring and environmental impact data collected by organizations with quality assurance procedures and long-term records of, or commitment to, monitoring and managing Galveston Bay. The data is processed into a consistent format and stored in secure databases.

All of the data employed in this project are non-direct in that they are obtained from the agencies or organizations that made the direct measurements. The entire project is limited by the data initially collected and stored in databases maintained by resource agencies and volunteer monitoring programs. Every monitoring program differs in the quantity and quality of procedural documentation, metadata, and Quality Assurance/Quality Control (QA/QC) practices. All data is accepted from the source agencies, but is subject to a validation process (see Figures 3.1.1 and 3.1.2).

Additionally, Status and Trends Project staff work with contributing agencies and organizations to determine limitations of the data. When applicable, limitations are noted in this report and in web-based deliverables. The Status and Trends Project obtained approved Quality Assurance Project Plans (QAPPs), procedures manuals describing sampling and analytical methodology, quality assurance practices, and associated metadata when available. The Status and Trends Project maintains a TCEQ and EPA approved QAPP for the work detailed in this report.

Figure 3.1.1. Data acquisition and processing methodology for data obtained from the TCEQ

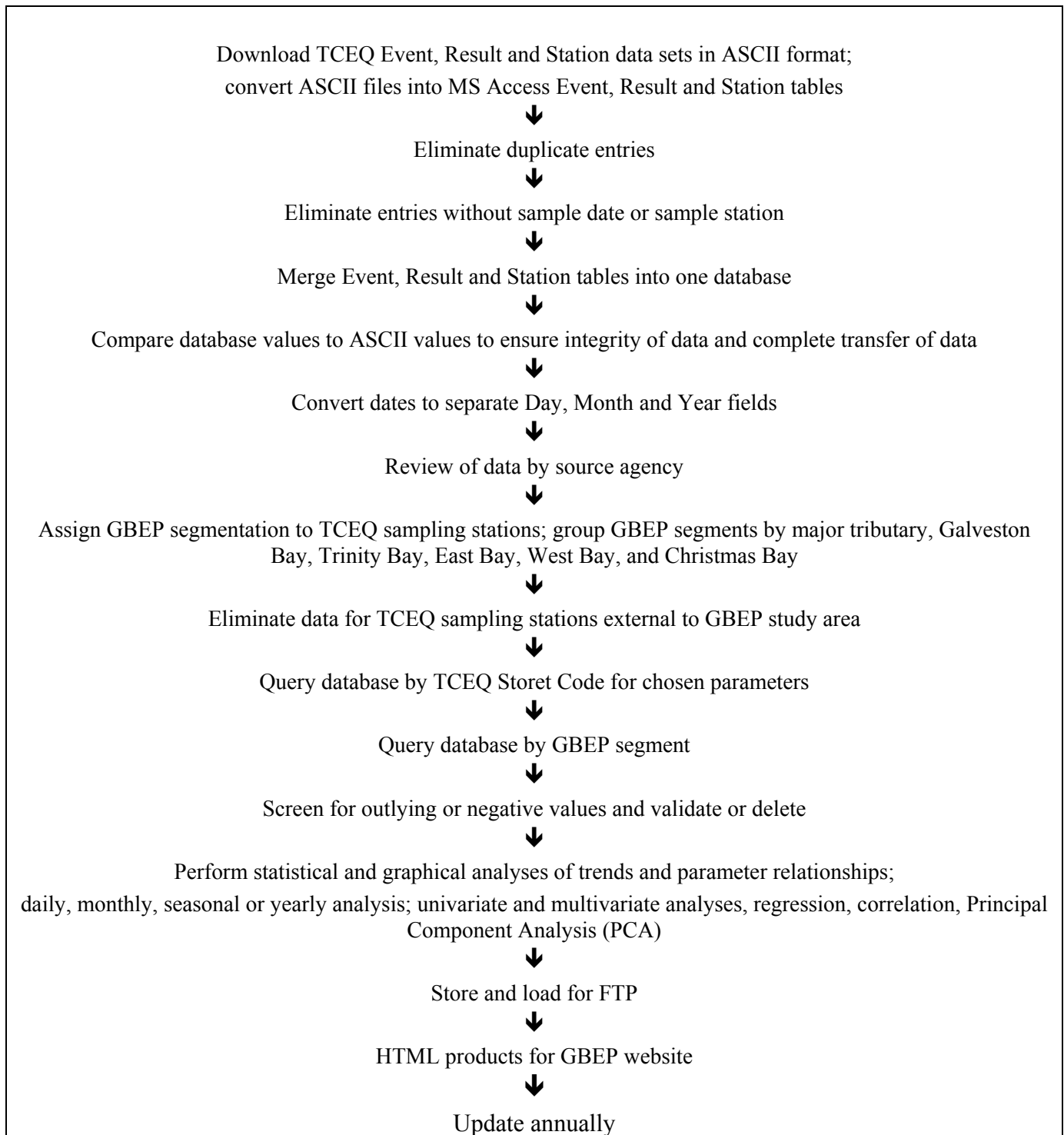
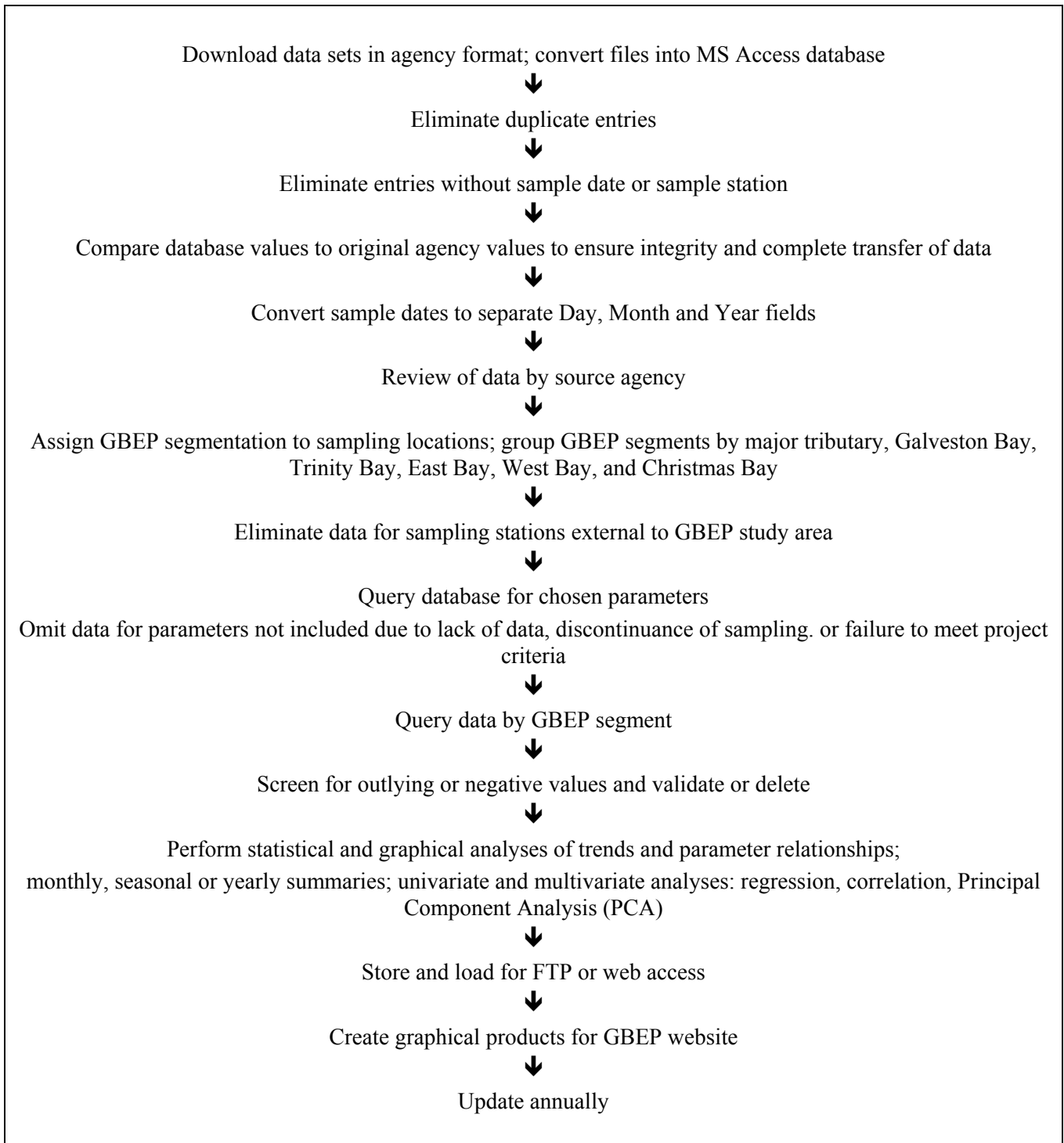


Figure 3.1.2. Data acquisition and processing methodology for data from agencies with simple database structure



3.2 Metadata

The Status and Trends Project acquires available information (metadata) describing the agency data sets employed including: data format, database construction, agency contact, sampling protocols (date, time, station location, sampling gear, etc.), analytical methodologies, quality assurance procedures, and other associated metadata. Agency metadata come in the form of metadata files and agency publications. The information is not always available depending upon the size of the database (smaller agency data sets tend to not have metadata) and the source agency's resources and abilities in creating the metadata.

As a result the Status and Trends Project creates metadata describing agency databases when necessary. The Status and Trends Project also creates metadata for its spatial products (GBEP segmentation and agency sampling station maps). All metadata files are included in Appendix G and are available on the [Status and Trends website](#). Relevant agency metadata publications are cited in Section 7 of this report.