United States Department of Agriculture

US Forest Service  
Natural Resource Manager (NRM)

# Air v3.0.0 User Guide Data Dictionary

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## Technical Support

If you have questions or need help with this document, contact the [Customer Help Desk (CHD)](http://fsweb.chd.fs.fed.us) and fill out a help ticket (more information available in [Chapter 1](http://fsweb.nris.fs.fed.us/products/air/documentation.shtml)).

### Definitions

The following are definitions of terms used throughout this document:

Table 1: Definition of terms in this document

| **Data Type** | **Definition** |
| --- | --- |
| Date | A data type which contains only dates, e.g. 7/20/2008 |
| Double / Number | A data type for storing numeric data requiring a large number of decimals; an example is (11,3) where there are allowed a total of 11 digits, 8 or fewer to the left of the decimal, and three or fewer to the right |
| Geometry | A data type for storing the physical point or polygon spatial geometry |
| Integer | A data type for storing whole number numeric data |
| Object ID | A data type for storing and identifying an object |
| String / Varchar2 | A data type for storing text data |
| VC | Variable characters |

## Data Tables

### NRA\_APPLICATION\_PARAMETERS

Description: parameters of the application

Table 2: Description of fields in the application parameter table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| AT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Date the record was last modified; default is the system time stamp systimestamp |
| PARAM\_GROUP | No | VC(30) | Options include “ANY,” “PROD,” “DEV” |
| PARAM\_VERSION | No | VC(60) | Version of parameter; i.e., “2.3” |

### NRA\_AUDIT\_TBL

Description: stores the changes made to each table

Table 3: Description of fields in the audit table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| AT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Date the record was last modified; default is the system time stamp systimestamp |
| LOGON\_NAME | Yes | VC(30) | The name of the security profile logon\_name that is current during the edit |
| OP\_TIMESTAMP | Yes | Date | Date and time on which a change was made to a row; default is Sysdate |
| OPERATION\_TYPE | Yes | VC(6) | The type of operation; valid values are “Insert,” “Update,” and “Delete” |
| TABLE\_CN | Yes | VC(40) | The resulting value of the primary key column in the table that was edited |
| TABLE\_NAME | Yes | VC(60) | The name of the table that was edited |
| USERNAME\_ORACLE | Yes | VC(30) | The name of the Oracle user performing the edit; default is sys\_context (USERENV, OS\_USER) |
| OP\_USE | No | VC(60) | The host system username that started the Oracle session in which an edit was accomplished; default is sys\_context (USERENV, OS\_USER) |
| TABLE\_CN\_OLD | No | VC(40) | The pre-update value of the primary key column in the table that was edited |

### NRA\_BLOB\_REFERENCES

Description: stores the images, documents, abstracts, and any other blobs

Table 4: Description of fields in the blob references table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| BLOB\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| BLOB\_CONTENT | Yes | Blob | The actual blob content such as the image, document, abstract, file, etc. |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MIME\_TYPE\_FK | No | VC(15) | Foreign Key to nra\_mime\_types |

### NRA\_COMMENTS

Description: stores the comments from each form that has a comment button at the bottom of the form

Table 5: Description of fields in the comments table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COMMENT\_DATETIME | Yes | Date | The date and time each comment was entred; default is sys\_date |
| COMMENT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| COMMENT\_TEXT | Yes | VC(4000) | The actual comment text the user entered |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| AIR\_USER | No | VC(30) | The user who entered the comment; default is sys\_context (USERENV, OS\_USER) |
| COMMENT\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_comment\_types |
| EMISSION\_CN\_FK | No | VC(40) | Foreign Key to nra\_emissions |
| FED\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| MNTR\_PROJECT\_CN\_FK | No | VC(40) | Foreign Key to nra\_monitoring\_projects |
| RECEPTOR\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_source\_model\_receptors |
| RESULTS\_CN\_FK | No | VC(40) | Foreign Key to nra\_model\_receptor\_results |
| SITE\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_monitoring\_sites |
| SOURCE\_CN\_FK | No | VC(40) | Foreign Key to nra\_sources |
| SOURCE\_PROJECT\_CN\_FK | No | VC(40) | Foreign Key to nra\_source\_projects |
| SOURCE\_RESPONSE\_CN\_FK | No | VC(40) | Foreign Key to nra\_source\_response |
| SOURCE\_STATUS\_CN\_FK | No | VC(40) | Foreign Key to nra\_source\_status |
| THRESHOLD\_CN\_FK | No | VC(40) | Foreign Key to nra\_thresholds |
| VISIT\_CN\_FK | No | VC(40) | Foreign Key to nra\_visits |
| WILD\_PARK\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_wilderness\_parks |

### NRA\_CONTACTS

Description: stores the contacts for the monitoring projects, source permits, and other Air activities

Table 6: Description of fields in the contacts table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| ACTIVE | Yes | VC(3) | Valid values are “Yes” and “No”; default is “Yes” |
| CONTACT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| CONTACT\_NAME | Yes | VC(100) | Name of Organization, Lab or concatenation of Last and First Names |
| CONTACT\_TYPE | Yes | VC(12) | Type of contact; valid values are “Person,” “Organization,” or “Lab” |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| FIRST\_NAME | No | VC(30) | First name of the contact if it is a person |
| LAST\_NAME | No | VC(30) | Last name of the contact if it is a person |
| PARENT\_CONTACT\_CN | No | VC(40) | Foreign Key to nra\_contacts; this is a recursive key and is the organization of the person, if needed |

### NRA\_DEPOSITION\_SAMPLES

Description: stores the monitoring project deposition sample data

Table 7: Description of fields in the deposition samples table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DEP\_SAMPLE\_TYPE\_FK | Yes | VC(10) | Foreign Key to nra\_deposition\_sample\_types |
| DEPOSITION\_SAMPLE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| END\_DATETIME | Yes | Date | End date and time of the deposition sample |
| LAB\_RESULTS | Yes | VC(1) | Valid values are “A” for analytical lab, “F” for field lab, and “B” for both; the default is “A” |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| QA\_SMPL\_TYPE\_FK | Yes | VC(10) | Foreign Key to nra\_qa\_sample\_types |
| SAMPLE\_ID | Yes | VC(43) | Unique, user- or lab-generated sample ID; this must be unique within each visit; Note: some protocols have a predefined ID format and the labs pick up and use that ID |
| SAMPLE\_VOLUME | Yes | Number | Displays the volume of the water sample in milliliters; use “0” for black, split, or snow core samples; use “999999” where sample volume data is unavailable |
| START\_DATETIME | Yes | Date | Start date and time of the deposition sample |
| VALIDITY\_TYPE\_FK | Yes | VC(30) | Foreign Key to nra\_validity\_types |
| VISIT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_visits |
| PRECIP\_COLLECT\_MTHD \_FK | No | VC(30) | Foreign Key to nra\_precip\_collection\_method |
| SAMPLE\_COMMENTS | No | VC(4000) | Comments about this specific example |
| VALIDITY\_REASON\_TYPES | No | VC(20) | Foreign Key to nra\_validity\_reason\_types |

### NRA\_DOCUMENTS

Description: stores the documents for the forms that actually have documents

Table 8: Description of fields in the documents table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| DOCUMENT\_TYPE\_FK | Yes | VC(50) | Foreign Key to nra\_document\_types; this is the type of document |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| ABSTRACT\_BLOB\_FK | No | VC(40) | Foreign Key to nra\_blob\_references; this is the document abstract |
| AUTHOR | No | VC(100) | Person or persons who wrote the document |
| DOC\_COVER\_IMAGE\_BLOB \_FK | No | VC(40) | Foreign Key to nra\_blob\_references; this is an image of the cover of the document |
| DOCUMENT\_BLOB\_FK | No | VC(40) | Foreign Key to nra\_blob\_references; this is the actual document |
| LINK | No | VC(1000) | URL or link to the document if it is not actually stored in the Air v2.x database |
| TITLE | No | VC(240) | Document title |
| YEAR | No | VC(4) | Year the document was written or published |

### NRA\_EMISSIONS

Description: stores information about the source and amount of the emission

Table 9: Description of fields in the emissions table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| AVERAGING\_PERIOD\_TYPE \_FK | Yes | VC(40) | Foreign Key to nra\_threshold\_avgng\_prd\_types; this is the averaging period of the emission value |
| EMISSION\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| EMISSION\_STAGE\_TYPE\_FK | Yes | VC(15) | Foreign Key to nra\_emission\_stage\_types; this is the emission stage type |
| EMISSION\_VALUE | Yes | Number | Value or amount of the emission |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| UOM\_FK | Yes | VC(40) | Foreign Key to nra\_unit\_of\_measure\_names; this is the unit of measure of the emission\_value field |
| POLLUTANT\_TYPE\_FK | No | VC(75) | Foreign Key to nra\_pollutants |
| SOURCE\_FK | No | VC(40) | Foreign Key to nra\_sources |
| SOURCE\_PROJECT\_FK | No | VC(40) | Foreign Key to nra\_source\_projects |

### NRA\_EMISSION\_CONTROLS

Description: stores the emission controls

Table 10: Description of fields in the emission controls table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| EMISSION\_CONTROL\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| EMISSION\_CONTROL\_TYPE \_FK | Yes | VC(30) | Foreign Key to nra\_emission\_control\_types; this is the emission control type |
| EMISSION\_STAGE\_TYPE \_FK | Yes | VC(15) | Foreign Key to nra\_emission\_stage\_types; this is the emission stage type |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| POLLUTANT\_TYPE\_FK | Yes | VC(75) | Foreign Key to nra\_pollutants; these are the types of pollutants |
| TECHNOLOGY\_TYPE\_FK | Yes | VC(30) | Foreign Key to nra\_technology\_types; these are the technology types |
| MAX\_EFFICIENCY | No | Number | Maximum control efficiency, in percent; valid values are Null and 0-100 |
| MIN\_EFFICIENCY | No | Number | Minimum control efficiency, in percent; valid values are Null and 0-100 |

### NRA\_FES\_ASSOC

Description: Fixed Equipment Sites association table to associate a transmitter to a receiver and record the distance between them

Table 11: Description of fields in the FES association table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| ASSOC\_FES\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites; this is the receiver |
| FES\_ASSOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| FES\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites; this is the transmitter |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| DISTANCE\_BETWEEN | No | Number(10,1) | Distance between the transmitter and the receiver, in kilometers; positive number with up to two decimal places |

### NRA\_FES\_TARGETS

Description: information about the Fixed Equipment Sites targets; these only apply to camera sites

Table 12: Description of fields in the FES targets table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FES\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| FES\_TARGET\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| TARGET\_NAME | Yes | VC(60) | The name of the fixed equipment target |
| AZIMUTH | No | Number(11,1) | The azimuth, in degrees, of the target transmitter |
| COMMENT\_TEXT | No | VC(40000) | Comments related to this target |
| ELEVATION | No | Number(3) | The elevation, in meters, of the target transmitter; only positive numbers |
| FRH | No | VC(10) | Function of Relative Humidity (fRH); this is specific to each IMPROVE site and used to interpret visibility data from the site |
| PATH\_LENGTH | No | Number | The path length, in kilometers; only positive numbers |
| TRANSMITTER\_LAT | No | VC(20) | The latitude of the target transmitter |
| TRANSMITTER\_LONG | No | VC(20) | The longitude of the target transmitter |

### NRA\_FIXED\_EQPMNT\_OPS\_DATES

Description: Fixed Equipment Sites equipment operating dates

Table 13: Description of fields in the FES operation dates table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| FE\_OPS\_DATE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| FIXED\_EQUPMNT\_DPLYD \_CN\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_eqpmnt\_deployed | |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| START\_DATE | Yes | Date | The date the equipment began operation | |
| END\_DATE | No | Date | The date the equipment completed operation | |

### NRA\_IMAGES

Description: stores the images

Table 14: Description of fields in the images table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| IMAGE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| DESCRIPTION | No | VC(1000) | Description of the image | |
| IMAGE\_BLOB\_CN\_FK | No | VC(40) | Foreign Key to nra\_blob\_references | |
| IMAGE\_DATE | No | Date | The date the image was taken; the default is the date the image was loaded into the database, which is sysdate | |
| NAME | No | VC(100) | The name of the image, for example “blue\_hills.jpg”; the default name is the filename | |
| PHOTOGRAPHER | No | VC(100) | The name of the person who captured the image | |
| SOURCE\_URL | No | VC(1000) | The long path (including filename) from where the image was loaded | |

### NRA\_MODEL\_RECEPTOR\_RESULTS

Description: this table stores the source model receptor results

Table 15: Description of fields in the model receptor results table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| AVERAGING\_PERIOD\_TYPE \_FK | Yes | VC(40) | Foreign Key to nra\_threshold\_avgng\_prd\_types | |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| RECEPTOR\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_model\_receptors | |
| RESULTS\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| THRESHOLD\_TYPE\_FK | Yes | VC(5) | Foreign Key to nra\_threshold\_types | |
| UOM\_CODE\_FK | Yes | VC(40) | Foreign Key to nra\_unit\_of\_measure\_names; this is the unit of measure for the modeled value field | |
| AQRV\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_aqrv\_types | |
| MODELED\_VALUE | No | VC(30) | Source Permit modeled result value | |
| POLLUTANT\_\_TYPE\_FK | No | VC(75) | Foreign Key to nra\_pollutant\_types | |
| SRI\_TYPE\_FK | No | VC(50) | Foreign Key to nra\_sri\_types | |
| SR\_TYPE\_FK | No | VC(50) | Foreign Key to nra\_sr\_types | |
| THRESHOLD\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_threshold\_types | |

### NRA\_MONITORING\_PROJECTS

Description: the main table for the Monitoring Project form

Table 16: Description of fields in the monitoring projects table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| MNTR\_PROJECT\_NAME | Yes | VC(80) | Unique monitoring project name | |
| MNTR\_PROJECT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| PUBLISH | Yes | VC(3) | Is the data ready to be published to the EDW? Valid values are “Yes” and “No”; the default is “No” | |
| QA\_QC | Yes | VC(3) | Has the data been run through the Quality Analysis/Quality Control (QA/QC) program? Valid values are “Yes” and “No”; the default is “No” | |
| START\_DATE | Yes | Date | The month and year the monitoring project started | |
| CONTACT\_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts | |
| END\_DATE | No | Date | The month and year the monitoring project ended | |
| MNTR\_PRJ\_STATUS\_TYPE | No | VC(8) | Status of the monitoring project; valid values are “Complete” and “Ongoing”; values are also stored in nra\_ref\_codes | |
| RLS\_EXTENT | No | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) | |

### NRA\_MONITOR\_SITE\_COVERS

Description: this table contains the monitoring site cover data; it contains the percentage of each cover type found on the site

Table 17: Description of fields in the monitoring site table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| COVER\_TYPE\_FK | Yes | VC(30) | | Foreign Key to nra\_cover\_types |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| MNTR\_SITE\_CVR\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| PERCENT\_COVER | Yes | Number | Percent of each cover type; valid values are Null and 1-100 | |
| SITE\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_monitoring\_sites | |
| DOMINANT\_AGE\_CLASS \_TYPE | No | VC(10) | Rough breakdown of existing vegetation categories; valid values are “0-10 yrs,” “10-25 yrs,” “25-50 yrs,” and “>50 yrs” | |

### NRA\_OTHER\_AFFECTED\_AREAS

Description: this table contains information about other affected areas

Table 18: Description of fields in the other affected areas table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| AFFECTED\_AREA\_NAME | Yes | VC(100) | | Name of other affected area |
| AFFECTED\_AREA\_TYPE\_FK | Yes | VC(50) | | Foreign Key to nra\_affected\_area\_types |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| OTHER\_AFFECTED\_AREA \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| RLS\_EXTENT | Yes | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) | |
| SDE\_SHAPE\_ID | Yes | Number | ARCsde required object\_id | |
| SHAPE | No | MDSYS.SDO \_GEOMETRY | Feature geometry | |
| SHAPE\_MODIFIED\_DATE | No | Date | Last time the feature shape was modified | |

### NRA\_PROJECT\_AFFECTED\_AREAS

Description: this table contains information about areas within the project that are affected

Table 19: Description of fields in the project affected areas table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| ADVERSE\_IND | Yes | VC(3) | | Adverse activity indicator flag; valid values are “Yes” and “No”; the default is “No” |
| DISTANCE\_FROM | Yes | Number(x,3) | | The distance from the source, in kilometers |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| PROJECT\_AFFECTED\_AREA \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| SOURCE\_PROJECT\_LOC\_FK | Yes | VC(40) | Foreign Key to nra\_source\_project\_locs; this is the location of each source permit | |
| WILDERNESS\_PARKS\_FK | Yes | VC(40) | Foreign Key to nra\_wilderness\_parks | |
| NON-ATTAINMENT\_FK | No | VC(50) | Foreign Key to nra\_non\_attainment\_pl | |
| OTHER\_AFFECTED\_AREAS \_FK | No | VC(40) | Foreign Key to nra\_other\_affected\_areas | |
| SOURCE\_FK | No | VC(40) | Foreign Key to nra\_sources | |
| SOURCE\_PROJECT\_FK | Yes | VC(40) | Foreign Key to nra\_source\_projects | |

### NRA\_PROTOCOLS

Description: List of monitoring protocols

Table 20: Description of fields in the protocols table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| PROTOCOL\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| PROTOCOL\_NAME | Yes | VC(300) | Unique Key; this is the unique name of each protocol | |
| DESCRIPTION | No | VC(240) | Description of each protocol, if available | |
| PROTOCOL\_DOC | No | VC(3) | Flag to indicate if a document explaining the protocol has been referenced and linked in the document section of the database; valid values are “Yes” and “No”; the default is “No” | |

### NRA\_SAMPLE\_CHAIN\_OF\_CUSTODIES

Description: people who had “custody” of the monitoring samples

Table 21: Description of fields in the sample chain of custody table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| ACTIVITY\_TYPE | Yes | VC(50) | These are the activities that can be conducted on the samples; valid values are “Analyzed,” “Collected,” “Filtered,” “Received,” “Shipped,” “Stored,” “Transferred,” or “Transported” |
| CHAIN\_OF\_CUSTODY\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| CHANGE\_DATETIME | Yes | Date | The date and time that the sample changed hands or that the contact first took control of the sample |
| CONTACT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_contacts |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| COMMENT\_TEXT | No | VC(4000) | Comments about this handling of the sample |
| DEPOSITION\_SAMPLE\_CN \_FK | No | VC(40) | Foreign Key to nra\_deposition\_samples; mutually exclusive with nra\_water\_samples |
| WTR\_SMPL\_CN\_FK | No | VC(40) | Foreign Key to nra\_water\_samples; mutually exclusive with nra\_deposition\_samples |

### NRA\_SOURCE\_CONTROLS

Description: this is a matrix table to link all the Source Permit controls data

Table 22: Description of fields in the source contols table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CONTROL\_METHOD\_FK | Yes | VC(30) | Foreign Key to nra\_source\_cntrl\_method\_types; this is the source permit control method type |
| EMISSION\_STAGE\_FK | Yes | VC(30) | Foreign Key to nra\_emission\_stage\_types; this is the source permit control stage type |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_CONTROL\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_PROJECT\_LOC\_CN \_FK | Yes | VC(40) | Foreign Key to nra\_source\_project\_locs; this is the location of the source permit |

### NRA\_SOURCE\_MODELS

Description: this table contains the Source Permit Model data

Table 23: Description of fields in the source models table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | | Default is the system time stamp, systimestamp |
| MODEL\_NAME\_FK | Yes | VC(40) | Foreign Key to nra\_model\_names; this is the name of each source permit model | |
| MODEL\_TYPE\_FK | Yes | VC(40) | Foreign Key to nra\_model\_types; this is the model type of each source permit model | |
| MODEL\_VERSION\_FK | Yes | VC(30) | Foreign Key to nra\_model\_version; this is the model version of each source permit model | |
| SOURCE\_MODEL\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() | |
| SOURCE\_PROJECT\_LOC\_CN \_FK | Yes | VC(40) | Foreign Key to nra\_source\_projects; this is the location of each source permit | |
| STANDARD\_GRID | Yes | VC(3) | Valid values are “Yes” or”No” | |
| HORIZONTAL\_GRID \_RESOLUTION | No | Number | Horizontal resolution of the numerical weather prediction model | |
| NUMBER\_EAST\_WEST \_GRID\_CELLS | No | Number | The number of grid cells from east to west of the weather prediction model | |
| NUMBER\_NORTH\_SOUTH \_GRID\_CELLS | No | Number | The number of grid cells from north to south of the weather prediction model | |
| NUMBER\_VERTICAL\_LEVELS | No | Number | The number of vertical levels of the weather prediction model | |
| SW\_CORNER\_LATITUDE | No | Number | The latitude of the southwest corner of the first grid cell (1,1) | |
| SW\_CORNER\_LONGITUDE | No | Number | The longitude of the southwest corner of the first grid cell (1,1) | |
| VERTICAL\_CELL\_HEIGHT | No | Number | Vertical resolution of the numerical weather prediction model | |
| YEARS | No | VC(30) | The years the source permit meteorological dataset covers (i.e., 1995-1997 or 1996) | |

### NRA\_SOURCE\_PROJECTS

Description: this table contains the source projects

Table 24: Description of fields in the source projects table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| BART | Yes | VC(3) | If Permit Type is “Modified,” then BART is activated |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_PERMIT\_TYPE \_FK | Yes | VC(40) | Foreign Key to nra\_source\_permit\_types |
| SOURCE\_PROJECT\_NAME | Yes | VC(60) | Name of project |
| SOURCE\_PROJECT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_PROJECT\_ID | Yes | Number | Unique ID |
| EPA\_RATING\_FK | No | VC(30) | Foreign Key to nra\_source\_epa\_rating\_types |
| EXIST\_RATING\_FK | No | VC(3) | Were existing regional models used? Valid values are “Yes” or “No” |
| FACILITY\_OWNER\_CONTACT \_FK | No | VC(8) | Foreign Key to nra\_source\_contact\_roles |
| MODEL\_COST | No | Number | Approximate cost of the modeling process |
| MODEL\_WEEKS | No | Number | Approximate number of weeks needed to complete modeling |
| MOU\_USED | No | VC(3) | Were MOU dispute resolution procedures used? Default is “No” |
| PERMIT\_NBR | No | VC(60) | Permit number |
| PERMIT\_PROJECT \_DESCRIPTION | No | VC(250) | Description of the permit project |
| PRIM\_REG\_AGCY\_CONT\_FK | No | VC(40) | Foreign Key to nra\_source\_contact\_roles; agency organization |
| SOURCE\_FK | No | VC(40) | Foreign Key to nra\_sources; primary source like a gas field; secondary sources captured |

### NRA\_SOURCE\_RESPONSE

Description: this table contains the Source Permit Response information

Table 25: Description of fields in the source response table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CONTACT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_contact\_roles; this is the contact the response is either “from” or “to” |
| FROM\_TO | Yes | VC(4) | Indicate if the response is “from” or “to” the contact; valid values are “From” and “To” |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| RESPONSE\_DATE | Yes | Date | Date the response was sent to or received from a contact |
| SOURCE\_RESPONSE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_STATUS\_FK | Yes | VC(40) | Foreign Key to nra\_source\_status; links the source permit responses to a status |
| SOURCE\_RMRK\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_source\_response\_remark\_type; this is the link to the source permit response; it contains a remark about the response |

### NRA\_SOURCE\_STATUS

Description: this table contains the Source Permit Status data

Table 26: Description of fields in the source status table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_PROJECT\_FK | Yes | VC(40) | Foreign Key to nra\_source\_projects; contains the source permit project ID |
| SOURCE\_STATUS\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| STATUS\_DATE | Yes | Date | The date each source permit status element was entered |
| STATUS\_ELEMENT\_TYPE \_FK | Yes | VC(40) | Foreign Key to nra\_source\_status\_element\_types; this links the status elements to the permit project |

### NRA\_SOURCE\_PROJECTS

Description: this table contains the source permit projects

Table 27: Description of fields in the source projects table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| BART | Yes | VC(3) | If Permit Type is “Modified” then BART is activated; default is “No” |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_PERMIT\_TYPE\_FK | Yes | VC(8) | Foreign Key to nra\_source\_permit\_types |
| SOURCE\_PROJECT\_NAME | Yes | VC(60) | Source permit project name |
| SOURCE\_PROJECT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_PROJECT\_ID | Yes | Number | Unique ID of each source permit project |
| EPA\_RATING\_FK | No | VC(30) | Foreign Key to nra\_source\_epa\_rating\_types |
| EXISTING\_REGIONAL \_MODEL | No | VC(3) | Were regional models used? Valid values are “Yes” or “No” |
| FACILITY\_OWNER\_CONTACT \_FK | No | VC(40) | Foreign Key to nra\_contacts |
| MODEL\_COST | No | Number | Approximate cost of modeling process |
| MODEL\_WEEKS | No | Number | Approximate number of weeks modeling process will take |
| MOU\_USED | No | VC(3) | Were MOU resolution procedures used? Valid values are “Yes” or “No” |
| PERMIT\_NBR | No | VC(60) | Source permit project number |
| PERMIT\_PROJECT \_DESCRIPTION | No | VC(250) | Description of the source permit project |
| PRIM\_REG\_AGENCY\_CONT \_FK | No | VC(40) | Foreign Key to nra\_contacts |
| SOURCE\_FK | No | VC(40) | Foreign Key to nra\_sources |

### NRA\_SOURCES

Description: this is the main table for the Sources form

Table 28: Description of fields in the sources table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| OFFICIAL\_SOURCE\_NAME | Yes | VC(100) | Official USGS name |
| SDE\_SHAPE\_ID | Yes | Number | ARCsde required object\_id |
| SOURCE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_TYPE\_FK | Yes | VC(15) | Foreign Key to nra\_source\_types; NAICS codes |
| COMPONENT\_STACK\_NAME | No | VC(60) | Name of component or stack |
| COMPONENT\_STACK\_TYPE \_FK | No | VC(30) | Foreign Key to nra\_component\_stack\_types |
| COUNTY\_FK | No | VC(40) | The County the permit facility is in |
| LOCATION\_DESCRIPTION | No | VC(250) | Optional; description of the point, line, or polygon |
| PARENT\_SOURCE\_FK | No | VC(40) | Foreign Key to nra\_parent\_source; parent source of source, if available |
| RLS\_EXTENT | No | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The last time the feature shape was modified |
| SITE\_ID | No | VC(100) | Locally used field identification of the location associated with the project |
| SOURCE\_DESCRIPTION | No | VC(250) | Description of each source |
| STACK\_HEIGHT | No | Number | Height of stack in meters |
| STATE\_FK | No | VC(40) | The state the permit facility is in |
| SUBSOURCE\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_subsource\_types |

### NRA\_THRESHOLDS

Description: this is the main table for the Threshold form

Table 29: Description of fields in the thresholds table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| THRESHOLD\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| THRESHOLD\_TYPE\_FK | Yes | VC(40) | Foreign Key to nra\_threshold\_types; this is the type of threshold such as concern threshold, pollutant type, etc. |
| AQRV\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_aqrv\_types |
| AVERAGING\_PERIOD\_TYPE \_FK | No | VC(40) | Foreign Key to nra\_threshold\_avg\_period\_types; this is the threshold’s averaging period |
| COMMENT\_TEXT | No | VC(250) | Short comment about each threshold |
| DOC\_CN\_FK | No | VC(40) | Foreign Key to nra\_documents; this is the document associated with the threshold |
| LEVEL\_NAME\_FK | No | VC(50) | Foreign Key to nra\_level\_names |
| LOWER\_LIMIT | No | Number | This is the threshold’s lower limit |
| POLLUTANT\_TYPE\_FK | No | VC(75) | Foreign Key to nra\_pollutant\_type |
| SR\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_sr\_types |
| SRI\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_sri\_types |
| THRESHOLD\_DETAIL | No | VC(2000) | Detailed description of each threshold |
| THRESHOLD\_SOURCE \_TYPE\_FK | No | VC(35) | Foreign Key to nra\_threshold\_source\_types |
| UOM\_CODE\_FK | No | VC(15) | Foreign Key to nra\_unit\_of\_measure\_names for the threshold unit of measure |
| UPPER\_LIMIT | No | Number | This is the threshold’s upper limit |
| WILD\_PARK\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_wilderness\_parks; this is the wilderness area or park that the AQRV information is related to |

### NRA\_VISIT\_FIELD\_MEASUREMENTS

Description: this table contains information from the Monitoring Site Field Measurements form

Table 30: Description of fields in the visit field measurements table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MEASUREMENT\_PARAMETER \_CN\_FK | Yes | VC(40) | Foreign Key to nra\_measurement\_parameters; this is the parameter value for the field measurements |
| VALIDITY\_TYPE\_FK | Yes | VC(30) | Foreign Key to nra\_validity\_types |
| VISIT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_visits |
| VST\_MEASUREMENT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| DETECTION\_LIMIT | No | Number | Based on the equipment and method used; is an indication of how finely a piece of equipment and a method can measure a value |
| EQUIPMENT\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_equipment\_types |
| MEAS\_COMMENTS | No | VC(240) | User comments about a specific measurement |
| MEAS\_DATETIME | No | Date | Date and time the measurement was taken |
| UON\_CODE\_FK | No | VC(15) | Foreign Key to nra\_unit\_of\_measure\_names; this is the unit of measure of the value column |
| VALIDITY\_REASON\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_validity\_reason\_types |
| VALUE | No | Number | The field measured value |
| YRSID | No | VC | Year sidereal |

### NRA\_VISIT\_PROFILE\_MEASUREMENTS

Description: this table contains information from the Monitoring Field Measurements and Profiles form; this table contains the profile-specific data

Table 31: Description of fields in the visit profile measurements table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DISTANCE\_VALUE | Yes | VC(10) | This is the distance UOM; valid values are “Feet” or “Meters” |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MEASUREMENT\_PARAMETER \_CN\_FK | Yes | VC(40) | Foreign Key to nra\_measurement\_parameters |
| UOM\_CODE\_FK | Yes | VC(15) | Foreign Key to nra\_unit\_of\_measure\_names; this is the unit of measure of the value column |
| VALIDITY\_TYPE\_FK | Yes | VC(30) | Foreign Key to nra\_validity\_types |
| VISIT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_visits |
| VISIT\_PROFILE\_ MEASUREMENT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| COMMENT\_TEXT | No | VC(4000) | Comments about this measurement |
| DETECTION\_LIMIT | No | Number | Detection limit based on equipment |
| EQUIPMENT\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_equipment\_types |
| PROFILE\_MEAS\_DATETIME | No | Date | Date and time of the profile measurement |
| VALIDITY\_REASON\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_validity\_reason\_type |

### NRA\_VISIT\_SAMPLE\_MEASUREMENTS

Description: this table contains data from the Monitoring Sample Results form

Table 32: Description of fields in the visit sample measurements table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAB\_CONTACT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_contacts; this is the contact at the analytical lab |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MEASUREMENT\_PARAMETER \_CN\_FK | Yes | VC(40) | Foreign Key to nra\_measurement\_parameters |
| MEASUREMENT\_LOC\_TYPE | Yes | VC(15) | Valid values are “Analytical Lab” or “Field Lab” |
| UOM\_CODE\_FK | Yes | VC(15) | Foreign Key to nra\_unit\_of\_measure\_names; this is the unit of measure of the value column |
| VALUE | Yes | Number | The actual value measured; this is auto-populated via the NRM Workbook and NRM Air Excel Add-In tools |
| VISIT\_SMPL\_MEAS\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| ANALYST\_CONTACT\_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the analyst |
| COMMENT\_TEXT | No | VC(4000) | Comment about this visit sample measurement |
| DEPOSITION\_SAMPLE\_CN \_FK | No | VC(40) | Foreign Key to nra\_deposition\_samples; mutually exclusive with nra\_water\_samples |
| DETECTION\_LIMIT | No | Number | Detection limit based on equipment |
| EQUIPMENT\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_equipment\_types |
| QUANTIFICATION\_LIMIT | No | Number | Quantification limit |
| SAMPLE\_MEAS\_DATETIME | No | Date | The date and time the monitoring sample measurement was collected |
| VALIDITY\_REASON\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_validity\_reason\_types |
| VALIDITY\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_validity\_types |
| WTR\_SMPL\_CN\_FK | No | VC(40) | Foreign Key to nra\_water\_samples; mutually exclusive with nra\_depositions |

### NRA\_VISITS

Description: this table contains the information from the Monitoring Visit form

Table 33: Description of fields in the visits table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DEVIATE | Yes | VC(3) | Did the data collected during this visit deviate from the data collection protocols? Valid values are “Yes” and “No,” the default is “No” |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| PRJ\_PROTOCOL\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_monitor\_project\_protocols |
| PUBLISH | Yes | VC(3) | Is the visit ready to publish to the CDW or web? Valid values are “Yes” and “No”; the default is “No” |
| RLS\_EXTENT | Yes | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) |
| SITE\_PROJECT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_site\_projects |
| VISIT\_DATE | Yes | Date | Date and time the survey ends |
| VST\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| ACCUMULATED\_PRECIP \_AMT | No | Number | The precipitation amount, in centimeters, accumulated during the collection period |
| AIR\_TEMP | No | Number | The air temperature, in Centigrade, to the nearest whole degree |
| BEAVER\_ACTIVITY\_LEVEL \_TYPE | No | VC(6) | Beaver activity level at the site; valid values are “None,” “Rare,” and “Common” |
| BEAVER\_FLOW\_MOD\_TYPE | No | VC(5) | Flow modifications due to beaver activity; valid values are “None,” “Minor,” and “Major” |
| COLLECTN\_DAY\_WEATHER \_TYPE\_FK | No | VC(30) | Foreign Key to nra\_precipitation\_types |
| COLLECTOR\_CONTACT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the person who actually collected the data |
| DISCHARGE | No | Number | The amount of discharge from the stream or lake, in cubic feet per second |
| DISCHARGE\_LVL\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_water\_level\_types |
| DISCHARGE\_MTHD\_TYPE FK | No | VC(30) | Foreign Key to nra\_discharge\_method\_types |
| LAKE\_STRATIFICATION \_TYPE\_FK | No | VC(7) | Foreign Key to nra\_lake\_stratification\_types; default is “Unknown” |
| LAKE\_TROPHIC\_STATE \_TYPE | NO | VC(15) | Valid values are “Oligotrophic” (little or no biomass in the lake water), “Mesotrophic” (intermediate amounts of biomass in the lake water), “Eutrophic” (large amounts of biomass in the lake water), or “Hypereutrophic” (extremely high productivity) |
| MACROPHYTE\_DENSITY \_TYPE | No | VC(8) | Valid values are “Absent,” “Sparse,” “Moderate,” and “Dense” |
| MACROPHYTE\_EMERGENT \_PERCENT | No | Number | This is the percent of areal coverage to the nearest 25% |
| MACROPHYTE\_SUBMERGENT \_PERCENT | No | Number | This is the percent of submergent macrophyte coverage to the nearest 25% |
| MACROPHYTE\_DESC | No | VC(100) | A qualitative description, including genera if known, and dominant types of macrophytes |
| PRECIP\_COLLECT\_MTHD \_FK | No | VC(30) | Foreign Key to nra\_precip\_collection\_methods |
| RECENT\_WEATHER\_TYPE | No | VC(30) | The weather over the last few days before collection; valid values are “Generally Dry,” “Generally Wet,” “Occasional Rain/Snow,” and “Very Wet” |
| REFERENCE\_LAKE\_LEVEL | No | N(10,1) | Height of the lake, in meters, at a standard point |
| SNOW\_WATER\_EQUIVALENCE | No | Number | The snow water equivalence, in centimeters, of the snowpack around the water body |
| SNOWPACK\_DEPTH | No | Number | The average snowpack depth, in centimeters, around the water body |
| STAGE\_HEIGHT | No | Number | The optimal stage height value, in meters |
| STREAM\_STAGE\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_stream\_stage\_types |
| STREAM\_WIDTH | No | Number | Stream width, in meters, at the site |
| SURVEY\_CONTACT\_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts |
| TURBIDITY\_TYPE | No | VC(10) | Water turbidity; valid values are “None,” “Low,” “Moderate,” “High,” and “Extreme” |

### NRA\_VST\_MEAS\_PROFILES

Description: this table contains data from the Monitoring Field measurement form, specifically the distance and value profile section

Table 34: Description of fields in the visit measurement profiles table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DIST\_FROM\_SP | Yes | Number | Distance from the starting point to the depth at which the measurement is taken |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MEAS\_PROFILE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| VALUE | Yes | VC(10) | Measurement value |
| VST\_PRFILE\_MEASUREMENT \_CN\_FK | Yes | VC(40) | Foreign Key to nra\_visit\_profile\_measurement |

### NRA\_WATER\_SAMPLES

Description: this table contains data from the Monitoring Samples and Measurements Form, from the Water Sample data tab

Table 35: Description of fields in the water samples table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COLLECTION\_DEPTH \_TYPE\_FK | Yes | VC(10) | Foreign Key to nra\_collection\_depth\_types |
| FIELD\_PRESERVATION\_FLG | Yes | VC(3) | Indicates if a portion of the sample was preserved in the field to allow for later analysis of some parameters (such as total phosphorus); valid values are “Yes” and “No”; default is “No” |
| LAB\_RESULTS | Yes | VC(1) | Valid values are “A” for analytical lab, “F” for field lab, and “B” for both; the default is “A” |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| QA\_SMPL\_TYPE\_FK | Yes | VC(10) | Foreign Key to nra\_qa\_sample\_types; it stores the QA sample types for the monitoring sample |
| VALIDITY\_TYPE\_FK | Yes | VC(30) | Foreign Key to nra\_validity\_types |
| VISIT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_visits; this ties the sample to the actual visit |
| WHERE\_FLTRD\_LOC\_TYPE | Yes | VC(25) | Where the sample was filtered; default is “NA” |
| WTR\_SMPL\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| WTR\_UNIT\_LOC\_TYPE\_FK | No | VC(10) | Foreign Key to nra\_water\_unit\_location\_types; this stores the collection location information |
| COLLECTION\_DEPTH | No | Number | The depth, in meters at which the water sample was taken |
| FIELD\_PRESERVATION\_TYPE \_FK | No | VC(30) | Foreign Key to nra\_field\_preservation\_types; indicates the type of chemical used as a field preservation (e.g., H2SO4) |
| SAMPLE\_COLLECTION \_METHOD\_FK | No | VC(30) | Foreign Key to nra\_sample\_collection\_method |
| SAMPLE\_COMMENTS | No | VC(4000) | Comments about this specific monitoring sample |
| SAMPLE\_DATETIME | No | Date | The date and time the monitoring sample was collected |
| SAMPLE\_ID | No | VC(43) | Unique, user- or lab-generated sample ID; this ID must be unique within each visit; note: some protocols have a predefined ID format and the labs pick up and use that ID |
| SAMPLE\_VOLUME | No | Number | The monitoring sample water volume in milliliters (ml) |
| VALIDITY\_REASON\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_validity\_reason\_types |

## Feature Classes

### NRA\_FIXED\_EQUIPMENT\_SITES

Description: Fixed Equipment Sites main table

Table 36: Description of fields in the fixed equipment sites table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FES\_SID\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| NETWORK\_TYPE\_FK | Yes | VC(35) | Foreign Key to nra\_network\_types |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the site |
| SDE\_SHAPE\_ID | Yes | N(10) | Unique spatial ID |
| SITE\_ID | Yes | VC(100) | Field identification code of the location associated with the project |
| STATE\_NAME\_FK | Yes | VC(40) | Foreign Key to nra\_states |
| ANAL\_FUNDING\_ORG \_CNTCT\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the organization that is funding the analysis of the data |
| COUNTY\_CN\_FK | No | VC(40) | Foreign Key to nra\_counties |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment site |
| END\_DATE | No | Date | The date the fixed equipment site ceased operation in the network |
| EQUIP\_OWNED\_BY | No | VC(60) | Foreign Key to nra\_contacts; the entity that owns the equipment at the fixed equipment site; it may be owned by the network or another entity |
| FES\_DESC | No | VC(240) | Description of the fixed equipment site |
| FRH1 | No | Number | Only allows positive numbers |
| FRH10 | No | Number | Only allows positive numbers |
| FRH11 | No | Number | Only allows positive numbers |
| FRH12 | No | Number | Only allows positive numbers |
| FRH2 | No | Number | Only allows positive numbers |
| FRH3 | No | Number | Only allows positive numbers |
| FRH4 | No | Number | Only allows positive numbers |
| FRH5 | No | Number | Only allows positive numbers |
| FRH6 | No | Number | Only allows positive numbers |
| FRH7 | No | Number | Only allows positive numbers |
| FRH8 | No | Number | Only allows positive numbers |
| FRH9 | No | Number | Only allows positive numbers |
| INHERENT\_CONTRAST\_0900 | No | Number(12,2) | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 9:00 AM |
| INHERENT\_CONTRAST\_1200 | No | Number(12,2) | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 12:00 PM |
| INHERENT\_CONTRAST\_1500 | No | Number(12,2) | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 3:00 PM |
| INHERENT\_CONTRAST\_1800 | No | Number(12,2) | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 6:00 PM |
| LAND\_USE\_TYPE\_FK | No | VC(60) | Foreign Key to nra\_land\_use\_types |
| OPERATING\_ORG\_CNTCT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the contact at the organization that is maintaining the fixed equipment site and doing the data collection |
| OPS\_FUNDING\_ORG\_CNCT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the organization that is funding the maintenance and data collection at the fixed equipment site |
| RAYLEIGH\_COEFFICIENT | No | Number(10) | The Rayleigh coefficient, in inverse megameters; this is a measure of the natural background scattering of light, specific to each location; the scattering above Rayleigh is anthropogenic and thus of concern to the Forest Service |
| RLS\_EXTENT | No | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SITE\_OWNERSHIP | No | VC(40) | Foreign Key to nra\_contacts; this is the organization that owns or manages the land on which the equipment is located |
| START\_DATE | No | Date | The date the fixed equipment site began operation in the network |
| TERRAIN\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_terrain\_types |
| THRESHOLD | No | Number(10) | An absolute number, like 200, used for sites taking optical measurements with tranmissometers or nephelometers; the cleaner the air at the site, the lower the threshold value |

### NRA\_MONITORING\_SITES

Description: Fixed Equipment Sites main table

Table 37: Description of fields in the monitoring sites table

| **Field Name** | **Req’d?** | **Size** | **Description** | |
| --- | --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp | |
| OFFICIAL\_NAME | Yes | VC(100) | Official name of the monitoring site | |
| RLS\_EXTENT | Yes | VC(30) | OIS/VPD; spatial extent (i.e., “California,” “Northwest) | |
| SDE\_SHAPE\_ID | Yes | N(10) | Unique spatial ID | |
| SITE\_SID\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid()  Sites can have multiple IDs, based on project | |
| ALT\_ID | No | VC(100) | Alternate site ID | |
| ELEVATION | No | Number | Elevation of the monitoring site, in meters | |
| LITHOLOGY\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_lithology\_types | |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the monitoring site shape was modified | |
| SITE\_ID | No | VC(100) | Field ID code associated with the monitoring site | |
| WILD\_PARK\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_wilderness\_parks | |
| WTR\_UNIT\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_water-units | |

### NRA\_SOURCE\_MODEL\_RECEPTORS

Description: this is a matrix table for the Source Permit Model Receptor data

Table 38: Description of fields in the spource model receptors table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| RECEPTOR\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| RECEPTOR\_NAME\_LOC\_FK | Yes | VC(100) | Foreign Key to nra\_receptor\_names |
| SOURCE\_MODEL\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_models |
| RECEPTOR\_ID | No | VC(40) | Unique ID for each receptor |
| FES\_FK | No | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| OTHER\_AFFECTED\_AREA \_FK | No | VC(40) | Foreign Key to nra\_other\_affected\_areas |
| RECEPTOR\_DESC | No | VC(250) | Descriptor of the receptor |
| RECEPTOR\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_receptor\_types; this is the type of each source model receptor |
| RLS\_EXTENT | No | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) |
| SITE\_FK | No | VC(40) | Foreign Key to nra\_monitoring\_sites |

### NRA\_WATER\_UNITS

Description: information about locations that are water units

Table 39: Description of fields in the water units table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| OFFICIAL\_NAME | Yes | VC(60) | Official name |
| OUTLET\_DAM\_TYPE | Ye | VC(10) | Type of dam outlets; valid values are “Artificial,” “None,” “Augmented,” “Unknown,” and “Natural”; default is “Unknown” |
| RLS\_EXTENT | Yes | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | N(10) | Unique spatial ID |
| WTR\_UNIT\_SID\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| AGRICULTURE\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of agriculture cover |
| BARREN\_BEACH\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of barren cover |
| CATCHMENT\_ASPECT | No | Number | The average catchment aspect in degrees; valid values are Null and 0-360 |
| CATCHMENT\_SIZE | No | Number | Catchment size, in hectares, that forms the watershed for either the lake or stream |
| CATCHMENT\_SLOPE | No | Number | The average catchment slope in percent obtained by dividing the elevational distance from the water’s edge to the top of the farthest catchment ridge; valid values are Null and 0-90 |
| DEPTH | No | Number | Lake depth, in meters, if the water unit is a lake |
| DEVELOPED\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of developed land cover |
| ELEVATION | No | Number | The elevation, in meters, of the water unit |
| FOREST\_SHRUB\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of forest and shrub cover |
| GRASS\_HERBS\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of grass and herb cover |
| HYDROLOGIC\_LAKE\_TYPE | No | VC(30) | Valid values are “Drainage” (outlets present), “See page” (no outlets present), and “Reservoir” |
| LOCAL\_NAME | No | VC(240) | User provided name of the location |
| NUMBER\_INLETS | No | Number | Number of lake inlets |
| NUMBER\_OUTLETS | No | Number | Number of lake outlets |
| RANGELAND\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of rangeland cover |
| REFERENCE\_PT\_DESC | No | VC(240) | Description of point used for the reference lake level field (i.e., height from the base of boulder, from the top of a dam, etc.) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the water unit shape was modified |
| SHORELINE\_MOD\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of modified shoreline cover |
| SITE\_ID | No | VC(100) | Field Identification code of the water unit |
| STREAM\_ORDER | No | Number | Stream order if the water unit is a stream; expressed as a whole number |
| VOLUME | No | Number | Lake volume, in 106m3, if the water unit is a lake |
| WETLAND\_CHAR\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of wetland |
| WTR\_AREA | No | Number | Lake size, in hectares |
| WTR\_UNIT\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_water\_unit\_type |

## Type Tables

### NRA\_ACTIVITY\_TYPES

Description: types of activities

Table 40: Description of fields in the activity types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| ACTIVITY\_TYPE | Yes | VC(50) | Natural Key, type of activity |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| ACTIVITY\_TYPE\_DESC | No | VC(250) | Description of activity type |

### NRA\_AFFECTED\_AREAS\_TYPES

Description: types of affected areas

Table 41: Description of fields in the affected areas types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| AFFECTED\_AREA\_TYPE | Yes | VC(50) | Type of affected area |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| AFFECTED\_AREA\_DESC | No | VC(100) | Description of activity type |

### NRA\_AIRWEB\_WILDERNESS

Description: list of wilderness and parks

Table 42: Description of fields in the airweb wilderness table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| AQRV\_TYPE | Yes | VC(20) | Primary Key; CN value from nra\_wilderness\_parks |
| WILD\_ID | Yes | Number | Manual number based on the alphabetized records |
| WILDERNESS | Yes | VC(60) | Official name from nra\_wilderness\_parks |
| ADMIN\_REGION | No | Number | Region identifier |

### NRA\_AQRV\_TYPES

Description: list of Threshold AQRV types

Table 43: Description of fields in the ARQV types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| AQRV\_TYPE | Yes | VC(20) | Primary Key; AQRV types, only for Class I wilderness areas |

Available AQRV types:

* AIR
* CULTURAL RESOURCES
* FAUNA
* FLORA
* GEOLOGIC FEATURES
* NOISE
* NONE
* ODOR
* SOILS
* VISIBILITY
* WATER

### NRA\_AVERAGING\_PRD\_TYPES

Description: list of Threshold averaging period types

Table 44: Description of fields in the averaging period types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| AVERAGING\_PERIOD\_TYPE | Yes | VC(40) | Primary Key; Threshold averaging period type |
| AVERAGING\_PERIOD\_DESC | No | VC(80) | Description of each threshold averaging period type, if available |

Available averaging period types:

* 4 DAY W/8-10 HRS PER DAY
* ANNUAL
* APRIL-SEPTEMBER
* GROWING SEASON
* NONE
* NOT APPLICABLE
* ONE HOUR
* SEVEN HOUR GROWING-SEASON MEAN
* 24 HOUR
* 3 HOUR
* 3 MONTH
* 4 DAY WITH 8-10 HRS PER DAY
* 8 HOUR
* ANNUAL
* APRIL-SEPTEMBER
* GROWING SEASON
* HOURS
* NONE
* NOT APPLICABLE
* ONE HOUR
* QUARTERLY
* ROLLING 3 MONTH
* SEVEN HOUR GROWING-SEASON MEAN

### NRA\_COLLECTION\_DEPTH\_TYPES

Description: list of collection depth types for the monitoring water samples

Table 45: Description of fields in the collection depth types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COLLECTION\_DEPTH\_TYPE | Yes | VC(10) | Primary Key; collection depth type |
| DESCRIPTION | No | VC(100) | Description of each collection depth type |

Table 46: List of available collection depth types

| **Collection Depth Type** | **Description** |
| --- | --- |
| EPLZ | Epilimnion |
| HYPZ | Hypolimnion |
| TERZ | Thermocline zone |
| TLWG | Thalweg at surface |
| WTRS | Water surface and subsurface |
| WTRS\_1.5 | 1.5 meter from water surface |
| WUBT | Water unit bottom |
| WUBT\_1.5 | 1.5 meter from bottom |

### NRA\_COMMENT\_TYPES

Description: stores the comments types for the tables that have different comment types

Table 47: Description of fields in the comment types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COMMENT\_TYPE | Yes | VC(30) | Primary Key; type of comment, default is “NA” |
| AIR\_FORM | No | VC(50) | The form from which the comment came |
| COLLOCATION, AIR\_FORM: FIXED EQUIPMENT SITES | No | VC | Comments relating to the collocation of fixed equipment sites |
| DESCRIPTION | No | VC(100) | Description of each comment type, if available |

Available comment types:

* DESCRIPTION
* EMISSIONSCONTROLS
* EMISSIONSEMISSIONS
* EMISSIONSOURCE
* FIXED EQUIPMENT SITE (FES)
* FIXED EQUIPMENT SITES (FUNDING AND OPERATIONS)
* FIXED EQUIPMENT SITES (REPRESENTS)
* HUC
* MODELING RESULTS (METEROLOTICAL)
* MODELING RESULTS (MODEL)
* MONITORING VISIT (MACROPHYTES)
* MONITORING VISIT (STREAM DATA)
* MONITORING VISIT (VISIT OTHER)
* MONITORING VISIT (VISIT PROTOCOL)
* MONITORING VISIT (WEATHER)
* SOURCE PERMIT (CONTACTS)
* SOURCE PERMIT (IMPACT AREA)
* SOURCE PERMIT (STATUS)
* TRAVEL DIRECTIONS

### NRA\_CONTACT\_ROLE\_TYPES

Description: list of contact role types

Table 48: Description of fields in the contol roles types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CONTACT\_CN\_FK | Yes | VC(240) | Foreign Key to nra\_contacts |
| CONTACT\_ROLE\_CN | Yes | VC(40) | Primary Key; unique name of each contact role type |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| ROLE\_TYPE\_FK | Yes | VC(40) | Foreign Key to nra\_contact\_role\_types |

Table 49: List of available role types

| **Role Type** | **Description** |
| --- | --- |
| AFTAGNCY | Affected agency |
| APPLICANT | Applicant |
| CONPERSON | Contact person |
| CONSULT | Consultant |
| DATA RECORDER | Data recorder |
| DISTRIBUTE | Distributor |
| ENGPERM | Permit engineer |
| FACILCONT | Facility contact |
| FIELD LAB ANALYST | Field lab analyst |
| FLM | Federal Land Manager |
| LAB CONTACT | Person who works at a lab |
| MODELER | Modeler |
| NETWORK | Modeler |
| NPSSITE | NPS site contact |
| OFFICIAL | Responsible official |
| OPERATE | Site operator |
| OPERENT | Operating entity |
| OWNER | Owner |
| PROGRMCONT | Air program contact |
| PSDCONT | PSD contact |
| REGAGENCY | Regulatory agency |
| RESEARCH | Researcher |
| SAMPLER | Sample collector from the Monitoring Visit form |
| SIGOFFCL | Signing official |
| SPECIALIST | Air specialist |
| SPONSOR | Sponsoring entity |
| STUDY CONTACT | Project contact from the Monitoring Project form |
| WILDCONT | Wilderness contact |

### NRA\_CONTACT\_TYPES

Description: list of contact types

Table 50: Description of fields in the contact types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_CONTACT\_TYPE | Yes | VC(15) | Type of source contact |
| SOURCE\_CONTACT\_DESC | No | VC(100) | Description of source contact type |

### NRA\_COUNTIES

Description: list of county names used in the source permits

Table 51: Description of fields in the counties table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COUNTY\_CN\_FK | Yes | VC(40) | Primary Key |
| COUNTY\_NAME | Yes | VC(40) | Name of each county; this is part of the unique key |
| STATE\_NAME\_FK | No | VC(40) | Foreign key to nra\_states; this is the state that the county resides within; this is part of the unique key |

### NRA\_COVER\_TYPES

Description: list of monitoring project cover types

Table 52: Description of fields in the cover types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COVER\_TYPE | Yes | VC(30) | Primary Key; unique short name of each cover type |
| NAME | Yes | VC(70) | Full name of each cover type |
| DESCRIPTION | No | VC(240) | Description of each cover type, if available |
| DISPLAY\_ORDER | No | Number(10) | Order in which the values are listed in the user interface LOV |

Table 53: List of available cover types

| **Cover Type** | **Name** | **Description** |
| --- | --- | --- |
| ASH | Ash (organic, from fire) | Remaining residue after all combustible material has burned off |
| BARE | Bare Soil (soil particles < 2mm) | Bare soil, not covered by rock, cryptogams or organic material; does not include any part of a road (see definition for road) |
| BARR | Barren | Areas naturally devoid of vegetation, such as intermittent lakebeds and saline flats; does not include areas denuded of vegetation |
| BAVE | Basal vegetation | Basal vegetation not differentiated by life form; for use when basal vegetation is not separated into more detailed codes (BAFO, etc.) |
| BEDR | Bedrock | Bedrock |
| CML | Cryptogams, mosses, and lichens | For situations where information is not further differentiated |
| DEVP | Developed surface (other than road), i.e., buildings or other structures | Surface area occupied or covered by any man-made structure other than a road, such as a building, dam, parking lot, electronic site/structure |
| LITT | Litter and duff | Leave and needle litter, and duff not yet incorporated into the decomposed top humus layer; non-continuous litter is not included (for example, scattered needles over soils is classified as BARE) |
| PEIC | Permanent ice | Ice covering the surface; does not melt during the growing season; the surface is ice-covered for the entire year (i.e., glaciers) |
| PEIS | Permanent ice and snow | Surface area covered with ice and snow at the time of plot measurement, considered permanent; for use when permanent ice and snow are not differentiated |
| PESN | Permanent snow | Snow covering the surface; does not melt during the growing season; the surface is snow-covered for the entire year |
| R100 | Mixed grass and forbs | Mixed grass and forbs cover |
| R101 | Meadow-shrub | Meadow and shrub cover |
| R102 | Idaho fescue | Cover is Idaho fescue |
| R104 | Antelope bitterbrush-bluebunch wheatgrass | Cover is Antelope bitterbrush and bluebunch wheatgrass mix |
| R105 | Antelope bitterbrush-Idaho fescue | Cover is Antelope bitterbrush and Idaho fescue mix |
| R107 | Western juniper-big sagebrush-bluebunch wheatgrass | Cover is mix of western juniper, big sagebrush, and bluebunch wheatgrass |
| R108 | Alpine Idaho fescue | Alpine Idaho fescue cover |
| R109 | Ponderosa pine-shrubland | Cover is a mix of Ponderosa pine and shrubland |
| R110 | Ponderosa pine-grassland | Cover is a mix of Ponderosa pine and grassland |
| R201 | Blue oak woodland | Blue oak woodland cover |
| R203 | Riparian woodland | Riparian woodland cover |
| R207 | Scrub oak mixed chaparral | Cover consists of scrub oak mixed chaparral |
| R208 | Ceanothus mixed chaparral | Cover consists of ceanothus mixed chaparral |
| R209 | Montane shrubland | Cover is montane shrubland |
| R210 | Bitterbrush | Bitterbrush cover |
| R211 | Creosote bush scrub | Creosote bush scrub cover |
| R212 | Blackbush | Blackbush cover |
| R213 | Alpine grassland | Cover is Alpine grassland |
| R215 | Valley grassland | Cover is valley grassland |
| R216 | Montane meadows | Montane meadow cover |
| R217 | Wetlands | Wetlands cover |
| R301 | Bluebunch wheatgrass-blue grama | Cover is a mix of bluebunch wheatgrass and blue grama |
| R302 | Bluebunch wheatgrass-Sandberg bluegrass | Cover is a mix of bluebunch wheatgrass and Sandberg bluegrass |
| R303 | Bluebunch wheatgrass-western wheatgrass | Cover is a mix of bluebunch and western wheatgrasses |
| R304 | Idaho fescue-bluebunch wheatgrass | Cover is a mix of Idaho fescue and bluebunch wheatgrass |
| R305 | Idaho fescue-Richardson needlegrass | Cover is a mix of Idaho fescue and Richardson needlegrass |
| R306 | Idaho fescue-slender wheatgrass | Cover is a mix of Idaho fescue and slender wheatgrass |
| R307 | Idaho fescue-threadleaf sedge | Cover is a mix of Idaho fescue and threadleaf sedge |
| R308 | Idaho fescue-tufted hairgrass | Cover is a mix of Idaho fescue and tufted hairgrass |
| R309 | Idaho fescue-western wheatgrass | Cover is a mix of Idaho fescue and western wheatgrass |
| R310 | Needle-and-thread-blue grama | Cover is a mix of needle-and-thread and blue grama |
| R311 | Rough fescue-bluebunch wheatgrass | Cover is a mix of rough fescue and bluebunch wheatgrass |
| R312 | Rough fescue-Idaho fescue | Cover is a mix of rough and Idaho fescues |
| R313 | Tufted hairgrass-sedge | Cover is a mix of tufted hairgrass and sedge |
| R314 | Big sagebrush-bluebunch wheatgrass | Cover is a mix of big sagebrush and bluebunch wheatgrass |
| R315 | Big sagebrush-Idaho fescue | Cover is a mix of big sagebrush and Idaho fescue |
| R316 | Big sagebrush-rough fescue | Cover is a mix of big sagebrush and rough fescue |
| R317 | Bitterbrush-bluebunch wheatgrass | Cover is a mix of bitterbrush and bluebunch wheatgrass |
| R318 | Bitterbrush-Idaho fescue | Cover is a mix of bitterbrush and Idaho fescue |
| R319 | Bitterbrush-rough fescue | Cover is a mix of bitterbrush and rough fescue |
| R320 | Black sagebrush-bluebunch wheatgrass | Cover is a mix of black sagebrush and bluebunch wheatgrass |
| R321 | Black sagebrush-Idaho fescue | Cover is a mix of black sagebrush and Idaho fescue |
| R322 | Curlleaf mountain-mahogany-bluebunch wheatgrass | Cover is a mix of curlleaf mountain, mahogany, and bluebunch wheatgrass |
| R323 | Shrubby cinquefoil-rough fescue | Cover is a mix of shrubby cinquefoil and rough fescue |
| R324 | Threetip sagebrush-Idaho fescue | Cover is a mix of threetip sagebrush and Idaho fescue |
| R401 | Basin big sagebrush | Basin big sagebrush cover |
| R402 | Mountain big sagebrush | Mountain big sagebrush cover |
| R403 | Wyoming big sagebrush | Wyoming big sage brush cover |
| R404 | Threetip sagebrush | Threetip sagebrush cover |
| R405 | Black sagebrush | Black sagebrush cover |
| R406 | Low sagebrush | Low sagebrush cover |
| R407 | Stiff sagebrush | Stiff sagebrush |
| R408 | Other sagebrush types | Cover is a mix of sagebrush types |
| R409 | Tall forb | Tall forb cover |
| R410 | Alpine rangeland | Alpine rangeland cover |
| R411 | Aspen woodland | Cover is aspen woodland |
| R412 | Juniper-pinyon woodland | Cover is a mix of juniper and pinyon woodland |
| R413 | Gambel oak | Gambel oak cover |
| R414 | Salt desert shrub | Salt desert shrub cover |
| R415 | Curlleaf mountain-mahogany | Cover is a mix of curlleaf mountain and mahogany |
| R416 | True mountain-mahogany | Cover is a mix of true mountain and mahogany |
| R417 | Littleleaf mountain-mahogany | Cover is a mix of littleleaf mountain and mahogany |
| R418 | Bigtooth maple | Bigtooth maple cover |
| R419 | Bittercherry | Bittercherry cover |
| R420 | Snowbush | Snowbush cover |
| R421 | Chokecherry-serviceberry-rose | Cover is a mix of chokecherry, serviceberry, and rose |
| R422 | Riparian | Riparian cover |
| R501 | Saltbush-greasewood | Cover is a mix of saltbush and greasewood |
| R502 | Grama-galleta | Cover is a mix of grama and galleta |
| R503 | Arizona chapparal | Arizona chapparal cover |
| R504 | Juniper-pinyon pine woodland | Cover is a mix of juniper and pinyon pine woodland |
| R505 | Grama-tobosa shrub | Cover is a mix of grama and tobosa shrub |
| R506 | Creosotebush-bursage | Cover is a mix of creosote bush and bursage |
| R507 | Palo Verde-cactus | Cover is a mix of Palo Verde and cactus |
| R508 | Creosote bush-tarbush | Cover is a mix of creosote bush and tarbush |
| R509 | Oak-juniper woodland and mahogany-oak | Cover is a mix of either oak and juniper woodland or mahogany and oak |
| R601 | Bluestem prairie | Bluestem prairie cover |
| R602 | Bluestem-prairie sandreed | Cover is a mix of bluestem and prairie sandreed |
| R603 | Prairie sandreed-needlegrass | Cover is a mix of prairie sandreed and needlegrass |
| R604 | Bluestem-grama prairie | Cover is a mix of bluestem and grama prairie |
| R605 | Sandsage prairie | Sandsage prairie cover |
| R606 | Wheatgrass-bluestem-needlegrass | Cover is a mix of wheatgrass, bluestem, and needlegrass |
| R607 | Wheatgrass-needlegrass | Cover is a mix of wheatgrass and needlegrass |
| R608 | Wheatgrass-gama needlegrass | Cover is a mix of wheatgrass and gama needlegrass |
| R609 | Wheatgrass-gama | Cover is a mix of wheatgrass and gama |
| R610 | Wheatgrass | Wheatgrass cover |
| R611 | Blue grama-buffalograss | Cover is a mix of blue grama and buffalograss |
| R612 | Sagebrush-grass | Cover is a mix of sagebrush and grass |
| R613 | Fescue grassland | Fescue grassland cover |
| R614 | Crested wheatgrass | Crested wheatgrass cover |
| R615 | Wheatgrass-saltgrass-grama | Cover is a mix of wheatgrass, saltgrass, and grama |
| R701 | Alkali sacaton-tobosagrass | Cover is a mix of alkali sacaton and tobosagrass |
| R702 | Black grama-alkali sacaton | Cover is a mix of black grama and alkali sacaton |
| R703 | Black grama-sideoats grama | Cover is a mix of black and sideoats gramas |
| R704 | Blue grama-western wheatgrass | Cover is a mix of blue grama and western wheatgrass |
| R705 | Blue grama-galleta | Cover is a mix of blue grama and galleta |
| R706 | Blue grama-sideoats grama | Cover is a mix of blue and sideoats gramas |
| R707 | Blue grama-sideoats grama-black grama | Cover is a mix of blue, sideoats, and black gramas |
| R708 | Bluestem-dropseed | Cover is a mix of bluestem and dropseed |
| R709 | Bluestem-grama | Cover is a mix of bluestem and grama |
| R710 | Bluestem prairie | Bluestem prairie cover |
| R711 | Bluestem-Sacahuista prairie | Cover is a mix of bluestem and Sacahuista prairie |
| R712 | Galleta-alkali sacaton | Cover is a mix of galleta and alkali sacaton |
| R713 | Grama-muhly-threeawn | Cover is a mix of grama, muhly, and threeawn |
| R714 | Grama-bluestem | Cover is a mix of grama and bluestem |
| R715 | Grama-buffalograss | Cover is a mix of grama and buffalograss |
| R716 | Grama-feathergrass | Cover is a mix of grama and feathergrass |
| R717 | Little bluestem-Indiangrass-Texas wintergrass | Cover is a mix of little bluestem, Indiangrass, and Texas wintergrass |
| R718 | Mesquite-grama | Cover is a mix of mesquite and grama |
| R720 | Sand bluestem-little bluestem dunes | Cover is a mix of sand bluestem and little bluestem dunes |
| R721 | Sand bluestem-little bluestem plains | Cover is a mix of sand bluestem and little bluestem plains |
| R722 | Sand sagebrush-mixed prairie | Cover is a mix of sand sagebrush and mixed prairie |
| R724 | Sideoats grama-New Mexico feathergrass-winterfat | Cover is a mix of sideoats grama, New Mexico feathergrass, and winterfat |
| R725 | Vine mesquite-alkali sacaton | Cover is a mix of vine mesquite and alkali sacaton |
| R726 | Cordgrass | Cordgrass cover |
| R727 | Mesquite-buffalograss | Cover is a mix of mesquite and buffalograss |
| R728 | Mesquite-granjeno-acacia | Cover is a mix of mesquite, granjeno, and acacia |
| R729 | Mesquite | Mesquite cover |
| R730 | Sand shinnery oak | Sand shinnery oak cover |
| R733 | Juniper-oak | Cover is a mix of juniper and oak |
| R734 | Mesquite-oak | Cover is a mix of mesquite and oak |
| R735 | Sideoats grama-sumac-juniper | Cover is a mix of sideoats grama, sumac, and juniper |
| R801 | Savanna | Savanna cover |
| R802 | Missouri prairie | Missouri prairie cover |
| R803 | Missouri glades | Missouri glades cover |
| R804 | Tall fescue | Tall fescue cover |
| R805 | Riparian | Riparian cover |
| R809 | Mixed hardwood and pine | Mixed hardwood and pine cover |
| R822 | Slough | Slough cover |
| R901 | Alder | Alder cover |
| R902 | Alpine herb | Alpine herb cover |
| R906 | Broadleaf forest | Broadleaf forest cover |
| R908 | Fescue | Fescue cover |
| R909 | Freshwater marsh | Cover is a freshwater marsh |
| R910 | Hairgrass | Hairgrass cover |
| R911 | Lichen tundra | Lichen tundra cover |
| R914 | Mesic sedge-grass-herb meadow-tundra | Cover is a mix of mesic sedge, grass, herb meadow, and tundra |
| R915 | Mixed herb-herbaceous | Cover is herbaceous with a mix of herbs |
| R916 | Sedge-shrub tundra | Cover is a mix of sedge and shrub tundra |
| R917 | Tall shrub swamp | Cover is a tall shrub swamp |
| R918 | Tussock | Tussock cover |
| R921 | Willow | Willow cover |
| ROAD | Road | Improved roads, paved roads, gravel roads, improved dirt roads and off-road vehicle trails regularly maintained or in long-term continuing use; generally constructed using machinery; includes cutbanks and fills |
| ROCK | Rock | Relatively hard, naturally formed mineral or petrified matter > ½ inch in diameter, appearing on soil surface as small to large fragments or as relatively large bodies, cliffs, outcrops or peaks; includes bedrock |
| T00 | Non-forest types | Cover not a forest-type |
| T01 | Jack pine | Jack pine cover |
| T05 | Balsam fir | Balsam fir cover |
| T108 | Red maple | Red maple cover |
| T111 | South Florida slash pine | South Florida slash pine cover |
| T12 | Black spruce | Black spruce cover |
| T13 | Black spruce-tamarack | Cover is a mix of black spruce and tamarack |
| T14 | Northern pin oak | Northern pin oak cover |
| T15 | Red pine | Red pine cover |
| T16 | Aspen | Aspen cover |
| T17 | Pin cherry | Pin cherry cover |
| T18 | Paper birch | Paper birch cover |
| T19 | Gray birch-red maple | Cover is a mix of gray birch and red maple |
| T20 | White pine-northern red oak-red maple | Cover is a mix of white pine, northern red oak, and red maple |
| T201 | White spruce | White spruce cover |
| T203 | Balsam poplar | Balsam poplar cover |
| T205 | Mountain hemlock | Mountain hemlock cover |
| T206 | Engelmann spruce-subalpine fir | Cover is a mix of Engelmann spruce and subalpine fir |
| T208 | Whitebark pine | Whitebark pine cover |
| T209 | Bristlecone pine | Bristlecone pine cover |
| T21 | Eastern white pine | Eastern white pine cover |
| T210 | Interior Douglas fir | Interior Douglas fir cover |
| T211 | White fir-limber pine | Cover is a mix of white fir and limber pine |
| T212 | Western larch | Western larch cover |
| T213 | Grand fir | Grand fir cover |
| T215 | Western white pine | Western white pine cover |
| T216 | Blue spruce | Blue spruce cover |
| T217 | Aspen-western forests-middle elevation-interior | Cover is Aspen in mid-elevation interior western forests |
| T218 | Lodgepole pine | Lodgepole pine cover |
| T219 | Limber pine | Limber pine cover |
| T22 | Eastern pine-hemlock | Cover is a mix of eastern pine and hemlock |
| T220 | Rocky Mountain juniper | Rocky Mountain juniper cover |
| T224 | Western hemlock | Western hemlock cover |
| T225 | Western hemlock-Sitka spruce | Cover is a mix of western hemlock and Sitka spruce |
| T227 | Western red cedar-western hemlock | Cover is a mix of western red cedar and western hemlock |
| T228 | Western red cover | Western red cedar cover |
| T23 | Eastern hemlock | Eastern hemlock cover |
| T230 | Douglas fir-western hemlock | Cover is a mix of Douglas fir and western hemlock |
| T235 | Cottonwood-willow | Cover is mix of cottonwood and willow |
| T236 | Bur oak-western forests-low elevation interior | Cover is bur oak in interior western forests at a low elevation |
| T237 | Interior ponderosa pine | Interior ponderosa pine cover |
| T238 | Western juniper | Western juniper cover |
| T239 | Pinyon-juniper | Cover is a mix of pinyon and juniper |
| T24 | Hemlock-yellow birch | Cover is a mix of hemlock and yellow birch |
| T240 | Arizona cypress | Arizona cypress cover |
| T241 | Western live oak | Western live oak cover |
| T242 | Mesquite | Mesquite cover |
| T25 | Sugar maple-beech-yellow birch | Cover is a mix of sugar maple, beech, and yellow birch |
| T251 | White spruce-aspen | Cover is a mix of white spruce and aspen |
| T252 | Paper birch | Paper birch cover |
| T26 | Sugar maple-basswood | Cover is a mix of sugar maple and basswood |
| T27 | Sugar maple | Sugar maple cover |
| T28 | Black cherry-maple | Cover is a mix of black cherry and maple |
| T30 | Red spruce-yellow birch | Cover is a mix of red spruce and yellow birch |
| T300 | Conifer | Conifer cover |
| T31 | Red spruce-sugar maple-beech | Cover is a mix of red spruce, sugar maple, and beech |
| T32 | Red spruce | Red spruce cover |
| T33 | Red spruce-balsam fir | Cover is a mix of red spruce and balsam fir |
| T34 | Red spruce-Fraser fir | Cover is a mix of red spruce and Fraser fir |
| T35 | Paper birch-red spruce-balsam fir | Cover is a mix of paper birch, red spruce, and balsam fir |
| T37 | Northern white-cedar | Cover is a mix of northern white and cedar |
| T38 | Tamarack | Tamarack cover |
| T39 | Black ash-American elm-red maple | Cover is a mix of black ash, American elm, and red maple |
| T40 | Post oak-blackjack oak | Cover is a mix of post and blackjack oaks |
| T400 | Hardwood | Hardwood cover |
| T42 | Bur oak | Bur oak cover |
| T43 | Bear oak | Bear oak cover |
| T44 | Chestnut oak | Chestnut oak cover |
| T45 | Pitch pine | Pitch pine cover |
| T46 | Eastern red cedar | Eastern red cedar cover |
| T50 | Black locust | Black locust cover |
| T500 | Trees | Tree cover |
| T51 | White pine-chestnut oak | Cover is a mix of white pine and chestnut oak |
| T52 | White oak-black oak-northern red oak | Cover is a mix of white, black, and northern red oaks |
| T53 | White oak | White oak cover |
| T55 | Northern red oak | Northern red oak cover |
| T57 | Yellow poplar | Yellow poplar cover |
| T58 | Yellow poplar-eastern hemlock | Cover is a mix of yellow poplar and eastern hemlock |
| T59 | Yellow poplar-white oak-northern red oak | Cover is a mix of yellow poplar, white oak, and northern red oak |
| T60 | Beech-sugar maple | Cover is a mix of beech and sugar maple |
| T61 | River birch-sycamore | Cover is a mix of river birch and sycamore |
| T62 | Silver maple-American elm | Cover is a mix of silver maple and American elm |
| T63 | Cottonwood | Cottonwood cover |
| T64 | Sassafras-persimmon | Cover is a mix of sassafras and persimmon |
| T65 | Pin oak-sweetgum | Cover is a mix of pin oak and sweetgum |
| T66 | Ashe juniper-redberry (Pinchot) juniper | Cover is a mix of ashe juniper and redberry (or Pinchot) juniper |
| T67 | Mohrs (shin) oak | Mohrs (shin) oak cover |
| T68 | Mesquite | Mesquite cover |
| T69 | Sand pine | Sand pine cover |
| T70 | Longleaf pine | Longleaf pine cover |
| T75 | Shortleaf pine | Shortleaf pine cover |
| T76 | Shortleaf pine-oak | Cover is a mix of shortleaf pine and oak |
| T79 | Virginia pine | Virginia pine cover |
| T80 | Loblolly pine-shortleaf pine | Cover is a mix of loblolly and shortleaf pines |
| T81 | Loblolly pine | Loblolly pine cover |
| T83 | Loblolly pine-slash pine | Cover is a mix of loblolly and slash pines |
| T84 | Slash pine | Slash pine cover |
| T98 | Pond pine | Pond pine cover |
| TALS | Talus | Talus cover |
| TEPH | Tephra volcanic | A general term for all material formed by volcanic explosion or aerial expulsion (as opposed to flow) from volcanic vent |
| TRIC | Transient ice | Ice covering the surface; the ice will melt during the growing season |
| TRIS | Transient ice and snow | Surface area covered by ice and snow at the time of plot measurement, considered transient; for use when permanent ice and snow are not differentiated |
| TRSN | Transient snow | Snow covering the surface; the snow will melt during the growing season |
| UNKN | Unknown | Other covers not defined elsewhere |
| WATE | Water | Where the water table is above the ground surface during the growing season, such as streams, bogs, swamps, marshes and ponds (FIA definition) |
| WOOD | Wood | Woody material, slash and debris; any woody material, small and large woody debris, regardless of depth; litter and non-continuous litter are not included (scattered needles over soil is classified as BARE) |

### NRA\_DEPOSITION\_SAMPLE\_TYPES

Description: list of monitoring project deposition sample types

Table 54: Description of fields in the deposition sample types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DEP\_SAMPLE\_TYPE | Yes | VC(10) | Primary Key; monitoring deposition sample type code |
| DESCRIPTION | No | VC(100) | Description of each monitoring deposition sample type |

Table 55: List of available deposition sample types

| **Deposition Sample Type** | **Description** |
| --- | --- |
| BULK | Mixed deposition |
| DRY | Dry deposition |
| OCCULT | Cloud or fog deposition |
| SNOW | Snowpack |
| THROUGHFALL | Deposition collected that drips off canopy |
| WET | Wet deposition |

### NRA\_DISCHARGE\_METHOD\_TYPES

Description: list of monitoring visit discharge method types

Table 56: Description of fields in the discharge method types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DISCHARGE\_MTHD\_TYPE | Yes | VC(30) | Primary Key. Unique monitoring visit discharge method type |
| DESCRIPTION | No | VC(100) | Description of each monitoring visit discharge method type |

Table 57: List of available discharge method types

| **Discharge Method Type** | **Description** |
| --- | --- |
| COMPARISON WITH GAGE | Relative comparison with nearby fixed gage |
| CROSS SECTION | Cross section of depth measurements |
| ESTIMATION | Best guess |
| FLOAT | Float method |
| SALT DILUTION | Salt dilution method |
| STAGE WITH PRESSURE TRANSDUCER | Stage measurement with pressure transducer |
| STAGE WITH STAFF GAGE | Stage measurement with staff gage |
| TIMED FILL | Timed filling procedure |
| VELOCITY METER | Velocity meter |

### NRA\_DOCUMENT\_TYPES

Description: list of document types

Table 58: Description of fields in the document types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DESCRIPTION | Yes | VC(100) | Description of each document type |
| DOCUMENT\_TYPE | Yes | VC(50) | Primary Key; unique document type; Foreign Key to nra\_documents |

Table 59: List of available document types

| **Document Type** | **Description** |
| --- | --- |
| AGREEMENT | Agreements |
| BOOK | Book |
| CFR | CFR |
| DATA FILE | Link to data files (final runs of models) |
| DATA SUMMARY | Data summary |
| ENVIRONMENTAL ANALYSIS | Environmental analysis document |
| EQUIPMENT | Equipment make, model, calibration, etc. |
| FIELD – LAB NOTE | Field/lab notes |
| FIELD NOTE | Field notes |
| FLAG 2010 | Flag 2010 |
| IMAGE | Image |
| LAB NOTE | Lab notes |
| LAW – Regulation | Law/regulation (copy of formal document) |
| LETTER | Letter |
| MAP | Map document |
| MEETING NOTES | Meeting notes |
| NOTICE | Notice (includes legal notices) |
| OTHER | Other documents |
| OTHER AGENCY REPORT | Other agency report |
| PERMIT | Permit document |
| PHONE CALL | Phone call notes |
| PRE MEETING LETTER | Pre-meeting letter |
| PROTOCOL | Protocol document |
| RECOMMENDATION | Recommendation to the State |
| REGIONAL AIR PROGRAM GUIDANCE | Regional Air Program guidance document (Threshold form) |
| REGIONAL PLANNING GUIDANCE | Regional planning guidance document (Threshold form) |
| REGIONAL SCREENING GUIDANCE | Regional screening document (Threshold form) |
| RESEARCH PAPER | Research paper |
| SPECIALIST REPORT | Specialist report |
| TABLE – GRAPH | Tables and graphs |
| TECHNICAL REPORT | Technical report document |
| WEBSITE | Link to documents located on the Internet |
| WILDERNESS SCREENING DOCUMENT | Wilderness screening document (Threshold form) |
| WORKING PAPER | Working papers |

### NRA\_EMISSION\_CONTROL\_TYPES

Description: list of source permit emission control types

Table 60: Description of fields in the emission control types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| EMISSION\_CONTROL\_TYPE | Yes | VC(30) | Primary Key; unique source permit emission control type |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| EMISSION\_DESC | No | VC(240) | Description of each source permit emission control type, if available |

Table 61: List of available emission control types

| **Emission Control Type** | **Description** |
| --- | --- |
| BACT | Best available control technology |
| BART | Best available retrofit technology |
| NEPA | Controls required under NEPA decision document |
| OTHER | Other |

### NRA\_EMISSION\_STAGE\_TYPES

Description: list of source permit emission stage types

Table 62: Description of fields in the emission stage types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| EMISSION\_STAGE\_TYPE | Yes | VC(15) | Primary Key; unique name for each emission stage type |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| DESCRIPTION | No | VC(240) | Description of each source permit emission stage type, if available |

Available emission stage types:

* ACTUAL
* FINAL
* INITIAL
* INTERIM1
* INTERIM2
* MODELED
* PERMITTED
* REQUESTED
* STARTUP
* UNREGULATED

### NRA\_EQUIPMENT\_TYPES

Description: list of equipment types

Table 63: Description of fields in the equipment types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| EQUIPMENT\_TYPE | Yes | VC(40) | Primary Key; unique name for each equipment type |
| DESCRIPTION | No | VC(100) | Description of each equipment type, if available |

Table 64: List of available equipment types

| **Equipment Type** | **Description** |
| --- | --- |
| AA\_AE\_SPEC751 AND SMITH-HIEFRJE\_AA\_AE | AA/AE Spectrophotometer Model 751 and Thermo Jarrell Ash AA/AE Spectrophotometer Model Smith-Hiefrje |
| AA\_AE\_MODE\_SMITH-HIEFRJE\_22 | Thermo Jarrell Ash AA/AE Spectrophotometer Model Smith-Hiefrje 22 |
| BECHMAN\_PSI\_21 | Bechman pH meter with a Ross Electrode |
| CONDUCTIVITY METER | Conductivity meter |
| COSA | Man-Tech PC-Titrate |
| DIONEX\_14 | Dionex Model 14 Ion Chromatograph |
| DIONEX\_3000 | Dionex ICS-3000 Ion Chromatograph |
| DIONEX\_4000I | Dionex\_4000I Ion Chromatograph; HPIC 4S4A Separator Column; HPIC AG4A Pre-Column; AMMS Anion Micro-M |
| DIONEX\_4500I | Dionex 4500I Ion Chromatograph with AS4A column, AMMS suppressor |
| DIONEX\_AS40\_IC | Dionex AS40 Automated Sampler Ion Chromatograph; IonPac AS14 4 x 250 mm analytical column |
| DIONEX\_DIONEX\_AS12A | Dionex Ion Chromatograph – Dionex AS12 A Separator Column |
| DIONEXQIC | Dionex QIC Chromatograph; HPIC AS4 Separator Column; HPIC AS4 Pre-Column; AMMS Anion Micro-Membrane |
| DOHRMANNCARBON | Dohrmann Carbo Analyzer |
| DRYING\_OVEN | Drying oven |
| FURNACE | Furnace |
| GPS | The Global Positioning System (GPS) is a worldwide radio-navigation system formed from a constellation |
| HACH\_AL36\_B | HACH Kit Model AL36-B |
| HACH\_TURB | HACH Turbidimeter |
| HUBBARD-BROOK | Hubbard-Brook bulk deposition rain collector |
| HYDROLAB\_QUANTA | Hydrolab/Quanta |
| INSTRUMENT\_LABORATORY \_157\_AA | Instrument Laboratory 157 AA Spectrophotometer |
| ISFET PH METER 1Q120 | ISFET pH Meter 1Q120 |
| LACHAT\_FIA | Lachat Flow Injection Analysis |
| LITMUS\_PAPER | Litmus paper |
| MAN\_TECH \_AUTOTITRATRATION | Man-Tech Automated Acidimetric Titrator |
| METHROMIC\_METROSEPC -150 | Metrohm-Peak 761 Compact IC with Metrosep C 2-150 cation column |
| METHROMIC\_788 | Metrohm-Peak 761 Compact IC with 788 IC Filtration Sample Processor |
| METROHM\_BRINKMANN \_CONDMETER\_712 | Metrohm/Brinkmann Conductivity Meter Model 712 for conductivity |
| METROHM\_BRINKMANN \_AUTOTITRATOR | Metrohm/Brinkmann Autotitration System |
| METHROHM\_METROSEPA | Metro 761 Compact IC with Metrosep A Separator Column, Model 838 Autosampler |
| MICRO100TURB | HF Scientific, Inc. Micro 100 Turbidimeter |
| MOD\_SMITH-HIEFRJE\_22 | Thermo Jarrell Ash AA/AE Spectrophotometer Model Smith-Hiefrje 22 |
| ORION\_881\_M | Orion 811 M with Orion glass combination electrode (Ross) MDL No 8102 |
| PH METER | pH meter |
| RADIAMETER | Radiameter |
| SHIMADZU\_TOC\_ANALYZER | Shimadzu Scientific Instruments, Inc., TOC Analyzer |
| SONDE | Sonde |
| TECHNICON\_AUTOANALYER \_II | Technicon Autoanalyzer II |
| TECHNICON\_CFA | Continuous Flow Analysis (CFA) Technicon and Scientific Instruments |
| TELEDYNE\_TEKMAR \_PHOENIX\_8000 | Teledyne Tekmar Phoenix 8000 Carbon Analyzer |
| THERMISTER | Thermister |
| THERMO ELEMENT IRIS INTREPID I | Thermo Elemental Iris Intrepid Inductively Coupled Plasma (ICP), Model 14410300 |
| THERMOGRAPH | Thermograph |
| THERMO-JARRELL\_ASH \_ICP-AE | Thermo-Jarrell Ash ICP-AE |
| THERMOMETER | Thermometer |
| UNKNOWN | Equipment unknown or unspecified |
| VARIAN\_ICP-AES | Varian-Vista Axial CCD Simultaneous ICP-AES |
| VARIAN\_SPECTR\_AA-30 | Varian Spectr AA-30 atomic absorption spectrophotometer |
| VARIAN\_SPECTR\_AA-30 \_CA-MG\_LAMP | Varian Spectr AA-30 atomic absorption spectrophotometer with Ca/Mg Lamp |
| VARIAN\_SPECTR\_AA-30 \_GTA-98 | Varian Spectr AA-30 with GTA-96 graphite tube analyzer |
| VWR\_COND | VWR NIST traceable digital conductivity meter |
| WATER\_DIONEX\_AS12A | Waters Ion Chromatograph – Dionex As12 A Separator Column |
| WATERS\_IC\_CATION\_MD \_COLUMN | Waters Ion Chromatograph – Waters IC Pak Cation M/D Column |
| WTW MULTI 304I | WTW Multi 340i |
| YSI\_COND | YSI Conductivity Meter |
| YSI\_MOD\_31\_COND | YSI Model 31 Conductivity Bridge; Bechman CEL-GO1 pipette type cell |
| YSI\_MOD\_32\_COND | YSI Model 32 Conductivity Meter |
| YSI\_MOD\_63 | YSI 63 pH conductivity, salinity, and temperature handheld meter |
| ZL\_GFAAS | Longitudinal Zeeman corrected graphite furnace atomic absorption spectrophotometer |
| ABCD | ABCD |
| AEROSOL | Aerosol |
| AEROSOL SAMPLER | Visibility |
| ANEMOMETER | Anemometer |
| AQS-SUPLMNTL SPECIATION | AQS Supplementation Speciation |
| ANDERSON RAAS2.5-100 PM2.5 SAM W WINS | Anderson RAAS2.5-100 PM2.5 SAM |
| ANDERSON RAAS2.5-300 PM2.5 SEQ W WINS | Anderson RAAS2.5-300 PM2.5 SEQ |
| BAROMETER | Barometer |
| BGI Model PQ200 PM2.5 SAMPLER W WINS | BGI Model PQ200 PM2.5 Sampler |
| BULK SNOW DEPOSITION COLLECTOR | Bulk snow deposition collector |
| CAMERA | Visibility |
| CASTNET DRY DEPOSITION SAMPLER | New name for the NDDN Dry Deposition Sampler |
| DRY DEPOSITION | Dry deposition |
| DIGICAM | DigiCam |
| DIGIWEB | DigiWeb |
| FOG OR CLOUD WATER COLLECTOR | Fog or cloud water collector |
| HUBBARD BROOK COLLECTOR | Hubbard brook collector |
| IMPROVE A | IMPROVE A |
| IMPROVE A AND S | IMPROVE A and S |
| IMPROVE AB | IMPROVE AB |
| IMPROVE ABC | IMPROVE ABC |
| IMPROVE ABCD | IMPROVE ABCD |
| IMPROVE AD | IMPROVE AD |
| IMPROVE B | IMPROVE B |
| IMPROVE C | IMPROVE C |
| IMPROVE D | IMPROVE D |
| IMPROVE D AND S | IMPROVE D and S |
| IMPROVE S | IMPROVE S |
| LOW LEVEL NOX INSTRUMENTAL | Low level NOX Instrumental |
| MIC\_AM\_WET\_DEPOSITION \_COLLECTOR | M.I.C. Type A-M Wet Deposition Collector |
| METEOROLOGY | Meteorology |
| NADP DRY DEPOSITION COLLECTOR | NADP dry deposition collector |
| NADP WET DEPOSITION COLLECTOR | NADP wet deposition collector |
| NDDN DRY DEPOSITION SAMPLER | NDDN dry deposition sampler |
| NEPHELOMETER | Visibility |
| NO2 – INTEGRATED PASSIVE MONITOR | NO2 – integrated passive monitor |
| O3-INSTRUMENTAL | O3 instrumental |
| OTHER | Other, not listed |
| OZONE | Ozone |
| OZONE SAMPLER | Ozone sampler |
| PASSIVE OZONE SAMPLER | Passive ozone sampler |
| PM10 ANDERSEN RAAS10-100 SINGLE CHANNEL | PM10 Andersen RAAS10-100 single channel |
| PM10 ANDERSEN RAAS10-300 M-CHANNEL | PM10 Andersen RAAS10-300 M-channel |
| PM10 BAM-102-CONTINUOUS MONITOR | PM10 BAM-102 continuous monitor |
| PM10 BGI INC. MODEL PQ200 | PM10 BGI Inc. Model PQ200 |
| PM10 HI-VOL SA GMW-1200 | PM10 Hi-Vol SA GMW-1200 |
| PM10 HI-VOL SA GMW-321-B | PM10 Hi-Vol SA GMW-321-B |
| PM10 HI-VOL SA GMW-321-C | PM10 Hi-Vol SA GMW-321-C |
| PM10 HI-VOL-W10 | PM10 Hi-Vol-W10 |
| PM10 HI-VOL WEDDING INLET | PM10 Hi-Vol wedding inlet |
| PM10 INSTRUMENTAL\_ANDRSEN-SA246B-INTL | PM10 Instrumental Andrsen SA246B-INTL |
| PM10 INSTRUMENTAL MET ONE4 MODELS | PM10 instrumental MET one 4 models |
| PM10 INSTRUMENTAL-R&P SA246B-INLET (TX MODIFICATION) | PM10 instrumental R&P SA246B inlet (TX modification) |
| PM10 LO-VOL-DICHOT-INTERIM | PM10 Lo-Vol Dichot Interim |
| PM10 LO-VOL-DICHOTOMOUS-SA246B-INTL | PM10 Lo-Vol Dichotomous SA246B-Intl |
| PM10 OREGON-DEQ-MED-VOL | PM10 Oregon DEQ Med Vol |
| PM10 R – P CO PARTISOL MODEL 2000 | PM10 R-P CO Partisol Model 2000 |
| PM10 R – P CO PARTISOL MODEL 2025 | PM10 R-P CO Partisol Model 2025 |
| PM10 T A SERIES FH 62 C14 CONTINUOUS | PM10 T A Series FH 62 C14 Continuous |
| PM2.5 BGI MODELS PQ200-VSCC OR PQ200A-VSCC | PM2.5 BGI Models PQ200-VSCC or PQ200A-VSCC |
| PM2.5 MET ONE BAM-1020 MASS MONITOR W VSCC | PM2.5 MET One BAM-1020 Mass Monitor W VSCC |
| PM2.5 THERMO SCIENTIFIC 1405 F FDMS W VSCC | PM2.5 Thermo Scientific 1405 F FDMS W VSCC |
| PM2.5 THERMO SCIENTIFIC 5014i OR FH62C14-DHS W VSCC | PM2.5 Thermo Scientific 5014i or FH62C14-DHS W VSCC |
| PM2.5 THERMO SCIENTIFIC MODEL 5030 SHARP W VSCC | PM2.5 Thermo Scientific Model 5030 W VSCC |
| PM2.5 THERMO SCIENTIFIC PARTISOL 2000-D DICHOT | PM2.5 Thermo Scientific Partisol 2000-D Dichot |
| PM2.5 THERMO SCIENTIFIC TEOM 1405-DF DICHOTOMOUS FDMS | PM2.5 Thermo Scientific TEOM 1405-DF Dichotomous FDMS |
| PM2.5 THERMO SCIENTIFIC TEOM 1400 FDMS 1405 8500C FDMS W VSCC | PM2.5 Thermo Scientific TEOM 1400 FDMS 1405 8500C FDMS W VSCC |
| PRECIPITATION CHEMISTRY | Precipitation chemistry |
| PRECIPITATION COLLECTOR | Precipitation collector |
| PYRANOMETER | Pyranometer |
| PB PM10 THERMO R & P 2025 PM10 | PB PM10 Thermo R&P 2025 PM10 |
| PB STP HI-VOL | PB STP Hi-vol |
| PB STP LO-VOL | PB STP Lo-vol |
| PB STP OR MED-VOL TSP TEFLON | PB STP or Med-vol TSP Teflon |
| PB STP SKC PUMP FILTER | PB STP SKC pump filter |
| PB TSP FRM HI-VOL | PB TSP FRM Hi-vol |
| R & P MODEL 2000 PM-2.5 AIR SAMPLER W VSCC | R&P Model 2000 PM-2.5 Air Sampler W VSCC |
| R & P MODEL 2000 PM2.5 SAMPLER W WINS | R&P Model 2000 PM2.5 Sampler W WINS |
| R & P MODEL 2025 PM-2.5 SEQUENTIAL AIR SAMPLER W VSCC | R&P Model 2025 PM-2.5 Sequential Air Sampler W VSCC |
| R & P MODEL 2025 PM-2.5 SEQUENTIAL W WINS | R&P Model 2025 PM-2.5 Sequential W WINS |
| RECORDING RAINGAGE | Recording rain gage |
| RELATIVE HUMIDITY SENSOR | Relative humidity sensor |
| RAIN GAUGE MSC STANDARD | Rain gauge Type B (MSC Standard) |
| SO2 | SO2 |
| SO2 ANNULAR DIFFUSION DENUDER | SO2 annular diffusion denuder |
| SO2 AUTOMATED ANALYZER | SO2 automated analyzer |
| SO2 CELLULOSE & NYLON CASTNET-STYLE 3-STAGE FILTER PACK | SO2 cellulose & nylon Castnet-style 2-stage filter pack |
| SO2 GAS-BUBBLER | SO2 gas-bubbler |
| SO2 INSTRUMENTAL | SO2 instrumental |
| SO4 | SO4 |
| SPECIAL | Special |
| SPECIATED AEROSOL SAMPLER | Speciated aerosol sampler |
| STACKED FILTER UNIT (SFU) | Stacked filter unit (SFU) |
| STANDARD RAIN GAUGE | Standard rain gauge |
| SNOW GAUGE SHIELDED NIPHER | Snow gauge Nipher shielded snow gauge |
| STANDARD GRID STATION | Standard grid station |
| TEOM | TEOM |
| THERMOMETER | Thermometer |
| TIPPING BUCKET RAIN GAUGE | Tipping bucket rain gauge |
| TRANSMISSOMETER | Transmissometer |
| THERMO ELECTRON MODEL RAAS2.5-100 W VSCC | Thermo electron model RAAS2.5-100 W VSCC |
| THERMO ELECTRON MODEL RAAS2.5-300 SEQUENTIAL W VCSS | Thermo electron model RAS2.5-300 Sequential W VCSS |
| TISCH ENVIRON MODEL-6070 PM10 HI-VOL | Tisch Environ Model 6070 PM10 hi-vol |
| WEATHER | Weather |
| WIND VANE | Wind vane |

### NRA\_FES\_SITE\_TYPES

Description: list of fixed equipment site types

Table 65: Description of fields in the FES site types

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FES\_SITE\_TYPE | Yes | VC(60) | Primary Key. Unique name for each fixed equipment site type |
| FES\_SITE\_DESC | No | VC(240) | Description of each fixed equipment site type, if available |

Available FES site types:

* AEROSOL
* AQS-SPECIAL PURPOSE
* AQS-SUPLMNTL SPECIATION
* AQS-TRENDS SPECIATION
* BULK DEPOSITION
* CASTNET
* DRY DEPOSITION
* GAGING STA
* GASEOUS
* LEAD (TSP) LC FRM/FEM
* LEAD (TSP) STP
* LEAD PM10 LC FRM/FEM
* METEOROLOGIC
* NATTS
* NCORE
* NITROGEN DIOXIDE (NO2)
* OZONE
* PM10 TOTAL 0-10UM STP
* PM2.5 – LOCAL CONDITIONS
* PRECIPITATION
* SLAMS
* SULFUR DIOXIDE
* SURFACE AIR
* UPPER AIR
* VISIBILITY
* WET DEPOSITION

### NRA\_FIELD\_PRESERVATION\_TYPES

Description: list of monitoring field preservation types

Table 66: Description of fields in the field preservation types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FIELD\_PRESERVATION \_TYPE | Yes | VC(30) | Primary Key; unique name for each monitoring field preservation type |
| FIELD\_PRESERVATION \_DESC | No | VC(240) | Description of each monitoring field preservation type, if available |

Table 67: List of available field preservation types and descriptions

| **Field Preservation Type** | **Description** |
| --- | --- |
| AEROSOL SAMPLER | Visibility |
| ANEMOMETER | Anemometer |
| BAROMETER | Barometer |
| BULK SNOW DEPOSITION COLLECTOR | Bulk snow deposition collector |
| CAMERA | Visibility |
| CASTNET DRY DEPOSITION SAMPLER | New name for the NDDN Dry Deposition Sampler |
| FOG/CLOUD WATER COLLECTOR | Fog/cloud water collector |
| HUBBARD BROOK COLLECTOR | Hubbard Brook collector |
| IMPROVE A | IMPROVE A |
| IMPROVE A+S | IMPROVE A+S |
| IMPROVE AB | IMPROVE AB |
| IMPROVE ABC | IMPROVE ABC |
| IMPROVE ABCD | IMPROVE ABCD |
| IMPROVE AD | IMPROVE AD |
| IMPROVE B | IMPROVE B |
| IMPROVE C | IMPROVE C |
| IMPROVE D | IMPROVE D |
| IMPROVE D+S | IMPROVE D+S |
| IMPROVE S | IMPROVE S |
| METEOROLOGY | Meteorology |
| NTN DRY DEPOSITION COLLECTOR | NTN dry deposition collector |
| NTN WET DEPOSITION COLLECTOR | NTN wet deposition collector |
| NDDN DRY DEPOSITION SAMPLER | NDDN dry deposition sampler |
| NEPHELOMETER | Visibility |
| OTHER | Other, not listed |
| OZONE SAMPLER | Ozone sampler |
| PASSIVE OZONE SAMPLER | Passive ozone sampler |
| PRECIPITATION CHEMISTRY | Precipitation chemistry |
| PRECIPITATION COLLECTOR | Precipitation collector |
| PYRANOMETER | Pyranometer |
| RECORDING RAINGAUGE | Recording rain gauge |
| RELATIVE HUMIDITY SENSOR | Relative humidity sensor |
| SO2 | SO2 |
| SO4 | SO4 |
| SPECIAL | Special |
| SPECIATED AEROSOL SAMPLER | Speciated aerosol sampler |
| STACKED FILTER UNIT (SFU) | Stacked filter unit |
| STANDARD RAIN GAUGE | Standard rain gauge |
| TEOM | TEOM |
| THERMOMETER | Thermometer |
| TIPPING BUCKET RAIN GAUGE | Tipping bucket rain gauge |
| TRANSMISSOMETER | Transmissometer |
| WIND VANE | Wind vane |

### NRA\_LAKE\_SHORE\_CHRCTR\_TYPES

Description: stores the different lake shore character types

Table 68: Description of fields in the lake shore character types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CHARACTERISTIC\_TYPE | Yes | VC(20) | Primary Key; unique lake shore characteristic |
| CHARACTERISTIC\_DESC | No | VC(100) | Lake shore characteristic description, if available |

Table 69: List of available lake shore characteristic types

| **Characteristic Type** | **Description** |
| --- | --- |
| NONE | None |
| RARE (<5%) | Shoreline or stream bank is comprised of less than five percent of this characteristic type |
| SPARSE (5 to 25%) | Shoreline or stream bank is comprised of between 5 and 25 percent of this characteristic type |
| MODERATE (25 to 75%) | Shoreline or stream bank is comprised of between 25 and 75 percent of this characteristic type |
| EXTENSIVE (>75%) | Shoreline or stream bank is comprised of more than 75 percent of this characteristic type |
| UNKNOWN | Shoreline or stream bank characteristic is unknown |

### NRA\_LAKE\_STRATIFICATION\_TYPES

Description: stores the different lake stratification types

Table 70: Description of fields in the lake stratification types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAKE\_STRATIFICATION \_TYPE | Yes | VC(7) | Primary Key; unique lake stratification type |
| CHARACTERISTIC | No | VC(100) | Lake stratification description, if available |

Available lake stratification types:

* MIXED
* STRONG
* UNKNOWN
* WEAK

### NRA\_LAND\_USE\_TYPES

Description: list of fixed equipment site land use types

Table 71: Description of fields in the land use types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAND\_USE\_TYPE | Yes | VC(60) | Primary Key; unique lake stratification type |
| LAND\_USE\_DESC | No | VC(240) | Description of fixed equipment site land use type, if available |

Available land use types:

* AGRICULTURE
* AIRPORT
* AIRPORT-BUILDINGS
* BIGHTED AREAS
* BUILDINGS
* CANYON
* COMMERCIAL
* CULTIVATED
* CULTIVATED-FOREST
* DESERT
* FARM-BLDGS.
* FISH HATCHERY
* FOREST
* FOREST-AGRICULTURE
* FOREST-ARID
* FOREST-FISH HATCHERY
* FOREST-LAKE
* FORESTLAND
* FOREST-NURSERY
* FOREST-ORCHARD
* FOREST-RANGE
* FOREST-RECREATION
* FOREST-RIVER
* FOREST-TROPICAL
* FOREST-URBAN
* GRASS-TREES-STATE PARK
* INDUSTRY
* INTERCHANGE
* LAKE
* LAKE-FOREST
* LAKE-HIGHWAY
* LOW SHRUBS
* MARSH
* MARSH-COASTAL
* MARSH-FOREST
* MARSH-LAKE
* MARSH-SUBURBAN
* MILITARY RESERVATION
* MOBILE
* MOUNTAIN
* OCEAN
* ORCHARD-AGRICULTURE
* PASTURE
* PASTURE-BARN
* PRAIRIE
* RANGE
* RANGE-DESERT
* RANGE-FOREST
* RESIDENTIAL
* RIVER
* RIVER-HIGHWAY
* ROCK
* ROCK-CANYON
* SUBURBAN
* SUBURBAN-AGRICULTURE
* SUBURBAN-RANGE
* URBAN

### NRA\_LEVEL\_NAMES

Description: stores the threshold level names

Table 72: Description of fields in the level names table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LEVEL\_NAME | Yes | VC(50) | Primary Key; unique lake stratification type |
| LEVEL\_NAME\_DESC | No | VC(200) | Threshold level name description, if available |

Table 73: Description of fields in the level names form

| **Level Name CN** | **Level Name** | **New Level Name** |
| --- | --- | --- |
| 8BE94FE0914BED9FE04090AAAB87115A | RED/GREEN LINE | RED\_GREEN LINE |
| 8BE94FE0914CED9FE04090AAAB87115A | 98%ile CHANGE (8th highest) | No change |
| 8BE94FE0914DED9FE04090AAAB87115A | <10% DECREASE IN ALKALINITY | No change |
| 8BE94FE0914EED9FE04090AAAB87115A | ANC<0 UEQ/L (EPISODIC-RED) | ANC <0 UEQ PER L (EPISODIC-RED) |
| 8BE94FE0914FED9FE04090AAAB87115A | ANC <10 UEQ/L (CHRONIC RED) | ANC <25 UEL PER L (CHRONIC RED) |
| 8BE94FE09150ED9FE04090AAAB87115A | ANC <25 UEQ/L (CHRONIC RED) | ANC <25 UEQ PER L (CHRONIC RED) |
| 8BE94FE09151ED9FE04090AAAB87115A | ANC >0 UEQ/L (EPISODIC GREEN) | ANC >0 UEL PER L (EPISODIC GREEN) |
| 8BE94FE09152ED9FE04090AAAB87115A | ANC >25 UEQ/L (CHRONIC GREEN) | ANC >25 UEQ PER L (CHRONIC GREEN) |
| 8BE94FE09153ED9FE04090AAAB87115A | ANC >=25 UEQ?L (EPISODIC GREEN) | ANC >=25 UEQ PER L (EPISODIC GREEN) |
| 8BE94FE09154ED9FE04090AAAB87115A | ANC ANNUAL <25.0 (RED) | (No name change) |
| 8BE94FE09155ED9FE04090AAAB87115A | ANC ANNUAL <25.0 (RED) | (No name change) |
| 8BE94FE09156ED9FE04090AAAB87115A | ANC CHRONIC >50 UEQ/L (GREEN) | ANC CHRONIC >50 UEQ PER L (GREEN) |
| 8BE94FE09157ED9FE04090AAAB87115A | ANNUAL GROWTH | (No name change) |
| 8BE94FE09158ED9FE04090AAAB87115A | ANNUAL GROWTH INJURY | (No name change) |
| 8BE94FE09159ED9FE04090AAAB87115A | BASE SATURATION CHANGE | (No name change) |
| 8BE94FE0915AED9FE04090AAAB87115A | CHANGE | (No name change) |
| 8BE94FE0915BED9FE04090AAAB87115A | CHANGE FROM 100-YEAR AVERAGE | (No name change) |
| 8BE94FE0915CED9FE04090AAAB87115A | CHANGE FROM BASELINE | (No name change) |
| 8BE94FE0915DED9FE04090AAAB87115A | CHANGE IN AL CONCENTRATIONS | (No name change) |
| 8BE94FE0915EED9FE04090AAAB87115A | CHANGE IN ANC | (No name change) |
| 8BE94FE0915FED9FE04090AAAB87115A | CHANGE IN ANIONS | (No name change) |
| 8BE94FE09160ED9FE04090AAAB87115A | CHANGE IN APPEARANCE | (No name change) |
| 8BE94FE09161ED9FE04090AAAB87115A | CHANGE IN FOLIAR INJURY-GREEN | (No name change) |
| 8BE94FE09162ED9FE04090AAAB87115A | CHANGE IN FOLIAR INJURY-RED | (No name change) |
| 8BE94FE09163ED9FE04090AAAB87115A | CHANGE IN HAZINESS-GREEN | (No name change) |
| 8BE94FE09164ED9FE04090AAAB87115A | CHANGE IN HAZINESS-RED | (No name change) |
| 8BE94FE09165ED9FE04090AAAB87115A | CHANGE IN PH | (No name change) |
| 8BE94FE09166ED9FE04090AAAB87115A | CHANGE IN PHYSIOLOGY | (No name change) |
| 8BE94FE09167ED9FE04090AAAB87115A | CHANGE IN SVR | (No name change) |
| 8BE94FE09168ED9FE04090AAAB87115A | CHANGE IN WATER CLARITY | (No name change) |
| 8BE94FE09169ED9FE04090AAAB87115A | CONCENTRATION | (No name change) |
| 8BE94FE0916AED9FE04090AAAB87115A | CONDITION CLASS CHANGE | (No name change) |
| 8BE94FE0916BED9FE04090AAAB87115A | CONDITION CLASS-SEVERE | (No name change) |
| 8BE94FE0916CED9FE04090AAAB87115A | CONDITION CLASS-SLIGHT | (No name change) |
| 8BE94FE0916DED9FE04090AAAB87115A | CONDITION CLASS-MODERATE | (No name change) |
| 8BE94FE0916EED9FE04090AAAB87115A | CONDITION CLASS-NO SIGNIFICANT | (No name change) |
| 8BE94FE0916FED9FE04090AAAB87115A | CONDITION CLASS-NONE | (No name change) |
| 8BE94FE09170ED9FE04090AAAB87115A | CONDITION CLASS-SEVERE | (No name change) |
| 8BE94FE09171ED9FE04090AAAB87115A | CONDITION CLASS-SIGNIFICANT | (No name change) |
| 8BE94FE09172ED9FE04090AAAB87115A | CONDITION CLASS-SLIGHT | (No name change) |
| 8BE94FE09173ED9FE04090AAAB87115A | CONDITION CLASS-VERY SLIGHT | (No name change) |
| 8BE94FE09174ED9FE04090AAAB87115A | CONTRAST | (No name change) |
| 8BE94FE09175ED9FE04090AAAB87115A | DECREASE | (No name change) |
| 8BE94FE09176ED9FE04090AAAB87115A | DENSITY DECREASE | (No name change) |
| n/a | DEPOSITION | (No name change) |
| 8BE94FE0977ED9FE04090AAAB87115A | DISTRIBUTION DECREASE | (No name change) |
| 8BE94FE09178ED9FE04090AAAB87115A | DISTURBANCE | (No name change) |
| 8BE94FE09179ED9FE04090AAAB87115A | DIVERSITY DECREASE | (No name change) |
| 8BE94FE0917AED9FE04090AAAB87115A | EQUIVALENCE RATIO | (No name change) |
| n/a | EXCEEDANCE | (No name change) |
| 8BE94FE0917BED9FE04090AAAB87115A | EXTENT OF INJURY | (No name change) |
| n/a | EXTINCTION | (No name change) |
| 8BE94FE097CED9FE04090AAAB87115A | EXTIPATION | (No name change) |
| 8BE94FE0917DED9FE04090AAAB87115A | HAZINESS-RED/GREEN LINE | HAZINESS-RED\_GREEN LINE |
| 8BE94FE0917EED9FE04090AAAB87115A | HORSEFALL-BARRATT INJURY CLASS | (No name change) |
| 8BE94FE0917FED9FE04090AAAB87115A | INCIDENCE | (No name change) |
| 8BE94FE09180ED9FE04090AAAB87115A | INCREASE | (No name change) |
| 8BE94FE09181ED9FE04090AAAB87115A | INCEASE FROM BASELINE | (No name change) |
| 8BE94FE09182ED9FE04090AAAB87115A | INJURY | (No name change) |
| 8BE94FE09183ED9FE04090AAAB87115A | JUST NOTICEABLE CHANGE | (No name change) |
| 8BE94FE09184ED9FE04090AAAB87115A | LACK OF DISTURBANCE | (No name change) |
| 8BE94FE09185ED9FE04090AAAB87115A | MAINTAIN BIOLOGICAL FUNCTION | (No name change) |
| 8BE94FE09186ED9FE04090AAAB87115A | MAINTENANCE | (No name change) |
| 8BE94FE09187ED9FE04090AAAB87115A | MAXIMUM CHANGE | (No name change) |
| 8BE94FE09188ED9FE04090AAAB87115A | MEASURABLE DECREASE | (No name change) |
| 8BE94FE09189ED9FE04090AAAB87115A | MODELING LEVEL | (No name change) |
| n/a | N100 METRIC | (No name change) |
| 8BE94FE0918AED9FE04090AAAB87115A | NECROSIS | (No name change) |
| 8BE94FE0918BED9FE04090AAAB87115A | NITROGEN ENRICHMENT | (No name change) |
| 8BE94FE0918CED9FE04090AAAB87115A | NO CHANGE | (No name change) |
| 8BE94FE0918DED9FE04090AAAB87115A | NO CHANGE IN ANC | (No name change) |
| 8BE94FE0918EED9FE04090AAAB87115A | NO CHANGE IN COMMUNITY COMP | (No name change) |
| 8BE94FE0918FED9FE04090AAAB87115A | NO CHANGE IN COMMUNITY COMP | (No name change) |
| 8BE94FE09190ED9FE04090AAAB87115A | NO CHANCE IN PH | (No name change) |
| 8BE94FE09191ED9FE04090AAAB87115A | NO CHANGE IN SOIL CHEMISTRY | (No name change) |
| 8BE94FE09192ED9FE04090AAAB87115A | NO CONCERN | (No name change) |
| 8BE94FE09193ED9FE04090AAAB87115A | NO DECREASE IN ALKALINITY | (No name change) |
| 8BE94FE09194ED9FE04090AAAB87115A | NO DECREASE IN OCCURRENCE | (No name change) |
| 8BE94FE09195ED9FE04090AAAB87115A | NO EXTIRPATION OF SPECIES | (No name change) |
| 8BE94FE09196ED9FE04090AAAB87115A | NO INCREASE | (No name change) |
| 8BE94FE09197ED9FE04090AAAB87115A | NO INJURY | (No name change) |
| 8BE94FE09198ED9FE04090AAAB87115A | NO OCCURRENCE | (No name change) |
| 8BE94FE09199ED9FE04090AAAB87115A | NOTICEABLE | (No name change) |
| 8BE94FE0919AED9FE04090AAAB87115A | NUMBER | (No name change) |
| 8BE94FE099BED9FE04090AAAB87115A | NUMBER OF WHORLS | (No name change) |
| 8BE94FE0919CED9FE04090AAAB87115A | OCCURRENCE | (No name change) |
| 8BE94FE0919DED9FE04090AAAB87115A | PARTICULATE MATTER (R/G LINE) | (No name change) |
| 8BE94FE0919EED9FE04090AAAB87115A | PERCENT INCREASE | (No name change) |
| 8BE94FE0919FED9FE04090AAAB87115A | PERCENT INJURY | (No name change) |
| 8BE94FE091A0ED9FE04090AAAB87115A | PERCENT INJURY (R/G LINE) | PERCENT INJURY (R\_G LINE) |
| 8BE94FE091A1ED9FE04090AAAB87115A | PERCENT INJURY (RED/GREEN) | PERCENT INJURY (RED\_GREEN) |
| 8BE94FE091A2ED9FE04090AAAB87115A | PERCENT OF LENGTH INJURED | (No name change) |
| 8BE94FE091A3ED9FE04090AAAB87115A | PERCEPTIBILITY THRESHOLD | (No name change) |
| 8BE94FE091A4ED9FE04090AAAB87115A | PH 6.6 – 7.0 (DECREASE) | (No name change) |
| 8BE94FE091A5ED9FE04090AAAB87115A | PH <6.6 (DECREASE) | (No name change) |
| 8BE94FE091A6ED9FE04090AAAB87115A | PH <6.6 (DECREASE) | (No name change) |
| 8BE94FE091A7ED9FE04090AAAB87115A | PH > 7.0 (DECREASE) | (No name change) |
| 8BE94FE091A8ED9FE04090AAAB87115A | PH CHRONIC <5.5 (RED) | (No name change) |
| 8BE94FE091A9ED9FE04090AAAB87115A | PH CHRONIC >=5.5 (GREEN) | (No name change) |
| 8BE94FE091AAED9FE04090AAAB87115A | PH EPISODIC <5.0 (RED) | (No name change) |
| 8BE94FE091ABED9FE04090AAAB87115A | PH EPISODIC >=5.0 (GREEN) | (No name change) |
| 8BE94FE091ACED9FE04090AAAB87115A | PH-CHRONIC <6.0 (RED) | (No name change) |
| 8BE94FE091ADED9FE04090AAAB87115A | PH-CHRONIC >=6.0 (GREEN) | (No name change) |
| 8BE94FE091AEED9FE04090AAAB87115A | PH-EPISODIC <5.5 (RED) | (No name change) |
| 8BE94FE091AFED9FE04090AAAB87115A | PH-EPISODIC >=5.5 (GREEN) | (No name change) |
| 8BE94FE09B0ED9FE04090AAAB87115A | POLLUTION EXPOSURE LIMIT-PH | (No name change) |
| 8BE94FE091B1ED9FE04090AAAB87115A | POTENTIAL CONCERN | (No name change) |
| 8BE94FE091B2ED9FE04090AAAB87115A | POTENTIAL INJURY | (No name change) |
| 8BE94FE091B3ED9FE04090AAAB87115A | PRESENCE OF UNNATURAL ODOR | (No name change) |
| n/a | QOverD | Q/d |
| 8BE94FE091B4ED9FE04090AAAB87115A | RED/GREEN LINE | RED\_GREEN LINE |
| 8BE94FE091B5ED9FE04090AAAB87115A | REDUCTION | (No name change) |
| 8BE94FE091B6ED9FE04090AAAB87115A | SEVERE CONCERN | (No name change) |
| 8BE94FE091B7ED9FE04090AAAB87115A | SEVERE DETERIORATION | (No name change) |
| 8BE94FE091B8ED9FE04090AAAB87115A | SEVERE DETERIORATION-ANC | (No name change) |
| 8BE94FE091B9ED9FE04090AAAB87115A | SEVERE INJURY | (No name change) |
| 8BE94FE091BAED9FE04090AAAB87115A | SHOOT LENGTH | (No name change) |
| 8BE94FE091BBED9FE04090AAAB87115A | SIGNIFICANT DETERIORATION | (No name change) |
| 8BE94FE091BCED9FE04090AAAB87115A | SIGNIFICANT DETERIORATION-ANC | (No name change) |
| 8BE94FE091BDED9FE04090AAAB87115A | SIGNIFICANT DETERIORATION-ANC | (No name change) |
| 8BE94FE091BEED9FE04090AAAB87115A | VARIATION>NATURAL FLUCTUATION | (No name change) |
| 8BE94FE091BFED9FE04090AAAB87115A | VIOLATION OF STATE WQ STDS | (No name change) |
| 8BE94FE091C0ED9FE04090AAAB87115A | VIOLATIONS | (No name change) |
| 8BE94FE091C1ED9FE04090AAAB87115A | VISIBLE SYMPTOMS | (No name change) |
| 8BE94FE091C2ED9FE04090AAAB87115A | WATER QUALITY STANDARDS | (No name change) |
| 8BE94FE091C3ED9FE04090AAAB87115A | WHORLS | (No name change) |

### NRA\_LITHOLOGY\_TYPES

Description: list of lithology types for the monitoring visit locations

Table 74: Description of fields in the lithology types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LITHOLOGY\_TYPE | Yes | VC(40) | Primary Key; unique lithology type |
| PARENT\_LITHOLOGY\_TYPE | No | VC(40) | Another lithology type which groups the list or filters it for convenience; these are higher level lithology types such as Sedimentary or Igneous |

Table 75: List of available lithology types

| **Lithology Type** | **Parent Lithology Type** |
| --- | --- |
| ACTINOLITE HORNFELS | Metamorphic |
| actinolite marble | Metamorphic |
| actinolite schist | Metamorphic |
| acinolite-epidote marble | Metamorphic |
| AGGLOMErATE | Sedimentary |
| ALASKITE | Igneous intrusive |
| albite-mica schist | Metamorphic |
| alkali granite | Igneous intrusive |
| alkali syenite | Igneous intrusive |
| alluvium | Unconsolidated |
| amphibolite | Metamorphic |
| amphibolite gneiss | Metamorphic |
| analcite basalt | Igneous extrusive |
| andalusite hornfels | Metamorphic |
| andalusite schist | Metamorphic |
| andalusite spotted slate | Metamorphic |
| andalusite-biotite hornfels | Metamorphic |
| andesite | Igneous extrusive |
| andesite porphyry | Igneous extrusive |
| anhydrite | Sedimentary |
| anorthosite | Igneous intrusive |
| anorthosite gneiss | Metamorphic |
| anthrophyllite hornfels | Metamorphic |
| aplite | Igneous intrusive |
| argillite | Metamorphic |
| arkose | Sedimentary |
| arkose argillaceous | Sedimentary |
| arkose calcareous | Sedimentary |
| arkose gneiss | Metamorphic |
| arkose siliceous | Sedimentary |
| ash-loess mixture | unconsolidated |
| asphalt | Sedimentary |
| augen gneiss | Metamorphic |
| basalt | Igneous extrusive |
| basalt porphyry | Igneous extrusive |
| basaltic andesite | Igneous extrusive |
| basanite | Igneous extrusive |
| bentonite | Sedimentary |
| biotite | Metamorphic |
| biotite gneiss | Metamorphic |
| biotite schist & biotite | Metamorphic |
| biotite spotted slate | Metamorphic |
| biotite-chlorite schist | Metamorphic |
| black slate | Metamorphic |
| bolian | Unconsolidated |
| breccia | Sedimentary |
| brucite marble | Metamorphic |
| calcareous slate | Metamorphic |
| calcite schist | Metamorphic |
| calc-Silicate hornfels | Metamorphic |
| caliche | Sedimentary |
| carbonaceous slate | Metamorphic |
| chalk | Sedimentary |
| charnockite | Igneous intrusive |
| chert | Sedimentary |
| chert oolitic | Sedimentary |
| chiastolite schist | Metamorphic |
| chiastolite spotted slate | Metamorphic |
| chlorite marble | Metamorphic |
| chlorite schist | Metamorphic |
| chloritoid schist | Metamorphic |
| chondrodite marble | Metamorphic |
| cinders | Unconsolidated |
| claystone | Sedimentary |
| claystone siliceous | Sedimentary |
| Coal, anthracite | Sedimentary |
| coal, bituminous | Sedimentary |
| colluvium | Unconsolidated |
| conglomerate | Sedimentary |
| conglomerate gneiss | Metamorphic |
| coquina | Sedimentary |
| cordierite hornfels | Metamorphic |
| cordierite-anthophyllite | Metamorphic |
| cyroturbate | Unconsolidated |
| crystaline metamorphic | Metamorphic |
| dacite | Igneous extrusive |
| dacite porphyry | Igneous extrusive |
| diabase | Igneous intrusive |
| diabase gneiss | Metamorphic |
| diamiction | Unconsolidated |
| diatomaceous earth | Unconsolidated |
| diatomite | Sedimentary |
| diopside marble | Metamorphic |
| diorite | Igneous intrusive |
| diorite gneiss | Metamorphic |
| diorite porphyry | Igneous intrusive |
| ditroite | Igneous intrusive |
| dolomite | Sedimentary |
| dune sand | Unconsolidated |
| dunite | Igneous extrusive |
| eclogite | Metamorphic |
| eolian deposit | Unconsolidated |
| eolus granite | Igneous intrusive |
| epidote amphibolite | Metamorphic |
| epidote gneiss | Metamorphic |
| epidote hornfels | Metamorphic |
| epidote-chlorite schist | Metamorphic |
| felsite | Igneous extrusive |
| fergusite | Igneous intrusive |
| fish canyon tuff | Igneous extrusive |
| flaser conglomerate | Metamorphic |
| flaser diorite | Metamorphic |
| flaser granite | Metamorphic |
| foyaite | Igneous intrusive |
| gabbro | Igneous extrusive |
| gabbro gneiss | Metamorphic |
| gabbro porphyry | Igneous intrusive |
| gabbro/diorite | Igneous extrusive |
| garnet biotite Gneiss | Metamorphic |
| garnet gneiss | Metamorphic |
| garnet hornfels | Metamorphic |
| garnet-chlorite schist | Metamorphic |
| garnet-pryoxene amphibolite | Metamorphic |
| gilsonite | Sedimentary |
| glacial | Unconsolidated |
| glacial deposit | Unconsolidated |
| glacial moraine | Unconsolidated |
| glacial moraine deposit | Unconsolidated |
| glacial outwash | Unconsolidated |
| glacial till | Unconsolidated |
| glacial till deposit | Unconsolidated |
| glaciofluvial deposit | Unconsolidated |
| glaciolacustrine deposit | Unconsolidated |
| glaciomarine deposit | Unconsolidated |
| glaucophane schist | Metamorphic |
| gneiss | Metamorphic |
| granite | Igneous extrusive |
| granite gneiss | Metamorphic |
| granite porphyry | Igneous intrusive |
| granitic gneiss | Metamorphic |
| granodiorite | Igneous intrusive |
| granodiorite gneiss | Metamorphic |
| granodiorite porphyry | Igneous intrusive |
| granofels | Metamorphic |
| granulite | Metamorphic |
| graphic granite | Igneous intrusive |
| graphite marble | Metamorphic |
| graphite schist | Metamorphic |
| graywacke | Sedimentary |
| graywacke calcareous | Sedimentary |
| graywacke gneiss | Metamorphic |
| green slate | Metamorphic |
| greensand | Sedimentary |
| greenschist | Metamorphic |
| greenstone | Metamorphic |
| gypsum | Sedimentary |
| gypsum sand | Unconsolidated |
| halite | Sedimentary |
| harzburgite | Igneous intrusive |
| hematite | Sedimentary |
| hornblende-biotite schist | Metamorphic |
| hornfels | Sedimentary |
| human caused/constructed | Unconsolidated |
| igneous extrusive | Igneous extrusive |
| igneous intrusive | Igneous intrusive |
| interbedded limestone and sandstone | Sedimentary |
| interbedded limestone and shale | Sedimentary |
| interbedded limestone and siltstone | Sedimentary |
| interbedded sandstone and shale | Sedimentary |
| interbedded sandstone and siltstone | Sedimentary |
| ironstone | Sedimentary |
| kyanite hornfels | Metamorphic |
| kyanite schist | Metamorphic |
| lacustrine sediments | Unconsolidated |
| lahar | Unconsolidated |
| lakebed or lacustrine | Unconsolidated |
| lamprophyre | Igneous intrusive |
| landslide deposit | Unconsolidated |
| LARVIKITE | Igneous intrusive |
| LATITE | Igneous extrusive |
| latit porphyry | Igneous extrusive |
| leucite basanite | Igneous extrusive |
| leucite phonolite | Igneous extrusive |
| Leucite syenite | Igneous intrusive |
| Leucite tephrite | Igneous extrusive |
| lignite | Sedimentary |
| limburgite | Igneous extrusive |
| limburgite porphyry | Igneous extrusive |
| limestone | Sedimentary |
| limestone arenaceous | Sedimentary |
| limestone argillaceous | Sedimentary |
| limestone bituminous | Sedimentary |
| limestone carbonaceous | Sedimentary |
| limestone cherty | Sedimentary |
| limestone clastic | Sedimentary |
| limestone iron-rich | Sedimentary |
| limestone oolitic | Sedimentary |
| limestone organic | Sedimentary |
| limestone phosphatic | Sedimentary |
| limestone siliceous | Sedimentary |
| limestone siliciclastic | Sedimentary |
| limonite | Sedimentary |
| loess | Unconsolidated |
| luxullianite | Igneous intrusive |
| mafic gneiss | Metamorphic |
| magnetite | Metamorphic |
| malignite | Igneous intrusive |
| marble | Metamorphic |
| marine sediments | Unconsolidated |
| marl | Unconsolidated |
| marlstone | Sedimentary |
| melilitite | Igneous extrusive |
| meta-argillite | Metamorphic |
| metaconglomerate | Metamorphic |
| metamorphic | Metamorphic |
| metaquartzite | Metamorphic |
| metasedimentary | Metamorphic |
| metasedimentary calcareou | Metamorphic |
| metasedimentary calcareous | Metamorphic |
| metasedimentary melange | Metamorphic |
| metasedimentary non-calca | Metamorphic |
| metasedimentary non-calcareous | Metamorphic |
| metasedimentary rocks | Metamorphic |
| metavolcanic | Metamorphic |
| metavolcanic rocks | Metamorphic |
| mica schist | Metamorphic |
| migmatite | Megamorphic |
| missourite | Igneous intrusive |
| mixed | Unconsolidated |
| mixed extrusive and metamorphic | Undifferentiated |
| mixed extrusive and sedimentary | Undifferentiated |
| mixed igneous (extrusive & intrusive) | Undifferentiated |
| mixed igneous and metamorphic | Undifferentiated |
| mixed igneous and sedimentary | Undifferentiated |
| mixed intrusive and metamorphic | Undifferentiated |
| mixed intrusive and sedimentary | Undifferentiated |
| mixed metamorphic and sedimentary | Undifferentiated |
| monzonite | Igneous extrusive |
| monzonite gneiss | Metamorphic |
| monzonite porphyry | Igneous intrusive |
| muck | Unconsolidated |
| mudstone | Sedimentary |
| mudstone siliceous | Sedimentary |
| mylonite | Metamorphic |
| nepheline latite | Igneous extrusive |
| nepheline latite porphyry | Igneous extrusive |
| nepheline monzonite | Igneous extrusive |
| nepheline monzonite porphyry | Igneous intrusive |
| nepheline syenite | Igneous intrusive |
| nepheline syenite porphyry | Igneous intrusive |
| nephelinite | Igneous extrusive |
| nordmarkite | Igneous intrusive |
| norite | Igneous intrusive |
| obsidian | Igneous extrusive |
| oceanite | Igneous extrusive |
| olivine basalt | Igneous extrusive |
| olivine gabbro | Igneous intrusive |
| Olivine marble | Metamorphic |
| olivine nephelinite | Igneous extrusive |
| oolite calcareous | Sedimentary |
| oolite iron-rich | Sedimentary |
| oolite phosphatic | Sedimentary |
| oolite siliceous | Sedimentary |
| organic | Unconsolidated |
| organic deposits | Unconsolidated |
| orthoquartzite | Sedimentary |
| orthoquartzite feldspathic | Sedimentary |
| orthoquartzite lithic | Sedimentary |
| peat | Sedimentary |
| pegmatite | Igneous extrusive |
| peridotite | Igneous extrusive |
| peridotite gneiss | Metamorphic |
| perlite | Igneous extrusive |
| phonolite | Igneous extrusive |
| phonolite porphyry | Igneous extrusive |
| phosphorite | Sedimentary |
| phyllite | Metamorphic |
| phyllonite | Metamorphic |
| picrite | Igneous intrusive |
| pitchstone | Igneous extrusive |
| plagioclase gneiss | Metamorphic |
| porcellanite | Sedimentary |
| pulaskite | Igneous intrusive |
| pumice | Igneous extrusive |
| pyrophyllite schist | Metamorphic |
| pyroxene gneiss | Metamorphic |
| pyroxene hornfels | Metamorphic |
| pyroxene schist | Metamorphic |
| pyroxenite | Igneous intrusive |
| quartz basalt | Igneous extrusive |
| quartz diorite | Igneous intrusive |
| quartz diorite gneiss | Metamorphic |
| quartz diorite porphyry | Igneous intrusive |
| quartz gabbro | Igneous intrusive |
| quartz latite | Igneous extrusive |
| quartz latite porphyry | Igneous extrusive |
| quartz monzonite | Igneous intrusive |
| quartz monzonite porphyry | Igneous intrusive |
| quartz porphyry gneiss | Metamorphic |
| quartz syenite | Igneous intrusive |
| quartzite | Metamorphic |
| quartzite gneiss | Metamorphic |
| quartzite, arenite | Metamorphic |
| quartz-mica schist | Metamorphic |
| quartz-sericite schist | Metamorphic |
| radiolarite | Sedimentary |
| residual | Unconsolidated |
| residuum | Unconsolidated |
| rhyolite | Igneous extrusive |
| rhyolite gneiss | Metamorphic |
| rhyolite porphyry | Igneous extrusive |
| rock salt | Sedimentary |
| sandstone | Sedimentary |
| sandstone and arkose | Sedimentary |
| sandstone and shale | Sedimentary |
| sandstone and siltstone | Sedimentary |
| sandstone argillaceous | Sedimentary |
| sandstone argillaceous fe | Sedimentary |
| sandstone argillaceous li | Sedimentary |
| sandstone argillaceous QU | Sedimentary |
| sandstone calcareous | Sedimentary |
| sandstone calcareous feld | Sedimentary |
| sandstone calcareous lith | Sedimentary |
| sandstone calcareous quar | Sedimentary |
| sandstone carbonaceous qu | Sedimentary |
| sandstone feldspathic | Sedimentary |
| sandstone gneiss | Metamorphic |
| sandstone iron-rich | Sedimentary |
| sandstone iron-rich quart | Sedimentary |
| sandstone lithic | Sedimentary |
| sandstone quartz | Sedimentary |
| schist | Metamorphic |
| schistose quartzite | Metamorphic |
| scoria | Igneous extrusive |
| sedimentary | Sedimentary |
| serpentine | Metamorphic |
| serpentine marble | Metamorphic |
| serpentine melange | Metamorphic |
| seven devils volcanic | Volcaniclastic |
| shale | Sedimentary |
| shale bituminous | Sedimentary |
| shale calcareous | Sedimentary |
| shale carbonaceous | Sedimentary |
| shale iron-rich | Sedimentary |
| shale phosphatic | Sedimentary |
| shale siliceous | Sedimentary |
| shonikite | Igneous intrusive |
| siderit | Sedimentary |
| sillimanite garnet schist | Metamorphic |
| sillimanite gneiss | Metamorphic |
| sillimanite schist | Metamorphic |
| siltstone | Sedimentary |
| siltstone calcareous | Sedimentary |
| siltstone carbonaceous | sedimentary |
| siltstone iron-rich | Sedimentary |
| silty slate | Metamorphic |
| skarn | Metamorphic |
| skarn gneiss | Metamorphic |
| slate | Metamorphic |
| soapstone | Metamorphic |
| sodalite syenite | Igneous intrusive |
| spotted slate | Metamorphic |
| staurolite gneiss | Metamorphic |
| staurolite schist | Metamorphic |
| subgraywacke | Sedimentary |
| subgraywacke calcareous | Sedimentary |
| syenite | Igneous extrusive |
| syenite gneiss | Metamorphic |
| syenite porphyry | Igneous intrusive |
| syenodiorite | Igneous extrusive |
| talc schist | Metamorphic |
| talus deposit | Unconsolidated |
| tephra | Igneous extrusive |
| tephra (undifferentiated) | Unconsolidated |
| tephrite | Igneous extrusive |
| tephrite porphyry | Igneous extrusive |
| theralite | Igneous intrusive |
| theralite porphyry | Igneous extrusive |
| tinguaite | Igneous extrusive |
| tourmaline hornfels | Metamorphic |
| tourmaline schist | Metamorphic |
| tourmaline-mica schist | Metamorphic |
| trachyte | Igneous extrusive |
| trachyte gneiss | Metamorphic |
| trachyte porphyry | Igneous intrusive |
| transitional marine/conti | Unconsolidated |
| trap | Igneous extrusive |
| travertine | Sedimentary |
| tremolite hornfels | Metamorphic |
| tremolite marble | Metamorphic |
| troctolite | Igneous intrusive |
| tufa | Sedimentary |
| tuff | Igneous extrusive |
| ultramylonite | Metamorphic |
| uncompahgrite | Igneous intrusive |
| unconsolidated | Unconsolidated |
| undifferentiated | Unconsolidated |
| uolite | Igneous intrusive |
| vitrophyre | Igneous extrusive |
| volcanic ash | Unconsolidated |
| volcanic breccia | Sedimentary |
| volcanic tephra | Unconsolidated |
| volcaniclastic | Igneous extrusive |
| whiteside granite | Igneous extrusive |
| wollastonite hornfels | Metamorphic |
| wollastonite marble | Metamorphic |
| wyomingite | Igneous extrusive |

### NRA\_MANAGEMENT\_TYPES

Description: list of management types

Table 76: Description of fields in the management types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MANAGEMENT\_TYPE | Yes | VC(30) | Type of management |
| MANAGEMENT\_DESC | No | VC(250) | Description of management type |

Available management types:

* US FOREST SERVICE
* NATIONAL PARK SERVICE
* TRIBAL
* FISH AND WILDLIFE SERVICE

### NRA\_MEASUREMENT\_PARAMETERS

Description: list of measurement parameters which include a combination of chemical fraction, measurement type, and measurement method type

Table 77: Description of fields in the measurement parameters table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| MEASUREMENT\_PARAMETER \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| ABBRV | Yes | VC(15) | Abbreviation of the parameter |
| CHEMICAL\_FRACTION | Yes | VC(14) | The chemical fraction; valid values are “Not Applicable,” “Total,” and “Dissolved” |
| MEAS\_METHOD\_TYPE\_FK | Yes | VC(30) | Foreign Key to nra\_meas\_method\_type |
| MEASUREMENT\_TYPE | Yes | VC(80) | The measurement type |

Table 78: List of available measurement parameter types

| **Measurement Parameter Type** | **Chemical Fraction** | **Measurement Method** | **Abbreviation** |
| --- | --- | --- | --- |
| Acid Neutralizing Capacity as CaCO3 | Total | SM 2320 | ANC |
| Acid Neutralizing Capacity as CaCO3 | Total | EPA 310.1 | ANC |
| Acid Neutralizing Capacity as CaCO3 | Total | GRAN 5 PT | ANC |
| Acid Neutralizing Capacity as CaCO3 | Total | USGS NFM 6.6.4.C | ANC |
| Acidity as CaCO3 | Total | EPA 305.1 | Acidity |
| Acidity as CaO3 | Total | USGS NFM 6.6.4.C | Acidity |
| Alkalinity as CaCO3 | Dissolved | USGS 1-2030-85 | Alk |
| Alkalinity as CaCO3 | Dissolved | USGS NFM 6.6.4.C | Alk |
| Aluminum | Dissolved | Unknown | Al |
| Aluminum | Total | Unknown | Al |
| Aluminum as Al 3+ | Dissolved | EPA 202.1 | Al |
| Aluminum as Al 3+ | Dissolved | EPA 202.2 | Al |
| Aluminum as Al 3+ | Total | EPA 202.1 | Al |
| Aluminum as Al 3+ | Total | EPA 202.2 | Al |
| Aluminum, Inorganic Monomeric  as Al 3+ | Dissolved | CALC | AllnOrgMono |
| Aluminum, Inorganic Monomeric  as Al 3+ | Total | CALC | AllnOrgMono |
| Aluminum, Monomeric Complexes,  Extractable as Al 3+ | Total | Unknown | AlExt |
| Aluminum, Organic Monomeric as  Al 3+ | Dissolved | ASTM D 1193-77 | AlOMono |
| Aluminum, Organic Monomeric as  Al 3+ | Dissolved | EPA 202.2 | AlOMono |
| Aluminum, Organic Monomeric as  Al 3+ | Total | ASTM D 1193-77 | AlOMono |
| Aluminum, Organic Monomeric as  Al 3+ | Total | EPA 202.2 | AlOMono |
| Aluminum, Total Monomeric (Organic and Inorganic) as Al 3+ | Dissolved | ASTM D 1193-77 | AlTotMono |
| Aluminum, Total Monomeric (Organic and Inorganic) as Al 3+ | Dissolved | EPA 202.2 | AlTotMono |
| Aluminum, Total Monomeric (Organic and Inorganic) as Al 3+ | Total | ASTM D 1193-77 | AlTotMono |
| Aluminum, Total Monomeric (Organic and Inorganic) as Al 3+ | Total | EPA 202.2 | AlTotMono |
| Ammonia as N | Dissolved | EPA 350.1 | NH3-N |
| Ammonia as NH3 | Dissolved | EPA 350.1 | NH3 |
| Ammonium as N | Dissolved | EPA 350.1 | NH4-N |
| Ammonium as N | Total | EPA 350.1 | NH4-N |
| Ammonium as NH4+ | Dissolved | ASTM D6919-03 | NH4 |
| Ammonium as NH4+ | Dissolved | EPA 350.1 | NH4 |
| Ammonium as NH4+ | Total | EPA 300.1 | NH4 |
| Ammonium as NH4+ | Total | EPA 349.0 | NH4 |
| Ammonium as NH4+ | Total | EPA 350.1 | NH4 |
| Angle | Not applicable | Unknown | Angle |
| Anion to Cation Ratio | Total | Unknown | ANCAT |
| Anions, Organic | Not applicable | CALC | AnOrg |
| Antimony | Dissolved | Unknown | Sb |
| Antimony as Sb 3+ | Dissolved | EPA 200.7 | Sb |
| Antimony as Sb 3+ | Dissolved | EPA 204.1 | Sb |
| Antimony as Sb 3+ | Dissolved | EPA 204.2 | Sb |
| Antimony as Sb 3+ | Dissolved | EPA 7040 | Sb |
| Antimony as Sb 3+ | Total | EPA 200.7 | Sb |
| Antimony as Sb 3+ | Total | EPA 204.1 | Sb |
| Antimony as Sb 3+ | Total | EPA 204.2 | Sb |
| Antimony as Sb 3+ | Total | EPA 7040 | Sb |
| Area, Lake Surface | Not applicable | Unknown | AreaLake |
| Area, Watershed Contributing | Not applicable | Unknown | AreaWshed |
| Arsenic as As | Dissolved | EPA 200.7 | As |
| Arsenic as As | Total | EPA 200.7 | As |
| Arsenic as As 3+ | Dissolved | EPA 200.7 | As3+ |
| Aspect, catchment | Not applicable | Unknown | AspectCatch |
| Azimuth | Not applicable | Unknown | Azimuth |
| Barium as Ba 2+ | Dissolved | Unknown | Ba |
| Barium as Ba 2+ | Total | Unknown | Ba |
| Base Neutralizing Capacity | Total | USFS NFM 6.6.4.C | BNC |
| Beryllium as Be 2+ | Dissolved | Unknown | Be |
| Beryllium as Be 2+ | Total | Unknown | Be |
| Bicarbonate as HCO3- | Dissolved | USGS 6.6.5.B | HCO3 |
| Bicarbonate as HCO3- | Total | USGS 6.6.5.B | HCO3 |
| Boron as B 3+ | Dissolved | EPA 200.7 | B |
| Boron as B 3+ | Dissolved | EPA 212.3 | B |
| Boron as B 3+ | Total | Unknown | B |
| Bromide as Br- | Dissolved | EPA 300.0 | Br |
| Bromide as Br- | Total | EPA 300.0 | Br |
| Cadmium as Cd 2+ | Dissolved | Unknown | Cd |
| Cadmium as Cd 2+ | Total | Unknown | Cd |
| Calcium as Ca 2+ | Dissolved | ASTM D6919-03 | Ca |
| Calcium as Ca 2+ | Dissolved | EPA 215.1 | Ca |
| Calcium as Ca 2+ | Dissolved | SM 3111 D | Ca |
| Calcium as Ca 2+ | Total | ASTM D6919-03 | Ca |
| Calcium as Ca 2+ | Total | EPA 215.1 | Ca |
| Calcium as Ca 2+ | Total | SM 3111 D | Ca |
| Carbon Dioxide as CO2 | Dissolved | SM 4500-CO2 D | CO2 |
| Carbon Dioxide as CO3 | Total | SM 4500-CO2 D | CO2 |
| Carbon, Inorganic as C | Dissolved | EPA 415.2 | DIC |
| Carbon, Inorganic, Air Equilibrated as C | Dissolved | EPA 415.2 | DICAirEQ |
| Carbon, Organic as C | Dissolved | EPA 415.2 | OC |
| Carbon, Organic as C | Dissolved | EPA 415.3 | OC |
| Carbon, Organic as C | Total | EPA 415.1 | OC |
| Carbonate as CO3 2- | Dissolved | USGS 6.6.5.B | CO3 |
| Carbonate as CO3 2- | Total | USGS 6.6.5.B | CO3 |
| Cation/Anion Ratio | Not applicable | CALC | Cat/An |
| Chloride as Cl- | Dissolved | EPA 300.0 | Cl- |
| Chloride as Cl- | Dissolved | EPA 300.1 | Cl- |
| Chloride as Cl- | Total | EPA 300.0 | Cl- |
| Chloride as Cl- | Total | EPA 300.1 | Cl- |
| Chloride as Cl- | Total | EPA 325.1 | Cl- |
| Chlorophyll a | Not applicable | SM 10200 H | Chlor-a |
| Chromium as Cr | Dissolved | EPA 200.7 | Cr |
| Chromium as Cr | Total | EPA 200.7 | Cr |
| Clarity, Water (Transparency measurement from Secchi Disk Mean) | Not applicable | Unknown | Clarity |
| Cobalt as Co 2+ | Dissolved | EPA 200.7 | Co |
| Cobalt as Co 2+ | Total | EPA 200.7 | Co |
| Color, Apparent (Visual Comparison Method) | Not applicable | EPA 110.2 | ColorApparent |
| Color, True | Not applicable | EPA 110.2 | Color |
| Conductivity, Calculated | Not applicable | Paulsen Calculation | CondCalc |
| Conductivity, Calculated | Not applicable | SM 1030-F | CondCalc |
| Conductivity, Measured | Not applicable | SM 2510 | CondCalc |
| Conductivity, Ratio of Calc to Meas | Not applicable | Paulsen Calculation | CondRatio |
| Copper as Cu 2+ | Dissolved | EPA 200.7 | Cu |
| Copper as Cu 2+ | Total | EPA 200.7 | Cu |
| Count | Not applicable | Unknown | Count |
| Depth, Snow | Not applicable | Unknown | DepthSnow |
| Depth, Water (Average water depth at sampling site) | Not applicable | Unknown | DepthWat |
| Depth, Water (Total water depth at sampling site) | Not applicable | Unknown | DepthTot |
| Diameter | Not applicable | Unknown | Diam |
| Discharge | Not applicable | Unknown | Discharge |
| Discharge, Bankfull | Not applicable | Unknown | BnkFullQ |
| Discharge, Trigger | Not applicable | Unknown | TrigQ |
| Dissolved Oxygen as O2 | Dissolved | Unknown | DO |
| Escherichia coli | Not applicable | EPA 1103.1 | Ecoli |
| Fecal Coliform | Not applicable | SM 9992 D | Fcolif |
| Flow, Instream | Not applicable | Unknown | InstrmQ |
| Flow, Intragravel | Not applicable | Unknown | IntrGrQ |
| Flow, Subsurface | Not applicable | Unknown | SubSurQ |
| Fluoride as F - | Dissolved | EPA 300.0 | F |
| Fluoride as F - | Total | EPA 300.0 | F |
| Fluoride, Total as F - | Dissolved | EPA 340.2 | FTot |
| Gain in Elevation | Not applicable | Unknown | DeltaElev |
| Gallium as Ga 3+ | Dissolved | SM 3500-Ga | Ga |
| Gallium as Ga 3+ | Total | SM 3500-Ga | Ga |
| Gradient, Percent Stream | Not applicable | Unknown | Grad%Strm |
| Hardness as CaCO3 | Total | EPA 130.1 | Hard |
| Hardness as CaCO3 | Total | EPA 130.2 | Hard |
| Hardness as CaCO3 | Total | USGS I-1340-85 | Hard |
| Hardness as CaCO3 | Total | Unknown | Hard |
| Hardness, Noncarbonate as CaCO3 | Dissolved | USGS I-1344-85 | HardNonCarb |
| Height | Not applicable | Unknown | Height |
| Height, Stage | Not applicable | Unknown | StageHeight |
| Hydrogen as H+ (Hydrogen ion calculated from (10^(-pH))\*1000000)) | Not applicable | EPA 150.1 | H+ |
| Hydronium as H3O+ | Total | Unknown | H3O |
| Hydroxide as OH- | Dissolved | USGS 6.6.5.B | OH |
| Iron as Fe 3+ | Dissolved | EPA 236.1 | Fe |
| Iron as Fe 3+ | Total | EPA 236.1 | Fe |
| Lead | Dissolved | Unknown | Pb |
| Lead as Pb 2+ | Dissolved | EPA 200.7 | Pb |
| Lead as Pb 2+ | Dissolved | EPA 239.2 | Pb |
| Lead as Pb 2+ | Total | EPA 200.7 | Pb |
| Lead as Pb 2+ | Total | EPA 200.7 | Pb |
| Length | Not applicable | Unknown | Length |
| Length, Reach | Not applicable | Unknown | ReachLN |
| Length, Stream Segment | Not applicable | Unknown | SegLng |
| Lithium as Li+ | Dissolved | Unknown | Li |
| Lithium as Li+ | Total | Unknown | Li |
| Magnesium as Mg 2+ | Dissolved | ASTM D6919-03 | Mg |
| Magnesium as Mg 2+ | Total | ASTM D6919-03 | Mg |
| Magnesium as Mg 2+ | Dissolved | EPA 242.1 | Mg |
| Magnesium as Mg 2+ | Total | EPA 242.1 | Mg |
| Manganese as Mn 2+ | Dissolved | EPA 243.1 | Mn |
| Manganese as Mn 2+ | Total | EPA 243.1 | Mn |
| Mercury as Hg 2+ | Dissolved | Unknown | Hg2+ |
| Mercury as Hg+ | Dissolved | Unknown | Hg |
| Mercury as Hg+ | Total | Unknown | Hg |
| Methylmercury as CH3Hg+ | Total | Unknown | MeHg |
| Molybdenum as Mo | Dissolved | Unknown | Mo |
| Molybdenum as Mo | Total | Unknown | Mo |
| Nickel as Ni | Dissolved | EPA 200.7 | Ni |
| Nickel as Ni | Total | EPA 200.7 | Ni |
| Nitrate as N | Dissolved | EPA 300.0 | NO3-N |
| Nitrate as N | Total | EPA 300.0 | NO3-N |
| Nitrate as NO3- | Dissolved | EPA 300.0 | NO3 |
| Nitrate as NO3- | Dissolved | EPA 300.1 | NO3 |
| Nitrate as NO3- | Total | EPA 300.0 | NO3 |
| Nitrate as NO3- | Total | EPA 300.1 | NO3 |
| Nitrate as NO3- | Total | EPA 353.2 | NO3 |
| Nitrite as N | Dissolved | EPA 300.0 | NO2-N |
| Nitrite as NO2 | Dissolved | EPA 300.0 | NO2 |
| Nitrite-Nitrate as N | Dissolved | EPA 353.2 | NO2NO3-N |
| Nitrogen Kjedahl as N | Total | EPA 351.2 | TKN |
| Nitrogen, Organic | Dissolved | Unknown | DON |
| Organic Solids, Volatilized at 500 degrees C | Volatile | EPA 160.4 | VOLSOL |
| pH | Total | EPA 150.1 | pH |
| pH | Total | SM 4500 H+B | pH |
| pH | Total | Unknown | pH |
| pH | Not applicable | Unknown | pH |
| pH, Air Equilibrated (Bubbled with CO2) | Not applicable | EPA 150.1 | pHAirEQ |
| Phenophytin | Not applicable | SM 10200 H | Pheno |
| Phosphate as P | Total | EPA 365.1 | PO4-P |
| Phosphate as PO4 3- | Dissolved | EPA 300.0 | PO4 |
| Phosphate as PO4 3- | Total | EPA 365.2 | PO4 |
| Phosphate, Ortho as P | Dissolved | EPA 365.1 | PO4Ortho-P |
| Phosphate, Ortho as P 5+ | Dissolved | EPA 365.1 | PO4Ortho-P5+ |
| Phosphate, Ortho as PO4 3- | Dissolved | ARML 300.0 | PO4Ortho |
| Phosphate, Ortho as PO4 3- | Total | EPA 365.2 | PO4Ortho |
| Phosphorus as P | Dissolved | EPA 365.1 | P |
| Phosphorus as P | Total | EPA 365.1 | P |
| Phosphorus Inorganic as P | Dissolved | SM 4110-C | PInOrg |
| Phosphorus, Total as P | Total | EPA 365.1 | PTot |
| Phosphorus, Soluble Reactive as P | Not applicable | EPA 365.1 | SRP |
| Potassium as K + | Dissolved | ASTM D6919-03 | K |
| Potassium as K + | Dissolved | EPA 258.1 | K |
| Potassium as K + | Total | ASTM D6919-03 | K |
| Potassium as K + | Total | EPA 258.1 | K |
| Precipitation, Annual | Not applicable | Unknown | PrecipAn |
| Relative Humidity Percent | Not applicable | Unknown | RelHum |
| Residence Time | Not applicable | Unknown | ResideTime |
| Rubidium as Rb + | Dissolved | Unknown | Rb |
| Rubidium as Rb + | Total | Unknown | Rb |
| Runoff, Surface Water | Not applicable | Unknown | Runoff |
| Secchi Disappearance Depth | Not applicable | Unknown | SecDis |
| Secchi Reappearance Depth | Not applicable | Unknown | SecReapp |
| Selenium as Se | Dissolved | EPA 270.2 | Se |
| Selenium as Se | Total | EPA 270.2 | Se |
| Silica as SiO2 | Dissolved | EPA 370.1 | SiO2 |
| Silica as SiO2 | Dissolved | SM 4500 SiO2 C | SiO2 |
| Silica as SiO2 | Total | EPA 370.1 | SiO2 |
| Silica as SiO2 | Total | SM 4500 SiO2 C | SiO2 |
| Silicon as Si | Dissolved | EPA 200.7 | SiDis |
| Silicon as Si | Total | EPA 200.7 | SiTot |
| Silver as Ag + | Dissolved | EPA 200.7 | Ag |
| Siler as Ag + | Total | EPA 200.7 | Ag |
| Site Elevation | Not applicable | Unknown | Elev |
| Slope, Catchment | Not applicable | Unknown | SlopeCatch |
| Sodium as Na + | Dissolved | ASTM D6919-03 | Na |
| Sodium as Na + | Dissolved | EPA 258.1 | Na |
| Sodium as Na + | Total | EPA 258.1 | Na |
| Sodium as Na + | Total | SM 273.1 | Na |
| Specific conductance | Total | Unknown | Cond |
| Specific conductance @ 25 degrees C | Not applicable | EPA 120.1 | Cond |
| Strahler order measured from 1:24,000-scale maps (Strahler, 1957) | Not applicable | Unknown | StrahlerOrd24 |
| Strahler order measured from 1:250,000-scale maps (Strahler, 1957) | Not applicable | Unknown | StrahlerOrd250 |
| Stronium | Dissolved | Unknown | Sr |
| Stronium as Sr 2+ | Dissolved | EPA 7780 | Sr |
| Stronium as Sr 2+ | Dissolved | USGS I-1800 | Sr |
| Stronium as Sr 2+ | Total | EPA 7780 | Sr |
| Stronium as Sr 2+ | Total | USGS I-1800 | Sr |
| Sulfate as SO4 2- | Dissolved | EPA 300.0 | SO4 |
| Sulfate as SO4 2- | Dissolved | EPA 300.1 | SO4 |
| Sulfate as SO4 2- | Total | EPA 300.0 | SO4 |
| Sulfate as SO4 2- | Total | EPA 300.1 | SO4 |
| Sum of Major Anions | Dissolved | SM 1030-F | AnSum |
| Sum of Major Anions | Total | SM 1030-F | AnSum |
| Sum of Major Cations | Dissolved | SM 1030-F | CatSum |
| Sum of Major Cations | Total | SM 1030-F | CatSum |
| Sum of the Base Cations | Dissolved | CALC | CatBSum |
| Sum of the Base Cations | Total | CALC | CatBSum |
| Suspended Sediment Concentration | Suspended | Unknown | SSC |
| Temperature, Ambient Air | Not applicable | EPA 170.1 | TempAir |
| Temperature, Water | Not applicable | EPA 170.1 | TempWat |
| Titanium | Dissolved | Unknown | Ti |
| Titanium as Ti | Dissolved | EPA 283.1 | Ti |
| Titanium as Ti | Dissolved | EPA 283.2 | Ti |
| Titanium as Ti | Total | EPA 283.1 | Ti |
| Titanium as Ti | Total | EPA 283.2 | Ti |
| TON (Nitrogen, Total Organic as N) | Total | Unknown | TKN |
| Total Kjeldahl as N | Total | Unknown | TKN |
| Total Dissolved Solids, Residues, sum of constituents | Dissolved | SM 1030-F | TDS |
| Total Nitrogen, calculated | Total | Unknown | TN |
| Total Suspended Solids, Dried at 103-105 Deg C | Non-filterable | USGS I-3765-85 | TSS |
| Total Suspended Solids, Dried at 103-105 Deg C | Total | EPA 160.2 | TSS |
| Turbidity in Jackson Turbidity Units (JTUs) | Not applicable | Unknown | TurbJTU |
| Turbidity in Nephelometric Turbidity Units (NTUs) | Not applicable | EPA 180.1 | TurbNTU |
| Uranium | Dissolved | Unknown | U |
| Vanadium as V | Dissolved | Unknown | V |
| Vanadium as V | Total | Unknown | V |
| Velocity | Not applicable | Unknown | Velocity |
| Volatile Organic Compounds | Total | Unknown | VOC |
| Volatile Solids | Volatile | Unknown | VOLSOL |
| Volume, Average Outflow | Not applicable | Unknown | Outflow |
| Volume, Lake | Not applicable | Unknown | VolLake |
| Weight | Not applicable | Unknown | Weight |
| Wind Direction | Not applicable | Unknown | WindDir |
| Wind Speed | Not applicable | Unknown | WindSpeed |
| Yield, Aquifer | Not applicable | Unknown | AqYld |
| Yield, Basin | Not applicable | Unknown | BasinYld |
| Yield, Well | Not applicable | Unknown | WellYld |
| Zinc as Zn 2+ | Dissolved | EPA 200.7 | Zn |
| Zinc as Zn 2+ | Total | EPA 200.7 | Zn |

### NRA\_MEAS\_METHOD\_TYPES

Description: list of monitoring measurement method types

Table 79: Description of fields in the measurement method types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| MEAS\_METHOD\_TYPE | Yes | VC(30) | Primary Key; unique name for each measurement method type |
| DESCRIPTION | No | VC(240) | Description of each measurement method type, if available |

Table 80: List of available measurement method types

| **Measurement Method Type** | **Description** |
| --- | --- |
| ARML 300.0 | ARML 300.0 |
| astm d 1193 77 | Aluminum, Fractionation, Colorimetric detection with open-system samples by pyrocatechol violet technique; fractionation with ion-exchange resin; American Society for Testing and Materials, 1984; ASTM Standards, Vol. 11.01, D 1193-77 |
| ASTM D1193-77 | Colorimetric detection with open-system samples by pyrocatechol violet technique; Fractionation with ion-exchange resin |
| CALC | Calc |
| DIONEX QIC | Determination of Anions by Ion Chromatography. M.A. Tabatabai, and W.A. Dick, 1983, Simultaneous determination of nitrate, chloride, sulfate, and phosphate in natural waters by ion chromatography |
| DOC | Dissolved Organic Carbon. Persulfate/UV oxidation with infrared detection. USEPA, 1987, Handbook of Methods for Acid Deposition Studies, Laboratory Analysis for Surface Water Chemistry |
| EPA 110.2 | Color (Colorimetric-Platinum-Cobalt) |
| EPA 1103.1 | Test method for Escherichia coli and enterococci in water by the membrane-filter procedure |
| EPA 120.1 | Electrical Conductivity. Standard conductivity bridge and cell. Readings obtained at ambient lab temperature (about 25 deg C). USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 120.6 | Conductance-Specific/Wet Deposition Electrolytic |
| EPA 130.1 | Hardness, Total (mg/L as CaCO3) (Colorimetric, Automated EDTA) |
| EPA 130.2 | Hardness, Total (mg/L as CaCO3) (Titrimetric, EDTA) |
| EPA 150.1 | pH Lab, Water. pH by electrometric using either a glass electrode in combination with a reference potential or a combination electrode. USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 150.6 | pH of Wet Deposition – Electrolytic Determination |
| EPA 160.2 | Non-filterable Residue by Drying Oven. Official Name: Residue, Non-Filterable (Gravimetric, Dried at 103-105 Deg C) |
| EPA 160.3 | Total Residue by Drying Oven, Official Name: Residue, Total (Gravimetric, Dried at 103-105 Deg C) |
| EPA 160.4 | Residue obtained from the determination of total, filterable, or non-filterable residue is ignited at 500 degrees C in a muffle furnace; the loss of weight on ignition is reported as mg/L volatile residue |
| EPA 170.1 | Temperature; temperature measurements made with any godo grade of mercury-filled or dial type centigrade thermometer, or a thermistor. USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 180.1 | Nephelometric Method (NTUs) |
| EPA 200.7 | Inductively Coupled Plasma-Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes |
| EPA 202.1 | Aluminum by Atomic Absorption, Direct Aspiration |
| EPA 202.2 | Aluminum by Atomic Absorption, Graphite Furnace Technique |
| EPA 204.1 | No description available |
| EPA 204.2 | No description available |
| EPA 212.3 | No description available |
| EPA 215.1 | Calcium by Flame Atomic Absorption. USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 236.1 | Iron by Flame AA. Official Name: Iron (Atomic Absorption, Direct Aspiration) |
| EPA 239.2 | Lead (Atomic Absorption, Furnace Technique) |
| EPA 242.1 | Magnesium by Flame Atomic Absorption. USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 243.1 | Manganese (Atomic Absorption, Direct Aspiration) |
| EPA 258.1 | Potassium by Flame Atomic Absorption. USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 270.2 | Selenium (Atomic Absorption, Furnace Technique) |
| EPA 273.1 | Sodium by Flame Atomic Absorption. USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 283.1 | Titanium by Flame Atomic Absorption |
| EPA 283.2 | Titanium (Atomic Absorption, Furnace Technique) |
| EPA 289.1 | Zinc (Atomic Absorption, Direct Aspiration) |
| EPA 300.0 | Determination of Anions by Ion Chromatography. USEPA 600/R-93-100, 1993, Methods for Determination of Inorganic Substances in Environmental Samples |
| EPA 300.1 | Determination of Inorganic Anions in Drinking Water by Ion Chromotography. EPA/851-R-00-014 |
| EPA 300.6 | Inorganics: Chloride/Sulfate/Nitrate/Orthophosphate |
| EPA 305.1 | Acidity (Titrimetric, pH 4.5) |
| EPA 310.1 | ANC by Titration, Unfiltered, also historically reported as Total Alkalinity, unfiltered |
| EPA 325.1 | Colorimetric procedure using ferricyanide method in autoanalyzer |
| EPA 340.2 | Fluoride (Potentiometric, Ion Selective Electrode) |
| EPA 349.0 | Determination of Ammonia in Estuarine and Coastal Waters by Gas Segmented Continuous Flow Colorimetric Analysis (CFA) |
| EPA 350.1 | Ammonium by Colorimetry. Colorimetric detection by indophenol blue technique, USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 351.2 | Total Kjeldahl Nitrogen by Colorimetric, Semi-Automatic Block Digester, AAII |
| EPA 353.2 | Nitrogen, Nitrate-Nitrite by Colorimetric, Automated, Cadmium Reduction |
| EPA 365.1 | Phosphorous, All Forms (Colorimetric, Automated, Asorbic Acid) |
| EPA 365.2 | Phosphorous by Colorimetric, Asorbic Acid, Single Reagent |
| EPA 370.1 | Silica by Colorimetry. Colorimetric by molybdate blue technique. USEPA 600/4-79-020, 1983, Methods for Chemical Analysis of Water and Wastes |
| EPA 415.1 | Organic Carbon as Dissolved or Total by Combustion or Oxidation |
| EPA 415.2 | Dissolved and Total Organic Carbon in Water by Persulfate Oxidation and Infrared Spectrometry |
| EPA 415.3 | Ultraviolet-promoted persulfate oxidation followed by infrared detection; external sparging is used to remove inorganic carbon; revision 1.0 |
| EPA 7040 | No description available |
| EPA 7780 | No description available |
| GPS | The Global Positioning System (GPS) is a worldwide radio-navigation system formed from a constellation of satellites and their ground stations |
| GRAN 5 POINT | Gran Method titration. Gran, G., 1952. Determination of the Equivalence Point in Potentiometric Titrations. Part II. Analyst 77: 661-671 |
| GRAN 5 PT | Gran Method titration based on Gran, G., 1952. Determination of the Equivalence Point in Potentiometric Titrations. Part II. Analyst 77: 661-671 |
| GRAN PC TITRATE | PC-Titrate Gran analysis technique (COSA). Gran, G., 1952, Determination of the Equivalence Point in Potentiometric Titrations. Part II. Analyst 77: 661-671 |
| NAD27 | Coordinate Datum NAD27 |
| NAD83 | Coordinate Datum NAD83 |
| NULL | Method unknown or unspecified |
| OTHER | Other, not shown in list of values |
| Paulsen Calculation | No description available |
| sm 10200 H | Chlorophyll by Standard Methods for the Examination of Water and Wastewater |
| SM 10200-H | Chlorophyll by Standard Methods for the Examination of Water and Wastewater |
| SM 1030-F | Checking of Correctness of Analysis |
| SM 2120-B | Color by Visual Comparison by Standard Methods for the Examination of Water and Wastewater |
| SM 2130-B | Turbidity. Nephelometric Method (NTUs), American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 2320 | ANC-Two Point. Two-Point End Titration, American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 2320-B | Alkalinity-Two Point. Two-Point End Titration. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 2510 | Conductivity measured with a traceable digital conductivity meter with temperature compensation to 25 degrees C. American Public Health Association. Standard Methods for the Examination of Water and Wastewater, 21st edition. 2005. |
| SM 2540-D | TSS. Total Suspended Solids Dries @ 103-105 deg C, American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 273.1 | No description available |
| SM 3111 | Flame AA. Flame atomic absorption analysis spectrophotometry. American Public Health Association. Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 3111 D | No description available |
| SM 3113 | Aluminum by Graphite Furnace Analysis. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 3500-Ga | No description available |
| SM 3500-K | Potassium by Flame Emission Analysis. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 3500-NA-D | Sodium by Flame Emission Analysis. American Public Health Association, Standard Methods of the Examination of Water and Wastewater, 20th edition (1998) |
| SM 4110 | Determination of Anions by Ion Chromatography. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 4110\* | Anions by Chromatography. Determination of Anions by Ion Chromatography, American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 4110-C | Determination of Anions by Ion Chromatography in Standard Methods for the Examination of Water and Wastewater |
| SM 4500 H+ B | Lab measurement of pH in water. Potentiometric measurement in the Lab for sample aliquots in open beakers. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 4500 H+ B\* | Lab measurement of pH in water. Potentiometric measurement in the Lab for sample aliquots in open beakers. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 4500 H+ CALC | pH as H+. Calculated. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 4500 SI F | Silica by Colorimetry. Colorimetric by molybdate blue technique. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 20th edition (1998) |
| SM 4500 SiO2 C | Colorimetric detection by molybdate blue technique in autoanalyzer. |
| SM 4500-CO2-D | Carbon Dioxide and Forms of Alkalinity by Calculation |
| SM 9992 D | Fecal Coliform by Membrane Filter Procedure |
| UNKNOWN | Method unknown or unspecified |
| USGS 6.6.5.B | No description available |
| USGS I-1340-85 | Hardness, Calculation |
| USGS I-1344-85 | Hardness, Noncarbonate, Calculation |
| USGS I-1800 | Strontium, atomic absorption spectrometric, direct |
| USGS I-2030-85 | Alkalinity by Electrometric Titration, Filtered, Automated |
| USGS I-3765-85 | Total Suspended Solids by Methods for Analysis of Inorganic Substances in Water and Fluvial Sediments |
| USGS I-4600-78 | Phosphorus |
| USGS NFM 6.2 | Dissolved Oxygen Field Method |
| USGS NFM 6.6.4.C | Gran analysis technique |
| WATERS IC | Determination of Cations by Ion Chromatography |

### NRA\_MIME\_TYPES

Description: list of image mime types

Table 81: Description of fields in the mime types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| IMAGE\_MIME\_TYPE | Yes | VC(15) | Primary Key; unique name for each image mime type |
| MIME\_DESC | No | VC(100) | Description of each image mime type, if available |

Available image mime types:

* GIF
* JPG
* PDF
* TIF
* TXT
* ZIP

### NRA\_MODEL\_NAMES

Description: this table stores the source model names

Table 82: Description of fields in the model names table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MODEL\_NAME | Yes | VC(40) | Primary Key; unique name of model |
| MODEL\_NAME\_DESC | No | VC(240) | Description of each model name, if available |

Available model names:

* AERMOD
* COMPLEX1
* CTDMPLUS
* CalPUFF\_VISTAS
* ISCST3
* ISCST4
* LANDGRAF
* MAGIC
* MMS
* NUCM
* OTHER
* PLUVUEII
* RTDM
* SCREEN3
* SHORTZ OR LONGZ
* VISCREEN
* WINDVALLEY

### NRA\_MODEL\_TYPES

Description: list of source permit model types

Table 83: Description of fields in the model types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| MODEL\_TYPE | Yes | VC(40) | Primary Key; unique model type for each source permit |
| MODEL\_DESC | No | VC(240) | Description of each source permit model type, if available |

Available model names:

* DEPOSITION
* DISPERSION
* EMISSIONS
* FLAG SCREENING CALCULATIONS
* METEOROLOGICAL
* OTHER
* PLUME

### NRA\_NETWORK\_TYPES

Description: list of fixed equipment sites network types

Table 84: Description of fields in the network types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| NETWORK\_TYPE | Yes | VC(35) | Primary Key; unique fixed equipment site network type |
| NETWORK\_DESC | No | VC(240) | Description of each fixed equipment site network type, if available |

Table 85: List of available network types

| **Network Type** | **Description** |
| --- | --- |
| AIRMON | National Air Monitoring Stations |
| AMNET | Atmospheric Mercury Network |
| AMON | Ammonia Monitoring Network |
| AQS-INDEX SITE | Index air monitoring site reported in EPA Air Quality System |
| AQS-INDUSTRIAL | Industrial air monitoring site reported in EPA Air Quality System |
| AQS-non-epa federal | Air monitoring site operated by a Federal agency other than the EPA |
| aqs-non-regulatory | Non-regulatory monitoring station reported in EPA Air Quality System |
| aqs-other | Air monitoring site reported in EPA Air Quality System – other |
| aqs-qa coLlocated | Collocated air monitoring site reported in EPA Air Quality System for quality assurance purposes |
| aqs-secured | Secured air monitoring site reported in EPA Air Quality System |
| aqs-special purpose | Air monitoring site reported in EPA Air Quality System – special purpose |
| aqs-suplmntl speciation | Air monitoring site with supplemental air pollutant speciation |
| aqs-trends speciation | Air monitoring site with air pollutant speciation for trends |
| aqs-tribal monitors | Tribal monitoring station reported in EAP Air Quality System |
| aqs-unknown | Unknown type monitoring station reported in EPA Air Quality System |
| Capmon | Canadian Air and Precipitation Monitoring Network |
| castnet | Clean Air and Trends Network |
| climdb/hydrodb | Climatological and Hydrological Database |
| fs visibility | Forest Service visibility monitoring network including camera, tranmissometer, and nephelometer sites |
| improve | Interagency Monitoring of Protected Visual Environments |
| mdn | Mercury Deposition Network |
| nams | National Air Monitoring Station |
| NCORE | National Caribbean Coral Reef Institute |
| other | Other |
| ozone | Ozone Network |
| pams | Photochemical Assessment Monitoring Stations |
| Proposed NCORE | Proposed site for National Caribbean Coral Reef Institute |
| raws | Remote Automated Weather Stations |
| SLAMS | State and Local Air Monitoring Stations |
| snotel | Snowpack and Telemetry Network |
| unofficial pams | Photochemical Assessment Monitoring Stations – Site Certification Pending |

### NRA\_NON\_ATTAINMENT\_PL

Description: different aspects of non-attainment

Table 86: Description of fields in the non-attainment table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| NON\_ATTAINMENT\_ID\_PK | Yes | VC(50) | Primary Key; non-attainment UD |
| SDE\_SHAPE\_ID | Yes | Number | n/a |
| AREA\_NAME | No | VC(75) | n/a |
| ATTAINMENT | No | D | n/a |
| CLASSIFICATION | No | VC(50) | n/a |
| POLLUTANT | No | VC(10) | n/a |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| STATUS | No | VC(20) | n/a |
| TIME\_PERIOD | No | VC(4) |  |
| VERSION | No | VC(2) | Non-attainment version |

### NRA\_SOURCE\_PERMIT\_TYPES

Description: list of fixed equipment site land use types

Table 87: Description of fields in the source permit types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_PERMIT\_TYPE | No | VC(15) | Type of source permit |
| SOURCE\_PERMIT\_TYPE \_DESC | No | VC(250) | Description of source permit type |

### NRA\_POLLUTANT\_TYPES

Description: list of source permit emission pollutant types

Table 88: Description of fields in the pollutant types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| POLLUTANT\_CODE | Yes | VC(75) | Pollutant code from EPA emissions |
| POLLUTANT\_TYPE | Yes | VC(75) | Type of pollutant |
| POLLUTANT\_DESC | No | VC(240) | Description of each pollutant type, if available |

Table 89: List of available pollutant types

| **Pollutant Type** | **Code** |
| --- | --- |
| (ETHYLENEBIS (OXYETHYLENENITRILO)) TETRAACETIC ACID | 67425 |
| 1,1,2,2-tetrachloroethane | 79345 |
| 1,1,2-trichloroethane | 79005 |
| 1,1-dimethyl hydrazine | 57147 |
| 1,2,3,4,5,6-hexachlorocyclohexane | 58899 |
| 1,2,4-trochlorobenzene | 120821 |
| 1,2-diromo-3-chloropropane | 96128 |
| 1,2-dimethoxyethane | 110714 |
| 1,2-diphenylhydrazine | 122667 |
| 1,2-epoxybutane | 106887 |
| 1,2-propylenimine | 75558 |
| 1,3-butadiene | 106990 |
| 1,3-dichloropropene | 542756 |
| 1,3-propanesultone | 1120714 |
| 1,4-dichlorobenzene | 106467 |
| 12-methylbenz(a)anthracene | 2422799 |
| 1-methylnaphthalene | 90120 |
| 1-methylphenanthrene | 832699 |
| 1-nitropyrene | 5522430 |
| 2-(hexyloxy)ethanol | 112254 |
| 2,2,4-trimethylpentane | 540841 |
| 2,2,4’-trichlorobiphenyl (PCB-28) | 7012375 |
| 2,4,5-trichlorophenol | 95954 |
| 2,4,6-trichlorophenol | 88062 |
| 2,4-dichlorophenozy acetic acid | 94757 |
| 2,4-dinitrophenol | 51285 |
| 2,4-dinitrotoluene | 121142 |
| 2,4-toluene biisocyanate | 584849 |
| 2-acetylaminofluorene | 53963 |
| 2-butoxyethyl acetate | 112072 |
| 2-chloroacetophenone | 532274 |
| 2-chlorobinphenyl (PCB-1) | 2051607 |
| 2-chloronaphthalene | 91587 |
| 2-methylnaphthalene | 91576 |
| 2-nitropropane | 79469 |
| 3,3’-dichlorobenzidine | 91941 |
| 3,3’-dimethoxybenzidine | 119904 |
| 3,3’-dimethlybnenzidine | 119937 |
| 3-butoxy-1-propanol | 10215335 |
| 3-methoxy-1-propanol | 1589497 |
| 3-methylcholanthrene | 56495 |
| 4,4’-dichlorObiphenyl (PCB-15) | 2050682 |
| 4,4’-methylenebis (2-chloraniline) | 101144 |
| 4,4’-methylenedianiline | 101779 |
| 4,4’-methylenediphenyl diisocyanate | 101688 |
| 4,6-dinitro-o-cresol | 534521 |
| 4-amniobiphenyl | 92671 |
| 4-dimethylaminoazobenzene | 60117 |
| 4-nitrobiphenyl | 92933 |
| 4-nitrophenol | 100027 |
| 5-methylchrysene | 3697243 |
| 5-nitroacenaphthene | 602879 |
| 7,12-dimethylbenz[a]anthracene | 57976 |
| 7h-dibenzo[c,g]carbazole | 194592 |
| acenaphthene | 83329 |
| acenaphthylene | 208968 |
| acetaldehyde | 75070 |
| acetonitrile | 75058 |
| acetophenone | 98862 |
| acid neutralizing capacity as caco3 | (no code) |
| acidity as Caco3 | (no code) |
| acrolein | 107028 |
| acrylamide | 79061 |
| acrylic acid | 79107 |
| acrylonitrile | 107131 |
| alkalinity as caco3 | (no code) |
| allyl chloride | 107051 |
| Aluminum as al 3+ | (no code) |
| aluminum, Inorganic Monomeric as AL 3+ | (no code) |
| aluminum, monomeric complexes, extractable as AL 3+ | (no code) |
| aluminum, organic monomeric as AL 3+ | (no code) |
| aluminum, total monomeric (organic and inorganic) as AL 3+ | (no code) |
| Ammonia | NH3 |
| Ammonia as N | (no code) |
| Ammonia as NH3 | (no code) |
| ammonium | (no code) |
| ammonium as N | (no code) |
| ammonium as NH4+ | (no code) |
| ancetamide | 60355 |
| aniline | 62533 |
| anthracene | 120127 |
| antimony | 7440360 |
| antimony as Sb 3+ | (no code) |
| arsenic as as | 7440382 |
| arsenic as As 3+ | (no code) |
| asbestos | 1332214 |
| barium as BA 2+ | (no code) |
| base neutralizing capacity | (no code) |
| benz[a]anthracene | 56553 |
| benzene | 71432 |
| benzene soluble organics (bso) | 141 |
| benzidine | 92875 |
| benzo(a)fluoranthene | 203338 |
| benzo(g,h,i)fluoranthene | 203123 |
| benzo[a]pyrene | 50328 |
| benzo[e]pyrene | 192972 |
| benzo[g,h,i]perylene | 191242 |
| benzo[j]fluoranthene | 205823 |
| benzo[k]fluoranthene | 207089 |
| benzofluoranthenes | 56832736 |
| benzotrichloride | 98077 |
| benzyl chloride | 100447 |
| beryllium | 7440417 |
| beta-propiolactone | 57578 |
| bicarbonate as hco3 | (no code) |
| bicarbonate as HCO3- | (no code) |
| biphenyl | 92524 |
| bis(2-ethylhexyl)phthalate | 117817 |
| bis(chloromethyl)ether | 542881 |
| boron as b 3+ | (no code) |
| bromide as br- | (no code) |
| bromoform | 75252 |
| butyl carbitol acetate | 124174 |
| cadmium | 7440439 |
| calcium as ca 2+ | (no code) |
| calcium cyanamide | 156627 |
| captan | 133062 |
| carbaryl | 63252 |
| carbazole | 86748 |
| carbitol acetate | 112152 |
| carbon dioxide | CO2 |
| carbon disulfide | 75150 |
| carbon monoxide | CO |
| carbon tetrachloride | 56235 |
| carbon, inorganic as c | (no code) |
| carbon, inorganic, air equilibrated as C | (no code) |
| carbon, organic as C | (no code) |
| carbonate as CO3 2- | (no code) |
| carbonyl sulfide | 463581 |
| catechol | 120809 |
| cellosolve acetate | 111159 |
| cellosolve solvent | 110805 |
| chlordane | 57749 |
| chlorine | 7782505 |
| chloroacetic acid | 79118 |
| chlorobenzene | 108907 |
| chlorobenzilate | 510156 |
| chloroform | 67663 |
| chloromethyl methyl ether | 107302 |
| chloroprene | 126998 |
| chromic acid (VI) | 7738945 |
| chromium | 7440473 |
| chromium (VI) | 18549677 |
| chromium iii | 16065831 |
| chromium trioxide | 1333820 |
| chrysene | 218019 |
| coal tar | 8007452 |
| cobalt | 7440484 |
| copper as CU 2+ | (no code) |
| cresol/cresylic acid (mixed isomers) | 1319773 |
| cumene | 98828 |
| cyanide | 57125 |
| decachlorobiphenyl (pcb-209) | 2051243 |
| diazomethane | 334883 |
| dibenz[a,h]acridine | 226368 |
| dibenxo[a,e]pyrene | 192654 |
| dibenzo[a,h]anthracene | 53703 |
| dibenzo[a,h]pyrene | 189640 |
| dibenzo[a,i]pyrene | 189559 |
| dibenzo[a,j]acridine | 224420 |
| dibenzo[a,l]pyrene | 191300 |
| dibenzofuran | 132649 |
| dibutyl phthalate | 84742 |
| dichloroethyl ether | 111444 |
| dichlorvos | 62737 |
| diethanolamine | 111422 |
| diethylene glycol diethyl ether | 112367 |
| diethylene glycol dimethyl ether | 111966 |
| diethylene glycol ethyl methyl ether | 1002671 |
| diethylene glycol monoethyl ether | 111900 |
| diethylene glycol monomethyl ether | 111773 |
| dimethyl phthalate | 131113 |
| dimethyl sulfate | 77781 |
| dimethylcarbamoyl chloride | 79447 |
| dissolved oxygen as O2 | (no code) |
| epichlorohydrin | 106898 |
| ethoxytriglycol | 112505 |
| ethyl acrylate | 140885 |
| ethyl benzene | 100414 |
| ethyl carbamate chloride | 51796 |
| ethyl chloride | 75003 |
| ethylene dibromide | 106934 |
| ethylene dichloride | 107062 |
| ethlyene glycol | 107211 |
| ethylene glycol methyl ether | 109864 |
| ethylene glycol monomethyl ether acetate | 110496 |
| ethylene glycol mono-sec-butyl ether | 7705917 |
| ethylene oxide | 75218 |
| ethylene thiourea | 96457 |
| ethyleneimine | 151564 |
| ethylidine dichloride | 75343 |
| fine minterals fibers | 383 |
| fluoranthene | 206440 |
| fluorene | 86737 |
| fluoride as f- | (no code) |
| fluoride, Total as f- | (no code) |
| fluorides | (no code) |
| formaldehyde | 50000 |
| gallium as Ga 3+ | (no code) |
| Glycol ethers | 171 |
| greenhouse gases | GHG |
| Hardness as Caco3 | (no code) |
| hardness, noncarbonate as caco3 | (no code) |
| heptachlor | 76448 |
| heptachlorobiphenyl | 28655712 |
| hexachlorobiphenyl | 26601649 |
| hexachlorobutadiene | 87683 |
| hexachlorocyclopentadiene | 77474 |
| hexachloroethane | 67721 |
| hexamethylene diisocyanate | 822060 |
| hexamethylphosophoramide | 680319 |
| hexane | 110543 |
| hexachlorobenzene | 118741 |
| hydrazine | 302012 |
| hydrochloric acid | 7647010 |
| hydrofluorcarbons | HFC |
| hydrogen cyanide | 74908 |
| hydrogen fluoride | 7664393 |
| hydrogen sulfide | H2S |
| Hydrogen sulvide | 7783064 |
| hydronium as H3O+ | (no code) |
| hydroquinone | 123319 |
| hydroxide as OH- | (no code) |
| ideno(1,2,3-C,D)Pyrene | 193395 |
| iodine 131 | 10043660 |
| iron as Fe 3+ | (no code) |
| isobutyl cellosolve | 4439241 |
| isophorone | 78591 |
| lead | 7439921 |
| lead as pb 2+ | (no code) |
| lithium as Li+ | (no code) |
| magnesium as Mg 2+ | (no code) |
| maleic anhydride | 108316 |
| manganese | 7439965 |
| manganese as mn 2+ | (no code) |
| m-cresol | 108394 |
| mercury as hg 2+ | (no code) |
| mercury as HG+ | (no code) |
| methane | CH4 |
| methanol | 67561 |
| methoxychlor | 72435 |
| methyl bromide | 74839 |
| methyl chloride | 74873 |
| methyl chloroform | 71556 |
| methyl iodide | 74884 |
| methyl isobutyl ketone | 108101 |
| methyl isocyanate | 624839 |
| methyl methacrylate | 80626 |
| methyl tert-butyl ether | 1634044 |
| methylanthracene | 26914181 |
| methylene chloride | 75092 |
| methylene chloride soluble organics(msco) | 142 |
| methylhydrazine | 60344 |
| methylmercury as CH3Hg+ | (no code) |
| molybdenum as Mo | (no code) |
| m-xylene | 108383 |
| n,n-dimethylaniline | 121697 |
| n,n-dimethylformamide | 68122 |
| naphthalene | 91203 |
| n-hexyl carbitol | 112594 |
| nickel | 7440020 |
| nickel oxide | 1313991 |
| nickel refinery dust | 604 |
| nickel subsulfide | 12035722 |
| nitrate | (no code) |
| nitrate as N | (no code) |
| Nitrate as NO3- | (no code) |
| nitrite as n | (no code) |
| nitrite as NO2 | (no code) |
| nitrite-nitrate as N | (no code) |
| nitrobenzene | 98953 |
| nitrogen | N |
| nitrogen Kjedahl as N | (no code) |
| nitrogen oxides | (no code) |
| nitrous oxide | N2O |
| n-nItrosodimethylamine | 62759 |
| n-nitrosomopholine | 59892 |
| n-nitroso-n-methylurea | 684935 |
| o-anisidine | 90040 |
| o-cresol | 95487 |
| o-toluidine | 95534 |
| o-xylene | 95487 |
| ozone | O3 |
| pah, total | 130498292 |
| pah/pom – unspecified | 250 |
| parathion | 56382 |
| particulate matter | 1999 |
| particulate matter < 10 microns | PM10 |
| particulate matter < 2.5 microns | PM25 |
| p-cresol | 106445 |
| p-dioxane | 123911 |
| pentachlorobiphenyl | 25429292 |
| pentachloronitrobenzene | 82688 |
| pentachlorophenol | 87865 |
| perfluorocarbons | PFC |
| perylene | 198550 |
| phenanthrene | 85018 |
| phenol | 108952 |
| phenyl cellosolve | 122996 |
| phosgene | 75445 |
| phosphate as P | (no code) |
| phosphate as PO4 3- | (no code) |
| Phosphate, ortho as P | (no code) |
| phosphate, Ortho as P 5+ | (no code) |
| phosphate, ortho as PO4 3- | (no code) |
| phosphine | 7803512 |
| phosphorus | 7723140 |
| phosphorus inorganic as P | (no code) |
| Phosphorus Total as P | (no code) |
| phthalic anhydride | 85449 |
| pm condensible | PM-CON |
| PM10 filterable | PM10-FIL |
| PM10 Primary (Filt + CoND) | PM10-PRI |
| PM2.5 Filterable | PM25-FIL |
| pm2.5 primary (filt + Cond) | PM25-PRI |
| Potassium as K + | (no code) |
| P-phenylenediamine | 106503 |
| propionaldehyde | 123386 |
| propyl cellosolve | 2807309 |
| propylene dichloride | 78875 |
| propylene oxide | 75569 |
| p-xylene | 106423 |
| pyrene | 129000 |
| q (sum of so2+nox+pm10+h2so4) | Q |
| Quinoline | 91225 |
| Quinone | 106514 |
| radionuclides (including radon) | 605 |
| radon-222 | 14859677 |
| reduced sulfur compounds | SRedCmpd |
| Rockwool (man-made fiber) | 617 |
| Rubidium as Rb+ | (no code) |
| s \_20% N | S20PctN |
| S +20% N | (no code) |
| selenium | 7782492 |
| silica as sio2 | (no code) |
| silicon as Si | (no code) |
| Silver as Ag + | (no code) |
| Sodium as Na + | (no code) |
| Strontium as Sr 2+ | (no code) |
| Styrene | 100425 |
| styrene oxide | 96093 |
| sulfate | (no code) |
| sulfate as SO4 2- | (no code) |
| sulfur | (no code) |
| sulfur dioxide | SO2 |
| Sulfur Hexafluoride | SF6 |
| sulfuric acid mist | H2SO4Mist |
| Sum of Major Anions | (no code) |
| Sum of Major Cations | (no code) |
| Sum of the Base cations | (no code) |
| tert-butyl acetate | 540885 |
| tetrachlorobiphenyl | 26914330 |
| tetrachloroethylene | 127184 |
| Thorium-232 | 7740291 |
| titanium as ti | (no code) |
| titanium tetrachloride | 7550450 |
| toluene | 108883 |
| toluene-2,4-diamine | 95807 |
| total dissolved solids, residue, sum of constituents | (no code) |
| total reduced sulfur | STotRed |
| Total Suspended Solids, dried at 103-105 Deg C | (no code) |
| toxaphene | 8001352 |
| trichloroethylene | 79016 |
| triethylamine | 121448 |
| triethylene glycol | 112276 |
| trifluralin | 1582098 |
| triglycol monobutyl ether | 143226 |
| uranium-238 | 7440611 |
| value | (no code) |
| vanadium as V | (no code) |
| vinyl acetate | 108054 |
| vinyl bromide | 593602 |
| vinyl chloride | 75014 |
| vinylidene chloride | 75354 |
| volatile organic compounds | VOC |
| xylenes (mixed isomers) | 1330207 |
| Zinc as Zn 2+ | (no code) |

### NRA\_PRECIPITATION\_TYPES

Description: list of monitoring precipitation types

Table 90: Description of fields in the precipitation types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| PRECIPT\_TYPE | Yes | VC(60) | Primary Key; unique precipitation type |
| DESCRIPTION | No | VC(100) | Description of each precipitation type, if available |

List of precipitation types:

* CANOPY DRIP
* COMPOSITE
* HAIL
* MIXED
* MIXED RAIN AND HAIL
* MIXED RAIN AND SNOW
* RAIN
* SLEET
* SNOW

### NRA\_PRECIP\_COLLECTION\_METHODS

Description: list of monitoring precipitation collection methods

Table 91: Description of fields in the precipitation collection methods table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| PRECIP\_COLLECT\_MTHD | Yes | VC(30) | Primary Key; unique monitoring precipitation collection methods |
| DESCRIPTION | No | VC(100) | Description of each monitoring precipitation collection method, if available |

Available AQRV types:

* BULK SNOW DEPOSITION COLLECTOR
* FOG/CLOUD WATER COLLECTOR
* HUBBARD BROOK COLLECTOR
* NTN DRY DEPOSITION COLLECTOR
* NTN WET DEPOSITION COLLECTOR
* PRECIPITATION COLLECTOR
* RECORDING RAIN GAUGE
* STANDARD RAIN GAUGE
* THROUGHFALL COLLECTOR
* TIPPING BUCKET RAIN GAUGE

### NRA\_QA\_SAMPLE\_TYPES

Description: list of monitoring quality assurance sample types for use in the nra\_visit\_samples table

Table 92: Description of fields in the QA sample types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| QA\_SMPL\_TYPE | Yes | VC(10) | Primary Key; this is the unique name of each quality assurance sample type (as listed in Table 106 below) |
| DESCRIPTION | No | VC(150) | Description of each QA sample type, if available |

Table 93: List of available QA sample types

| **QA Sample Type** | **Description** |
| --- | --- |
| BLANK | A quality assurance sample consisting of deionized or distilled water |
| calc | Value for the sample has been calculated |
| check | A sample of a known concentration, used for quality assurance purposes |
| dub\_avg | Regular-Duplicate Average |
| duplicate | A second sample taken with a regular sample used for comparison for quality assurance |
| experiment | Sample is part of an experiment |
| regular | A sample which follows standard protocol and is not taken for QA/QC purposes |
| replicate | Additional samples taken with a regular sample used for comparison for quality assurance purposes |
| spike | A sample of high concentration of known chemical constituents used to test equipment or laboratory measurements |
| split | A routine sample which is divided into two or more subsamples, which are then sent to different analytical laboratories |
| triplicate | A third sample taken with a regular sample used for quality assurance |
| unknown | The QA Sample Type is not specified |

### NRA\_RECEPTOR\_LOCATIONS

Description: list of receptor location information

Table 94: Description of fields in the receptor locations table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| NAME | Yes | VC(100) | Name of receptor |
| RECEPTOR\_LOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | Number | ARCsde required object\_id |
| ELEVATION | No | Number | The elevation of the site in meters |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |

### NRA\_RECEPTOR\_TYPES

Description: list of source model receptor types

Table 95: Description of fields in the receptor types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| RECEPTOR\_TYPE | Yes | VC(30) | Type of receptor |
| RECEPTOR\_DESC | No | VC(240) | Description of receptor type, if available |

Table 96: List of available receptor types

| **Receptor Type** | **Description** |
| --- | --- |
| closest | Closest point on the boundary of Class I area |
| fes | Fixed equipment site |
| monsite | Monitoring Site location |
| grid | Grid point |
| highest | Highest point in the wilderness |
| other | Other modeling location |
| popcenter | Population center |
| senspop | Point at which sensitive populations occur |
| oaa | Other affected areas |

### NRA\_REF\_CODES

Description: list of reference codes for the form’s List of Values (LOV)

Table 97: Description of fields in the reference code table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| RV\_CODE | Yes | VC(30) | This is the unique code for each domain |
| RV\_DOMAIN | Yes | VC(60) | Primary Key; unique domain value |
| RV\_ABBREV | No | VC(120) | Abbreviation of each code, if available |
| RV\_DESCRIPTION | No | VC(255) | Description of each code, if available |
| RV\_SORT | No | N(2) | Sort order, default is zero |

Table 98: List of available reference codes

| **Domain** | **Code** | **Description** |
| --- | --- | --- |
| ACTIVE | NO | n/a |
| active | yes | n/a |
| activity\_type | analyzed | n/a |
| activity\_type | Collected | n/a |
| activity\_type | filtered | n/a |
| activity\_type | received | n/a |
| activity\_type | shipped | n/a |
| activity\_type | stored | n/a |
| activity\_type | transferred | n/a |
| activity\_type | transported | n/a |
| adverse\_ind | No | n/a |
| adverse\_ind | Yes | n/a |
| bart | no | n/a |
| bart | yes | n/a |
| beaver\_activity\_level \_type | Common | n/a |
| beaver\_activity\_level \_Type | None | n/a |
| beaver\_activity\_level \_type | Rare | n/a |
| beaver\_flow\_mod\_type | major | n/a |
| beaver\_flow\_mode\_type | minor | n/a |
| beaver\_flow\_mode\_type | none | n/a |
| chemical\_fraction | dissolved | n/a |
| chemical\_fraction | not applicable | n/a |
| chemical\_fraction | total | n/a |
| contact\_type | lab | n/a |
| contact\_type | Organization | n/a |
| contact\_type | person | n/a |
| deviate | no | n/a |
| deviate | yes | n/a |
| distance\_value | feet | n/a |
| distance\_value | meters | n/a |
| dominant\_age\_class \_type | >50 yrs | n/a |
| dominant\_age\_class \_type | 0-10 yrs | n/a |
| dominant\_age\_class \_type | 10-25 yrs | n/a |
| dominant\_age\_Class \_Type | 25-50 yrs | n/a |
| exist\_regional\_model | no | n/a |
| exist\_regional\_model | yes | n/a |
| field\_preservation\_flag | No | n/a |
| field\_preservation\_flag | Yes | n/a |
| from\_to | from | n/a |
| From\_to | To | n/a |
| hydrologic\_lake\_type | drainage | Outlets present |
| hydrologic\_lake\_type | reservoir | n/a |
| hydrologic\_lake\_type | seepage | No outlets present |
| lab\_results | a | Analytical lab |
| lab\_results | B | Both |
| lab\_results | F | Field lab |
| Lake\_trophic\_state\_type | eutrophic | Large amounts of biomass in the lake water |
| lake\_trophic\_state\_type | hypereutrophic | Extremely high productivity |
| lake\_trophic\_state\_type | mesotrophic | Intermediate amounts of biomass in the lake water |
| lake\_Trophic\_state\_type | oligotrophic | Little or no biomass in the lake water |
| macrophyte\_density \_type | Absent | n/a |
| macrophyte\_density \_type | dense | n/a |
| macrophyte\_density \_Type | moderate | n/a |
| macrophyte\_density \_type | sparse | n/a |
| measurement\_loc\_type | analytical lab | n/a |
| measurement\_loc\_type | field lab | n/a |
| mntr\_prj\_status\_type | complete | The project is complete |
| mntr\_prj\_status\_type | Ongoing | The project is ongoing |
| outlet\_dam\_type | artificial | n/a |
| outlet\_dam\_type | augmented | n/a |
| outlet\_dam\_type | natural | n/a |
| outlet\_dam\_type | none | n/a |
| outlet\_dam\_type | unknown | n/a |
| protocol\_doc | No | n/a |
| Protocol\_doc | Yes | n/a |
| Publish | no | n/a |
| publish | yes | n/a |
| QA\_QC | No | n/a |
| QA\_QC | Yes | n/a |
| recent\_weather\_type | generally dry | n/a |
| recent\_weather\_type | generally wet | n/a |
| recent\_weather\_type | occasional rain/snow | n/a |
| recent\_weather\_type | very wet | n/a |
| screenout | no | n/a |
| screenout | yes | n/a |
| src\_permit\_type | modified | n/a |
| src\_permit\_type | new | n/a |
| src\_permit\_type | retrofit | n/a |
| turbidity\_type | extreme | n/a |
| turbidity\_type | high | n/a |
| turbidity\_type | low | n/a |
| turbidity\_type | none | n/a |
| vst\_sample\_type | lichen | n/a |
| vst\_sample\_type | soil | n/a |
| vst\_sample\_type | soil and water | n/a |
| vst\_sample\_type | water | n/a |
| where\_fltrd\_loc\_type | analytical laboratory | n/a |
| where\_fltrd\_loc\_type | field | n/a |
| where\_fltrd\_loc\_type | field laboratory | n/a |
| where\_fltrd\_loc\_type | na | Not available |

### NRA\_SAMPLE\_COLLECTION\_METHODS

Description: list of monitoring sample collection methods

Table 99: Description of fields in the sample collection methods table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| SAMPLE\_COLLECTION \_METHOD | Yes | VC(30) | Primary Key; unique sample collection method |

Available sample collection methods:

* AUTO SAMPLER
* COMPOSITE
* DEPTH INTEGRATED SAMPLER
* GRAB
* POINT, LIKE VAN DOREN BOTTEL
* POLE SAMPLER
* SHALLOW
* UNKNOWN

### NRA\_SOURCE\_CTRL\_STAGE\_TYPE

Description: list of source permit, source control stage types

Table 100: Description of fields in the source control stage types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CONTROL\_STAGE\_TYPE | Yes | VC(630) | Primary Key; unique source control stage type |
| CONTRO\_STAGE\_DESC | No | VC(240) | Description of each source control stage type, if available |

Available source control stage types:

* FINAL
* INITIAL
* INTERIM1
* INTERIM2
* MODELED
* STARTUP
* UNREGULATED

### NRA\_SOURCE\_CONTACT\_TYPES

Description: list of source permit contact types

Table 101: Description of fields in the source contact types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_CONTACT\_TYPE | Yes | VC(15) | Type of source contact (company, agency, FLM, etc.) |
| SOURCE\_CONTACT\_DESC | No | VC(100) | Description of source contact type |

### NRA\_SOURCE\_EPA\_RATING\_TYPES

Description: list of EPA rating types

Table 102: Description of fields in the source EPA rating type table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| EPA\_RATING\_TYPE | Yes | VC(30) | Primary Key; unique name for each EPA rating type |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| EPA\_RATING\_DESC | No | VC(250) | Description of EPA rating |

Available EPA rating types:

* ADEQUATE
* INSUFFICIENT INFORMATION
* INADEQUATE

### NRA\_SOURCE\_TYPES

Description: list of source permit (location?) types

Table 103: Description of fields in the source types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_TYPE | Yes | VC(15) | Type of source |
| SOURCE\_TYPE \_DESCRIPTION | Yes | VC(240) | Description of type of source |
| DISPLAY\_SEQ | No | Number | Order in which values are listed |

Table 104: List of available source location types

| **Source Location Type** | **Description** |
| --- | --- |
| 1 | Fossil fuel-fired steam electric plants of more than 250 million btu/hr heat input |
| 2 | Coal cleaning plants (with thermal dryers) |
| 3 | Kraft pulp mills |
| 4 | Portland cement plants |
| 5 | Primary zinc smelters |
| 6 | Iron and steel mill plants |
| 7 | Primary aluminum ore reduction plants |
| 8 | Primary copper smelters |
| 9 | Municipal incinerators capable of charging more than 250 tons of refuse per day |
| 10 | Hydrofluoric acid plants |
| 11 | Sulfuric acid plants |
| 12 | Nitric acid plants |
| 13 | Petroleum refineries |
| 14 | Lime plants |
| 15 | Phosphate rock processing plants |
| 16 | Coke oven batteries |
| 17 | Sulfur recovery plants |
| 18 | Carbon black plants (furnace plants) |
| 19 | Primary lead smelters |
| 20 | Fuel conversion plants |
| 21 | Sintering plants |
| 22 | Secondary metal production plants |
| 23 | Chemical process plants |
| 24 | Fossil fuel boilers (or combinations thereof) totaling more than 250 million btu/hr input |
| 25 | Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels |
| 26 | Taconite ore processing plants |
| 27 | Glass fiber processing plants |
| 28 | Charcoal production plants |
| 0101 | Fuel Comb. Elec. Util. - Coal |
| 0102 | Fuel Comb. Elec. Util. – Oil |
| 0103 | Fuel Comb. Elec. Util. – Gas |
| 0104 | Fuel Comb. Elec. Util. – Other |
| 0105 | Fuel Comb. Elec. Util. – Internal Combustion |
| 0201 | Fuel Comb. Industrial – Coal |
| 0202 | Fuel Comb. Industrial – Oil |
| 0203 | Fuel Comb. Industrial – Gas |
| 0204 | Fuel Comb. Industrial – Other |
| 0205 | Fuel Comb. Industrial – Internal Combustion |
| 0301 | Fuel Comb. Other – Commercial/Institutional Coal |
| 0302 | Fuel Comb. Other – Commercial/Institutional Oil |
| 0303 | Fuel Comb. Other – Commercial/Institutional Gas |
| 0304 | Fuel Comb. Other – Misc. Fuel Comb. |
| 0305 | Fuel Comb. Other – Residential Wood |
| 0306 | Fuel Comb. Other – Residential Other |
| 0401 | Chemical & Allied Product Mfg – Organic Chemical Mfg |
| 0402 | Chemical & Allied Product Mfg – Inorganic Chemical Mfg |
| 0403 | Chemical & Allied Product Mfg – Polymer & Resin Mfg |
| 0404 | Chemical & Allied Product Mfg – Agricultural Chemical Mfg |
| 0405 | Chemical & Allied Product Mfg – Paint, Varnish, Lacquer, Enamel |
| 0406 | Chemical & Allied Product Mfg – Pharmaceutical Mfg |
| 0407 | Chemical & Allied Product Mfg – Other Chemical Mfg |
| 0501 | Metals Processing – Non-Ferrous Metals Processing |
| 0502 | Metals Processing – Ferrous Metals Processing |
| 0503 | Metals Processing – Metals Processing NEC |
| 0601 | Petroleum & Related Industries – Oil & Gas Production |
| 0602 | Petroleum & Related Industries – Petroleum Refineries & Related |
| 0603 | Petroleum & Related Industries – Asphalt Manufacturing |
| 0701 | Other Industrial Processes – Agriculture Food & Kindred |
| 0702 | Other Industrial Processes – Textiles Leathers & Apparel Products |
| 0703 | Other Industrial Processes – Wood Pulp & Paper & Publishing Products |
| 0704 | Other Industrial Processes – Rubber & Miscellaneous Plastic Products |
| 0705 | Other Industrial Processes – Mineral Products |
| 0706 | Other Industrial Processes – Machinery Products |
| 0707 | Other Industrial Processes – Electronic Equipment |
| 0708 | Other Industrial Processes – Transportation Equipment |
| 0709 | Other Industrial Processes – Construction |
| 0710 | Other Industrial Processes – Miscellaneous Industrial Processes |
| 0801 | Solvent Utilization – Degreasing |
| 0802 | Solvent Utilization – Graphic Arts |
| 0803 | Solvent Utilization – Dry Cleaning |
| 0804 | Solvent Utilization – Surface Coating |
| 0805 | Solvent Utilization – Other Industrial |
| 0806 | Solvent Utilization – Nonindustrial |
| 0807 | Solvent Utilization – Solvent Utilization NEC |
| 0901 | Storage & Transport – Bulk Terminals & Plants |
| 0902 | Storage & Transport – Petroleum & Petroleum Product Storage |
| 0903 | Storage & Transport – Petroleum & Petroleum Product Transport |
| 0904 | Storage & Transport – Service Stations: Stage I |
| 0905 | Storage & Transport – Service Stations: Stage II |
| 0906 | Storage & Transport – Service Stations: Breathing & Emptying |
| 0907 | Storage & Transport – Organic Chemical Storage |
| 0908 | Storage & Transport – Organic Chemical Transport |
| 0909 | Storage & Transport – Inorganic Chemical Storage |
| 0910 | Storage & Transport – Inorganic Chemical Transport |
| 0911 | Storage & Transport – Bulk Materials Storage |
| 0912 | Storage & Transport – Bulk Materials Transport |
| 1001 | Waste Disposal & Recycling – Incineration |
| 1002 | Waste Disposal & Recycling – Open Burning |
| 1003 | Waste Disposal & Recycling – POTW |
| 1004 | Waste Disposal & Recycling – Industrial Waste Water |
| 1005 | Waste Disposal & Recycling – TSDF |
| 1006 | Waste Disposal & Recycling – Landfills |
| 1007 | Waste Disposal & Recycling – Other |
| 1101 | Highway Vehicles – Light-Duty Gas Vehicles & Motorcycles |
| 1102 | Highway Vehicles – Light-Duty Gas Trucks |
| 1103 | Highway Vehicles – Heavy-Duty Gas Vehicles |
| 1104 | Highway Vehicles – Diesels |
| 1201 | Off-highway – Non-Road Gasoline |
| 1202 | Off-highway – Non-Road Diesel |
| 1203 | Off-highway – Aircraft |
| 1204 | Off-highway – Marine Vessels |
| 1205 | Off-highway – Railroads |
| 1301 | Natural Sources – Biogenic |
| 1302 | Natural Sources – Geogenic |
| 1303 | Natural Sources – Miscellaneous |
| 1401 | Miscellaneous – Agriculture & Forestry |
| 1402 | Miscellaneous – Other Combustion |
| 1403 | Miscellaneous – Catastrophic/Accidental Releases |
| 1404 | Miscellaneous – Repair Shops |
| 1405 | Miscellaneous – Health Services |
| 1406 | Miscellaneous – Cooling Towers |
| 1407 | Miscellaneous – Fugitive Dust |
| OTHER | Other |

### NRA\_SOURCE\_REMARK\_TYPES

Description: list of source remark types

Table 121: Description of fields in the source remark types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| STATUS\_RMRK\_TYPE | Yes | VC(40) | Type of source remark |
| STATUS\_RMRK\_DESC | No | VC(240) | Description of source remark, if available |

### NRA\_SOURCE\_STATUS\_ELMT\_TYPES

Description: list of source permit status element types

Table 106: Description of fields in the source status element types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| ORDER\_BY | Yes | Number | Column display order |
| STATUS\_ELEMENT\_TYPE | Yes | VC(40) | Type of status element |
| STATUS\_ELEMENT\_DESC | No | VC(240) | Description of each source project status element type, if available |

Table 107: List of available source status element types

| **Source Status Element Type** | **Description** |
| --- | --- |
| APP\_WDRN | Permit application withdrawn |
| appeal | Permit decision appealed |
| applitfld | Appeal or litigation filed against permit |
| applitres | Affirmation/Denial/Settlement of appeal or litigation against permit |
| dataacpt | Pre-application on-site monitoring data accepted by permitting authority |
| dtfscon | Forest Service contacted – informal contact from state/applicant/newspaper |
| existingaqgrp | Convene existing AQ Technical Work Group |
| finaladverse | Final adverse impact determination by FLM |
| finfslettopa | Final Forest Service comments sent to permitting authority |
| fscomts\_notc1 | Forest Service comments on impacts to Forest outside of Class I area |
| FSINFCMT | Informal Forest Service communication to regulator or applicant |
| FSMTG | Forest Service meeting with applicant or permitting authority |
| litigation | Litigation filed against permit decision |
| mitngtn | Mitigation negotiation |
| modprint | Class I modeling results received by Forest Service |
| modprotcomm | Forest Service comments on modeling protocol sent to permitting authority |
| modprotsub | Modeling protocol submitted by applicant to permitting authority |
| modprtacc | Modeling protocol accepted by permitting authority |
| modrevcpt | Forest Service comments on Class I modeling results sent to permitting authority |
| noimpact | No adverse impact determination by FLM |
| otherchallenges | Other challenges identified by permitting authority |
| perapdemcmt | Permit application deemed complete by permitting authority |
| perappfs | Permit application received by Forest Service |
| perdenied | Permit denied by permitting authority |
| perdrrcdap | Draft permit from permitting authority received by Forest Service |
| permiss | Permit issued by permitting authority |
| preapmon | Pre-application on-site monitoring begins |
| preapp | Pre-application meeting |
| prefscomts | Preliminary Forest Service comments sent to permitting authority |
| prelimadverse | Preliminary adverse impact determination by FLM |
| PRELIMNOADVERSE | Preliminary no adverse impact determination by FLM |
| protest | Protest filed against permit decision |
| pubcomend | Public comment period ends |
| pubcomst | Public notice of comment period issued |
| pubhear | Public hearing |
| pubinfmtg | Public information meeting |
| remodel | Model rerun |
| revpermap | Permit application revised and resubmitted to permitting authority |
| screened\_out | Final – no AQRV analysis was required |
| specialaqgrp | Convene case-specific work group |
| visanaccpt | Visibility analysis accepted by permitting authority |

### NRA\_SOURCE\_TYPES

Description: list of source types

Table 108: Description of fields in the source types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_TYPE | Yes | VC(15) | Type of source |
| DISPLAY\_SEQ | No | Number | Order in which values are listed |
| SOURCE\_TYPE\_DESC | No | VC(240) | Description of type of source, if available |

Table 125 lists a combination of the El Sector codes (from EPA National Emissions Inventory) and relevant standard NAICS codes.

Table 109: List of source types

| **Sequence Number** | **2012 NAICS US Code** | **Name** |
| --- | --- | --- |
| 1 | n/a | Agriculture – Crops & Livestock Dust |
| 2 | n/a | Agriculture – Fertilizer Application |
| 3 | n/a | Agriculture – Livestock Waste |
| 4 | n/a | Bulk Gasoline Terminals |
| 5 | n/a | Commercial Cooking |
| 6 | n/a | Dust – Construction Dust |
| 7 | n/a | Dust – Paved Road Dust |
| 8 | n/a | Dust – Unpaved Road Dust |
| 9 | n/a | Fires – Agricultural Field Burning |
| 10 | n/a | Fires – Prescribed Fires |
| 11 | n/a | Fires – Wildfires |
| 12 | n/a | Fuel Comb – Comm/Institutional – Biomass |
| 13 | n/a | Fuel Comb – Comm/Institutional – Coal |
| 14 | n/a | Fuel Comb – Comm/Institutional – Natural Gas |
| 15 | n/a | Fuel Comb – Comm/Institutional – Oil |
| 16 | n/a | Fuel Comb – Comm/Institutional – Other |
| 17 | n/a | Fuel Comb – Electric Generation – Biomass |
| 18 | n/a | Fuel Comb – Electric Generation – Coal |
| 19 | n/a | Fuel Comb – Electric Generation – Natural Gas |
| 20 | n/a | Fuel Comb – Electric Generation – Oil |
| 21 | n/a | Fuel Comb – Electric Generation – Other |
| 22 | n/a | Fuel Comb – Industrial Boilers, ICEs – Biomass |
| 23 | n/a | Fuel Comb – Industrial Boilers, ICEs – Coal |
| 24 | n/a | Fuel Comb – Industrial Boilers, ICEs – Natural Gas |
| 25 | n/a | Fuel Comb – Industrial Boilers, ICEs – Oil |
| 26 | n/a | Fuel Comb – Industrial Boilers, ICEs – Other |
| 27 | n/a | Fuel Comb – Residential – Natural Gas |
| 28 | n/a | Fuel Comb – Residential – Oil |
| 29 | n/a | Fuel Comb – Residential – Other |
| 30 | n/a | Fuel Comb – Residential – Wood |
| 31 | n/a | Gas Stations |
| 32 | n/a | Industrial Processes – Cement Manuf |
| 33 | n/a | Industrial Processes – Chemical Manuf |
| 34 | n/a | Industrial Processes – Ferrous Metals |
| 35 | n/a | Industrial Processes – Mining |
| 36 | n/a | Industrial Processes – NEC |
| 37 | n/a | Industrial Processes – Non-ferrous Metals |
| 38 | n/a | Industrial Processes – Oil & Gas Production |
| 39 | n/a | Industrial Processes – Petroleum Refineries |
| 40 | n/a | Industrial Processes – Pulp & Paper |
| 41 | n/a | Industrial Processes – Storage and Transfer |
| 42 | n/a | Miscellaneous Non-Industrial NEC |
| 43 | n/a | Mobile – Aircraft |
| 44 | n/a | Mobile – Commercial Marine Vessels |
| 45 | n/a | Mobile – Locomotives |
| 46 | n/a | Mobile – Non-Road Equipment – Diesel |
| 47 | n/a | Mobile – Non-Road Equipment – Gasoline |
| 48 | n/a | Mobile – Non-Road Equipment – Other |
| 49 | n/a | Mobile – On-Road Diesel Heavy Duty Vehicles |
| 50 | n/a | Mobile – On-Road Diesel Light Duty vehicles |
| 51 | n/a | Mobile – On-Road Gasoline Heavy Duty Vehicles |
| 52 | n/a | Mobile – On-Road Gasoline Light Duty Vehicles |
| 53 | n/a | Solvent – Consumer & Commercial Solvent Use |
| 54 | n/a | Solvent – Degreasing |
| 55 | n/a | Solvent – Dry Cleaning |
| 56 | n/a | Solvent – Graphic Arts |
| 57 | n/a | Solvent – Industrial Surface Coating & Solvent Use |
| 58 | n/a | Solvent – Non-Industrial Surface Coating |
| 59 | n/a | Waste Disposal |
| 60 | 111110 | Soybean Farming |
| 61 | 111140 | Wheat Farming |
| 62 | 111150 | Corn Farming |
| 63 | 111191 | Oilseed and Grain Combination Farming |
| 64 | 111199 | All Other Grain Farming |
| 65 | 111219 | Other Vegetable (except Potato) and Melon Farming |
| 66 | 11133 | Noncitrus Fruit and Tree Nut Farming |
| 67 | 111331 | Apple Orchards |
| 68 | 111332 | Grape Vineyards |
| 69 | 111334 | Berry (except Strawberry) Farming |
| 70 | 111335 | Tree Nut Farming |
| 71 | 111336 | Fruit and Tree Nut Combination Farming |
| 72 | 111411 | Mushroom Production |
| 73 | 111419 | Other Food Crops Grown Under Cover |
| 74 | 11142 | Nursery and Floriculture Production |
| 75 | 111421 | Nursery and Tree Production |
| 76 | 111422 | Floriculture Production |
| 77 | 111920 | Cotton Farming |
| 78 | 111940 | Hay Farming |
| 79 | 111991 | Sugar Beet Farming |
| 80 | 111998 | All Other Miscellaneous Crop Farming |
| 81 | 112111 | Beef Cattle Ranching and Farming |
| 82 | 112112 | Cattle Feedlots |
| 83 | 11212 | Dairy Cattle and Milk Production |
| 84 | 112120 | Dairy Cattle and Milk Production |
| 85 | 112130 | Dual-Purpose Cattle Ranching and Farming |
| 86 | 112210 | Hog and Pig Farming |
| 87 | 112310 | Chicken Egg Production |
| 88 | 11232 | Broilers and Other Meat Type Chicken Production |
| 89 | 112320 | Broilers and Other Meet Type Chicken Production |
| 90 | 112330 | Turkey Production |
| 91 | 11239 | Other Poultry Production |
| 92 | 112390 | Other Poultry Production |
| 93 | 112410 | Sheep Farming |
| 94 | 112511 | Finfish Farming and Fish Hatcheries |
| 95 | 11292 | Horses and Other Equine Production |
| 96 | 11299 | All Other Animal Production |
| 97 | 112990 | All Other Animal Production |
| 98 | 11331 | Logging |
| 99 | 113310 | Logging |
| 100 | 114112 | Shellfish Fishing |
| 101 | 114210 | Hunting and Trapping |
| 102 | 115111 | Cotton Ginning |
| 103 | 115112 | Soil Preparation, Planting, and Cultivating |
| 104 | 115113 | Crop Harvesting, Primarily by Machine |
| 105 | 115114 | Postharvest Crop Activities (except Cotton Ginning) |
| 106 | 115116 | Farm Management Services |
| 107 | 11521 | Support Activities for Animal Production |
| 108 | 115210 | Support Activities for Animal Production |
| 109 | 11531 | Support Activities for Forestry |
| 110 | 115310 | Support Activities for Forestry |
| 111 | 2111 | Oil and Gas Extraction |
| 112 | 21111 | Oil and Gas Extraction |
| 113 | 211111 | Crude Petroleum and Natural Gas Extraction |
| 114 | 211112 | Natural Gas Liquid Extraction |
| 115 | 212 | Mining (except Oil and Gas) |
| 116 | 2121 | Coal Mining |
| 117 | 21211 | Coal Mining |
| 118 | 212111 | Bituminous Coal and Lignite Surface Mining |
| 119 | 212112 | Bituminous Coal Underground Mining |
| 120 | 2122 | Metal Ore Mining |
| 121 | 21221 | Iron Ore Mining |
| 122 | 212210 | Iron Ore Mining |
| 123 | 212221 | Gold Ore Mining |
| 124 | 212222 | Silver Ore Mining |
| 125 | 212231 | Lead Ore and Zinc Ore Mining |
| 126 | 212234 | Copper Ore and Nickel Ore Mining |
| 127 | 212291 | Uranium-Radium-Vanadium Ore Mining |
| 128 | 212299 | All Other Metal Ore Mining |
| 129 | 2123 | Nonmetallic Mineral Mining and Quarrying |
| 130 | 21231 | Stone Mining and Quarrying |
| 131 | 212311 | Dimension Stone Mining and Quarrying |
| 132 | 212312 | Crushed and Broken Limestone Mining and Quarrying |
| 133 | 212313 | Crushed and Broken Granite Mining and Quarrying |
| 134 | 212319 | Other Crushed and Broken Granite Mining and Quarrying |
| 135 | 21232 | Sand, Gravel, Clay, and Ceramic and Refractory Minerals Mining and Quarrying |
| 136 | 212321 | Construction Sand and Gravel Mining |
| 137 | 212322 | Industrial Sand Mining |
| 138 | 212324 | Kaolin and Ball Clay Mining |
| 139 | 212325 | Clay and Ceramic and Refractory Minerals Mining |
| 140 | 21239 | Other Nonmetallic Mineral Mining and Quarrying |
| 141 | 212391 | Potash, Soda, and Borate Mineral Mining |
| 142 | 212393 | Other Chemical and Fertilizer Mineral Mining |
| 143 | 212399 | All Other Nonmetallic Mineral Mining |
| 144 | 213111 | Drilling Oil and Gas Wells |
| 145 | 213112 | Support Activities for Oil and Gas Operations |
| 146 | 213113 | Support Activities for Coal Mining |
| 147 | 213114 | Support Activities for Metal Mining |
| 148 | 213115 | Support Activities for Nonmetallic Minerals (except Fuels) Mining |
| 149 | 2211 | Electric Power Generation, Transmission and Distribution |
| 150 | 22111 | Electric Power Generation |
| 151 | 221111 | Hydroelectric Power Generation |
| 152 | 221112 | Fossil Fuel Electric Power Generation |
| 153 | 221113 | Nuclear Electric Power Generation |
| 154 | 221117 | Biomass Electric Power Generation |
| 155 | 221118 | Other Electric Power Generation |
| 156 | 22112 | Electric Power Transmission, Control and Distribution |
| 157 | 221121 | Electric Bulk Power Transmission and Control |
| 158 | 221122 | Electric Power Distribution |
| 159 | 2212 | Natural Gas Distribution |
| 160 | 22121 | Natural Gas Distribution |
| 161 | 221210 | Natural Gas Distribution |
| 162 | 2213 | Water, Sewage and Other Systems |
| 163 | 22131 | Water Supply and Irrigation Systems |
| 164 | 221310 | Water Supply and Irrigation Systems |
| 165 | 22132 | Sewage Treatment Facilities |
| 166 | 221320 | Sewage Treatment Facilities |
| 167 | 22133 | Steam and Air-Conditioning Supply |
| 168 | 221330 | Steam and Air-Conditioning Supply |
| 169 | n/a | Commercial Cooking |
| 170 | 236115 | New Single-Family Housing Construction (except For-Sale Builders) |
| 171 | 236116 | New Multifamily Housing Construction (except For-Sale Builders) |
| 172 | 236117 | New Housing For-Sale Builders |
| 173 | 236118 | Residential Remodelers |
| 174 | 236210 | Industrial Building Construction |
| 175 | 236220 | Commercial and Institutional Building Construction |
| 176 | 2371 | Utility System Construction |
| 177 | 237110 | Water and Sewer Line and Related Structures Construction |
| 178 | 237120 | Oil and Gas Pipeline and Related Structures Construction |
| 179 | 23713 | Power and Communication Line and Related Structures Construction |
| 180 | 237130 | Power and Communication Line and Related Structures Construction |
| 181 | 237210 | Land Subdivision |
| 182 | 23731 | Highway, Street, and Bridge Construction |
| 183 | 237310 | Highway, Street, and Bridge Construction |
| 184 | 237990 | Other Heavy and Civil Engineering Construction |
| 185 | 238110 | Poured Concrete Foundation and Structure Contractors |
| 186 | 238120 | Structural Steel and Precast Concrete Contractors |
| 187 | 238140 | Masonry Contractors |
| 188 | 238150 | Glass and Glazing Contractors |
| 189 | 238160 | Roofing Contractors |
| 190 | 238190 | Other Foundation, Structure, and Building Exterior Contractors |
| 191 | 23821 | Electrical Contractors and Other Wiring Installation Contractors |
| 192 | 238210 | Electrical Contractors and Other Wiring Installation Contractors |
| 193 | 238220 | Plumbing, Heating, and Air-Conditioning Contractors |
| 194 | 23839 | Other Building Equipment Contractors |
| 195 | 238390 | Other Building Equipment Contractors |
| 196 | 2383 | Building Finishing Contractors |
| 197 | 238310 | Drywall and Insulation Contactors |
| 198 | 23832 | Painting and Wall Covering Contractors |
| 199 | 238320 | Painting and Wall Covering Contractors |
| 200 | 238330 | Flooring Contractors |
| 201 | 238340 | Tile and Terrazzo Contractors |
| 202 | 238350 | Finish Carpentry Contractors |
| 203 | 238910 | Site Preparation Contractors |
| 204 | 23899 | All Other Specialty Trade Contractors |
| 205 | 238990 | All Other Specialty Trade Contractors |
| 206 | 31111 | Animal Food Manufacturing |
| 207 | 311111 | Dog and Cat Food Manufacturing |
| 208 | 311119 | Other Animal Food Manufacturing |
| 209 | 3112 | Grain and Oilseed Milling |
| 210 | 31121 | Flour Milling and Malt Manufacturing |
| 211 | 311211 | Flour Milling |
| 212 | 311212 | Rice Milling |
| 213 | 311213 | Malt Manufacturing |
| 214 | 31122 | Starch and Vegetable Fats and Oils Manufacturing |
| 215 | 311221 | Wet Corn Milling |
| 216 | 311224 | Soybean and Other Oil Processing |
| 217 | 311225 | Fats and Oils Refining and Blending |
| 218 | 31123 | Breakfast Cereal Manufacturing |
| 219 | 311230 | Breakfast Cereal Manufacturing |
| 220 | 311313 | Beet Sugar Manufacturing |
| 221 | 311314 | Cane Sugar Manufacturing |
| 222 | 311340 | Nonchocolate Confectionery Manufacturing |
| 223 | 311351 | Chocolate and Confectionery Manufacturing from Cacao Beans |
| 224 | 311352 | Confectionery Manufacturing from Purchased Chocolate |
| 225 | 31141 | Frozen Food Manufacturing |
| 226 | 311411 | Frozen Fruit, Juice, and Vegetable Manufacturing |
| 227 | 311412 | Frozen Specialty Food Manufacturing |
| 228 | 31142 | Fruit and Vegetable Canning, Pickling, and Drying |
| 229 | 311421 | Fruit and Vegetable Canning |
| 230 | 311422 | Specialty Canning |
| 231 | 311423 | Dried and Dehydrated Food Manufacturing |
| 232 | 31151 | Dairy Product (except Frozen) Manufacturing |
| 233 | 311511 | Fluid Milk Manufacturing |
| 234 | 311512 | Creamery Butter Manufacturing |
| 235 | 311513 | Cheese Manufacturing |
| 236 | 311514 | Dry, Condensed, and Evaporated Dairy Product Manufacturing |
| 237 | 311520 | Ice Cream and Frozen Dessert Manufacturing |
| 238 | 3116 | Animal Slaughtering and Processing |
| 239 | 31161 | Animal Slaughtering and Processing |
| 240 | 311611 | Animal (except Poultry) Slaughtering |
| 241 | 311612 | Meat Processed from Carcasses |
| 242 | 311613 | Rendering and Meat Byproduct Processing |
| 243 | 311615 | Poultry Processing |
| 244 | 311710 | Seafood Product Preparation and Packaging |
| 245 | 31181 | Bread and Bakery Product Manufacturing |
| 246 | 311811 | Retail Bakeries |
| 247 | 311812 | Commercial Bakeries |
| 248 | 311813 | Frozen Cakes, Pies, and Other Pastries Manufacturing |
| 249 | 311821 | Cookie and Cracker Manufacturing |
| 250 | 311824 | Dry Pasta, Dough, and Flour Mixes Manufacturing from Purchased Flour |
| 251 | 31183 | Tortilla Manufacturing |
| 252 | 311830 | Tortilla Manufacturing |
| 253 | 3119 | Other Food Manufacturing |
| 254 | 31191 | Snack Food Manufacturing |
| 255 | 311911 | Roasted Nuts and Peanut Butter Manufacturing |
| 256 | 311919 | Other Snack Food Manufacturing |
| 257 | 31192 | Coffee and Tea Manufacturing |
| 258 | 311920 | Coffee and Tea Manufacturing |
| 259 | 31193 | Flavoring Syrup and Concentrate Manufacturing |
| 260 | 311930 | Flavoring Syrup and Concentrate Manufacturing |
| 261 | 31194 | Seasoning and Dressing Manufacturing |
| 262 | 311941 | Mayonnaise, Dressing, and other Prepared Sauce Manufacturing |
| 263 | 311942 | Spice and Extract Manufacturing |
| 264 | 31199 | All Other Food Manufacturing |
| 265 | 311991 | Perishable Prepared Food Manufacturing |
| 266 | 311999 | All Other Miscellaneous Food Manufacturing |
| 267 | 3121 | Beverage Manufacturing |
| 268 | 312111 | Soft Drink Manufacturing |
| 269 | 312112 | Bottled Water Manufacturing |
| 270 | 312113 | Ice Manufacturing |
| 271 | 31212 | Breweries |
| 272 | 312120 | Breweries |
| 273 | 31213 | Wineries |
| 274 | 312130 | Wineries |
| 275 | 31214 | Distilleries |
| 276 | 312140 | Distilleries |
| 277 | 312230 | Tobacco Manufacturing |
| 278 | 313 | Textile Mills |
| 279 | 313110 | Fiber, Yarn, and Thread Mills |
| 280 | 31321 | Broadwoven Fabric Mills |
| 281 | 313210 | Broadwoven Fabric Mills |
| 282 | 313220 | Narrow Fabric Mills and Schiffli Machine Embroidery |
| 283 | 31323 | Nonwoven Fabric Mills |
| 284 | 313230 | Nonwoven Fabric Mills |
| 285 | 313240 | Knit Fabric Mills |
| 286 | 3133 | Textile and Fabric Finishing and Fabric Coating Mills |
| 287 | 313310 | Textile and Fabric Finishing Mills |
| 288 | 31332 | Fabric Coating Mills |
| 289 | 313320 | Fabric Coating Mills |
| 290 | 31411 | Carpet and Rug Mills |
| 291 | 314110 | Carpet and Rug Mills |
| 292 | 314120 | Curtain and Linen Mills |
| 293 | 314910 | Textile Bag and Canvas Mills |
| 294 | 314994 | Rope, Cordage, Twine, Tire Cord, and Tire Fabric Mills |
| 295 | 314999 | All Other Miscellaneous Textile Product Mills |
| 296 | 315110 | Hosiery and Sock Mills |
| 297 | 315190 | Other Apparel Knitting Mills |
| 298 | 31521 | Cut and Sew Apparel Contractors |
| 299 | 315210 | Cut and Sew Apparel Contractors |
| 300 | 315220 | Men’s and Boy’s Cut and Sew Apparel Manufacturing |
| 301 | 315240 | Women’s, Girl’s, and Infant’s Cut and Sew Apparel Manufacturing |
| 302 | 315280 | Other Cut and Sew Apparel Manufacturing |
| 303 | 31599 | Apparel Accessories and Other Apparel Manufacturing |
| 304 | 315990 | Apparel Accessories and Other Apparel Manufacturing |
| 305 | 31611 | Leather and Hide Tanning and Finishing |
| 306 | 316110 | Leather and Hide Tanning and Finishing |
| 307 | 31621 | Footwear Manufacturing |
| 308 | 316210 | Footwear Manufacturing |
| 309 | 316998 | All Other Leather Goo and Allied Product Manufacturing |
| 310 | 321 | Wood Product Manufacturing |
| 311 | 32111 | Sawmills and Wood Preservation |
| 312 | 321113 | Sawmills |
| 313 | 321114 | Wood Preservation |
| 314 | 32121 | Veneer, Plywood, and Engineered Wood Product Manufacturing |
| 315 | 321211 | Hardwood Veneer and Plywood Manufacturing |
| 316 | 321212 | Softwood Veneer and Plywood Manufacturing |
| 317 | 321213 | Engineered Wood Member (except Truss) Manufacturing |
| 318 | 321214 | Truss Manufacturing |
| 319 | 321219 | Reconstituted Wood Product Manufacturing |
| 320 | 3219 | Other Wood Product Manufacturing |
| 321 | 32191 | Millwork |
| 322 | 321911 | Wood Window and Door Manufacturing |
| 323 | 321912 | Cut Stock, Resawing Lumber, and Planing |
| 324 | 321918 | Other Millwork (including Flooring) |
| 325 | 32192 | Wood Container and Pallet Manufacturing |
| 326 | 321920 | Wood Container and Pallet Manufacturing |
| 327 | 32199 | All Other Wood Product Manufacturing |
| 328 | 321991 | Manufactured Home (Mobile Home) Manufacturing |
| 329 | 321992 | Prefabricated Wood Building Manufacturing |
| 330 | 321999 | All Other Miscellaneous Wood Product Manufacturing |
| 331 | 3221 | Pulp, Paper, and Paperboard Mills |
| 332 | 32211 | Pulp Mills |
| 333 | 322110 | Pulp Mills |
| 334 | 32212 | Paper Mills |
| 335 | 322121 | Paper (except Newsprint) Mills |
| 336 | 322122 | Newsprint Mills |
| 337 | 32213 | Paperboard Mills |
| 338 | 322130 | Paperboard Mills |
| 339 | 3222 | Converted Paper Product Manufacturing |
| 340 | 32221 | Paperboard Container Manufacturing |
| 341 | 322211 | Corrugated and Solid Fiber Box Manufacturing |
| 342 | 322212 | Folding Paperboard Box Manufacturing |
| 343 | 322219 | Other Paperboard Container Manufacturing |
| 344 | 32222 | Paper Bag and Coated and Treated Paper Manufacturing |
| 345 | 322220 | Paper Bag and Coated and Treated Paper Manufacturing |
| 346 | 32223 | Stationery Product Manufacturing |
| 347 | 322230 | Stationery Product Manufacturing |
| 348 | 32229 | Other Converted Paper Product Manufacturing |
| 349 | 322291 | Sanitary Paper Product Manufacturing |
| 350 | 322299 | All Other Converted Paper Product Manufacturing |
| 351 | 3231 | Printing and Related Support Activities |
| 352 | 32311 | Printing |
| 353 | 323111 | Commercial Printing (except Screen and Books) |
| 354 | 323113 | Commercial Screen Printing |
| 355 | 323117 | Books Printing |
| 356 | 32312 | Support Activities for Printing |
| 357 | 323120 | Support Activities for Printing |
| 358 | 324 | Petroleum and Coal Products Manufacturing |
| 359 | 32411 | Petroleum Refineries |
| 360 | 324110 | Petroleum Refineries |
| 361 | 32412 | Asphalt Paving, Roofing, and Saturated Materials Manufacturing |
| 362 | 324121 | Asphalt Paving Mixture and Block Manufacturing |
| 363 | 324122 | Asphalt Shingle and Coating Materials Manufacturing |
| 364 | 324191 | Petroleum Lubricating Oil and Grease Manufacturing |
| 365 | 324199 | All Other Petroleum and Coal Products Manufacturing |
| 366 | 325 | Chemical Manufacturing |
| 367 | 3251 | Basic Chemical Manufacturing |
| 368 | 32511 | Petrochemical Manufacturing |
| 369 | 325110 | Petrochemical Manufacturing |
| 370 | 32512 | Industrial Gas Manufacturing |
| 371 | 325120 | Industrial Gas Manufacturing |
| 372 | 32513 | Synthetic Dye and Pigment Manufacturing |
| 373 | 325130 | Synthetic Dye and Pigment Manufacturing |
| 374 | 32518 | Other Basic Inorganic Chemical Manufacturing |
| 375 | 325180 | Other Basic Inorganic Chemical Manufacturing |
| 376 | 32519 | Other Basic Organic Chemical Manufacturing |
| 377 | 325193 | Ethyl Alcohol Manufacturing |
| 378 | 325194 | Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing |
| 379 | 325119 | All Other Basic Organic Chemical Manufacturing |
| 380 | 32521 | Resin and Synthetic Rubber Manufacturing |
| 381 | 325211 | Plastics Material and Resin Manufacturing |
| 382 | 325212 | Synthetic Rubber Manufacturing |
| 383 | 325220 | Artificial and Synthetic Fibers and Filaments Manufacturing |
| 384 | 32531 | Fertilizer Manufacturing |
| 385 | 325311 | Nitrogenous Fertilizer Manufacturing |
| 386 | 325312 | Phosphatic Fertilizer Manufacturing |
| 387 | 325314 | Fertilizer (Mixing Only) Manufacturing |
| 388 | 32532 | Pesticide and Other Agricultural Chemical Manufacturing |
| 389 | 325320 | Pesticide and Other Agricultural Chemical Manufacturing |
| 390 | 32541 | Pharmaceutical and Medicine Manufacturing |
| 391 | 325411 | Medicinal and Botanical Manufacturing |
| 392 | 325412 | Pharmaceutical Preparation Manufacturing |
| 393 | 325413 | In-Vitro Diagnostic Substance Manufacturing |
| 394 | 325414 | Biological Product (except Diagnostic) Manufacturing |
| 395 | 32551 | Paint and Coating Manufacturing |
| 396 | 325510 | Paint and Coating Manufacturing |
| 397 | 32552 | Adhesive Manufacturing |
| 398 | 325520 | Adhesive Manufacturing |
| 399 | 3256 | Soap, Cleaning Compound, and Toilet Preparation Manufacturing |
| 400 | 32561 | Soap and Cleaning Compound Manufacturing |
| 401 | 325611 | Soap and Other Detergent Manufacturing |
| 402 | 325612 | Polish and Other Sanitation Good Manufacturing |
| 403 | 325613 | Surface Active Agent Manufacturing |
| 404 | 32562 | Toilet Preparation Manufacturing |
| 405 | 325620 | Toilet Preparation Manufacturing |
| 406 | 32591 | Printing Ink Manufacturing |
| 407 | 325910 | Printing Ink Manufacturing |
| 408 | 32592 | Explosives Manufacturing |
| 409 | 325920 | Explosives Manufacturing |
| 410 | 32599 | All Other Chemical Product and Preparation Manufacturing |
| 411 | 325991 | Custom Compounding of Purchased Resins |
| 412 | 325992 | Photographic Film, Paper, Plate, and Chemical Manufacturing |
| 413 | 325998 | All Other Miscellaneous Chemical Product and Preparation Manufacturing |
| 414 | 326 | Plastics and Rubber Products Manufacturing |
| 415 | 3261 | Plastics Product Manufacturing |
| 416 | 32611 | Plastics Packaging Materials and Unlaminated Film and Sheet Manufacturing |
| 417 | 326111 | Plastics Bag and Pouch Manufacturing |
| 418 | 326112 | Plastics Packaging Film and Sheet (including Laminated) Manufacturing |
| 419 | 326113 | Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing |
| 420 | 32612 | Plastics Pipe, Pipe Fitting, and Unlaminated Profile Shape Manufacturing |
| 421 | 326121 | Unlaminated Plastics Profile Shape Manufacturing |
| 422 | 326122 | Plastics Pipe and Pipe Fitting Manufacturing |
| 423 | 32613 | Laminated Plastics Plate, Sheet (except Packaging), and Shape Manufacturing |
| 424 | 326130 | Laminated Plastics Plate, Sheet (except Packaging), and Shape Manufacturing |
| 425 | 32614 | Polystyrene Foam Product Manufacturing |
| 426 | 326140 | Polystyrene Foam Product Manufacturing |
| 427 | 32615 | Urethane and Other Foam Product (except Polystyrene) Manufacturing |
| 428 | 326150 | Urethane and Other Foam Product (except Polystyrene) Manufacturing |
| 429 | 32616 | Plastics Bottle Manufacturing |
| 430 | 326160 | Plastics Bottle Manufacturing |
| 431 | 32619 | Other Plastics Product Manufacturing |
| 432 | 326191 | Plastics Plumbing Fixture Manufacturing |
| 433 | 326199 | All Other Plastics Product Manufacturing |
| 434 | 326211 | Tire Manufacturing (except Retreading) |
| 435 | 326212 | Tire Retreading |
| 436 | 32622 | Rubber and Plastics Hoses and Belting Manufacturing |
| 437 | 326220 | Rubber and Plastics Hoses and Belting Manufacturing |
| 438 | 32629 | Other Rubber Product Manufacturing |
| 439 | 326291 | Rubber Product Manufacturing for Mechanical Use |
| 440 | 326299 | All Other Rubber Product Manufacturing |
| 441 | 327 | Nonmetallic Mineral Product Manufacturing |
| 442 | 3271 | Clay Product and Refractory Manufacturing |
| 443 | 327110 | Pottery, Ceramics, and Plumbing Fixture Manufacturing |
| 444 | 32712 | Clay Building Material and Refractories Manufacturing |
| 445 | 327120 | Clay Building Material and Refractories Manufacturing |
| 446 | 32721 | Glass and Glass Product Manufacturing |
| 447 | 327211 | Flat Glass Manufacturing |
| 448 | 327212 | Other Pressed and Blown Glass and Glassware Manufacturing |
| 449 | 327213 | Glass Container Manufacturing |
| 450 | 327215 | Glass Product Manufacturing Made of Purchased Glass |
| 451 | 3273 | Cement and Concrete Product Manufacturing |
| 452 | 32731 | Cement Manufacturing |
| 453 | 327310 | Cement Manufacturing |
| 454 | 32732 | Ready-Mix Concrete Manufacturing |
| 455 | 327320 | Ready-Mix Concrete Manufacturing |
| 456 | 327331 | Concrete Block and Brick Manufacturing |
| 457 | 327332 | Concrete Pipe Manufacturing |
| 458 | 32739 | Other Concrete Product Manufacturing |
| 459 | 327390 | Other Concrete Product Manufacturing |
| 460 | 3274 | Lime and Gypsum Product Manufacturing |
| 461 | 32741 | Lime Manufacturing |
| 462 | 327410 | Lime Manufacturing |
| 463 | 32742 | Gypsum Product Manufacturing |
| 464 | 327420 | Gypsum Product Manufacturing |
| 465 | 32791 | Abrasive Product Manufacturing |
| 466 | 327910 | Abrasive Product Manufacturing |
| 467 | 32799 | All Other Nonmetallic Mineral Product Manufacturing |
| 468 | 327991 | Cut Stone and Stone Product Manufacturing |
| 469 | 327992 | Ground or Treated Mineral and Earth Manufacturing |
| 470 | 327993 | Mineral Wool Manufacturing |
| 471 | 327999 | All Other Miscellaneous Nonmetallic Mineral Product Manufacturing |
| 472 | 331 | Primary Metal Manufacturing |
| 473 | 33111 | Iron and Steel Mills and Ferroalloy Manufacturing |
| 474 | 331110 | Iron and Steel Mills and Ferroalloy Manufacturing |
| 475 | 3312 | Steel Product Manufacturing from Purchased Steel |
| 476 | 33121 | Iron and Steel Pipe and Tube Manufacturing from Purchased Steel |
| 477 | 331210 | Iron and Steel Pipe and Tube Manufacturing from Purchased Steel |
| 478 | 33122 | Rolling and Drawing of Purchased Steel |
| 479 | 331221 | Rolled Steel Shape Manufacturing |
| 480 | 331222 | Steel Wire Drawing |
| 481 | 3313 | Alumina and Aluminum Production and Processing |
| 482 | 331313 | Alumina Refining and Primary Aluminum Production |
| 483 | 331314 | Secondary Smelting and Alloying of Aluminum |
| 484 | 331315 | Aluminum Sheet, Plate, and Foil Manufacturing |
| 485 | 331318 | Other Aluminum Rolling, Drawing, and Extruding |
| 486 | 331410 | Nonferrous Metal (except Aluminum) Smelting and Refining |
| 487 | 33142 | Copper Rolling, Drawing, Extruding, and Alloying |
| 488 | 331420 | Copper Rolling, Drawing, Extruding, and Alloying |
| 489 | 331491 | Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding |
| 490 | 331492 | Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum) |
| 491 | 33151 | Ferrous Metal Foundries |
| 492 | 331511 | Iron Foundries |
| 493 | 331512 | Steel Investment Foundries |
| 494 | 331513 | Steel Foundries (except Investment) |
| 495 | 33152 | Nonferrous Metal Foundries |
| 496 | 331523 | Nonferrous Metal Die-Casting Foundries |
| 497 | 331524 | Aluminum Foundries (except Die-Casting) |
| 498 | 331529 | Other Nonferrous Metal Foundries (except Die-Casting) |
| 499 | 332 | Fabricated Metal Product Manufacturing |
| 500 | 33211 | Forging and Stamping |
| 501 | 332111 | Iron and Steel Forging |
| 502 | 332112 | Nonferrous Forging |
| 503 | 332114 | Custom Roll Forming |
| 504 | 332117 | Powder Metallurgy Part Manufacturing |
| 505 | 332119 | Metal Crown, Closure, and Other Metal Stamping (except Automotive) |
| 506 | 33221 | Cutlery and Handtool Manufacturing |
| 507 | 332215 | Metal Kitchen Cookware, Utensil, Cutlery, and Flatware (except Precious) Manufacturing |
| 508 | 332216 | Saw Blade and Handtool Manufacturing |
| 509 | 3323 | Architectural and Structural Metals Manufacturing |
| 510 | 33231 | Plate Work and Fabricated Structural Product Manufacturing |
| 511 | 332311 | Prefabricated Metal Building and Component Manufacturing |
| 512 | 332312 | Fabricated Structural Metal Manufacturing |
| 513 | 332313 | Plate Work Manufacturing |
| 514 | 33232 | Ornamental and Architectural Metal Products Manufacturing |
| 515 | 332321 | Metal Window and Door Manufacturing |
| 516 | 332323 | Sheet Metal Work Manufacturing |
| 517 | 332323 | Ornamental and Architectural Metal Work Manufacturing |
| 518 | 3324 | Boiler, Tank, and Shipping Container Manufacturing |
| 519 | 33241 | Power Boiler and Heat Exchanger Manufacturing |
| 520 | 332410 | Power Boiler and Heat Exchanger Manufacturing |
| 521 | 33242 | Metal Tank (Heavy Gauge) Manufacturing |
| 522 | 332420 | Metal Tank (Heavy Gauge) Manufacturing |
| 523 | 33243 | Metal Can, Box, and Other Metal Container (Light Gauge) Manufacturing |
| 524 | 332431 | Metal Can Manufacturing |
| 525 | 332439 | Other Metal Container Manufacturing |
| 526 | 33251 | Hardware Manufacturing |
| 527 | 332510 | Hardware Manufacturing |
| 528 | 332613 | Spring Manufacturing |
| 529 | 332618 | Other Fabricated Wire Product Manufacturing |
| 530 | 33271 | Machine Shops |
| 531 | 332710 | Machine Shops |
| 532 | 33272 | Turned Product and Screw, Nut, and Bolt Manufacturing |
| 533 | 332721 | Precision Turned Product Manufacturing |
| 534 | 332722 | Bolt, Nut, Screw, Rivet, and Washer Manufacturing |
| 535 | 33281 | Coating, Engraving, Heat Treating, and Allied Activities |
| 536 | 332811 | Metal Heat Treating |
| 537 | 332812 | Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers |
| 538 | 332813 | Electroplating, Plating, Polishing, Anodizing, and Coloring |
| 539 | 3329 | Other Fabricated Metal Product Manufacturing |
| 540 | 33291 | Metal Valve Manufacturing |
| 541 | 332911 | Industrial Valve Manufacturing |
| 542 | 332912 | Fluid Power Valve and Hose Fitting Manufacturing |
| 543 | 332913 | Plumbing Fixture Fitting and Trim Manufacturing |
| 544 | 332919 | Other Metal Valve and Pipe Fitting Manufacturing |
| 545 | 33299 | All Other Fabricated Metal Product Manufacturing |
| 546 | 332991 | Ball and Roller Bearing Manufacturing |
| 547 | 332992 | Small Arms Ammunition Manufacturing |
| 548 | 332993 | Ammunition (except Small Arms) Manufacturing |
| 549 | 332994 | Small Arms, Ordnance, and Ordnance Accessories Manufacturing |
| 550 | 332996 | Fabricated Pipe and Pipe Fitting Manufacturing |
| 551 | 332999 | All Other Miscellaneous Fabricated Metal Product Manufacturing |
| 552 | 333 | Machinery Manufacturing |
| 553 | 333111 | Farm Machinery and Equipment Manufacturing |
| 554 | 333112 | Lawn and Garden Tractor and Home Lawn and Garden Equipment Manufacturing |
| 555 | 33312 | Construction Machinery Manufacturing |
| 556 | 333120 | Construction Machinery Manufacturing |
| 557 | 33313 | Mining and Oil and Gas Field Machinery Manufacturing |
| 558 | 333131 | Mining Machinery and Equipment Manufacturing |
| 559 | 333132 | Oil and Gas Field Machinery and Equipment Manufacturing |
| 560 | 3332 | Industrial Machinery Manufacturing |
| 561 | 333241 | Food Product Machinery Manufacturing |
| 562 | 333242 | Semiconductor Machinery Manufacturing |
| 563 | 333243 | Sawmill, Woodworking, and Paper Machinery Manufacturing |
| 564 | 333244 | Printing Machinery and Equipment Manufacturing |
| 565 | 333249 | Other Industrial Machinery Manufacturing |
| 566 | 33331 | Commercial and Service Industry Machinery Manufacturing |
| 567 | 333314 | Optical Instrument and Lens Manufacturing |
| 568 | 333316 | Photographic and Photocopying Equipment Manufacturing |
| 569 | 333318 | Other Commercial and Service Industry Machinery Manufacturing |
| 570 | 33341 | Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing |
| 571 | 333413 | Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing |
| 572 | 333414 | Heating Equipment (except Warm Air Furnaces) Manufacturing |
| 573 | 333415 | Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing |
| 574 | 33351 | Metalworking Machinery Manufacturing |
| 575 | 333511 | Industrial Mold Manufacturing |
| 576 | 333514 | Special Die and Tool, Die Set, Jig, and Fixture Manufacturing |
| 577 | 333515 | Cutting Tool and Machine Tool Accessory Manufacturing |
| 578 | 333517 | Machine Tool Manufacturing |
| 579 | 333519 | Rolling Mill and Other Metalworking Machinery Manufacturing |
| 580 | 3336 | Engine, Turbine, and Power Transmission Equipment Manufacturing |
| 581 | 33361 | Engine, Turbine, and Power Transmission Equipment Manufacturing |
| 582 | 333611 | Turbine and Turbine Generator Set Units Manufacturing |
| 583 | 333612 | Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing |
| 584 | 333613 | Mechanical Power Transmission Equipment Manufacturing |
| 585 | 333618 | Other Engine Equipment Manufacturing |
| 586 | 3339 | Other General Purpose Machinery Manufacturing |
| 587 | 33391 | Pump and Compressor Manufacturing |
| 588 | 333911 | Pump and Pumping Equipment Manufacturing |
| 589 | 333912 | Air and Gas Compressor Manufacturing |
| 590 | 333913 | Measuring and Dispensing Pump Manufacturing |
| 591 | 33392 | Material Handling Equipment Manufacturing |
| 592 | 333921 | Elevator and Moving Stairway Manufacturing |
| 593 | 333922 | Conveyor and Conveying Equipment Manufacturing |
| 594 | 333923 | Overhead Traveling Crane, Hoist, and Monorail System Manufacturing |
| 595 | 333924 | Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing |
| 596 | 33399 | All Other General Purpose Machinery Manufacturing |
| 597 | 333991 | Power-Driven Handtool Manufacturing |
| 598 | 333992 | Welding and Soldering Equipment Manufacturing |
| 599 | 333993 | Packaging Machinery Manufacturing |
| 600 | 333994 | Industrial Process Furnace and Oven Manufacturing |
| 601 | 333995 | Fluid Power Cylinder and Actuator Manufacturing |
| 602 | 333996 | Fluid Power Pump and Motor Manufacturing |
| 603 | 333997 | Scale and Balance Manufacturing |
| 604 | 333999 | All Other Miscellaneous General Purpose Machinery Manufacturing |
| 605 | 334 | Computer and Electronic Product Manufacturing |
| 606 | 3341 | Computer and Peripheral Equipment Manufacturing |
| 607 | 334111 | Electronic Computer Manufacturing |
| 608 | 334112 | Computer Storage Device Manufacturing |
| 609 | 334118 | Computer Terminal and Other Computer Peripheral Equipment Manufacturing |
| 610 | 334210 | Telephone Apparatus Manufacturing |
| 611 | 33422 | Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing |
| 612 | 334220 | Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing |
| 613 | 33429 | Other Communications Equipment Manufacturing |
| 614 | 334290 | Other Communications Equipment Manufacturing |
| 615 | 33431 | Audio and Video Equipment Manufacturing |
| 616 | 334310 | Audio and Video Equipment Manufacturing |
| 617 | 33441 | Semiconductor and Other Electronic Component Manufacturing |
| 618 | 334412 | Bare Printed Circuit Board Manufacturing |
| 619 | 334413 | Semiconductor and Related Device Manufacturing |
| 620 | 334416 | Capacitor, Resistor, Coil, Transformer, and Other Inductor Manufacturing |
| 621 | 334417 | Electronic Connector Manufacturing |
| 622 | 334418 | Printed Circuit Assembly (Electronic Assembly) Manufacturing |
| 623 | 334419 | Other Electronic Component Manufacturing |
| 624 | 33451 | Navigational, Measuring, Electromedical, and Control Instruments Manufacturing |
| 625 | 334510 | Electromedical and Electrotherapeutic Apparatus Manufacturing |
| 626 | 334511 | Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing |
| 627 | 334512 | Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use |
| 628 | 334513 | Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables |
| 629 | 334514 | Totalizing Fluid Meter and Counting Device Manufacturing |
| 630 | 334515 | Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals |
| 631 | 334516 | Analytical Laboratory Instrument Manufacturing |
| 632 | 334517 | Irradiation Apparatus Manufacturing |
| 633 | 334519 | Other Measuring and Controlling Device Manufacturing |
| 634 | 334613 | Blank Magnetic and Optical Recording Media Manufacturing |
| 635 | 334614 | Software and Other Prerecorded Compact Disc, Tape, and Record Reproduction |
| 636 | 33511 | Electric Lamp Bulb and Part Manufacturing |
| 637 | 335110 | Electric Lamp Bulb and Part Manufacturing |
| 638 | 33512 | Lighting Fixture Manufacturing |
| 639 | 335121 | Residential Electric Lighting Fixture Manufacturing |
| 640 | 335122 | Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing |
| 641 | 335129 | Other Lighting Equipment Manufacturing |
| 642 | 335210 | Small Electrical Appliance Manufacturing |
| 643 | 33522 | Major Appliance Manufacturing |
| 644 | 335221 | Household Cooking Appliance Manufacturing |
| 645 | 335222 | Household Refrigerator and Home Freezer Manufacturing |
| 646 | 335224 | Household Laundry Equipment Manufacturing |
| 647 | 335228 | Other Major Household Appliance Manufacturing |
| 648 | 33531 | Electrical Equipment Manufacturing |
| 649 | 335311 | Power, Distribution, and Specialty Transformer Manufacturing |
| 650 | 335312 | Motor and Generator Manufacturing |
| 651 | 335313 | Switchgear and Switchboard Apparatus Manufacturing |
| 652 | 335314 | Relay and Industrial Control Manufacturing |
| 653 | 3359 | Other Electrical Equipment and Component Manufacturing |
| 654 | 33591 | Battery Manufacturing |
| 655 | 335911 | Storage Battery Manufacturing |
| 656 | 335912 | Primary Battery Manufacturing |
| 657 | 33592 | Communication and Energy Wire and Cable Manufacturing |
| 658 | 335921 | Fiber Optic Cable Manufacturing |
| 659 | 335929 | Other Communication and Energy Wire Manufacturing |
| 660 | 335931 | Current-Carrying Wiring Device Manufacturing |
| 661 | 335932 | Noncurrent-Carrying Wiring Device Manufacturing |
| 662 | 33599 | All Other Electrical Equipment and Component Manufacturing |
| 663 | 335991 | Carbon and Graphite Product Manufacturing |
| 664 | 335999 | All Other Miscellaneous Electrical Equipment and Component Manufacturing |
| 665 | 336 | Transportation Equipment Manufacturing |
| 666 | 33611 | Automobile and Light Duty Motor Vehicle Manufacturing |
| 667 | 336111 | Automobile Manufacturing |
| 668 | 336112 | Light Truck and Utility Vehicle Manufacturing |
| 669 | 33612 | Heavy Duty Truck Manufacturing |
| 670 | 336120 | Heavy Duty Truck Manufacturing |
| 671 | 33621 | Motor Vehicle Body and Trailer Manufacturing |
| 672 | 336211 | Motor Vehicle Body and Trailer Manufacturing |
| 673 | 336212 | Truck Trailer Manufacturing |
| 674 | 336213 | Motor Home Manufacturing |
| 675 | 336214 | Travel Trailer and Camper Manufacturing |
| 676 | 3363 | Motor Vehicle Parts Manufacturing |
| 677 | 33631 | Motor Vehicle Gasoline Engine and Engine Parts Manufacturing |
| 678 | 336310 | Motor Vehicle Gasoline Engine and Engine Parts Manufacturing |
| 679 | 336320 | Motor Vehicle Electrical and Electronic Equipment Manufacturing |
| 680 | 33633 | Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing |
| 681 | 336330 | Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing |
| 682 | 33634 | Motor Vehicle Brake System Manufacturing |
| 683 | 336340 | Motor Vehicle Brake System Manufacturing |
| 684 | 33635 | Motor Vehicle Transmission and Power Train Parts Manufacturing |
| 685 | 336350 | Motor Vehicle Transmission and Power Train Parts Manufacturing |
| 686 | 33636 | Motor Vehicle Seating and Interior Trim Manufacturing |
| 687 | 336360 | Motor Vehicle Seating and Interior Trim Manufacturing |
| 688 | 33637 | Motor Vehicle Metal Stamping |
| 689 | 336370 | Motor Vehicle Metal Stamping |
| 690 | 33639 | Other Motor Vehicle Parts Manufacturing |
| 691 | 336390 | Other Motor Vehicle Parts Manufacturing |
| 692 | 33641 | Aerospace Product and Parts Manufacturing |
| 693 | 336411 | Aircraft Manufacturing |
| 694 | 336412 | Aircraft Engine and Engine Parts Manufacturing |
| 695 | 336413 | Other Aircraft Parts and Auxiliary Equipment Manufacturing |
| 696 | 336414 | Guided Missile and Space Vehicle Manufacturing |
| 697 | 336415 | Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing |
| 698 | 336419 | Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing |
| 699 | 3365 | Railroad Rolling Stock Manufacturing |
| 700 | 33651 | Railroad Rolling Stock Manufacturing |
| 701 | 336510 | Railroad Rolling Stock Manufacturing |
| 702 | 3366 | Ship and Boat Building |
| 703 | 33661 | Ship and Boat Building |
| 704 | 336611 | Ship Building and Repairing |
| 705 | 336612 | Boat Building |
| 706 | 33699 | Other Transportation Equipment Manufacturing |
| 707 | 336991 | Motorcycle, Bicycle, and Parts Manufacturing |
| 708 | 336992 | Military Armored Vehicle, Tank, and Tank Component Manufacturing |
| 709 | 336999 | All Other Transportation Equipment Manufacturing |
| 710 | 337 | Furniture and Related Product Manufacturing |
| 711 | 33711 | Wood Kitchen Cabinet and Countertop Manufacturing |
| 712 | 337110 | Wood Kitchen Cabinet and Countertop Manufacturing |
| 713 | 33712 | Household and Institutional Furniture Manufacturing |
| 714 | 337121 | Upholstered Household Furniture Manufacturing |
| 715 | 337122 | Nonupholstered Wood Household Furniture |
| 716 | 337124 | Metal Household Furniture Manufacturing |
| 717 | 337125 | Household Furniture (except Wood and Metal) Manufacturing |
| 718 | 338127 | Institutional Furniture Manufacturing |
| 719 | 33721 | Office Furniture (including Fixtures) Manufacturing |
| 720 | 337211 | Wood Office Furniture Manufacturing |
| 721 | 337212 | Custom Architectural Woodwork and Millwork Manufacturing |
| 722 | 337214 | Office Furniture (except Wood) Manufacturing |
| 723 | 337215 | Showcase, Partition, Shelving, and Locker Manufacturing |
| 724 | 337910 | Mattress Manufacturing |
| 725 | 33792 | Blind and Shade Manufacturing |
| 726 | 337920 | Blind and Shade Manufacturing |
| 727 | 339 | Miscellaneous Manufacturing |
| 728 | 3391 | Medical Equipment and Supplies Manufacturing |
| 729 | 33911 | Medical Equipment and Supplies Manufacturing |
| 730 | 339112 | Surgical and Medical Instrument Manufacturing |
| 731 | 339113 | Surgical Appliance and Supplies Manufacturing |
| 732 | 339114 | Dental Equipment and Supplies Manufacturing |
| 733 | 339115 | Opthalmic Goods Manufacturing |
| 734 | 339116 | Dental Laboratories |
| 735 | 3399 | Other Miscellaneous Manufacturing |
| 736 | 33991 | Jewelry and Silverware Manufacturing |
| 737 | 339910 | Jewelry and Silverware Manufacturing |
| 738 | 33992 | Sporting and Athletic Goods Manufacturing |
| 739 | 339920 | Sporting and Athletic Goods Manufacturing |
| 740 | 33993 | Doll, Toy, and Game Manufacturing |
| 741 | 339930 | Doll, Toy, and Game Manufacturing |
| 742 | 339940 | Office Supplies (except Paper) Manufacturing |
| 743 | 33995 | Sign Manufacturing |
| 744 | 339950 | Sign Manufacturing |
| 745 | 33999 | All Other Miscellaneous Manufacturing |
| 746 | 339991 | Gasket, Packing, and Sealing Device Manufacturing |
| 747 | 339992 | Musical Instrument Manufacturing |
| 748 | 339993 | Fastener, Button, Needle, and Pin Manufacturing |
| 749 | 339994 | Broom, Brush, and Mop Manufacturing |
| 750 | 339995 | Burial Casket Manufacturing |
| 751 | 339999 | All Other Miscellaneous Manufacturing |
| 752 | 42311 | Automobile and Other Motor Vehicle Merchant Wholesalers |
| 753 | 423110 | Automobile and Other Motor Vehicle Merchant Wholesalers |
| 754 | 42312 | Motor Vehicle Supplies and New Parts Merchant Wholesalers |
| 755 | 423120 | Motor Vehicle Supplies and New Parts Merchant Wholesalers |
| 756 | 423130 | Tire and Tube Merchant Wholesalers |
| 757 | 42314 | Motor Vehicle Parts (Used) Merchant Wholesalers |
| 758 | 423140 | Motor Vehicle Parts (Used) Merchant Wholesalers |
| 759 | 423210 | Furniture Merchant Wholesalers |
| 760 | 423220 | Home Furniture Merchant Wholesalers |
| 761 | 4233 | Lumber and Other Construction Materials Merchant Wholesalers |
| 762 | 42331 | Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers |
| 763 | 423310 | Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers |
| 764 | 42332 | Brick, Stone, and Related Constructed Material Merchant Wholesalers |
| 765 | 423320 | Brick, Stone, and Related Constructed Material Merchant Wholesalers |
| 766 | 423330 | Roofing, Siding, and Insulation Material Merchant Wholesalers |
| 767 | 42339 | Other Construction Material Merchant Wholesalers |
| 768 | 423390 | Other Construction Material Merchant Wholesalers |
| 769 | 423420 | Office Equipment Merchant Wholesalers |
| 770 | 423430 | Computer and Computer Peripheral Equipment and Software Merchant Wholesalers |
| 771 | 423440 | Other Commercial Equipment Merchant Wholesalers |
| 772 | 42345 | Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers |
| 773 | 423450 | Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers |
| 774 | 423490 | Other Professional Equipment and Supplies Merchant Wholesalers |
| 775 | 42351 | Metal Service Centers and Other Metal Merchant Wholesalers |
| 776 | 423510 | Metal Service Centers and Other Metal Merchant Wholesalers |
| 777 | 42352 | Coal and Other Mineral and Ore Merchant Wholesalers |
| 778 | 423520 | Coal and Other Mineral and Ore Merchant Wholesalers |
| 779 | 42361 | Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers |
| 780 | 423610 | Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers |
| 781 | 423620 | Household Appliances, Electric Housewares, and Consumer Electronics Merchant Wholesalers |
| 782 | 423690 | Other Electronic Parts and Equipment Merchant Wholesalers |
| 783 | 423720 | Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers |
| 784 | 423730 | Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers |
| 785 | 423740 | Refrigeration Equipment and Supplies Merchant Wholesalers |
| 786 | 42381 | Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers |
| 787 | 423810 | Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers |
| 788 | 423820 | Farm and Garden Machinery and Equipment Merchant Wholesalers |
| 789 | 42383 | Industrial Machinery and Equipment Merchant Wholesalers |
| 790 | 423830 | Industrial Machinery and Equipment Merchant Wholesalers |
| 791 | 42384 | Industrial Supplies Merchant Wholesalers |
| 792 | 423840 | Industrial Supplies Merchant Wholesalers |
| 793 | 423860 | Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers |
| 794 | 423910 | Sporting and Recreational Goods and Supplies Merchant Wholesalers |
| 795 | 42392 | Toy and Hobby Goods and Supplies Merchant Wholesalers |
| 796 | 42393 | Recyclable Material Merchant Wholesalers |
| 797 | 423930 | Recyclable Material Merchant Wholesalers |
| 798 | 423940 | Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers |
| 799 | 42399 | Other Miscellaneous Durable Goods Merchant Wholesalers |
| 800 | 423990 | Other Miscellaneous Durable Goods Merchant Wholesalers |
| 801 | 42411 | Printing and Writing Paper Merchant Wholesalers |
| 802 | 424120 | Stationery and Office Supplies Merchant Wholesalers |
| 803 | 424130 | Industrial and Personal Service Paper Merchant Wholesalers |
| 804 | 424210 | Drugs and Druggists’ Sundries Merchant Wholesalers |
| 805 | 424310 | Piece Goods, Notions, and Other Dry Goods Merchant Wholesalers |
| 806 | 424330 | Women’s, Children’s, and Infants’ Clothing and Accessories Merchant Wholesalers |
| 807 | 42441 | General Line Grocery Merchant Wholesalers |
| 808 | 424410 | General Line Grocery Merchant Wholesalers |
| 809 | 424420 | Packaged Frozen Food Merchant Wholesalers |
| 810 | 424430 | Dairy Product (except Dried or Canned) Merchant Wholesalers |
| 811 | 424440 | Poultry and Poultry Product Merchant Wholesalers |
| 812 | 424460 | Fish and Seafood Merchant Wholesalers |
| 813 | 424470 | Meat and Meat Product Merchant Wholesalers |
| 814 | 424480 | Fresh Fruit and Vegetable Merchant Wholesalers |
| 815 | 424490 | Other Grocery and Related Product Merchant Wholesalers |
| 816 | 42451 | Grain and Field Bean Merchant Wholesalers |
| 817 | 424510 | Grain and Field Bean Merchant Wholesalers |
| 818 | 424520 | Livestock Merchant Wholesalers |
| 819 | 42459 | Other Farm Product Raw Material Merchant Wholesalers |
| 820 | 424590 | Other Farm Product Raw Material Merchant Wholesalers |
| 821 | 4246 | Chemical and Allied Products Merchant Wholesalers |
| 822 | 42461 | Plastics Materials and Basic Forms and Shapes Merchant Wholesalers |
| 823 | 424610 | Plastics Materials and Basic Forms and Shapes Merchant Wholesalers |
| 824 | 42469 | Other Chemical and Allied Products Merchant Wholesalers |
| 825 | 424690 | Other Chemical and Allied Products Merchant Wholesalers |
| 826 | 4247 | Petroleum and Petroleum Products Merchant Wholesalers |
| 827 | 42471 | Petroleum Bulk Stations and Terminals |
| 828 | 424710 | Petroleum Bulk Stations and Terminals |
| 829 | 42472 | Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals) |
| 830 | 424720 | Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals) |
| 831 | 424810 | Beer and Ale Merchant Wholesalers |
| 832 | 424820 | Wine and Distilled Alcoholic Beverage Merchant Wholesalers |
| 833 | 42491 | Farm Supplies Merchant Wholesalers |
| 834 | 424910 | Farm Supplies Merchant Wholesalers |
| 835 | 424920 | Book, Periodical, and Newspaper Merchant Wholesalers |
| 836 | 424930 | Flower, Nursery Stock, and Florists’ Supplies Merchant Wholesalers |
| 837 | 424950 | Paint, Varnish, and Supplies Merchant Wholesalers |
| 838 | 424990 | Other Miscellaneous Nondurable Goods Merchant Wholesalers |
| 839 | 4251 | Wholesale Electronic Markets and Agents and Brokers |
| 840 | 425110 | Business to Business Electronic Markets |
| 841 | 42512 | Wholesale Trade Agents and Brokers |
| 842 | 425120 | Wholesale Trade Agents and Brokers |
| 843 | 44111 | New Car Dealers |
| 844 | 441110 | New Car Dealers |
| 845 | 441120 | Used Car Dealers |
| 846 | 441210 | Recreational Vehicle Dealers |
| 847 | 441222 | Boat Dealers |
| 848 | 441228 | Motorcycle, ATV, and All Other Motor Vehicle Dealers |
| 849 | 44131 | Automotive Parts and Accessories Stores |
| 850 | 441310 | Automotive Parts and Accessories Stores |
| 851 | 441320 | Tire Dealers |
| 852 | 44211 | Furniture Stores |
| 853 | 442110 | Furniture Stores |
| 854 | 442299 | All Other Home Furnishings Stores |
| 855 | 443141 | Household Appliance Stores |
| 856 | 443142 | Electronics Stores |
| 857 | 444 | Building Material and Garden Equipment and Supplies Dealers |
| 858 | 444110 | Home Centers |
| 859 | 444120 | Paint and Wallpaper Stores |
| 860 | 444130 | Hardware Stores |
| 861 | 44419 | Other Building Material Dealers |
| 862 | 444190 | Other Building Material Dealers |
| 863 | 444210 | Outdoor Power Equipment Stores |
| 864 | 44422 | Nursery, Garden Center, and Farm Supply Stores |
| 865 | 444220 | Nursery, Garden Center, and Farm Supply Stores |
| 866 | 44511 | Supermarkets and Other Grocery (except Convenience) Stores |
| 867 | 445110 | Supermarkets and Other Grocery (except Convenience) Stores |
| 868 | 445120 | Convenience Stores |
| 869 | 445291 | Baked Goods Stores |
| 870 | 445292 | Confectionery and Nut Stores |
| 871 | 445299 | All Other Specialty Food Stores |
| 872 | 445310 | Beer, Wine, and Liquor Stores |
| 873 | 446 | Health and Personal Care Stores |
| 874 | 446110 | Pharmacies and Drug Stores |
| 875 | 446120 | Cosmetics, Beauty Supplies, and Perfume Stores |
| 876 | 4471 | Gasoline Stations |
| 877 | 44711 | Gasoline Stations with Convenience Stores |
| 878 | 447110 | Gasoline Stations with Convenience Stores |
| 879 | 44719 | Other Gasoline Stations |
| 880 | 447190 | Other Gasoline Stations |
| 881 | 448120 | Women’s Clothing Stores |
| 882 | 448140 | Family Clothing Stores |
| 883 | 448190 | Other Clothing Stores |
| 884 | 451110 | Sporting Goods Stores |
| 885 | 451120 | Hobby, Toy, and Game Stores |
| 886 | 451140 | Musical Instrument and Supplies Stores |
| 887 | 451212 | News Dealers and Newsstands |
| 888 | 45211 | Department Stores |
| 889 | 452111 | Department Stores (except Discount Department Stores) |
| 890 | 452112 | Discount Department Stores |
| 891 | 4529 | Other General Merchandise Stores |
| 892 | 452910 | Warehouse Clubs and Supercenters |
| 893 | 45299 | All Other General Merchandise Stores |
| 894 | 452990 | All Other General Merchandise Stores |
| 895 | 453210 | Office Supplies and Stationery stores |
| 896 | 453310 | Used Merchandise Stores |
| 897 | 453998 | All Other Miscellaneous Store Retailers (except Tobacco Stores) |
| 898 | 45411 | Electronic Shopping and Mail-Order Houses |
| 899 | 454111 | Electronic Shopping |
| 900 | 45431 | Fuel Dealers |
| 901 | 454310 | Fuel Dealers |
| 902 | 454390 | Other Direct Selling Establishments |
| 903 | 4811 | Scheduled Air Transportation |
| 904 | 48111 | Scheduled Air Transportation |
| 905 | 481111 | Scheduled Passenger Air Transportation |
| 906 | 481112 | Scheduled Freight Air Transportation |
| 907 | 481211 | Nonscheduled Chartered Passenger Air Transportation |
| 908 | 481219 | Other Nonscheduled Air Transportation |
| 909 | 48211 | Rail Transportation |
| 910 | 482111 | Line-Haul Railroads |
| 911 | 482112 | Short Line Railroads |
| 912 | 483111 | Deep Sea Freight Transportation |
| 913 | 483112 | Deep Sea Passenger Transportation |
| 914 | 483113 | Coastal and Great Lakes Freight Transportation |
| 915 | 483114 | Coastal and Great Lakes Passenger Transportation |
| 916 | 483211 | Inland Water Freight Transportation |
| 917 | 484 | Truck Transportation |
| 918 | 48411 | General Freight Trucking, Local |
| 919 | 484110 | General Freight Trucking, Local |
| 920 | 484121 | General Freight Trucking, Long-Distance, Truckload |
| 921 | 484122 | General Freight Trucking, Long-Distance, Less Than Truckload |
| 922 | 484210 | Used Household and Office Goods Moving |
| 923 | 484220 | Specialized Freight (except Used Goods) Trucking, Local |
| 924 | 48423 | Specialized Freight (except Used Goods) Trucking, Long-Distance |
| 925 | 484230 | Specialized Freight (except Used Goods) Trucking, Long-Distance |
| 926 | 485111 | Mixed Mode Transit Systems |
| 927 | 485112 | Commuter Rail Systems |
| 928 | 485113 | Bus and Other Motor Vehicle Transit Systems |
| 929 | 485119 | Other Urban Transit Systems |
| 930 | 485210 | Interurban and Rural Bus Transportation |
| 931 | 485310 | Taxi Service |
| 932 | 485320 | Limousine Service |
| 933 | 485410 | School and Employee Bus Transportation |
| 934 | 485991 | Special Needs Transportation |
| 935 | 485999 | All Other Transit and Ground Passenger Transportation |
| 936 | 48611 | Pipeline Transportation of Crude Oil |
| 937 | 486110 | Pipeline Transportation of Crude Oil |
| 938 | 4862 | Pipeline Transportation of Natural Gas |
| 939 | 48621 | Pipeline Transportation of Natural Gas |
| 940 | 486210 | Pipeline Transportation of Natural Gas |
| 941 | 48691 | Pipeline Transportation of Refined Petroleum Products |
| 942 | 486910 | Pipeline Transportation of Refined Petroleum Products |
| 943 | 48699 | All Other Pipeline Transportation |
| 944 | 486990 | All Other Pipeline Transportation |
| 945 | 48711 | Scenic and Sightseeing Transportation, Land |
| 946 | 487110 | Scenic and Sightseeing Transportation, Land |
| 947 | 488 | Support Activities for Transportation |
| 948 | 48811 | Airport Operations |
| 949 | 488111 | Air Traffic Control |
| 950 | 488119 | Other Airport Operations |
| 951 | 48819 | Other Support Activities for Air Transportation |
| 952 | 488190 | Other Support Activities for Air Transportation |
| 953 | 4882 | Support Activities for Rail Transportation |
| 954 | 48821 | Support Activities for Rail Transportation |
| 955 | 488210 | Support Activities for Rail Transportation |
| 956 | 4883 | Support Activities for Water Transportation |
| 957 | 48831 | Port and Harbor Operations |
| 958 | 488310 | Port and Harbor Operations |
| 959 | 48832 | Marine Cargo Handling |
| 960 | 488320 | Marine Cargo Handling |
| 961 | 48839 | Other Support Activities for Water Transportation |
| 962 | 488390 | Other Support Activities for Water Transportation |
| 963 | 48849 | Other Support Activities for Road Transportation |
| 964 | 488490 | Other Support Activities for Road Transportation |
| 965 | 488510 | Freight Transportation Arrangement |
| 966 | 488991 | Packaging and Crating |
| 967 | 488999 | All Other Support Activities for Transportation |
| 968 | 49111 | Postal Service |
| 969 | 491110 | Postal Service |
| 970 | 49211 | Couriers and Express Delivery Services |
| 971 | 492110 | Couriers and Express Delivery Services |
| 972 | 492210 | Local Messengers and Local Delivery |
| 973 | 493 | Warehousing and Storage |
| 974 | 4931 | Warehousing and Storage |
| 975 | 49311 | General Warehousing and Storage |
| 976 | 493110 | General Warehousing and Storage |
| 977 | 49312 | Refrigerated Warehousing and Storage |
| 978 | 493120 | Refrigerated Warehousing and Storage |
| 979 | 49313 | Farm Product Warehousing and Storage |
| 980 | 493130 | Farm Product Warehousing and Storage |
| 981 | 49319 | Other Warehousing and Storage |
| 982 | 493190 | Other Warehousing and Storage |
| 983 | 51111 | Newspaper Publishers |
| 984 | 511110 | Newspaper Publishers |
| 985 | 51112 | Periodical Publishers |
| 986 | 511120 | Periodical Publishers |
| 987 | 511130 | Book Publishers |
| 988 | 511130 | Book Publishers |
| 989 | 511140 | Directory and Mailing List Publishers |
| 990 | 511191 | Greeting Card Publishers |
| 991 | 511199 | All Other Publishers |
| 992 | 511210 | Software Publishers |
| 993 | 512110 | Motion Picture and Video Production |
| 994 | 512120 | Motion Picture and Video Distribution |
| 995 | 512131 | Motion Picture Theatres (except Drive-Ins) Teleproduction and Other Postproduction Services |
| 996 | 512191 | Teleproduction and Other Postproduction Services |
| 997 | 512199 | Other Motion Picture and Video Industries |
| 998 | 512210 | Record Production |
| 999 | 51222 | Integrated Record Production/Distribution |
| 1000 | 512220 | Integrated record production/Distribution |
| 1001 | 512230 | Music Publishers |
| 1002 | 512290 | Other Sound Recording Industries |
| 1003 | 515111 | Radio Networks |
| 1004 | 515112 | Radio Stations |
| 1005 | 515120 | Television Broadcasting |
| 1006 | 5152 | Cable and Other Subscription Programming |
| 1007 | 515210 | Cable and Other Subscription Programming |
| 1008 | 517 | Telecommunications |
| 1009 | 51711 | Wired Telecommunications Carriers |
| 1010 | 517110 | Wired Telecommunications Carriers |
| 1011 | 517210 | Wireless Telecommunications Carriers (except Satellite) |
| 1012 | 517410 | Satellite Telecommunications |
| 1013 | 517911 | Telecommunications Resellers |
| 1014 | 517919 | All Other Telecommunications |
| 1015 | 51821 | Data Processing, Hosting, and Related Services |
| 1016 | 518210 | Data Processing, Hosting, and Related Services |
| 1017 | 519120 | Libraries and Archives |
| 1018 | 519130 | Internet Publishing and Broadcasting and Web Search Portals |
| 1019 | 51919 | All Other Information Services |
| 1020 | 519190 | All Other Information Services |
| 1021 | 521110 | Monetary Authorities-Central Bank |
| 1022 | 52211 | Commercial Banking |
| 1023 | 522110 | Commercial Banking |
| 1024 | 522120 | Savings Institutions |
| 1025 | 522130 | Credit Unions |
| 1026 | 522210 | Credit Card Issuing |
| 1027 | 522220 | Sales Financing |
| 1028 | 522291 | Consumer Lending |
| 1029 | 522292 | Real Estate Credit |
| 1030 | 522298 | All Other Nondepository Credit Intermediation |
| 1031 | 522310 | Mortgage and Nonmortgage Loan Brokers |
| 1032 | 522320 | Financial Transactions Processing, Reserve, and Clearinghouse Activities |
| 1033 | 523110 | Investment Banking and Securities Dealing |
| 1034 | 523120 | Securities Brokerage |
| 1035 | 523130 | Commodity Contracts Dealing |
| 1036 | 523210 | Securities and Commodity Exchanges |
| 1037 | 523910 | Miscellaneous Intermediation |
| 1038 | 523930 | Portfolio Management |
| 1039 | 523930 | Investment Advice |
| 1040 | 523991 | Trust, Fiduciary, and Custody Activities |
| 1041 | 523999 | Miscellaneous Carriers and Related Activities |
| 1042 | 524 | Insurance Carriers and Related Activities |
| 1043 | 524113 | Direct Life Insurance Carriers |
| 1044 | 524114 | Direct Health and Casualty Insurance Carriers |
| 1045 | 524126 | Direct Property and Casualty Insurance Carriers |
| 1046 | 524128 | Other Direct Insurance (except Life, Health, and Medical) Carriers |
| 1047 | 524210 | Insurance Agencies and Brokerages |
| 1048 | 524291 | Claims Adjusting |
| 1049 | 524298 | All Other Insurance Related Activities |
| 1050 | 525110 | Pension Funds |
| 1051 | 525190 | Other Insurance Funds |
| 1052 | 525910 | Open-End Investment Funds |
| 1053 | 525920 | Trusts, Estates, and Agency Accounts |
| 1054 | 525990 | Other Financial Vehicles |
| 1055 | 531 | Real Estate |
| 1056 | 53111 | Lessors of Residential Buildings and Dwellings |
| 1057 | 531110 | Lessors of Residential Buildings and Dwellings |
| 1058 | 53112 | Lessors of Nonresidential Buildings (except Miniwarehouses) |
| 1059 | 531120 | Lessors of Nonresidential Buildings (except Miniwarehouses) |
| 1060 | 531130 | Lessors of Miniwarehouses and Self-Storage Units |
| 1061 | 531190 | Lessors of Other Real Estate Property |
| 1062 | 53121 | Offices of Real Estate Agents and Brokers |
| 1063 | 531210 | Offices of Real Estate Agents and Brokers |
| 1064 | 53131 | Real Estate Property Managers |
| 1065 | 531311 | Residential Property Managers |
| 1066 | 531312 | Nonresidential Property Managers |
| 1067 | 531390 | Other Activities Related to Real Estate |
| 1068 | 532111 | Passenger Car Rental |
| 1069 | 532112 | Passenger Car Leasing |
| 1070 | 532120 | Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing |
| 1071 | 532210 | Consumer Electronics and Appliances Rental |
| 1072 | 532299 | All Other Consumer Goods Rental |
| 1073 | 532310 | General Rental Centers |
| 1074 | 532411 | Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing |
| 1075 | 532412 | Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing |
| 1076 | 532490 | Other Commercial and Industrial Machinery and Equipment Rental and Leasing |
| 1077 | 533110 | Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) |
| 1078 | 541 | Professional, Scientific, and Technical Services |
| 1079 | 541110 | Offices of Lawyers |
| 1080 | 541191 | Title Abstract and Settlement Offices |
| 1081 | 541219 | Other Accounting Services |
| 1082 | 541310 | Architectural Services |
| 1083 | 541320 | Landscape Architectural Services |
| 1084 | 541330 | Engineering Services |
| 1085 | 541360 | Geophysical Surveying and Mapping Services |
| 1086 | 54137 | Surveying and Mapping (except Geophysical) Services |
| 1087 | 54138 | Testing Laboratories |
| 1088 | 541380 | Testing Laboratories |
| 1089 | 541430 | Graphic Design Services |
| 1090 | 541490 | Other Specialized Design Services |
| 1091 | 541511 | Custom Computer Programming Services |
| 1092 | 541512 | Computer Systems Design Services |
| 1093 | 541513 | Computer Facilities Management Services |
| 1094 | 541519 | Other Computer Related Services |
| 1095 | 5416 | Management, Scientific, and Technical Consulting Services |
| 1096 | 541611 | Administrative Management and General Management Consulting Services |
| 1097 | 541612 | Human Resources Consulting Services |
| 1098 | 541613 | Marketing Consulting Services |
| 1099 | 541614 | Process, Physical Distribution, and Logistics Consulting Services |
| 1100 | 541618 | Other Management Consulting Services |
| 1101 | 541620 | Environmental Consulting Services |
| 1102 | 541690 | Other Scientific and Technical Consulting Services |
| 1103 | 5417 | Scientific Research and Development Services |
| 1104 | 54171 | Research and Development in the Physical, Engineering, and Life Sciences |
| 1105 | 541711 | Research and Development in Biotechnology |
| 1106 | 541712 | Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology) |
| 1107 | 541720 | Research and Development in the Social Sciences and Humanities |
| 1108 | 541810 | Advertising Agencies |
| 1109 | 541850 | Outdoor Advertising |
| 1110 | 541860 | Direct Mail Advertising |
| 1111 | 541890 | Other Services Related to Advertising |
| 1112 | 54191 | Marketing Research and Public Opinion Polling |
| 1113 | 541922 | Commercial Photography |
| 1114 | 54194 | Veterinary Services |
| 1115 | 541940 | Veterinary Services |
| 1116 | 54199 | All Other Professional, Scientific, and Technical Services |
| 1117 | 541990 | All Other Professional, Scientific, and Technical Services |
| 1118 | 551 | Management of Companies and Enterprises |
| 1119 | 551111 | Offices of Bank Holding Companies |
| 1120 | 551112 | Offices of Other Holding Companies |
| 1121 | 551114 | Corporate, Subsidiary, and Regional Managing Offices |
| 1122 | 56111 | Office Administrative Services |
| 1123 | 561110 | Office Administrative Services |
| 1124 | 56121 | Facilities Support Services |
| 1125 | 561210 | Facilities Support Services |
| 1126 | 5614 | Business Support Services |
| 1127 | 561499 | All Other Business Support Services |
| 1128 | 561591 | Convention and Visitors Bureaus |
| 1129 | 561599 | All Other Travel Arrangement and Reservation Services |
| 1130 | 561611 | Investigation Services |
| 1131 | 561612 | Security Guards and Patrol Services |
| 1132 | 561621 | Security Systems Services (except Locksmiths) |
| 1133 | 56171 | Exterminating and Pest Control Services |
| 1134 | 561710 | Exterminating and Pest Control Services |
| 1135 | 561720 | Janitorial Services |
| 1136 | 56173 | Landscaping Services |
| 1137 | 561730 | Landscaping Services |
| 1138 | 561740 | Carpet and Upholstery Cleaning Services |
| 1139 | 561790 | Other Services to Buildings and Dwellings |
| 1140 | 5619 | Other Support Services |
| 1141 | 561910 | Packaging and Labeling Services |
| 1142 | 56199 | All Other Support Services |
| 1143 | 561990 | All Other Support Services |
| 1144 | 562 | Waste Management and remediation Services |
| 1145 | 56211 | Waste Collection |
| 1146 | 562111 | Solid Waste Collection |
| 1147 | 562112 | Hazardous Waste Collection |
| 1148 | 562119 | Other Waste Collection |
| 1149 | 56221 | Waste Treatment and Disposal |
| 1150 | 562211 | Hazardous Waste Treatment and Disposal |
| 1151 | 562212 | Solid Waste Landfill |
| 1152 | 562213 | Solid Waste Combustors and Incinerators |
| 1153 | 562219 | Other Nonhazardous Waste Treatment and Disposal |
| 1154 | 5629 | Remediation and Other Waste Management Services |
| 1155 | 56291 | Remediation Services |
| 1156 | 562910 | Remediation Services |
| 1157 | 56292 | Materials Recovery Facilities |
| 1158 | 562920 | Materials Recovery Facilities |
| 1159 | 56299 | All Other Waste Management Services |
| 1160 | 562991 | Septic Tank and Related Services |
| 1161 | 562998 | All Other Miscellaneous Waste Management Services |
| 1162 | 61111 | Elementary and Secondary Schools |
| 1163 | 611110 | Elementary and Secondary Schools |
| 1164 | 61121 | Junior Colleges |
| 1165 | 611210 | Junior Colleges |
| 1166 | 6113 | Colleges, Universities, and Professional Schools |
| 1167 | 61131 | Colleges, Universities, and Professional Schools |
| 1168 | 611310 | Colleges, Universities, and Professional Schools |
| 1169 | 611410 | Business and Secretarial Schools |
| 1170 | 611430 | Professional and Management Development Training |
| 1171 | 6115 | Technical and Trade Schools |
| 1172 | 611512 | Flight Training |
| 1173 | 611513 | Apprenticeship Training |
| 1174 | 611519 | Other Technical and Trade Schools |
| 1175 | 611630 | Language Schools |
| 1176 | 611699 | All Other Miscellaneous Schools and Instruction |
| 1177 | 611710 | Educational Support Services |
| 1178 | 62111 | Offices of Physicians |
| 1179 | 621111 | Offices of Physicians (except Mental Health Specialists) |
| 1180 | 621112 | Offices of Physicians, Mental Health Specialists |
| 1181 | 621210 | Offices of Dentists |
| 1182 | 621330 | Offices of Optometrists |
| 1183 | 621340 | Offices of Physical, Occupational and Speech Therapists, and Audiologists |
| 1184 | 621399 | Offices in All Other Miscellaneous Health Practitioners |
| 1185 | 621410 | Family Planning Centers |
| 1186 | 621491 | HMO Medical Centers |
| 1187 | 621492 | Kidney Dialysis Centers |
| 1188 | 621493 | Freestanding Ambulatory Surgical and Emergency Centers |
| 1189 | 621498 | All Other Outpatient Care Centers |
| 1190 | 62151 | Medical and Diagnostic Laboratories |
| 1191 | 621511 | Medical Laboratories |
| 1192 | 621512 | Diagnostic Imaging Centers |
| 1193 | 621610 | Home Health Care Services |
| 1194 | 622 | Hospitals |
| 1195 | 62211 | General Medical and Surgical Hospitals |
| 1196 | 622110 | General Medical and Surgical Hospitals |
| 1197 | 62221 | Psychiatric and Substances Abuse Hospitals |
| 1198 | 622210 | Psychiatric and Substances Abuse Hospitals |
| 1199 | 622310 | Specialty (except Psychiatric and Substance Abuse) Hospitals |
| 1200 | 623 | Nursing and Residential Care Facilities |
| 1201 | 62311 | Nursing Care Facilities (Skilled Nursing Facilities) |
| 1202 | 623110 | Nursing Care Facilities (Skilled Nursing Facilities) |
| 1203 | 623210 | Residential Intellectual and Developmental Disability Facilities |
| 1204 | 62322 | Residential Mental Health and Substance Abuse Facilities |
| 1205 | 623220 | Residential Mental Health and Substance Abuse Facilities |
| 1206 | 623311 | Continuing Care Retirement Communities |
| 1207 | 623312 | Assisted Living Facilities for the Elderly |
| 1208 | 62399 | Other Residential Care Facilities |
| 1209 | 623990 | Other Residential Care Facilities |
| 1210 | 624110 | Child and Youth Services |
| 1211 | 624120 | Services for the Elderly and Persons with Disabilities |
| 1212 | 623190 | Other Individual and Family Services |
| 1213 | 624210 | Community Food Services |
| 1214 | 62422 | Community Housing Services |
| 1215 | 62423 | Emergency and Other Relief Services |
| 1216 | 624230 | Emergency and Other Relief Services |
| 1217 | 62431 | Vocational Rehabilitation Services |
| 1218 | 624310 | Vocational Rehabilitation Services |
| 1219 | 711110 | Theater Companies and Dinner Theaters |
| 1220 | 711130 | Musical Groups and Artists |
| 1221 | 711211 | Sports Teams and Clubs |
| 1222 | 711212 | Racetracks |
| 1223 | 711310 | Promoters of Performing Arts, Sports, and Similar Events with Facilities |
| 1224 | 711510 | Independent Artists, Writers, and Performers |
| 1225 | 712110 | Museums |
| 1226 | 71212 | Historical Sites |
| 1227 | 71213 | Zoos and Botanical Gardens |
| 1228 | 712130 | Zoos and Botanical Gardens |
| 1229 | 712190 | Nature Parks and Other Similar Institutions |
| 1230 | 713110 | Amusement and Theme Parks |
| 1231 | 71321 | Casinos (except Casino Hotels) |
| 1232 | 713210 | Casinos (except Casino Hotels) |
| 1233 | 713910 | Golf Courses and Country Clubs |
| 1234 | 713920 | Skiing Facilities |
| 1235 | 713930 | Marinas |
| 1236 | 71394 | Fitness and Recreational Sports Centers |
| 1237 | 713940 | Fitness and Recreational Sports Centers |
| 1238 | 713990 | All Other Amusement and Recreation Industries |
| 1239 | 7211 | Traveler Accommodation |
| 1240 | 72111 | Hotels (except Casino Hotels) and Motels |
| 1241 | 721110 | Hotels (except Casino Hotels) and Motels |
| 1242 | 721120 | Casino Hotels |
| 1243 | 721191 | Bed-and-Breakfast Inns |
| 1244 | 721199 | All Other Traveler Accommodation |
| 1245 | 721211 | RV (Recreational Vehicle) Parks and Campgrounds |
| 1246 | 721214 | Recreational and Vacation Camps (except Campgrounds) |
| 1247 | 721310 | Rooming and Boarding Houses |
| 1248 | 722310 | Food Service Contractors |
| 1249 | 722330 | Mobile Food Services |
| 1250 | 722410 | Drinking Places (Alcoholic Beverages) |
| 1251 | 722511 | Full-Service Restaurants |
| 1252 | 722513 | Limited-Service Restaurants |
| 1253 | 811111 | General Automotive Repair |
| 1254 | 811112 | Automotive Exhaust System Repair |
| 1255 | 811113 | Automotive Transmission Repair |
| 1256 | 811118 | Other Automotive Mechanical and Electrical Repair and Maintenance |
| 1257 | 811121 | Automotive Body, Paint, and Interior Repair and Maintenance |
| 1258 | 811122 | Automotive Glass Replacement Shops |
| 1259 | 811192 | Car Washes |
| 1260 | 811198 | All Other Automotive Repair and Maintenance |
| 1261 | 81121 | Electronic and Precision Equipment Repair and Maintenance |
| 1262 | 811211 | Consumer Electronic Repair and Maintenance |
| 1263 | 811212 | Computer and Office Machine Repair and Maintenance |
| 1264 | 811219 | Other Electronic and Precision Equipment Repair and Maintenance |
| 1265 | 81131 | Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance |
| 1266 | 811310 | Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance |
| 1267 | 811412 | Appliance Repair and Maintenance |
| 1268 | 811420 | Reupholestry and Furniture Repair |
| 1269 | 81149 | Other Personal and Household Goods Repair and Maintenance |
| 1270 | 811490 | Other Personal and Household Goods Repair and Maintenance |
| 1271 | 8122 | Death Care Services |
| 1272 | 81221 | Funeral Homes and Funeral Services |
| 1273 | 812210 | Funeral Homes and Funeral Services |
| 1274 | 81222 | Cemeteries and Crematories |
| 1275 | 812220 | Cemeteries and Crematories |
| 1276 | 8123 | Drycleaning and Laundry Services |
| 1277 | 81231 | Coin-Operated Laundries and Drycleaners |
| 1278 | 812310 | Coin-Operated Laundries and Drycleaners |
| 1279 | 81232 | Drycleaning and Laundry Services (except Coin-Operated) |
| 1280 | 812320 | Drycleaning and Laundry Services (except Coin-Operated) |
| 1281 | 81233 | Linen and Uniform Supply |
| 1282 | 812331 | Linen Supply |
| 1283 | 812332 | Industrial Launderers |
| 1284 | 812910 | Pet Care (except Veterinary) Services |
| 1285 | 812921 | Photofinishing Laboratories (except One-Hour) |
| 1286 | 812930 | Parking Lots and Garages |
| 1287 | 81299 | All Other Personal Services |
| 1288 | 812990 | All Other Personal Services |
| 1289 | 81311 | Religious Organizations |
| 1290 | 813110 | Religious Organizations |
| 1291 | 813211 | Grantmaking Foundations |
| 1292 | 813212 | Voluntary Health Organizations |
| 1293 | 813312 | Environment, Conservation and Wildlife Organizations |
| 1294 | 813319 | Other Social Advocacy Organizations |
| 1295 | 813410 | Civic and Social Organizations |
| 1296 | 813910 | Business Associations |
| 1297 | 813920 | Professional Organizations |
| 1298 | 813930 | Labor Unions and Similar Labor Organizations |
| 1299 | 813990 | Other Similar Organizations (except Business, Professional, Labor, and Political Organizations) |
| 1300 | 814110 | Private Households |
| 1301 | 92111 | Executive Offices |
| 1302 | 921110 | Executive Offices |
| 1303 | 921120 | Legislative Bodies |
| 1304 | 92113 | Public Finance Activities |
| 1305 | 921130 | Public Finance Activities |
| 1306 | 921140 | Executive and Legislative Offices, Combined |
| 1307 | 92119 | Other General Government Support |
| 1308 | 921190 | Other General Government Support |
| 1309 | 922110 | Courts |
| 1310 | 92212 | Police Protection |
| 1311 | 922120 | Police Protection |
| 1312 | 922130 | Legal Counsel and Prosecution |
| 1313 | 92214 | Correctional Institutions |
| 1314 | 922140 | Correctional Institutions |
| 1315 | 922150 | Parole Offices and Probation Offices |
| 1316 | 922160 | Fire Protection |
| 1317 | 92219 | Other Justice, Public Order, and Safety Activities |
| 1318 | 922190 | Other Justice, Public Order, and Safety Activities |
| 1319 | 923110 | Administrative of Educational Programs |
| 1320 | 923120 | Administrative of Public Health Programs |
| 1321 | 923130 | Administration of Human Resource Program (except Education, Public Health, and Veterans’ Affairs Programs) |
| 1322 | 923140 | Administration of Veterans’ Affairs |
| 1323 | 92411 | Administration of Air and Water Resource and Solid Waste Management Programs |
| 1324 | 924110 | Administration of Air and Water Resource and Solid Waste Management Programs |
| 1325 | 924120 | Administration of Conservation Programs |
| 1326 | 925110 | Administration of Housing Programs |
| 1327 | 925120 | Administration of Urban Planning and Community and Rural Development |
| 1328 | 926110 | Administration of General Economic Programs |
| 1329 | 92612 | Regulation and Administration of Transportation Programs |
| 1330 | 926120 | Regulation and Administration of Transportation Programs |
| 1331 | 926130 | Regulation and Administration of Communications, Electric, Gas, and Other Utilities |
| 1332 | 926140 | Regulation of Agricultural Marketing and Commodities |
| 1333 | 926150 | Regulation, Licensing, and Inspection of Miscellaneous Commercial Sectors |
| 1334 | 927110 | Space Research and Technology |
| 1335 | 92811 | National Security |
| 1336 | 928110 | National Security |
| 1337 | 928120 | International Affairs |
| 1338 | 999 | No info available to specify |

### NRA\_SR\_TYPES

Description: list of threshold sensitive receptor types

Table 110: Description of fields in the sensitive receptor types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| SR\_TYPE | Yes | VC(50) | Primary Key; unique sensitive receptor type |

Available sensitive receptor types:

* AIR CHEMSITRY
* ALPINE VEGETATION
* ANIMAL TISSUES
* APACHE TROUT
* AQUATIC BIOTA
* AQUATIC ORGANISMS
* AQUATIC VEGETATION
* ARIZONA WILLOW
* ASH
* ASPEN
* BROOK TROUT
* CERAMIC ARTIFACTS
* CHOKECHERRY
* CIRQUE LAKES
* CLOUD WATER
* CONIFEROUS FORESTS
* CONIFERES
* CORNBARK FIR
* GODDINGS ONION
* GRAPE
* HARDWOODS
* HEADWATER SYSTEMS
* HERBACEOUS PLANTS
* HIGH ELEVATION SOILS
* INTEGRAL VISTAS
* INTERNAL VISTAS
* JEFFREY PINE
* JEMEZ MOUNTAIN SALAMANDER
* KHRUMHOLTZ ECOTONE
* LAKES WITH LOW ANC
* LEOPARD FROGS
* LICHENS
* LIMBER PINE
* LODGEPOLE PINE
* MICROINVERTEBRATES
* MILKWEED
* MIXED CONIFER/PONDEROSA PINE
* MOSSES
* OZONE SENSITIVE SPECIES
* PEREGRINE FALCON HABITAT
* PERENNIAL LAKES AND STREAMS
* PERENNIAL STREAMS
* PERENNIAL WATERS
* PERIPHYTON
* PETROGLYPHS
* PHYTOPLANKTON
* PICTOGRAPHS
* PONDEROSA PINE
* PREHISTORIC AND HISTORIC STRUCTURES
* REPRESENTATIVE SITE
* RHUS
* RIPARIAN DEPENDANT T & E SPECIES
* RIPARIAN DEPOSITION SENSITIVE SPECIES
* RIPARIAN OZONE SENSITIVE SPECIES
* RIPARIAN VASCULAR PLANTS
* SCENIC VISTAS
* SENSITIVE FISH SPECIES
* SENSITIVE SOILS
* SHRUBS
* SIERRA BLANCA CINQUEFOIL
* SOILS
* STREAMS
* SYCAMORE
* T & E ANIMAL SPECIES
* T & E AQUATIC SPECIES
* T & E PLANT SPECIES
* TEMPORARY WATER DEPENDANT SENSITIVE SPECIES
* TEMPORARY WATER DEPENDANT T & E SPECIES
* TEMPORARY WATERS
* TIGER SALAMANDERS
* TREE RINGS
* UPLAND ASPEN
* UPLAND GAMBEL OAK
* UPLAND MAPLE/NEW MEXICO LOCUST
* WATER CHEMISTRY
* WATER DEPENDANT SENSITIVE SPECIES
* WATER QUALITY
* WATERS WITH LOW ANC
* WESTERN WHITE PINE
* WILDERNESS USERS
* WINTER ANNUALS
* ZOOPLANKTON

### NRA\_SOURCE\_PERMIT\_TYPES

Description: list of source permit types

Table 111: Description of fields in the source permit types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SRC\_PERMIT\_TYPE | Yes | VC(60) | Primary Key; unique source permit type |
| SRC\_PERMIT\_DESC | No | VC(250) | Description of each source permit type, if available |

Table 112: List of source permit types

| **Source Permit Type** | **Description** |
| --- | --- |
| new | New permit |
| modified | Modified permit |
| retrofit | Retrofit permit |
| nepa | National Environmental Policy Act |
| OPerating | Operating permit |
| other | Other source permit type |

### NRA\_SOURCE\_RESPONSE\_REMARK\_TYPES

Description: list of source permit response remark types

Table 113: Description of fields in the source response remark types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_RMRK\_TYPE | Yes | VC(60) | Primary Key; type of source remark |
| SOURCE\_RMRK\_DESC | No | VC(240) | Description of source permit response remark, if available |

Table 114: List of available source response remark types

| **Source Response Remark Type** | **Description** |
| --- | --- |
| ACCEPT | Accept |
| AGREE | Agree |
| DISAGREE | Disagree |
| INFOREQ | Need more information |
| REJECT | Reject |
| UNKNOWN | Unknown |
| YES | Yes |

### NRA\_SRI\_TYPES

Description: list of threshold sensitive receptor indicator (SRI) types

Table 115: Description of fields in the sensitive receptor indicator types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| SRI\_TYPE | Yes | VC(50) | Primary Key; unique sensitive receptor indicator type |

Available sensitive receptor indicator types:

* ABSOLUTE CONTRAST
* ABUNDANCE
* ACID NEUTRALIZING CAPACITY
* AIR QUALITY STANDARDS
* ALUMINUM
* ALUMINUM EXTRACTABLE
* ANIONS
* ANNUAL GROWTH
* BASE CATIONS
* BASE SATURATION
* BIOMASS
* BIOMASS REDUCTION
* BIOTIC CONDITION INDEX
* CALCIUM
* CATION EXCHANGE CAPACITY
* CATIONS
* CHEMISTRY
* CHLORIDE
* CHLOROTIC MOTTLE
* CHRONIC ACID NEUTRALIZING CAPACITY
* CHRONIC PH
* COLOR
* COLOR DIFFERENCE INDEX
* COMMUNITY ANALYSIS
* COMMUNITY COMPOSITION
* CONDUCTIVITY
* CONIFER NEEDLE LONGEVITY
* CONTRAST
* DECOMPOSITION RATE
* DENSITY
* DISTRIBUTION
* DIVERSITY
* ELEVATIONAL CHANGE
* EPISODIC ACID NEUTRALIZING CAPACITY
* EPISODIC PH
* FOLIAGE LENGTH
* FOLIAR DAMAGE
* FOLIAR INJURY
* FOLIAR RESPONSE
* FOLIAR SYMPTOMS
* GROWTH RATE
* HAZINESS
* INDIVIDUALS/AGE CLASS
* INTERMEDIATE SPECIES
* ISOLATION
* LIGHT EXTINCTION
* LIVE CROWN RATIO
* LOSS OF SENSITIVE SPECIES
* METAL CONCENTRATION (CU, PB, AS, SE, ZN, HG, CD)
* METAL CONCENTRATION (CU, PB, AS, SE, ZN, NI)
* METALS (HG) CONCENTRATION
* MORPHOLOGY
* MORTALITY
* NATURAL VISIBILITY
* NEEDLE AGE
* NEEDLE LONGEVITY
* NEEDLE RETENTION
* NITRATE
* NITROGEN
* NITROGEN DEPOSITION
* NON-TOXIC METAL CONCENTRATION
* NONE
* PH
* PHYSICAL DAMAGE
* PHYSIOLOGY
* POLLUTION SENSITIVE SPECIES
* PRESENCE/ABSENCE
* REGULATED CONSTITUENTS
* REPRODUCTIVE SUCCESS
* SENSITIVE SPECIES
* SOIL CHEMISTRY
* SOIL DEPTH
* SOIL WATER PH
* SPECIES COMPOSITION
* STANDARD VISUAL RANGE
* SULFATE
* SULFATE ADSORPTION CAPACITY
* TISSUE CHEMICAL ANALYSIS
* TOLERANT SPECIES
* TOLERANT TAXA
* TOTAL DISSOLVED NITROGEN
* TOXIC METAL CONCENTRATION
* TRACE METALS
* TREE RING WIDTH
* UNNATURAL ODORS
* UNNATURAL SOUNDS
* WATER CLARITY

### NRA\_STATES

Description: list of states

Table 116: Description of fields in the states table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| STATE\_ABBV | Yes | VC(2) | Abbreviation for each state name |
| STATE\_NAME | Yes | VC(40) | Primary Key; unique state name |

Available states:

* ALABAMA
* ALASKA
* ALBERTA
* AMERICAN SAMOA
* AQUASCALIENTES
* ARIZONA
* ARKANSAS
* BAJA CALIFORNIA
* BAJA CALIFORNIA SUR
* BRITISH COLUMBIA
* CALIFORNIA
* CAMPECHE
* CHIAPAS
* CHIHUAHUA
* COAHUILA
* COLIMA
* COLORADO
* CONNECTICUT
* DELAWARE
* DISTRICT OF COLUMBIA
* DISTRITO FEDERAL
* DURANGO
* FEDERATED STATES OF MICRONESIA
* FLORIDA
* GEORGIA
* GUAM
* GUANAJUANTO
* GUERRERO
* HAWAII
* HIDALGO
* IDAHO
* ILLINOIS
* INDIANA
* IOWA
* JALISCO
* KANSAS
* KENTUCKY
* LOUISIANA
* MAINE
* MANITOBA
* MARSHALL ISLANDS
* MARYLAND
* MASSACHUSETTS
* MEXICO
* MICHIGAN
* MICHOACAN
* MINNESOTA
* MISSISSIPPI
* MISSOURI
* MONTANA
* MORELOS
* NAYARIT
* NEBRASKA
* NEVADA
* NEW BRUNSWICK
* NEW HAMPSHIRE
* NEW JERSEY
* NEW MEXICO
* NEW YORK
* NEWFOUNDLAND
* NORTH CAROLINA
* NORTH DAKOTA
* NORTHERN MARIANA ISLANDS
* NORTHWEST TERRITORIES
* NOVA SCOTIA
* NUEVO LEON
* NUNAVUT
* OAZACA
* OHIO
* OKLAHOMA
* ONTARIO
* OREGON
* PALAU
* PENNSYLVANIA
* PRINCE EDWARD ISLAND
* PUEBLA
* PUERTO RICO
* QUEBEC
* QUERETARO
* QUINTANA ROO
* RHODE ISLAND
* SAN LUIS POTOSI
* SASKATCHEWAN
* SINALOA
* SONORA
* SOUTH CAROLINA
* SOUTH DAKOTA
* TABASCO
* TAMAULIPAS
* TENNESSEE
* TEXAS
* TLAXCALA
* U.S. MINOR OUTLYING ISLANDS
* UTAH
* VERACRUZ
* VERMONT
* VIRGIN ISLANDS OF THE U.S.
* VIRGINIA
* WASHINGTON
* WEST VIRGINIA
* WISCONSIN
* WYOMING
* YUCATAN
* YUKON
* ZACATECAS

### NRA\_STREAM\_STAGE\_TYPES

Description: list of fixed equipment site land use types

Table 117: Description of fields in the stream stage types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| STREAM\_STAGE\_TYPE | Yes | VC(10) | Primary Key; monitoring visit stream stage type |
| DESCRIPTION | No | VC(150) | Description of each monitoring stream stage type, if available |

Table 118: List of available stream stage types

| **Stream Stage Type** | **Description** |
| --- | --- |
| BASEFLOW | Water flow condition when surface runoff or response to precipitation or snowmelt is largely absent |
| FALLING | Water level condition – decreasing water level during survey |
| PEAK | Water flow condition in response to surface runoff, precipitation, or snowmelt that is at the highest level for the runoff event |
| RISING | Water level condition – increasing water level during survey |
| STEADY | Water level condition – no change in water level during survey |

### NRA\_SUBSOURCE\_TYPES

Description: list of collection depth types for the monitoring water samples

Table 119: Description of fields in the subsource types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COMPONENT\_STACK\_TYPE | Yes | VC(30) | Stack or component |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| COMPONENT\_DESC | No | VC(100) | Description of component |

Available subsource types:

* EMISSION
* COMPONENT
* STACK

### NRA\_TECHNOLOGY\_TYPES

Description: list of source permit emission technology types

Table 120: Description of fields in the technology types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| TECHNOLOGY\_TYPE | Yes | VC(30) | Primary Key; unique source permit emission technology type |
| TECHNOLOGY\_DESC | No | VC(240) | Description of each source permit technology type, if available |

Table 121: List of available technology types

| **Technology Type** | **Description** |
| --- | --- |
| aftburn | Afterburner |
| alkflyscrb | Alkaline fly ash scrubbing |
| aofa | Advanced overfire air |
| baghs | Baghouse |
| biotreat | Biotreatment |
| boiler | Boiler |
| carinj | Carbon injection |
| catconv | Catalytic converter |
| catinc | Catalytic incinerator |
| catox | Catalytic oxidation |
| catred | Catalytic reduction |
| causscrb | Caustic scrubber |
| cemstar | Cemstar |
| clburn | Clean burn |
| condens | Condenser |
| control | Control |
| cpb | Crossflow packed bed |
| cychigh | Centrifugal collector (cyclone) – high efficiency |
| cyclone | Cyclone |
| cycmed | Cyclone/mechanical collector |
| cycmed | Centrifugal collector (cyclone) – medium efficiency |
| dalkscrb | Dual alkali scrubbing |
| demist | Demister |
| desp | Dry electrostatic precipitator |
| dfgd | Dry flue gas desulfurization |
| dirflm | Direct flame afterburner |
| dl\_nox\_brn | Dry low nox burners |
| drylime | Dry limestone injection |
| dryscrb | Dry scrubber |
| drysorb | Dry sorbent injection |
| efb | Electrified filter bed |
| esp | Electrostatic precipitator |
| esphi | Electrostatic precipitator – high efficiency |
| espmed | Electrostatic precipitator – medium efficiency |
| fbds | Fluid bed dry scrubber |
| ff | Fabric filter |
| ffbh | Fabric filter/baghouse |
| fflt | Fabric filter – low temperature, i.e., T<180F |
| ffmt | Fabric filter – medium temperature, i.e., 180F<T<250F |
| fibmstelim | Fiber mist eliminator |
| flare | Flare |
| flbedscrb | Floating bed scrubber |
| flugasrec | Flue gas recirculation |
| frd | Freeboard refrigeration device |
| fuelsub | Fuel switching/substitution |
| gasscrb | Gas scrubber (general, not classified) |
| gdcomctl | Good combustion controls |
| gravbed | Gravel bed filter |
| gravcolle | Gravity collector – low efficiency |
| hepa | High-efficiency particulate air filter (HEPA) |
| hiprscrb | High pressure scrubber |
| hvaf | HVAF |
| incin | Incinerator |
| incrat | Increased air/fuel ratio with intercooling |
| ionws | Ionizing wet scrubber |
| ipscrub | Impingement plate scrubber |
| itwetscrb | Impingement type wet scrubber |
| kob | Knock out box |
| lnb | Low nox burners |
| lnbw\_aofa | Low nox burner with advanced over fire air |
| Lnbw\_aofa\_scr | Low nox burner with advanced over fire are and scr |
| lps | Low pressure scrubber |
| lsd | Lime spray drying |
| ltempox | Low temperature oxidation |
| matfilter | Mat or panel filter |
| mcycwfar | Multiple cyclone with fly ash reinjection |
| mechcol | Mechanical collector |
| midkfire | Mid kiln firing |
| misc | Miscellaneous control devices |
| mistelhe | Mist eliminator – high efficiency |
| mistelhv | Mist eliminator – high velocity, i.e., V>250 ft/min |
| MOMSEP | Momentum separator |
| multcyc | Multiple cyclones |
| nh2inj | Ammonia injection |
| nocontrl | No control |
| nscr | Non-selective catalytic reduction |
| ofa | Overfire air |
| other\_cm | Other combustion modifications |
| pgac | Packed-gas absorption column |
| pkbedscbhe | Packed bed scrubber – high efficiency |
| pkdbedabs | Packed bed absorber |
| precomcham | Pre-combustion chamber |
| procchg | Process change |
| procenc | Process enclosed |
| quench | Quench tower |
| refcond | Refrigerated condenser |
| rofa | Rotating overfire air |
| rotcln | Rotoclone |
| sapcp | Sulfuric acid plant – contact process |
| scr | Selective catalytic reduction |
| scrdrums | Screened drums or cages |
| screen | Screen |
| scrub | Scrubber |
| sincyc | Single cyclone |
| sncr | Selective noncatalytic reduction |
| spray | Spray tower |
| sprydryr | Spray dryer |
| spryscrb | Spray scrubber |
| spryscrn | Spray screen |
| stgd\_comb | Staged combustion |
| stminj | Steam or water injection |
| stowabs | Spray tower absorber |
| subfil | Submerged filling |
| swc | Single wet cap |
| thermox | Thermal oxidation |
| ttowabs | Tray tower absorber |
| ulnb | Ultra low nox burner |
| ulnb\_aofa | Ultra low nox burner with advanced overfire air (close coupled, separated, or both) |
| ULNIS | Ultra low nox integrated system |
| venscrub | Venture scrubber |
| vrsys | Vapor recovery sys (incl. condensers, hooding, other enclosures) |
| VRU | Vapor recovery unit |
| watspray | Water sprays |
| wcs | Wet cyclone separator |
| wesp | Wet electrostatic precipitation |
| wet\_scrub | Wet scrubber |
| wetsup | Wet suppression |
| wfgd | Wet flue gas desulfurization |
| wls | Wet lime scrubbing |
| wshi | Wet scrubber – high efficiency |
| wslow | Wet scrubber – low efficiency |
| wsmed | Wet scrubber – medium efficiency |

### NRA\_TERRAIN\_TYPES

Description: list of fixed equipment sites terrain types

Table 122: Description of fields in the terrain types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| TERRAIN\_TYPE | Yes | VC(20) | Primary Key; unique fixed equipment site terrain type |
| TERRAIN\_DESC | No | VC(240) | Description of each fixed equipment site terrain type, if available |

Table 123: List of available terrain types

| **Terrain Type** | **Description** |
| --- | --- |
| coastal | Coastal |
| complex | Complex |
| flat | Flat |
| flat\_water | Flat water |
| mount | Mountainous |
| mounttop | Mountain top |
| plateau | Plateau |
| riparian | Riparian |
| rolling | Rolling |
| rough | Rough |
| simple | Simple |

### NRA\_THRESHOLD\_SOURCE\_TYPES

Description: list of threshold source types

Table 124: Description of fields in the threshold source types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| THRESHOLD\_SOURCE \_TYPE | Yes | VC(35) | Primary Key; unique type of threshold source |
| THRESHOLD\_SOURCE \_DESC | No | VC(100) | Description of threshold source type |

Available threshold source types:

* CFR
* FLAG 2010
* REGIONAL AIR PROGRAM GUIDANCE
* REGIONAL PLANNING GUIDANCE
* REGIONAL SCREENING DOCUMENT
* WILDERNESS SCREENING DOCUMENT

### NRA\_THRESHOLD\_TYPES

Description: list of threshold types

Table 125: Description of fields in the threshold types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| THRESHOLD\_TYPE | Yes | VC(40) | Primary Key; type of threshold; the three types are: CT (concern threshold), PE (pollutant exposure), CL (critical load) |
| THRESHOLD\_DESC | No | VC(80) | Threshold description, if available |

Table 126: List of available threshold types

| **Threshold Type** | **Description** |
| --- | --- |
| CL | Critical load |
| CT | Concern threshold |
| demin | Conformity de Minimis |
| fsl | Flag screening level |
| il | Increment consumption level |
| inc | Incremental consumption level |
| itl | Interim target load |
| naaqs | National Ambient Air Quality Standards |
| pe | Pollutant exposure |
| ser | Significant emission rate |
| sil | Screening increment level |
| smc | Significant monitoring concentration |
| tl | Target load |

### NRA\_UNIT\_OF\_MEASURE\_NAMES

Description: list of units of measure for the Air application

Table 127: Description of fields in the unit of measure names table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| UOM\_CN | Yes | VC(40) | Primary Key; abbreviated unit of measure code |
| UOM\_CODE | Yes | VC(15) | Unit of measure code |
| UOM\_NAME | Yes | VC(40) | Full name of the unit of measure |
| MATHEMATICAL\_SYMBOL | No | VC(10) | Mathematical symbol for the unit of measure |
| STND\_CONV\_FACTOR | No | Number | Factor to convert this UOM to the standard metric unit (for standard UOMs the value is 1) |
| UOM\_CLASS\_FK | No | VC(20) | Foreign Key to nra\_uon\_classes; this links the UOM codes to the UOM classes |
| UOM\_DESC | No | VC(240) | Description of the unit of measure |

Table 128: List of unit of measure types

| **Name** | **Code** | **Class** | **Description** |
| --- | --- | --- | --- |
| acres | Ac | Area | Surface area measure in 43,560 foot-square increments |
| alkalinity, total ueq/L | AlkTot-ueq/l | Concentration | Alkalinity, total in microequivalents per liter |
| centimeters | Cm | Length | Linear measure in 10ths of meter(s) |
| centimeters per second | Cm/sec | Velocity | Flow velocity per unit time in 100ths meter increments |
| count per 100 ml | Ea/100ml | Concentration | Count per 100 milliliters |
| count per liter | Ea/l | Concentration | Count per liter |
| cubic centimeters | CuCm | Volume | Cubic centimeters |
| cubic feet | CuFt | Volume | Volume in foot cubed increments |
| cubic feet per hour | CuFt/hr | Flow\_Rate | Flow volume per unit time in foot cubed increments |
| cubic feet per minute | CuFt/min | Flow\_Rate | Flow volume per unit time in foot cubed increments |
| Cubic feet per second | CuFt/sec | Flow\_Rate | Flow volume per unit time in foot cubed increments |
| cubic hectometers | CuHm | Volume | Cubic hectometers |
| cubic meters | CuM | Volume | Volume in meter(s) cubed |
| cubic meters per hour | CuM/hr | Flow\_Rate | Flow volume per unit time in meter(s) cubed increments |
| cubic meters per minute | CuM/min | Flow\_Rate | Flow volume per unit time in meter(s) cubed increments |
| cubic meters per second | CuM/sec | Flow\_Rate | Flow volume per unit time in meter(s) cubed increments |
| cubic meters per year | CuM/yr | Flow\_Rate | Flow volume per unit time in meter(s) cubed increments |
| cubic yards | CuYd | Volume | Material volume in 27 foot-cubed increments |
| days per year | Days/yr | Time | Days per year |
| decibels | db | Other | Decibels |
| decimal degrees | DecDeg | Angles | Angular measure in degrees only |
| decimal hour | Dec/hr | Time | Decimal hour |
| deciviews | dv | Visibility | Deciviews |
| degrees | Deg | Angles | Angle measure in 360ths of a full circle |
| degrees celsius | DegC | Temperature | Temperature in 100ths increments of the freeze to boil range of water |
| degrees fahrenheit | DegF | Temperature | Temperature in 212ths increments of the freeze to boil range of water |
| degrees kelvin | K | Temperature | Degrees Kelvin |
| direction/angle/ direction | Bearing | Angles | Deg |
| dollars | Dol | Currency | Monetary value in present U.S. dollar |
| each | Ea | Count | Dimensionless tally of objects |
| feet | Ft | Length | Linear measure in U.S. Survey foot(feet) |
| feet per hour | Ft/Hr | Velocity | Flow velocity per unit time in foot increments |
| feet per minute | Ft/Min | Velocity | Flow velocity per unit of time in foot increments |
| feet per second | Ft/Sec | Velocity | Flow velocity per unit of time in foot increments |
| formazin turbidity units | FTU | Turbidity | Formazin turbidity units (FTUs) |
| grains per dscf | gr/dscf | Rate | Grains per dscf |
| grams | G | Mass | Mass of an object in gram(s) |
| grams per cubic meter | G/CuM | Concentration | Concentration in mass per volume of air |
| grams per second | G/Sec | Rate | Mass flow rate |
| hectare meters | Ha-M | Volume | Hectare-Meters – 10,000 cubic meters |
| hectares | Ha | Area | Surface area measure in 10,000 meter-squared increments |
| horsfall-barratt injury classes | HoBainCl | Count | Horsfall-Barratt injury classes |
| hours | Hr | Time | Hours |
| inches | In | Length | Linear measure of 12ths of a U.S. foot |
| inches of mercury | InHg | Pressure | Inches of mercury |
| inches per week | In/wk | Rate | Inches per week |
| inches per year | In/yr | Rate | Inches per year |
| inlets, number | Ea/init | Count | Inlets, number |
| inverse kilometers | KmE-1 | Visibility | Inverse kilometers |
| inverse megameters | InvMegM | Visibility | Inverse megameters |
| jackson turbidity units | JTU | Turbidity | Jackson turbidity units (JTUs) |
| kilograms | Kg | Mass | Mass of an object in 1000 gram increments |
| kilograms per hectare – year | Kg/ha-yr | Other | Kilograms per hectare for a one-year period |
| kilograms per hectare | Kg/ha | Other | Kilograms per hectare |
| kilograms per hour | Kg/hr | Rate | Mass per time in hours |
| kilograms per year | Kg/yr | Rate | Mass per year |
| kilometers | Km | Length | Linear measure in 1000 meter increments |
| kilometers per hour | Km/hr | Velocity | Kilometers per hour |
| kilowatts | Kw | Power | Electrical power measure in thousand(s) of watts |
| liters | L | Volume | Volume of a liquid in10,000 centimeter-cubed increments |
| mass per area for a year | Kg/Ha-Yr | Deposition | Mass for a particular area for a one-year period |
| mean # of individuals / age class | MEa/AgeCl | Biotic | Mean # of individuals / age class |
| mean # of individuals / lifestage | MEa/Ls | Biotic | Mean # of individuals / lifestage |
| meters | M | Length | Linear measure in meter(s) |
| meters per hour | M/Hr | Velocity | Flow velocity per unit time in meter increments |
| meters per minute | M/Min | Velocity | Flow velocity per unit time in meter increments |
| meters per second | M/Sec | Velocity | Flow velocity per unit time in meter increments |
| meters per year | M/yr | Rate | Meters per year |
| microequivalents per cubic centimeter | Ueq/cm3 | Concentration | Microequivalents per cubic centimeter |
| microequivalents per liter | Ueq/l | Concentration | Microequivalents per liter |
| micrograms per cubic meter | Ug/mg3 | Concentration | Micrograms per cubic meter |
| micrograms per gram | Ug/g | Concentration | Micrograms per gram |
| micrograms per liter | Ug/l | Concentration | Micrograms per liter |
| micromhos per centimeter | Umhos/cm | Concentration | Micromhos per centimeter |
| microMOLES | Umoles | Mass | Micromoles |
| micromoles per liter | Umoles/l | Concentration | Micromoles per liter |
| microsiemens per centimeter | uS/cm | Conductivity | Microsiemens per centimeter |
| miles (U.s. statute) | sMi | Length | Linear measure in 5,280 foot increments |
| miles per hour | Mi/hr | Velocity | Miles per hour |
| millibars | Mb | Pressure | Millibars |
| milliequivalents per 100gms | Meq/100g | Concentration | Milliequivalents per 100gms |
| milliequivalents per liter | Meq/l | Concentration | Milliequivalents per liter |
| milligrams | Mg | Mass | Mass of an object in 1000ths of a gram |
| milligrams per cubic meter | Mg/CuM | Concentration | Milligrams per cubic meter |
| milligrams per kilogram | Mg/kg | Concentration | Milligrams per kilogram |
| milligrams per liter | Mg/l | Concentration | Milligrams per liter |
| millileters per cubic meter | Ml/m3 | Concentration | Milliliters per cubic meter |
| milliliters | mL | Volume | Milliliters |
| millimeters | Mm | Length | Linear measure in 1000ths of a meter |
| millimeters of mercury | mmHg | Pressure | Millimeters of mercury |
| millimeters per hour | Mm/hr | Rate | Millimeters per hour |
| millimoles | Mmoles | Mass | Millimoles |
| millimoles per liter | Mmoles/l | Concentration | Millimoles per liter |
| million cubic meters | MegCuM | Volume | Million cubic meters |
| minutes | Min | Angles | Angle measure in 60ths of a degree |
| moles | Moles | Mass | Moles |
| moles per liter | Moles/l | Concentration | Moles per liter |
| months (sidereal) | Mon | Time | Months (sidereal) |
| n/a | n/a | Other | n/a |
| nanograms per cubic meters | Ng/m3 | Concentration | Nanograms per cubic meters |
| nephelometric turbidity units | NTU | Turbidity | Nephelometric Turbidity Units |
| number of whorls | Ea/whorls | Biotic | Number of whorls |
| ounces (avoirdupois) | Oz | Mass | Mass of an object in 16ths of an avoirdupois pound |
| outlets, number | Ea/Oults | Count | Number of outlets |
| parts per billion | Ppb | Concentration | Parts per billion |
| parts per million | Ppm | Concentration | Parts per million |
| parts per million-hours | Ppmhrs | Concentration | Parts per million-hours |
| parts per trillion | Ppt | Concentration | Parts per trillion |
| pascals | Pa | Pressure | Pascals (pressure) |
| percent | % | Other | Percent |
| ph | pH | Acidity | pH |
| Platinum Cobalt Units | PCU | Color | Platinum cobalt units |
| pounds | Lb | Mass | Mass of an object in avoirdupois increments |
| pounds per day | Lbs/day | Rate | Mass flow rate |
| pounds per hour | Lbs/hr | Rate | Pounds per hour |
| pounds per hour, annual rolling average | Lbs/hr-yr | Rate | Pounds per hour, annual rolling average |
| pounds per million btu’s | Lbs/MMbtu | Rate | Mass flow rate per million British Thermal Units produced |
| pounds per ton | Lbs/ton | Rate | Pounds per ton, pounds of pollutant produced per ton of processed material |
| pounds/acres – year | Lb/ac-yr | Rate | Pounds/acres – year |
| ratio | Ratio | Area | Ratio |
| seconds | Sec | Angles | Angle measure in 60ths of a minute |
| square centimeters | SqCm | Area | Surface area measure in 1000ths of a square meter |
| square feet | SqFt | Area | Surface area in 144 inch-square increments |
| square kilometers | SqKm | Area | Surface area in one million square meter(s) increments |
| square metres | SqM | Area | Surface area in meter(s) squared |
| standard deviations | SD | Other | Standard deviations |
| standard visual range (km) | SVR | Visibility | Standard visual range in kilometers |
| tons (metric) | tn(m) | Mass | Mass of an object in 1000 kilogram increments |
| tons (short) | tn(s) | Mass | Mass of an object in 2000 pound (avoirdupois) increments |
| tons per day | Tons/day | Rate | Tons per day |
| tons per year | Tons/yr | Rate | Rate expressed in tons per year |
| tons/acre – year | Tons/ac-yr | Deposition | Tons/acre – year |
| yards | Yd | Length | Linear measure in 3 foot increments |
| years (sidereal) | Yr | Time | Years (sidereal), time of one complete transit of earth about sun relative to stars |

### NRA\_UOM\_CLASSES

Description: list of unit of measure classes

Table 129: Description of fields in the unit of measure classes table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| UOM\_CLASS | Yes | VC(15) | Primary Key; unit of measure grouping class name (e.g., length, distance, area, volume, capacity, etc.) |

Available unit of measure classes:

* ACIDITY
* ANGLES
* AREA
* BIOTIC
* COLOR
* CONCENTRATION
* CONDUCTIVITY
* COUNT
* CURRENCY
* DENSAREA
* DENSAREA/DIST
* DENSDIST/AREA
* DEPOSITION
* ELEC CURRENT
* ELECCUR DENSITY
* FLOW\_RATE
* LENGTH
* LUMINANCE
* MASS
* OTHER
* POWER
* PRESSURE
* RATE
* SLOPE
* TEMPERATURE
* TIME
* TIMED PROD
* TURBIDITY
* VELOCITY
* VISIBILITY
* VOLUME
* YIELD

### NRA\_VALIDITY\_REASON\_TYPES

Description: list of monitoring validity reason types for use in the nra\_visit\_measurements table

Table 130: Description of fields in the validity reason types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| VALIDITY\_REASON\_TYPE | Yes | VC(20) | Primary Key; unique name of each validity reason type |
| DESCRIPTION | No | VC(100) | Description of each validity reason type, if available |

Table 131: List of available validity reason types

| **Validity Reason Type** | **Description** |
| --- | --- |
| accept | Sample acceptable |
| aokay | Sample acceptable |
| bdl | Value is below method of quantification limit and is therefore questionable |
| bugs | Insect material in sample |
| cloudy | Cloudy or discolored for undetermined reasons |
| cntmntnc | Collection contamination |
| cntmntnh | Handling contamination, transport protocol not MET |
| cntunk | Unknown contamination |
| dirt | Soot/ash/dirt particles |
| evap | Evaporation |
| flddp | Field protocol departure |
| handling | Handling contamination |
| inadvol | Inadequate volume for analysis |
| incchmanl | Incomplete chemical analyses |
| ionbalance | Ion charge imbalance, cause unknown |
| laberr | Lab error |
| leak | Loss due to leak or spill |
| leaks | Loss due to leaks or spills |
| measvscalccond | Measured conductivity not within data quality limits of calculated conductivity |
| other | Other contamination |
| overflow | Overflow in bulk snow or rain collector |
| pollen | Visible pollen |
| poop | Bird dropping contamination |
| posovflw | Possible overflow |
| unknown | Explain in the notes for DCE |
| veg | Plant material in sample |

### NRA\_VALIDITY\_TYPES

Description: list of monitoring validity types for use in the nra\_visit\_measurements table

Table 132: Description of fields in the validity types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| VALIDITY\_TYPE | Yes | VC(30) | Primary Key; unique name of each validity type |
| DESCRIPTION | No | VC(240) | Description of each validity type, if available |

Table 133: List of available validity types

| **Validity Type** | **Description** |
| --- | --- |
| invalid | Invalid sample data |
| questionable | Questionable sample data |
| unknown | Sample data is unknown |
| valid | Valid/normal sample data |

### NRA\_WATER\_LEVEL\_TYPES

Description: list of monitoring water level types

Table 134: Description of fields in the water level types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WATER\_LVL\_TYPE | Yes | VC(30) | Primary Key; monitoring visit water level type |
| DESCRIPTION | No | VC(100) | Description of each monitoring visit water level type, if available |

Table 135: List of available water level types

| **Water Level Type** | **Description** |
| --- | --- |
| dry | No flowing water and no pools |
| flood | Above high – flooding water level |
| high | Above normal – high water level |
| interstitial flow | Flow at some reaches beneath substrate |
| low | Below normal – low water level |
| no flow | Disconnected pools without flow |
| normal | Normal water level |

### NRA\_WATER\_UNIT\_LOCATION\_TYPES

Description: list of values for the monitoring physical water measurement types

Table 136: Description of fields in the water unit location types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WTR\_UNIT\_LOC\_TYPE | Yes | VC(10) | Primary Key; collection location type |
| DESCRIPTION | No | VC(100) | Description of each collection location type, if available |

Table 137: List of available water unit location types

| **Water Unit Location Type** | **Description** |
| --- | --- |
| bank | Bank (9) |
| centroid | Lake centroid (1) |
| channel center | Channel center (2) |
| deep | Over deep spot (3) |
| index | Recurring sample point (11) |
| inlet | Inlet (4) |
| outlet | Outlet (5) |
| pool | Pool (6) |
| riffle | Riffle (6) |
| shore | Shore (6) |
| TWLG | Thalweg at surface (12) |
| unknown | Unknown (10) |

### NRA\_WATER\_UNIT\_TYPES

Description: list of monitoring water unit types

Table 138: Description of fields in the water unit types table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WATER\_UNIT\_TYPE | Yes | VC(40) | Primary Key; name of each water unit type |
| DESCRIPTION | No | VC(60) | Description of each water unit type, if available |

Table 139: List of available water unit types

| **Water Unit Type** | **Description** |
| --- | --- |
| bog | A wetland type that accumulates acidic peat due to acidic ground water or precipitation |
| center | Center point of the body of water |
| deep | Deepest spot in the body of water |
| estuary | A partly enclosed coastal body of water with one or more rivers or streams flowing into it, and with a free connection to the open sea |
| fen | A type of wetland fed by surface water, or groundwater, or both with neutral or alkaline water chemistry |
| inlet | Narrow body of water leading to a larger body of water, often leading to an enclosed body of water |
| lake | A body of water generally greater than 1-2 hectares |
| outlet | Narrow body of water leading away from a larger body of water |
| pond | Ponds: beaver, perennial, and non-perennial |
| reservoir | An artificial lake used to store water |
| seep | A moist or wet place where water reaches the earth’s surface from an underground aquifer |
| spring | Any natural occurrence where water flows to the surface of the earth from an aquifer |
| stream | A body of water with a current, confined within a bed and stream banks |
| stream reach | The length of channel uniform with respect to discharge, depth, area, and slope |
| swamp | A wetland featuring flooding of large areas of land by shallow bodies of water |
| well | An artificial excavation, hole, or structure for the purpose of withdrawing water |

### NRA\_WILDERNESS\_PARK

Description: information about the wilderness areas and national parks

Table 140: Description of fields in the wilderness parks table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the wilderness area or park |
| SDE\_SHAPE\_ID | YES | N(1) | Unique spatial ID |
| wild\_park\_sid\_cn | Yes | VC(40) | Primary Key System generated globally unique ID; default is sys\_guid() |
| Class | No | VC(30) | Is it a Class I, Class II, or National Park, etc. |
| class\_1\_person\_contact \_Cn\_fk | No | VC(40) | Foreign Key to nra\_contacts |
| haze\_index\_avg\_baseline | No | Number | The haze index, in dv, of the annual average baseline |
| haze\_index\_avg\_natural | No | Number | The haze index, in dv, of the annual average natural; visibility metrics |
| haze\_index\_clrst \_baseline | No | Number | The haze index, in dv, of the clearest 20% baseline |
| haze\_index\_clrst \_Natural | No | Number | The haze index, in dv, of the clearest 20% natural |
| haze\_index\_hzst \_baseline | No | Number | The haze index, in dv, of the haziest 20% baseline |
| haze\_index\_hzst \_natural | No | Number | The haze index, in dv, of the haziest 20% natural |
| highest\_pt | No | Number | The highest elevation point, in feet, of the wilderness area or park |
| lowest\_pt | No | Number | The lowest elevation point, in feet, of the wilderness area or park |
| management | No | Number | Who manages the wilderness area or park |
| management\_fk | No | VC(30) | Foreign Key to nra\_management\_types table |
| raleigh\_scttrng \_coefficient | No | Number | The Rayleigh scattering coefficient for the wilderness area; visibility metrics |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SITE\_ID | No | VC(100) | Field identification code of the wilderness area or park |
| size\_acres | No | Number | The size of the wilderness area or park, in acres |
| visual\_range\_clrst \_baseline | No | Number | The standard visual range, in km, of the clearest 20% baseline |
| VISUAL\_RANGE\_CLRST \_NATURAL | No | Number | The standard visual range, in km, of the clearest 20% natural |
| visual\_range\_avg \_baseline | No | Number | The standard visual range, in km, of the annual average baseline |
| visual\_range\_avg \_natural | No | Number | The standard visual range, in km, of the annual average natural |
| visual\_range\_hzst \_baseline | No | Number | The standard visual range, in km, of the haziest 20% baseline |
| Visual\_Range\_hzst \_natural | No | Number | The standard visual range, in km, of the haziest 20% natural |

## Matrix Tables

### NRA\_CONTACT\_ROLES

Description: matrix table between the contacts and the contact roles; a contact may have more than one role

Table 141: Description of fields in the contact roles table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CONTACT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_contacts; unique constraint |
| CONTACT\_ROLE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| ROLE\_TYPE\_FK | Yes | VC(30) | Foreign Key to nra\_contact\_role\_types; unique constraint |

### NRA\_EMISSION\_CONTROL\_DOC\_MTX

Description: matrix table between the emission control table and the documents table

Table 142: Description of fields in the emission control / documents table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| EMISSION\_CONTROL\_CN \_FK | Yes | VC(30) | Foreign Key to nra\_emission\_controls |
| EMISSION\_CONTROL\_DOC \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |

### NRA\_EMISSION\_CONTROLS\_IMG\_TXT

Description: matrix table between the emission control table and the image table

Table 143: Description of fields in the emission control / image table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| EMISSION\_CONTROL\_CN \_FK | Yes | VC(40) | Foreign Key to nra\_emission\_controls |
| EMISSION\_CONTROL \_IMAGE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| IMAGE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_images |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |

### NRA\_EMISSION\_DOC\_MTX

Description: matrix table between the emissions table and the documents table

Table 144: Description of fields in the emission / documents table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| EMISSION\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| EMISSIONS\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_emissions |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |

### NRA\_FES\_SITE\_TYPE\_MTX

Description: matrix table between the FES site types table and the FES sites table

Table 145: Description of fields in the FES site types matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FES\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| FES\_SITE\_TYPE\_FK | Yes | VC(60) | Foreign Key to nra\_fes\_site\_types |
| FES\_SITETYPE\_MTX\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |

### NRA\_FES\_WILDPARK\_REPRESENT

Description: Fixed Equipment Sites matrix table between the fixed equipment sites table and the wildpark table

Table 146: Description of fields in the FES / wilderness park matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FES\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| FES\_WILDPARK\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| WILD\_PARK\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_wilderness\_parks |

### NRA\_FESSITE\_DOC\_MTX

Description: matrix table between the fixed equipment sites table and the documents table

Table 147: Description of fields in the FES site / documents matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| FESSITE\_DOC\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| FESSITE\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |

### NRA\_FIXED\_EQUIPMENT\_DEPLOYED

Description: Fixed Equipment Sites matrix table between the fixed equipment sites and the fixed equipment types

Table 148: Description of fields in the FES site and equipment type matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FED\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| FIXED\_EQPMNT\_DEPLOYED \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| FIXED\_EQUIPMENT\_TYPE \_FK | Yes | VC(60) | Foreign Key to nra\_fixed\_eqpmnt\_types |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| COMMENT\_TEXT | No | VC(40) | Comments about the deployed fixed equipment |

### NRA\_FIXED\_EQPMNT\_SITES\_IMG\_MTX

Description: matrix table between the fixed equipment sites table and the images table

Table 149: Description of fields in the FES sites / images matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FES\_IMAGE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| FES\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| IMAGE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_images |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |

### NRA\_MNTR\_PROJECT\_DOC\_MTX

Description: matrix table between the monitoring project table and the document table

Table 150: Description of fields in the monitoring project / document matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MNTR\_PROJECT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_monitoring\_projects |
| MNTR\_PROJECT\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

### NRA\_MNTR\_SITE\_DOC\_MTX

Description: matrix table between the monitoring sites table and the document table

Table 151: Description of fields in the monitoring site / documents matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MNTR\_SITE\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SITE\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_monitoring\_sites |

### NRA\_MODL\_RCPTR\_RESULTS\_DOC\_MTX

Description: matrix table between the model receptor results table and the document table

Table 152: Description of fields in the model receptor results / document matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MODEL\_RCPTR\_RESULTS \_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| RESULTS\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_model\_receptor\_results |

### NRA\_MONITOR\_PROJECT\_PROTOCOLS

Description: matrix table between the nra\_monitoring\_projects table and the nra\_protocols table; a project may have one or more protocols and a protocol may be included in one or more projects; it also defines the dates that a protocol was used within a project (“from” and “to” dates)

Table 153: Description of fields in the monitoring project protocols table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| FROM\_DATE | Yes | Date | The date the protocol was first used on the project |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MNTR\_PROJECT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_monitoring\_projects |
| PRJ\_PROTOCOL\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| PROTOCOL\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_protocols |
| COMMENT\_TEXT | No | VC(300) | Comments about how a protocol was used |
| TO\_DATE | No | Date | The date the protocol was last used on the project |

### NRA\_MONITORING\_SITES\_IMG\_MTX

Description: matrix table between the monitoring sites table and the images table

Table 154: Description of fields in the monitoring sites / images matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| IMAGE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_images |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MONITOR\_SITE\_IMAGE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SITE\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_monitoring\_sites |

### NRA\_PROTOCOL\_DOC\_MTX

Description: matrix table between the model protocols table and the document table

Table 155: Description of fields in the protocols / document matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| PROTOCOL\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_protocols |
| PROTOCOL\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

### NRA\_SITE\_PROJECT

Description: matrix table between monitoring sites and monitoring projects

Table 156: Description of fields in the monitoring site / monitoring project matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| MNTR\_PROJECT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_monitoring\_projects |
| SITE\_PROJECT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SITE\_SID\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_monitoring\_sites |

### NRA\_SOURCE\_CONTROL\_MTX

Description: matrix table between the source control table and the emission control table

Table 157: Description of fields in the source control / emission control matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| EMISSION\_CONTROL\_FK | Yes | VC(40) | Foreign Key to nra\_emission\_control |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_CONTROL\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_FK | Yes | VC(40) | Foreign Key to nra\_source |

### NRA\_SOURCE\_DOC\_MTX

Description: matrix table between the source table and the documents table

Table 158: Description of fields in the source / documents matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_FK | Yes | VC(40) | Foreign Key to nra\_source\_locations |

### NRA\_SOURCE\_IMG\_MTX

Description: matrix table between the source table and the images table

Table 159: Description of fields in the source / images matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| IMAGE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_images |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_FK | Yes | VC(40) | Foreign Key to nra\_source\_locations |
| SOURCE\_IMAGE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

### NRA\_SOURCE\_MODEL\_DOC\_MTX

Description: matrix table between the source models table and the document table

Table 160: Description of fields in the source model / document matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_MODEL\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_source\_models |
| SOURCE\_MODEL\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

### NRA\_SOURCE\_MODEL\_RCPTR\_DOC\_MTX

Description: matrix table between the source models receptor table and the document table

Table 161: Description of fields in the source models receptor / document matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| RECEPTOR\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_model\_receptors |
| SOURCE\_MODEL\_RCPTR \_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

### NRA\_SOURCE\_PROJECT\_CONTACT\_MTX

Description: matrix table between the source permit projects with their contacts

Table 162: Description of fields in the source permit project / contact matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| ROLE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_contact\_roles |
| SOURCE\_PROJECT\_CONTACT \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_PROJECT\_FK | Yes | VC(40) | Foreign Key to nra\_source\_projects |

### NRA\_SOURCE\_RESPONSE\_DOC\_MTX

Description: matrix table between the source permit projects with their response documents

Table 163: Description of fields in the source permit project / response document matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_RESPONSE\_DOC \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_RESPONSE\_FK | Yes | VC(40) | Foreign Key to nra\_source\_response |

### NRA\_SOURCE\_STATUS\_DOC\_MTX

Description: matrix table that links the source permit projects with their status documents

Table 164: Description of fields in the source permit project / status document matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_STATUS\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_STATUS\_FK | Yes | VC(40) | Foreign Key to nra\_source\_status |

### NRA\_SOURCE\_MODEL\_RCPTR\_DOC\_MTX

Description: matrix table between the source model receptor table and the document table

Table 165: Description of fields in the source model receptor / document table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| RECEPTOR\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_model\_receptors |
| SOURCE\_MODEL\_RCPTR \_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

### NRA\_SOURCE\_PROJECT\_DOC\_MTX

Description: matrix table between the source project table and the documents table

Table 166: Description of fields in the source project / document matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SOURCE\_PROJECT\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SOURCE\_PROJECT\_FK | Yes | VC(40) | Foreign Key to nra\_source\_projects |

### NRA\_SP\_PRJ\_AGENCIES

Description: matrix table between the source permit projects to the organizations, or agencies

Table 167: Description of fields in the source permit project / agencies matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| ORG\_CONTACT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_contacts; this is the name of the source permit contact |
| SP\_PRJ\_AGENCY\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SRC\_PROJ\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_projects; this is the source permit project ID |

### NRA\_SP\_PRJ\_AGENCY\_CONTACTS

Description: matrix table between the agencies and the contacts; this table is used with the source permit projects

Table 168: Description of fields in the source project agencies and contacts matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CONTACT\_ROLE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_contact\_roles |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SP\_PRJ\_AGENCY\_CONTACT \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SP\_PRJ\_AGENCY\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_sp\_prj\_agencies; this is a list of the source permit project agencies |

### NRA\_SP\_PRJ\_COMPANY\_CONTACTS

Description: matrix table between the source permit projects and the company contacts

Table 169: Description of fields in the source permit project / company contacts matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CONTACT\_ROLE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_contact\_roles |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SP\_PRJ\_COMPANY \_CONTACT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SRC\_PROJECT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_projects; this is the source permit project |

### NRA\_SP\_PRJ\_FLM\_CONTACTS

Description: matrix table between the source permit projects and the FLM contacts

Table 170: Description of fields in the source permit projects / FLM contacts matrix table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| CONTACT\_ROLE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_contact\_roles |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| SP\_PRJ\_FS\_CONTACT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| SRC\_PROJECT\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_source\_projects; this is the source permit project |

### NRA\_THRESHOLD\_DOC\_MTX

Description: this is the main table for the threshold form

Table 171: Description of fields in the Threshold form

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| THRESHOLD\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| THRESHOLD\_TYPE\_FK | Yes | VC(40) | Foreign Key to nra\_threshold\_types; this is the type of threshold such as concern threshold, pollutant exposure, etc. |
| AQRV\_TYPE\_FK | Yes | VC(20) | Foreign Key to nra\_aqrv\_types |
| AVERAGING\_PERIOD\_TYPE \_FK | No | VC(40) | Foreign Key to nra\_threshold\_avg\_period\_types; this is the threshold’s averaging period |
| COMMENT\_TEXT | No | VC(250) | Short comment about each threshold |
| LEVEL\_NAME\_FK | No | VC(50) | Foreign Key to nra\_level\_names |
| LOWER\_LIMIT | No | Number | This is the threshold’s lower limit |
| POLLUTANT\_TYPE\_FK | No | VC(75) | Foreign Key to nra\_pollutant\_types |
| SR\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_sr\_types |
| SRI\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_sri\_types |
| THRESHOLD\_DETAIL | No | VC(2000) | Detailed description of each threshold |
| THRESHOLD\_SOURCE \_TYPE\_FK | No | VC(35) | Foreign Key to nra\_threshold\_source\_types |
| UOM\_CODE\_FK | No | VC(15) | Foreign Key to nra\_unit\_of\_measure\_names for the threshold unit of measure |
| UPPER\_LIMIT | No | Number | This is the threshold’s upper limit |

### NRA\_THRESHOLD\_WP\_MTX

Description: Matrix table linking thresholds with wilderness parks

Table 172: Description of fields linking Thresholds with Wilderness Parks

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| THRESHOLD\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_thresholds |
| THRESHOLD\_WP\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| WILD\_PARK\_SID\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_contact\_role\_types; unique constraint |

### NRA\_VISIT\_DOC\_MTX

Description: Matrix table between the visit table and the document table

Table 173: Description of fields linking the visit and document tables

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| VISIT\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_visits |
| VISIT\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

### NRA\_VISITS\_IMG\_MTX

Description: Matrix table between the visit table and the images table

Table 174: Description of fields linking the visit and images tables

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| IMAGE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_images |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| VST\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_visits |
| VST\_IMAGE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

### NRA\_WATER\_UNITS\_IMG\_MTX

Description: Matrix table between the water units table and the images table

Table 175: Description of fields linking water units and images tables

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| IMAGE\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_images |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| WATER\_UNIT\_IMAGE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| WTR\_UNIT\_SID\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_water\_units |

### NRA\_WILDPARK\_DOC\_MTX

Description: Matrix table between the wilderness park table and the document table

Table 176: Description of fields linking the wilderness park and document tables

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| DOC\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_documents |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| WILD\_PARK\_SID\_CN\_FK | Yes | VC(30) | Foreign Key to nra\_wilderness\_parks |
| WILDPARK\_DOC\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |

## View Queries

### NRA\_AIRWEB\_AIR\_VW

Description: this is the view created to allow for easy checking of wilderness, pollutant, and region for wildernesses and parks

Table 177: Description of fields in the Airweb Air view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| ENGLISHTRANSLATION | No | VC(2000) | English description of pollutant within area |
| LVLNAME | No | VC(50) | Pollutant level name |
| POLLUTANT | No | VC(75) | Name of pollutant |

### NRA\_AIRWEB\_CULTURALRESOURCE\_VW

Description: this is a view created to allow for easy checking of wilderness and sensor receptors

Table 178: Description of fields in the Airweb Cultural Resource view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| AQRV | No | VC(20) | AQRV value |
| ENGLISHTRANSLATION | No | VC(2000) | English description pollutant within area |
| SENSRCP | No | VC(50) | n/a |
| SENSRECPIND | No | VC(50) | n/a |

### NRA\_AIRWEB\_FAUNA\_VW

Description: this is the view created to allow for easy checking of wilderness, pollutant, and region for wildernesses and parks

Table 179: Description of fields in the Airweb Fauna view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| AQRV | No | VC(20) | English description pollutant within area |
| ENGLISHTRANSLATION | No | VC(2000) | English description of pollutant within area |
| SENSRCP | No | VC(50) | n/a |
| SENSRCPIND | No | VC(50) | n/a |

### NRA\_AIRWEB\_MAIN\_VW

Description: this is a view created to allow for easy checking of wilderness, pollutant, and region for wildernesses and parks

Table 180: Description of fields in the Airweb Main view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_PARK\_SID\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| WILDERNESS | No | VC(4000) | Description of wilderness park area |

### NRA\_AIRWEB\_NOISE\_VW

Description: this is the view created to allow for easy checking of wilderness, pollutant, and region for wildernesses and parks

Table 181: Description of fields in the Airweb Noise view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| AQRV | No | VC(20) | AQRV value |
| ENGLISHTRANSLATION | No | VC(2000) | English description of pollutant within area |
| SENSRCP | No | VC(50) | n/a |
| SENSRCPIND | No | VC(50) | n/a |

### NRA\_AIRWEB\_ODOR\_VW

Description: this is the view created to allow for easy checking of wilderness, odor, and region for wildernesses and parks

Table 182: Description of fields in the Airweb Odor view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| AQRV | No | VC(20) | AQRV value |
| ENGLISHTRANSLATION | No | VC(2000) | English description of pollutant within area |
| SENSRCP | No | VC(50) | n/a |
| SENSRCPIND | No | VC(50) | n/a |

### NRA\_AIRWEB\_POLLUTANTS\_VW

Description: this is the view created to allow for easy checking of wilderness, pollutant, and region for wildernesses and parks

Table 183: Description of fields in the Airweb Pollutants view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| POLLUTANT\_TYPE\_FK | Yes | VC(100) | Foreign Key to nra\_pollutant\_type |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| AQRV | No | VC(20) | AQRV value |
| ENGLISHTRANSLATION | No | VC(2000) | English description of pollutant within area |
| LVLNAME | No | VC(50) | Pollutant level name |
| POLLUTANT | No | VC(75) | Name of pollutant |

### NRA\_AIRWEB\_SOILS\_VW

Description: this is the view created to allow for easy checking of wilderness, pollutant, and region for wildernesses and parks

Table 184: Description of fields in the Airweb Soils view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| AQRV | No | VC(20) | AQRV value |
| ENGLISHTRANSLATION | No | VC(2000) | English description of pollutant within area |
| SENSRCP | No | VC(50) | n/a |
| SENSRCPIND | No | VC(50) | n/a |

### NRA\_AIRWEB\_VISIBILITY\_VW

Description: this is the view created to allow for easy checking of wilderness, visibility, and region for wildernesses and parks

Table 185: Description of fields in the Airweb Visibility view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| AQRV | No | VC(20) | AQRV value |
| ENGLISHTRANSLATION | No | VC(2000) | English description of pollutant within area |
| SENSRCP | No | VC(50) | n/a |
| SENSRCPIND | No | VC(50) | n/a |

### NRA\_AIRWEB\_VISMETRICS\_VW

Description: this is the view created to allow for easy checking of wilderness, visibility metrics, and region for wildernesses and parks

Table 186: Description of fields in the Airweb Vismetrics view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| DVAGANNNAT | No | Number | n/a |
| DVAVGANNBACK | No | Number | n/a |
| DVC\_BACK | No | Number | n/a |
| DVC\_NAT | No | Number | n/a |
| DVH\_BACK | No | Number | n/a |
| DVH\_NAT | No | Number | n/a |
| RAYLEIGH | No | Number | n/a |
| SVRAGANNBACK | No | Number | n/a |
| SVRAVGANNNAT | No | Number | n/a |
| SVRC\_BACK | No | Number | n/a |
| SVRC\_NAT | No | Number | n/a |
| SVRH\_BACK | No | Number | n/a |
| SVRH\_NAT | No | Number | n/a |

### NRA\_AIRWEB\_WATER\_VW

Description: this is the view created to allow for easy checking of wilderness, water, and region for wildernesses and parks

Table 187: Description of fields in the Airweb Water view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| WILD\_ID | Yes | Number | Field ID code associated with wilderness park area |
| WILDERNESS | Yes | VC(60) | Name of wilderness park area |
| ADMIN\_REGION | No | Number | Code for the admin region of the wilderness park area |
| AQRV | No | VC(20) | AQRV value |
| ENGLISHTRANSLATION | No | VC(2000) | English description of pollutant within area |
| SENSRCP | No | VC(50) | n/a |
| SENSRCPIND | No | VC(50) | n/a |

### NRA\_ANN\_WILDERNESS\_PARKS\_VW

Description: this is the view created to allow for easy checking of wilderness, threshold, and visibility metrics data for wildernesses and parks

Table 188: Description of fields in the Annual Wilderness Parks view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the monitoring site |
| WILD\_PARK\_SID\_CN | Yes | VC(40) | Foreign Key to nra\_wilderness\_park |
| CLASS | No | VC(50) | Areas fall into two classifications: I and II |
| CLASS\_1\_PERSON\_CONTACT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts |
| HAZE\_INDEX\_AVG\_BASELINE | No | Number | The haze index, in dv, of the clearest 20% baseline |
| HAZE\_INDEX\_AVG\_NATURAL | No | Number | The haze index, in dv, of the annual average natural |
| HAZE\_INDEX\_CLRST \_BASELINE | No | Number | The haze index, in dv, of the haziest 20% baseline |
| HAZE\_INDEX\_CLRST \_NATURAL | No | Number | The haze index, in dv, of the clearest 20% natural |
| HAZE\_INDEX\_HZST\_NATURAL | No | Number | The haze index, in dv, of the haziest 20% of natural |
| HAZE\_RANGE\_HZST \_BASELINE | No | Number | The haze index, in dv, of the haziest 20% baseline |
| HIGHEST\_PT | No | Number | The highest elevation point, in feet, of the wilderness area or park |
| LOWEST\_PT | No | Number | The lowest elevation point, in feet, of the wilderness area or park |
| MANAGEMENT | No | VC(30) | Who manages the wilderness area or park |
| RAYLEIGH\_SCTTRNG \_COEFFICIENT | No | Number | The Rayleigh scattering coefficient for the wilderness area or park |
| RLS\_EXTENT | No | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) |
| SITE\_ID | No | VC(100) | Field ID code associated with the monitoring site |
| SIZE\_ACRES | No | Number | The size of the wilderness area or park |
| VISUAL\_RANGE\_CLRST \_BASELINE | No | Number | The standard visual range, in km, of the clearest 20% baseline |
| VISUAL\_RANGE\_CLRST \_NATURAL | No | Number | The standard visual range, in km, of the clearest 20% natural |
| VISUAL\_RANGE\_AVG \_BASELINE | No | Number | The standard visual range, in km, of the annual average baseline |
| VISUAL\_RANGE\_AVG \_NATURAL | No | Number | The standard visual range, in km, of the annual average natural |
| VISUAL\_RANGE\_HZST \_BASELINE | No | Number | The standard visual range, in km, of the haziest 20% baseline |
| VISUAL\_RANGE\_HZST \_NATURAL | No | Number | The standard visual range, in km, of the haziest 20% natural |

### NRA\_AIRWEB\_AIR\_VW

Description: this view is of the FES records represented by point geometry; the view is necessary for ArcGIS to be able to display the data, is registered in SDE as a layer, and appears in ArcCatalog as a point feature class.

Table 189: Description of fields in the Airweb Air view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COUNTY\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_counties |
| FES\_SID\_CN | Ye | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAND\_USE\_TYPE\_FK | Yes | VC(60) | Foreign Key to nra\_land\_use\_types |
| NETWORK\_TYPE\_FK | Yes | VC(35) | Foreign Key to nra\_network\_types |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the monitoring site |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SITE\_ID | Yes | VC(100) | Field ID code associated with the monitoring site |
| STATE\_NAME\_FK | Yes | VC(40) | Foreign Key to nra\_states |
| TERRAIN\_TYPE\_FK | Yes | VC(20) | Foreign Key to nra\_terrain\_types |
| ANAL\_FUNDING\_ORG \_CNTCT\_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the organization that is funding the analysis of the data |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment sites |
| END\_DATE | No | Date | The date the fixed equipment site ceased operation in the network |
| FES\_DESC | No | VC(240) | Description of the fixed equipment site |
| FRH 8 | No | Number | Functions of Relative Humidity (fRH) for month 8 (August) assigned to an IMPROVE visibility fixed equipment site |
| FRH 1 | No | Number | Functions of Relative Humidity (fRH) for month 1 (January) assigned to an IMPROVE visibility fixed equipment site |
| FRH 10 | No | Number | Functions of Relative Humidity (fRH) for month 10 (October) assigned to an IMPROVE visibility fixed equipment site |
| FRH 11 | No | Number | Functions of Relative Humidity (fRH) for month 11 (November) assigned to an IMPROVE visibility fixed equipment site |
| FRH 12 | No | Number | Functions of Relative Humidity (fRH) for month 12 (December) assigned to an IMPROVE visibility fixed equipment site |
| FRH 2 | No | Number | Functions of Relative Humidity (fRH) for month 2 (February) assigned to an IMPROVE visibility fixed equipment site |
| FRH 3 | No | Number | Functions of Relative Humidity (fRH) for month 3 (March) assigned to an IMPROVE visibility fixed equipment site |
| FRH 4 | No | Number | Functions of Relative Humidity (fRH) for month 4 (April) assigned to an IMPROVE visibility fixed equipment site |
| FRH 5 | No | Number | Functions of Relative Humidity (fRH) for month 5 (May) assigned to an IMPROVE visibility fixed equipment site |
| FRH 6 | No | Number | Functions of Relative Humidity (fRH) for month 6 (June) assigned to an IMPROVE visibility fixed equipment site |
| FRH 7 | No | Number | Functions of Relative Humidity (fRH) for month 7 (July) assigned to an IMPROVE visibility fixed equipment site |
| FRH 9 | No | Number | Functions of Relative Humidity (fRH) for month 9 (September) assigned to an IMPROVE visibility fixed equipment site |
| INHERENT\_CONTRAST\_0900 | No | Number | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 9:00 AM |
| INHERENT\_CONTRAST\_1200 | No | Number | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 12:00 PM (noon) |
| INHERENT\_CONTRAST\_1500 | No | Number | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 3:00 PM |
| INHERENT\_CONTRAST\_1800 | No | Number | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 6:00 PM |
| OPERATING\_ORG\_CNTCT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the contact at the organization that is maintaining the fixed equipment site and doing the data collection |
| OPS\_FUNDING\_ORG\_CNTCT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the organization that is funding the analysis of the data |
| OWNER\_CONTACT\_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts |
| RAYLEIGH\_COEFFICIENT | No | Number | The Rayleigh coefficient, in inverse megameters; this is a measure of the natural background scattering of light, specific to each location; the scattering above Rayleigh is anthropogenic and thus of concern to the Forest Service |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SITE\_OWNER\_CNTCT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts |
| START\_DATE | No | Date | The date the fixed equipment site began operation in the network |
| THRESHOLD | No | Number | An absolute number, like 200, used for sites taking optical measurements with transmissometers or nephelometers; the cleaner the air at the site, the lower the threshold value |

### NRA\_FIXED\_EQUIPMENT\_SITES\_WKB

Description: this view supports spatial editing by transforming SDO\_Geometry into well-known binary format

Table 190: Description of fields in the Fixed Equipment Sites workbook

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COUNTY\_CN\_FK | Yes | VC(40) | Foreign Key to nra\_counties |
| FES\_SID\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| LAND\_USE\_TYPE\_FK | Yes | VC(60) | Foreign Key to nra\_land\_use\_types |
| NETWORK\_TYPE\_FK | Yes | VC(35) | Foreign Key to nra\_network\_types |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the monitoring site |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SITE\_ID | Yes | VC(100) | Field ID code associated with the monitoring site |
| STATE\_NAME\_FK | Yes | VC(40) | Foreign Key to nra\_states |
| TERRAIN\_TYPE\_FK | Yes | VC(20) | Foreign Key to nra\_terrain\_types |
| ANAL\_FUNDING\_ORG\_CNTCT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the organization that is funding the analysis of the data |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment site |
| END\_DATE | No | Date | The date the fixed equipment site ceased operation in the network |
| FES\_DESC | No | VC(240) | Description of the fixed equipment site |
| FRH1 | No | Number | Functions of Relative Humidity (fRH) for month 1 (January) assigned to an IMPROVE visibility fixed equipment site |
| FRH10 | No | Number | Functions of Relative Humidity (fRH) for month 10 (October) assigned to an IMPROVE visibility fixed equipment site |
| FRH11 | No | Number | Functions of Relative Humidity (fRH) for month 11 (November) assigned to an IMPROVE visibility fixed equipment site |
| FRH12 | No | Number | Functions of Relative Humidity (fRH) for month 12 (December) assigned to an IMPROVE visibility fixed equipment site |
| FRH2 | No | Number | Functions of Relative Humidity (fRH) for month 2 (February) assigned to an IMPROVE visibility fixed equipment site |
| FRH3 | No | Number | Functions of Relative Humidity (fRH) for month 3 (March) assigned to an IMPROVE visibility fixed equipment site |
| FRH4 | No | Number | Functions of Relative Humidity (fRH) for month 4 (April) assigned to an IMPROVE visibility fixed equipment site |
| FRH5 | No | Number | Functions of Relative Humidity (fRH) for month 5 (May) assigned to an IMPROVE visibility fixed equipment site |
| FRH6 | No | Number | Functions of Relative Humidity (fRH) for month 6 (June) assigned to an IMPROVE visibility fixed equipment site |
| FRH7 | No | Number | Functions of Relative Humidity (fRH) for month 7 (July) assigned to an IMPROVE visibility fixed equipment site |
| FRH8 | No | Number | Functions of Relative Humidity (fRH) for month 8 (August) assigned to an IMPROVE visibility fixed equipment site |
| FRH9 | No | Number | Functions of Relative Humidity (fRH) for month 9 (September) assigned to an IMPROVE visibility fixed equipment site |
| INHERENT\_CONTRAST\_0900 | No | Number | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 9:00 AM |
| INHERENT\_CONTRAST\_1200 | No | Number | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 12:00 PM (noon) |
| INHERENT\_CONTRAST\_1500 | No | Number | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 3:00 PM |
| INHERENT\_CONTRAST\_1800 | No | Number | For camera sites only; there is an inherent contrast value used to measure against for qualitative analysis of haze measured in the pictures; this is the value stored for 6:00 PM |
| LATITUDE | No | Number | Latitude of fixed equipment site in NAD83 |
| LONGITUDE | No | Number | Longitude of fixed equipment site in NAD83 |
| OPERATING\_ORG\_CNTCT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the contact at the organization maintaining the fixed equipment site and doing the data collection |
| OPS\_FUNDING\_ORG\_CNTCT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the organization that is funding the analysis of the data |
| OWNER\_CONTACT\_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts |
| RAYLEIGH\_COEFFICIENT | No | Number | The Rayleigh coefficient, in inverse megameters; this is a measure of the natural background scattering of light, specific to each location; the scattering above Rayleigh is anthropogenic and thus of concern to the Forest Service |
| SHAPE\_MODIFIED\_DATE | No | Date | The spatial attribute of the fixed equipment site |
| SHAPE\_WKB | No | Blob | The geometry in well-known binary format |
| SITE\_OWNER\_CNTCT\_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts |
| START\_DATE | No | Date | The date the fixed equipment site began operation in the network |
| THRESHOLD | No | Number | An absolute number, like 200, used for sites taking optical measurements with transmissometers or nephelometers; the cleaner the air at the site, the lower the threshold value |

### NRA\_MEASUREMENT\_PARAMETER\_PIVT

Description: in order to pivot the parameter values into the format of the Water Chemistry Workbook, the following view definition is used. In this view, an expression is used to pull the value identified by the requirements. The usage of the CASE statement and sum() function with the group by clause are what make the pivoting work. The sum() function is used, but it is assumed that only one parameter value will be pulled from the database, given the qualifying when conditions, referencing the measurement\_loc\_type, abbrv, uon\_code, chemical\_fraction, and the meas\_method\_type\_fk fields. The null value is used for column placeholders where there were no requirements to import the fields into the workbook.

Table 191: Description of fields in the Measurement Parameter pivot table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COLDEPTYP | Yes | VC(10) | Foreign Key to collection\_depth\_type\_fk for sample in nra\_water\_samples |
| MONSITNAM | Yes | VC(100) | Foreign Key to official\_name of nra\_monitoring\_sites |
| QASAMTYP | Yes | VC(10) | Foreign Key to qa\_sample\_types\_fk for sample in nra\_water\_samples |
| WATUNILOCTYP | Yes | VC(10) | Foreign Key to wtr\_unit\_loc\_type\_fk for sample in nra\_water\_samples |
| WTR\_SMPL\_CN | Yes | VC(10) | Foreign Key to wtr\_unit\_loc\_type\_fk for sample in nra\_water\_samples |
| [ANC] UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = [ANC] |
| ALLNORGMONO MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = AllnOrgMono |
| ALLNORGMONO UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = AllnOrgMono |
| ALOMONO MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = AIOMono |
| ALOMONO UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = AlOMono |
| ANC UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements |
| ANIANALDATE | No | Date | Anions analysis date |
| ANORG UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = AnOrg |
| ANSUM UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = AnSum |
| CA MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = Ca |
| CA UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = Ca |
| CALC COND US/CM | No | VC(0) | Value of nra\_visit\_sample\_measurements |
| CARANALDATE | No | Date | Carbon analysis date |
| CATANALDATE | No | Date | Cations analysis date |
| CATSUM UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = CatSum |
| CL- MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = Cl- |
| CL- UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = Cl |
| COLDEP | No | VC(0) | Collection depth in meters |
| COM | No | VC(0) | Comment\_txt from nra\_visit\_sample\_measurements |
| COND DIFF % | No | VC(0) | Value of nra\_visit\_sample\_measurements |
| DEPONSAMDATEON | No | Date | Date for deposition sample from start\_datetime in nra\_deposition\_samples |
| DEPSAMTIMONMIL | No | VC(0) | Time on for deposition sample from start\_datetime in nra\_deposition\_samples |
| DEPSAMTYP | No | VC(0) | Foreign Key to nra\_deposition\_sample\_types for sample in nra\_depositon\_samples |
| DIFF=ALK UEQ/L | No | VC(0) | Value of nra\_visit\_sample\_measurements where meas\_parameter = DIFF=ALK |
| F MG/L | No | Number | Value of nra\_visit\_field\_measurements where meas\_parameter = F |
| F UEQ/L | No | Number | Value of nra\_visit\_field\_measurements where meas\_parameter = F |
| FIELD COND US/CM | No | Number | Value of nra\_visit\_sample\_measurements |
| FIELD PH | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = pH |
| FLAG %COND | No | VC(0) | Value of nra\_visit\_sample\_measurements |
| FLAG %ION | No | VC(0) | Value of nra\_visit\_sample\_measurements |
| H+ UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = H+ |
| ION DIFF % | No | VC(0) | Value of nra\_visit\_sample\_measurements |
| K MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = K |
| K UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = K |
| LAB COND US/CM | No | Number | Value of nra\_visit\_sample\_measurements |
| LABID# | No | VC(43) | Foreign Key to sample\_id in nra\_water\_samples identifying the analytical lab where the analysis of the water sample occurred |
| LATDD | No | Number | Foreign Key to shape.sdo\_point.y of nra\_monitoring\_sites |
| LONDD | No | Number | Foreign Key to shape.sdo\_point.x of nra\_monitoring\_sites |
| M | No | VC(0) | Sample volume from nra\_deposition\_samples or nra\_water\_samples |
| M | No | Number | Value of nra\_visit\_sample\_measurements |
| M | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = NH4 |
| METANALDATE | No | Date | Metals analysis date |
| MG MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = Mg |
| MG UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = Mg |
| MILTIME | No | VC(5) | Time sample collected from sample\_dateline of nra\_water\_samples |
| NA MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = Na mg/l |
| NA UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = Na |
| NH4 UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = NH4 |
| NITANALDATE | No | Date | Nitrogen analysis date |
| NO2 MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = NO2 |
| NO2 UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = NO2 |
| NO3 MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = NO3 |
| NO3 UEQ/L | No | Number | Value of nra\_visit\_field\_measurements where meas\_parameter – NO3 |
| OC MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = OC |
| PH,ANCCONANALDATE | No | Date | Analysis date of pH, ANC, and conductivity for sample\_meas\_datetime where meas\_param = pH, ANC, or Conductivity |
| PHOANALDATE | No | Date | Phosphorus analysis date |
| PO4 MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = PO4 |
| PO4 UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = PO4 |
| PRECOLMETTYP | No | VC(0) | Foreign Key to nra\_precip\_collection\_methods for sample in nra\_deposition\_samples |
| SAMDATECOL | No | Date | Date sample collected from sample\_dateline of nra\_water\_samples |
| SAMRECDATE | No | Date | Date sample received in lab from nra\_sample\_chain\_of\_custodies |
| SO4 MG/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = SO4 |
| SO4 UEQ/L | No | Number | Value of nra\_visit\_sample\_measurements where meas\_parameter = SO4 |
| SUM ACIDS UEQ/L | No | VC(0) | Value of nra\_visit\_sample\_measurements |
| SUM BASES UEQ/L | No | VC(0) | Value of nra\_visit\_sample\_measurements |
| TOTAL ION UEQ/L | No | VC(0) | Value of nra\_visit\_sample\_measurements |
| WAORNF | No | VC(0) | Official name of wilderness or national forest as referenced from Foreign Key CN in nra\_monitoring\_sites |

### NRA\_MONITORING\_SITES\_LN

Description: view of the Monitoring Site records represented by line geometry. The view is necessary for ArcGIS to be able to display the data, is registered in SDE as a layer, as appears in ArcCatalog as a line featureclass.

Table 192: Description of fields in the Monitoring Sites LN table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(100) | Official name of the monitoring site |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SITE\_SID\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; this is the spatial ID from the associated feature class; default is sys\_guid() |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment site |
| LITHOLOGY\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_lithology\_types |
| RLS\_EXTENT | No | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | ??? | The spatial attribute of the fixed equipment siet |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SITE\_ID | No | VC(100) | Field ID code associated with the monitoring site |
| WILD\_PARK\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_wilderness\_park |
| WTR\_UNIT\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_water\_units |

### NRA\_MONITORING\_SITES\_PL

Description: this view is of the Monitoring Site records represented by polygon geometry. The view is necessary for ArcGIS to be able to display the data, is registered in SDE as a layer, and appears in ArcCatalog as a polygon featureclass.

Table 193: Description of fields in the Monitoring Sites PL table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(100) | Official name of the monitoring site |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SITE\_SID\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment site |
| LITHOLOGY\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_lithology\_types |
| RLS\_EXTENT | No | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”\_ |
| SHAPE | No | ??? | The spatial attribute of the fixed equipment site |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SITE\_ID | No | VC(100) | Field ID code associated with the monitoring sites |
| WILD\_PARK\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_wilderness\_park |
| WTR\_UNIT\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_water\_units |

### NRA\_MONITORING\_SITES\_PT

Description: this view is of the Monitoring Site records represented by point geometry. The view is necessary for ArcGIS to be able to display the data, is registered in SDE as a layer, and appears in ArcCatalog as a point featureclass.

Table 194: Description of fields in the Monitoring Sites PT table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the monitoring site |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SITE\_SID\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| ELEVATION | No | Number | The elevation, in meters, of the target transmitter |
| LATITUDE | No | Number | Latitude of fixed equipment site in NAD83 |
| LITHOLOGY\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_lithology\_types |
| LONGITUDE | No | Number | Longitude of fixed equipment site in NAD83 |
| RLS\_EXTENT | No | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SHAPE\_WKB | No | Blob | The geometry in well-known binary format |
| SITE\_ID | No | VC(100) | Field identification code of the location associated with the project |
| WILD\_PARK\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_wilderness\_parks |
| WTR\_UNIT\_SID\_CN\_FK | No | VC(40) | Foreign Key to nra\_water\_units |

### NRA\_OTHER\_AFFECTED\_AREAS\_PT

Description: this is a view created to allow for easy viewing of other affected areas

Table 195: Description of fields in the Other Affected Areas PT table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Number | Default is the system time stamp, systimestamp |
| OTHER\_AFFECTED\_AREAS \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| AFFECTED\_AREA\_NAME | No | VC(100) | Name of the affected area |
| AFFECTED\_AREA\_TYPE\_FK | No | VC(50) | Foreign Key to nra\_affected\_areas |
| RLS\_EXTENT | No | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SHAPE\_WKB | No | Blob | The geometry in well-known binary format |

### NRA\_OTHER\_AFFECTED\_AREAS\_WKB

Description: this workbook outlines other areas affected by emissions from that source

Table 196: Description of fields in the Other Affected Areas workbook

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| AFFECTED\_AREA\_NAME | Yes | VC(100) | Name of the affected area |
| AFFECTED\_AREA\_TYPE\_FK | Yes | VC(50) | Foreign Key to nra\_affected\_area |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| OTHER\_AFFECTED\_AREAS \_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys |
| RLS\_EXTENT | Yes | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| LATITUDE | No | Number | Latitude in NAD83 |
| LONGITUDE | No | Number | Longitude in NAD83 |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SHAPE\_TYPE | No | VC(40) | Type of shape |
| SHAPE\_WKB | No | Blob | The geometry in well-known binary format |

### NRA\_RECEPTOR\_LOCATIONS\_PT

Description: this table provides information about receptor locations

Table 197: Description of fields in the Receptor Locations PT table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| ELEVATION | Yes | Number | Elevation, in meters, of receptor location |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| NAME | Yes | VC(100) | Name of receptor location |
| RLS\_EXTENT | Yes | VC(30) | OID/VPD; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| RECEPTOR\_LOC\_CN | No | VC(40) | Primary Key; system generated globally unique ID; default is sys |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SHAPE\_TYPE | No | VC(40) | Type of shape |
| SHAPE\_WKB | No | Blob | The geometry in well-known binary format |

### NRA\_RECEPTOR\_LOCATIONS\_WKB

Description: this workbook outlines receptor location details

Table 198: Description of fields in the Receptor Locations workbook

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| NAME | Yes | VC(100) | Name of receptor location |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| ELEVATION | No | Number | Elevation of receptor location |
| LATITUDE | No | Number | Latitude of receptor location |
| LONGITUDE | No | Number | Longitude of receptor locations |
| RECEPTOR\_LOC\_CN | No | VC(40) | Primary Key; system generated globally unique ID; default is sys |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SHAPE\_TYPE | No | VC(40) | Type of shape |
| SHAPE\_WKB | No | Blob | The geometry in well-known binary format |

### NRA\_SOURCE\_MODEL\_RECEPTORS\_VM

Description: this table provides details about source model receptors

Table 199: Description of fields in the Source Model Receptors VM table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| RECEPTOR\_CN | Yes | VC(40) | Primary Key; system generated |
| FES\_FK | No | VC(40) | Foreign Key to nra\_fixed\_equipment\_sites |
| OTHER\_AFFECTED\_AREAS \_FK | No | VC(40) | Foreign Key to nra\_other\_affected\_areas |
| RECEPTOR\_DESC | No | VC(250) | Descriptor of receptor |
| RECEPTOR\_ID | No | VC(40) | Unique ID for each receptor |
| RECEPTOR\_LOC\_FK | No | VC(40) | Foreign Key to nra\_receptor\_locations |
| RECEPTOR\_TYPE\_FK | No | VC(30) | Foreign Key to nra\_receptor\_types |
| RLS\_EXTENT | No | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SITE\_FK | No | VC(40) | Foreign Key to nra\_monitoring\_sites |
| SOURCE\_MODEL\_CN\_FK | No | VC(40) | Foreign Key to nra\_source\_models |

### NRA\_SOURCES\_PL

Description: this table provides information about the components associated with a source

Table 200: Description of fields in the Sources PL table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| OFFICIAL\_SOURCE\_NAME | Yes | VC(100) | The official name of the Source |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SOURCE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys |
| SOURCE\_TYPE\_FK | Yes | VC(15) | Foreign Key to nra\_source\_type |
| COMPONENT\_STACK\_NAME | No | VC(60) | The name of the component stack |
| COMPONENT\_STACK\_TYPE \_FK | No | VC(30) | Foreign Key to nra\_component\_stack\_type |
| COUNTY\_FK | No | VC(40) | Foreign Key to nra\_county |
| LOCATION\_DESCRIPTION | No | VC(250) | Description of the location where the measurement was taken |
| PARENT\_SOURCE\_FK | No | VC(40) | Foreign Key to nra\_source |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the fixed equipment site shape was modified |
| SHAPE\_TYPE | No | Number | Type of shape |
| SITE\_ID | No | VC(100) | Identification code of the measurement site |
| SOURCE\_DESCRIPTION | No | VC(250) | Description of the Source |
| STACK\_HEIGHT | No | Number | Height of stack in meters |
| STATE\_FK | No | VC(40) | Foreign Key to nra\_state |

### NRA\_SOURCES\_PT

Description: this table provides information about sources and components

Table 201: Description of fields in the Sources PT table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| OFFICIAL\_SOURCE\_NAME | Yes | VC(100) | Official name of the source |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SOURCE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys |
| SOURCE\_TYPE\_FK | Yes | VC(15) | Foreign Key to nra\_source\_type |
| COMPONENT\_STACK\_NAME | No | VC(60) | Name of component stack |
| COMPONENT\_STACK\_TYPE \_FK | No | VC(30) | Foreign Key to nra\_component\_stack\_type |
| COUNTY\_FK | No | VC(40) | Foreign Key to nra\_county |
| LOCATION\_DESCRIPTION | No | VC(250) | Description of location of Source |
| PARENT\_SOURCE\_FK | No | VC(40) | Foreign Key to nra\_source |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SHAPE\_TYPE | No | Number | Type of shape |
| SITE\_ID | No | VC(100) | Identification code of the source site |
| SOURCE\_DESCRIPTION | No | VC(250) | Description of the Source |
| STACK\_HEIGHT | No | Number | Height of stack in meters |
| STATE\_FK | No | VC(40) | Foreign Key to nra\_state |

### NRA\_SOURCES\_LN

Description: this table connects a source with information about its location

Table 202: Description of fields in the Sources LN table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| OFFICIAL\_SOURCE\_NAME | Yes | VC(100) | Official name of the source |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SOURCE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys |
| SOURCE\_TYPE\_FK | Yes | VC(15) | Foreign Key to nra\_source\_type |
| COUNTY\_FK | No | VC(40) | Foreign Key to nra\_county |
| LOCATION\_DESCRIPTION | No | VC(250) | Description of the location where |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SHAPE\_TYPE | No | Number | Type of shape |
| SITE\_ID | No | VC(100) | Field ID code associated with the Source |
| SOURCE\_DESCRIPTION | No | VC(250) | Description of the Source |
| STATE\_FK | No | VC(40) | Foreign Key to nra\_state |

### NRA\_SOURCES\_WKB

Description: this workbook links information about the source, its location and other spatial information

Table 203: Description of fields in the Sources workbook

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| LAST\_UPDATE | Yes | Timestamp(6) with time zone | Default is the system time stamp, systimestamp |
| OFFICIAL\_SOURCE\_NAME | Yes | VC(100) | Official name of the source |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| SOURCE\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys |
| SOURCE\_TYPE\_FK | Yes | VC(15) | Foreign Key to nra\_source\_type |
| COMPONENT\_STACK\_NAME | No | VC(60) | Name of the component stack |
| COMPONENT\_STACK\_TYPE \_FK | No | VC(30) | Foreign Key to nra\_component\_stack\_type |
| COUNTY\_FK | No | VC(40) | Foreign Key to nra\_county |
| LATITUDE | No | Number | Latitude of source |
| LOCATION\_DESCRIPTION | No | VC(250) | Description of the location of the Source |
| LONGITUDE | No | Number | Longitude of source |
| PARENT\_SOURCE\_FK | No | VC(40) | Foreign Key to nra\_source |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SHAPE\_TYPE | No | Number | Type of shape |
| SHAPE\_WKB | No | Blob | The geometry in well-known binary format |
| SITE\_ID | No | VC(100) | Identification code associated with the Source site |
| SOURCE\_DESCRIPTION | No | VC(250) | Description of the Source |
| STACK\_HEIGHT | No | Number | Height of stack in meters |
| STATE\_FK | No | VC(40) | Foreign Key to nra\_state |

### NRA\_VIEWS\_MONITORING\_SITES\_VW

Description: this is a view bringing together monitoring site data used to support the external output of Air water chemistry data to the FED website (see [Chapter 9](http://fsweb.nris.fs.fed.us/products/air/documentation.shtml) for more about FED)

Table 204: Description of fields in the Views Monitoring Sites view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| SITE\_NAME | Yes | VC(100) | Official name of the monitoring site from nra\_monitoring\_sites |
| SITE\_SID\_CN | Yes | VC(40) | Primary Key; spatial ID from the associated feature class |
| ELEVATION\_METERS | No | Number | Elevation of monitoring site in meters from nra\_monitoring\_sites |
| LATITUDE | No | Number | Latitude of monitoring site in NAD83 |
| LITHOLOGY | NO | VC(40) | Foreign Key to nra\_lithology\_types from nra\_monitoring\_sites |
| LONGITUDE | No | Number | Longitude of monitoring site in NAD83 |
| SITE\_ID | No | VC(100) | Field ID code of the location associated with the project from nra\_monitoring\_sites |
| WATER\_UNIT\_NAME | No | VC(60) | Foreign Key to nra\_water\_units from nra\_monitoring\_sites; official name of the water unit |
| WILDERNESS\_AREA | No | VC(60) | Foreign Key to nra\_wilderness\_park from nra\_monitoring\_sites; official name of wilderness of park area |

### NRA\_VIEWS\_VISIT\_VW

Description: this view brings together monitoring visit data used to support the external output of Air water chemistry data to the FED website (see [Chapter 9](http://fsweb.nris.fs.fed.us/products/air/documentation.shtml) for FED details)

Table 205: Description of fields in the Views Visit view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| PROJECT\_NAME | Yes | VC(80) | Name of project referenced by CN in site\_project\_cn in nra\_visits |
| PROTOCOL\_DEVIATION | Yes | VC(3) | Deviate in nra\_visits; this flag indicates whether there was a deviation from the established protocol during this visit |
| PROTOCOL\_NAME | Yes | VC(300) | Name of protocol referenced by CN in prj\_protocol\_cn in nra\_visits |
| SITE\_NAME | Yes | VC(100) | Official name of monitoring site as referenced by Foreign Key |
| SITE\_SID\_CN | Yes | VC(40) | Foreign Key to nra\_monitoring\_sites |
| VISIT\_DATE | Yes | Date | Date and time of the visit |
| VST\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| ACCUMULATED\_PRECIP \_AM | No | Number | The precipitation amount, in centimeters, accumulated during the collection period from nra\_visits |
| DISCHARGE | No | Number | The amount of discharge from the stream or lake, in cubic feet per second from nra\_visits |
| PROJECT\_CONTACT | No | VC(100) | Foreign Key to nra\_contacts; the person who should be contacted for more information about the project |

### NRA\_VIEWS\_VISITS\_VW

Description: this view bring together monitoring visit measurements data used to support the external output of Air water chemistry data to the FED website (see [Chapter 9](http://fsweb.nris.fs.fed.us/products/air/documentation.shtml))

Table 206: Description of fields in the Views Visits view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| COLLECTION\_DEPTH\_TYPE | Yes | VC(3) | Deviate in nra\_visits; this flag indicates whether there was a deviation from the established protocol during this visit |
| MEASUREMENT\_LOCATION | Yes | VC(40) | Foreign Key to nra\_monitoring\_sites |
| MEASUREMENT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| MEASUREMENT\_TYPE | Yes | VC(80) | Name of project referenced by CN in site\_project\_cn in nra\_visits |
| SAMPLE\_CN\_FK | Yes | VC(100) | Official name of the visit sample as referenced by Foreign Key |
| SAMPLE\_ID | Yes | VC(43) | Unique, user- or lab-generated sample ID; this must be unique within each visit; Note: some protocols have a predefined ID format and the labs pick up and use that ID |
| WATER\_UNIT\_LOCATION | Yes | VC(10) | Where the water unit is located |
| CHEMICAL\_FRACTION | No | VC(14) | The chemical fraction; valid values are “Not Applicable”; “Total”; and “Dissolved” |
| COLLECTION\_DEPTH | No | Number | The precipitation amount, in centimeters, accumulated during the collection period from nra\_visits |
| DEPOSITION\_SAMPLE\_TYPE | No | VC(50) | Type of deposition sample |
| DETECTION\_LIMIT | No | Number | Based on the equipment used; is an indication of how finely a piece of equipment and a method can measure a value |
| MEASUREMENT\_METHOD | No | VC(80) | Method of measurement used |
| MEASUREMENT\_PARAMETER | No | VC(40) | Measurement parameter used |
| QA\_SAMPLE\_TYPE | No | VC(50) | What type of sample QA was used |
| QUANTIFICATION\_LIMIT | No | Number | Quantification limit |
| SAMPLE\_DURATION | No | Number | Period of time over which the sample was collected |
| SAMPLE\_VOLUME | No | Number | Displays the volume of the water sample in milliliters; use “0” for black, spit, or snow core samples; use “999999” where sample volume is unavailable |
| UOM\_CODE | No | VC(40) | Unit of measure for sample taken |
| VALUE | No | Number | Value or amount of sample |

### NRA\_VIEWS\_VST\_MEASUREMENTS\_VW

Description: this view brings together monitoring visit data used to support the external output of Air water chemistry data to the FED website (see [Chapter 9](http://fsweb.nris.fs.fed.us/products/air/documentation.shtml))

Table 207: Description of fields in the Views Visit Measurements view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| MEASUREMENT\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| CHEMICAL\_FRACTION | No | VC(14) | The chemical fraction; valid values are “Not Applicable”; “Total”; and “Dissolved” |
| COLLECTION\_DEPTH | No | Number | The precipitation amount, in centimeters, accumulated during the collection period from nra\_visits |
| COLLECTION\_DEPTH\_TYPE | No | VC(10) | Type of collection depth |
| DEPOSITION\_SAMPLE\_TYPE | No | VC(10) | Type of deposition sample take |
| DETECTION\_LIMIT | No | Number | Based on the equipment used; is an indication of how finely a piece of equipment and a method can measure a value |
| MEASUREMENT\_LOCATION | No | VC(15) | Location where the measurement was taken |
| MEASUREMENT\_METHOD | No | VC(30) | Measurement method used |
| MEASUREMENT\_PARAMETER | No | VC(80) | Measurement parameter used |
| MEASUREMENT\_TYPE | No | VC(29) | Type of measurement taken |
| QA\_SAMPLE\_TYPE | No | VC(10) | What type of sample QA was used |
| SAMPLE\_DURATION | No | Number(22) | Period of time over which the sample was collected |
| SAMPLE\_ID | No | VC(43) | Unique, user- or lab-generated sample ID; this must be unique within each visit; Note: some protocols have a predefined ID format and the labs pick up and use that ID |
| SAMPLE\_VOLUME | No | Number | Displays the volume of the water sample in milliliters; use “0” for black, spit, or snow core samples; use “999999” where sample volume is unavailable |
| UOM\_CODE | No | VC(40) | Unit of measure for sample taken |
| VALUE | No | Number | Value or amount of sample |
| VST\_CN\_FK | No | VC(40) | Foreign Key to nra\_visit\_cn |
| WATER\_UNIT\_LOCATION | No | VC(10) | Where the water unit is located |

### NRA\_VIEWS\_VISITS\_VW

Description: this view brings together monitoring visit data used to support the external output of Air water chemistry data to the FED website (see [Chapter 9](http://fsweb.nris.fs.fed.us/products/air/documentation.shtml))

Table 208: Description of fields in the Views Visits view

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| PROJECT\_NAME | Yes | VC(80) | Name of project referenced by CN in site-project\_cn in nra\_visits |
| PROTOCOL\_DEVIATION | Yes | VC(3) | Deviate in nra\_visits; this flag indicates whether there was a deviation from the established protocol during this visit |
| PROTOCOL\_NAME | Yes | VC(300) | Name of protocol referenced by CN in prj\_protocol\_cn in nra\_visits |
| SITE\_NAME | Yes | VC(100) | Official name of monitoring site as referenced by Foreign Key |
| SITE\_SID\_CN | Yes | VC(40) | Foreign Key to nra\_monitoring\_sites |
| VISIT\_DATE | Yes | Date | Date and time of the visit |
| VST\_CN | Yes | VC(40) | Primary Key; system generated globally unique ID; default is sys\_guid() |
| ACCUMULATED\_PRECIP \_AMT | No | Number | The precipitation amount, in centimeters, accumulated during the collection period from nra\_visits |
| DISCHARGE | No | Number | The amount of discharge from the stream or lake, in cubic feet per second, from nra\_visits |
| PROJECT\_CONTACT | No | VC(100) | Foreign Key to nra\_contacts; the person who should be contacted for more information about the project |

### NRA\_WATER\_UNITS\_LN

Description: this view is of the water unit records represented by line geometry; the view is necessary for ArcGIS to be able to display the data, is registered in SDE as a layer and appears in ArcCatalog as a line featureclass.

Table 209: Description of fields in the Water Units LN table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the monitoring site |
| OUTLET\_DAM\_TYPE | Yes | VC(10) | Foreign Key to nra\_water\_units; type of dam outlets; valid values are “Artificial,” “None,” “Augmented,” “Unknown,” and “Natural”; default is “Unknown” |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| WTR\_UNIT\_SID\_CN | Yes | VC(40) | Foreign Key to nra\_water\_units |
| AGRICULTURE\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of agriculture cover |
| BARREN\_BEACH\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of barren cover |
| CATCHMENT\_ASPECT | No | Number | Foreign Key to nra\_water\_units; displays average catchment aspect in degrees; valid values are null and 0-36 |
| CATCHMENT\_SIZE | No | Number | Foreign Key to nra\_water\_units; displays catchment size, in hectares, that forms the watershed for either the lake or stream |
| CATCHMENT\_SLOPE | No | Number | Foreign Key to nra\_water\_units; the average catchment slope in percent obtained by dividing the elevational distance from the water’s edge to the top of the farthest catchment ridge; valid values are null and o-90 |
| DEPTH | No | Number | Foreign Key to nra\_water\_units; displays water unit reference depth |
| DEVELOPED\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of developed land cover |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment site |
| FOREST\_SHRUB\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types as referenced in nra\_water\_units; this is the percent of forest and shrub cover |
| GRASS\_HERBS\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types |
| HYDROLOGIC\_LAKE\_TYPE | No | VC(30) | Foreign Key to nra\_lake\_shore\_chrctr\_types; valid values are “Drainage” (outlets present), “Seepage” (no outlets present), and “Reservoir” |
| LOCAL\_NAME | No | VC(240) | User provided name of the location |
| NUMBER\_INLETS | No | Number | Foreign Key to nra\_water\_units; number of lake inlets |
| NUMBER\_OUTLETS | No | Number | Foreign Key to nra\_water\_units; number of lake outlets |
| RANGELAND\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of land cover |
| REFERENCE\_PT\_DESC | No | VC(240) | Foreign Key to nra\_water\_units; description of point used for the reference lake level field (i.e., height from the base of boulder, from the top of a dam, etc.) |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SHORELINE\_MOD\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lake\_shore\_chrctr\_types; this is the percent of modified shoreline cover |
| SITE\_ID | No | VC(100) | Field ID code associated with the monitoring site |
| STREAM\_ORDER | No | Number | Foreign Key to nra\_water\_units; this is the number of streams in a network and what their order is’ all unbranched streams as first order steams; where two first order streams meet, the resulting channel is a second order stream; where two second order streams meet a third order stream results, etc.; tributaries of lower order than the main channel are ignored |
| VOLUME | No | Number | Foreign Key to nra\_water\_units; displays lake volume, in 106m3, if the water unit is a lake |
| WETLAND\_CHAR\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lake-shore\_chrctr\_types; this is the percent of wetland |
| WTR\_AREA | No | Number | Foreign Key to nra\_water\_units; displays lake size, in hectares |
| WTR\_UNIT\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_water\_unit\_types |

### NRA\_WATER\_UNITS\_PL

Description: this view is of the water unit records represented by polygon geometry; the view is necessary for ArcGIS to be able to display the data, is registered in SDE as a layer, and appears in ArcCatalog as a polygon featureclass

Table 210: Description of fields in the Water Units PL table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the monitoring site |
| OUTLET\_DAM\_TYPE | Yes | VC(10) | Type of dam outlets; valid values are “Artificial,” “None,” “Augmented,” “Unknown,” and “Natural”; default is “Unknown” |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| WTR\_UNIT\_SID\_CN | Yes | VC(40) | Foreign Key to nra\_water\_units |
| AGRICULTURE\_CHAR\_TYPE | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of agricultural cover |
| BARREN\_BEACH\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent to of barren cover |
| CATCHMENT\_ASPECT | No | Number | The average catchment aspect in degrees; valid values are null and 0-36 |
| CATCHMENT\_SIZE | No | Number | Catchment size, in hectares, that forms the watershed for either the lake or stream |
| CATCHMENT\_SLOPE | No | Number | The average catchment slope in percent obtained by dividing the elevational distance from the water’s edge to the top of the farthest catchment edge; valid values are null and 0-90 |
| DEPTH | No | Number | Foreign Key to nra\_water\_units; displays water unit reference depth |
| DEVELOPED\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of developed land |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment site |
| FOREST\_SHRUB\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of forest and shrub cover |
| GRASS\_HERBS\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of grass and herb cover |
| HYDROLOGIC\_LAKE\_TYPE | No | VC(30) | Valid values are “Drainage” (outlets present), “Seepage” (no outlets present), and “Reservoir” |
| LOCAL\_NAME | No | VC(240) | User-provided name of the location |
| NUMBER\_INLETS | No | Number | Number of lake inlets |
| NUMBER\_OUTLETS | No | Number | Number of lake outlets |
| RANGELAND\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of rangeland cover |
| REFERENCE\_PT\_DESC | No | VC(240) | Description of point used for the reference lake level field (i.e., height from the base of boulder, from the top of a dam, etc.) |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SHORELINE\_MOD\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of modified shoreline cover |
| SITE\_ID | No | VC(100) | Field ID code associated with the monitoring site |
| STREAM\_ORDER | No | Number | Foreign Key to nra\_water\_units; this is the number of streams in a network and what their order is; all unbranched streams as first order streams; where two first order streams meet; where two second order streams meet a third order stream results, etc.; tributaries of lower order than the main channel are ignored |
| VOLUME | No | Number | Lake volume, in 106m3, if the water unit is a lake |
| WETLAND\_CHAR\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of wetland |
| WTR\_AREA | No | Number | Lake size, in hectares |
| WTR\_UNIT\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_water\_unit\_type |

### NRA\_WATER\_UNITS\_PT

Description: this view is of the water unit records represented by point geometry; the view is necessary for ArcGIS to be able to display the data, is registered in SDE as a layer, and appears in ArcCatalog as a point featureclass

Table 211: Description of fields in the Water Units PT table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the monitoring site |
| OUTLET\_DAM\_TYPE | Yes | VC(10) | Type of dam outlets; valid values are “Artificial,” “None,” “Augmented,” “Unknown,” and “Natural”; default is “Unknown” |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| WTR\_UNIT\_SID\_CN | Yes | VC(40) | Foreign Key to nra\_water\_units |
| AGRICULTURE\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of agricultural cover |
| BARREN\_BEACH\_CHAR \_TYPE | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of barren cover |
| CATCHMENT\_ASPECT | No | Number | The average catchment aspect in degrees; valid values are null and 0-36 |
| CATCHMENT\_SIZE | No | Number | Catchment size, in hectares, that forms the watershed for either the lake or stream |
| CATCHMENT\_SLOPE | No | Number | The average catchment slope in percent obtained by dividing the elevational distance from the water’s edge to the top of the farthest catchment ridge; valid values are null and 0-90 |
| DEPTH | No | Number | Foreign Key to nra\_water\_units; displays water unit reference depth |
| DEVELOPED\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of developed land cover |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment site |
| FOREST\_SHRUB\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of forest and shrub cover |
| GRASS\_HERBS\_CHAR\_ TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of grass and herb cover |
| HYDROLOGIC\_LAKE\_TYPE | No | VC(30) | Valid values are “Drainage” (outlets present), “Seepage” (no outlets present), and “Reservoir” |
| LOCAL\_NAME | No | VC(240) | User-provided name of the location |
| NUMBER\_INLETS | No | Number | Number of lake inlets |
| NUMBER\_OUTLETS | No | Number | Number of lake outlets |
| RANGELAND\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of rangeland cover |
| REFERENCE\_PT\_DESC | NO | VC(240) | Description of point used for the reference lake level field (i.e., height from the base of boulder, from the top of a dam, etc.) |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SHORELINE\_MOD\_CHAR \_TYPE\_FK | No | VC(20) | Foreign key to nra\_lakes\_shore; this is the percent of modified shoreline cover |
| SITE\_ID | No | VC(100) | Field ID code associated with the monitoring site |
| STREAM\_ORDER | No | Number | Foreign Key to nra\_water\_units; this is the number of streams in a network and what their order is; all unbranched streams as first order streams; where two first order streams meet, the resulting channel is a second order stream; where two second order streams meet a third order stream results, etc.; tributaries of lower order than the main channel are ignored |
| VOLUME | No | Number | Lake volume, in 106m3, if the water unit is a lake |
| WETLAND\_CHAR\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of wetland |
| WTR\_AREA | No | Number | Lake size, in hectares |
| WTR\_UNIT\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_water\_unit\_type |

### NRA\_WATER\_UNITS\_WKB

Description: this view supports spatial editing by transforming SDO\_Geometry into well-known binary format

Table 212: Description of fields in the Water Units workbook

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(60) | Official name of the monitoring site |
| OUTLET\_DAM\_TYPE | Yes | VC(10) | Type of dam outlets; valid values are “Artificial,” “None,” “Augmented,” “Unknown,” and “Natural”; default is “Unknown” |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| WTR\_UNIT\_SID\_CN | Yes | VC(40) | Foreign Key to nra\_water\_units |
| AGRICULTURE\_CHAR\_TYPE \_FK | NO | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of agriculture cover |
| BARREN\_BEACH\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent to of barren cover |
| CATCHMENT\_ASPECT | No | Number | The average catchment aspect in degrees; valid values are null and 0-36 |
| CATCHMENT\_SIZE | No | Number | Catchment size, in hectares, that forms the watershed for either the lake or stream |
| CATCHMENT\_SLOPE | No | Number | The average catchment slope in percent obtained by dividing the elevational distance from the water’s edge to the top of the farthest catchment ridge; valid values are null and 0-90 |
| DEPTH | No | Number | Foreign Key to nra\_water\_units; displays water unit reference depth |
| DEVELOPED\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of developed land cover |
| ELEVATION | No | Number | Elevation, in meters, of the fixed equipment site |
| FOREST\_SHRUB\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of forest and shrub cover |
| GRASS\_HERBS\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of grass and herb cover |
| HYDROLOGIC\_LAKE\_TYPE | No | VC(30) | Valid values are “Drainage” (outlets present), “Seepage” (no outlets present), and “Reservoir” |
| LOCAL\_NAME | No | VC(240) | User-provided name of the location |
| NUMBER\_INLETS | No | Number | Number of lake inlets |
| NUMBER\_OUTLETS | No | Number | Number of lake outlets |
| RANGELAND\_CHAR\_TYPE \_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of rangeland cover |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SHORELINE\_MOD\_CHAR \_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of modified shoreline cover |
| SITE\_ID | No | VC(100) | Field ID code associated with the monitoring site |
| STREAM\_ORDER | No | Number | Foreign Key to nra\_water\_units; this is the number of streams in a network and what their order is; all unbranched streams as first order streams; where two first order streams meet, the resulting channel is a second order stream; where two second order streams meet, a third order stream results, etc.; tributaries of lower order than the main channel are ignored |
| VOLUME | No | Number | Lake volume, in 106m3, if the water unit is a lake |
| WETLAND\_CHAR\_TYPE\_FK | No | VC(20) | Foreign Key to nra\_lakes\_shore; this is the percent of wetland |
| WTR\_AREA | No | Number | Lake size, in hectares |
| WTR\_UNIT\_TYPE\_FK | No | VC(40) | Foreign Key to nra\_water\_unit\_type |

### NRA\_WILDERNESS\_PARKS\_PL

Description: this view is of the wildernesses, national parks and monuments, tribal lands, national forests, and grassland areas; the view is necessary for ArcGIS to be able to display the data, is registered in SDE as a layer, and appears in ArcCatalog as a point featureclass

Table 213: Description of fields in the Wilderness Parks PL table

| **Field Name** | **Req’d?** | **Size** | **Description** |
| --- | --- | --- | --- |
| OFFICIAL\_NAME | Yes | VC(60) | Foreign Key to nra\_wilderness\_park; official name of the wilderness area, national park, tribal area, or national forest |
| SDE\_SHAPE\_ID | Yes | Number | Unique spatial ID |
| WILD\_PARK\_SID\_CN | Yes | VC(40) | Foreign Key to nra\_wilderness\_park |
| CLASS | No | VC(30) | Foreign Key to nra\_wilderness\_park; this is the Clean Air Act designated by law for the wilderness area or national park and it determines the degree of protection from antropogenic air pollution effects |
| CLASS\_1\_PERSON\_CONTACT \_CN\_FK | No | VC(40) | Foreign Key to nra\_contacts; this is the person to contact for information about air quality related issues of Class I areas |
| HAZE\_INDEX\_AVG\_NATURAL | No | Number | The haze index, in dv, of the annual average natural |
| HAZE\_INDEX\_CLRST \_BASELINE | No | Number | The haze index, in dv, of the haziest 20% baseline |
| HAZE\_INDEX\_CLRST \_NATURAL | No | Number | The haze index, in dv, of the clearest 20% natural |
| HAZE\_INDEX\_HZST\_BASELINE | No | Number | The haze index, in dv, of the haziest 20% baseline |
| HAZE\_INDEX\_HZST\_NATURAL | No | Number | The haze index, in dv, of the haziest 20% natural |
| HIGHEST\_PT | No | Number | Foreign Key to nra\_wilderness\_park; the highest elevation point, in feet, of the wilderness area or park |
| LOWEST\_PT | No | Number | Foreign Key to nra\_wilderness\_park; the lowest elevation point, in feet, of the wilderness area or park |
| MANAGEMENT | No | VC(30) | Foreign Key to nra\_wilderness\_park; what agency manages the wilderness area or park |
| RAYLEIGH\_SCTTRNG \_COEFFICIENT | No | Number | The Rayleigh scattering coefficient for the wilderness area or park |
| RLS\_EXTENT | Yes | VC(30) | OID/VDP; spatial extent (i.e., “California,” “Northwest”) |
| SHAPE | No | MDSYS.SDO\_ GEOMETRY | Feature geometry |
| SHAPE\_MODIFIED\_DATE | No | Date | The date the source shape was modified |
| SITE\_ID | No | VC(100) | Foreign Key to nra\_wilderness\_park; Field ID code associated with the wilderness park |
| SIZE\_ACRES | No | Number | Foreign Key to nra\_wilderness\_park; the size of the wilderness area or park |
| VISUAL\_RANGE\_AVG \_NATURAL | No | Number | The standard visual range, in km, of the annual average natural |
| VISUAL\_RANGE\_CLRST \_BASELINE | No | Number | The standard visual range, in km, of the clearest 20% baseline |
| VISUAL\_RANGE\_CLRST \_NATURAL | No | Number | The standard visual range, in km, of the clearest 20% natural |
| VISUAL\_RANGE\_HZST \_BASELINE | No | Number | The standard visual range, in km, of the haziest 20% baseline |
| VISUAL\_RANGE\_HZST\_NATURAL | No | Number | The standard visual range, in km, of the haziest site |