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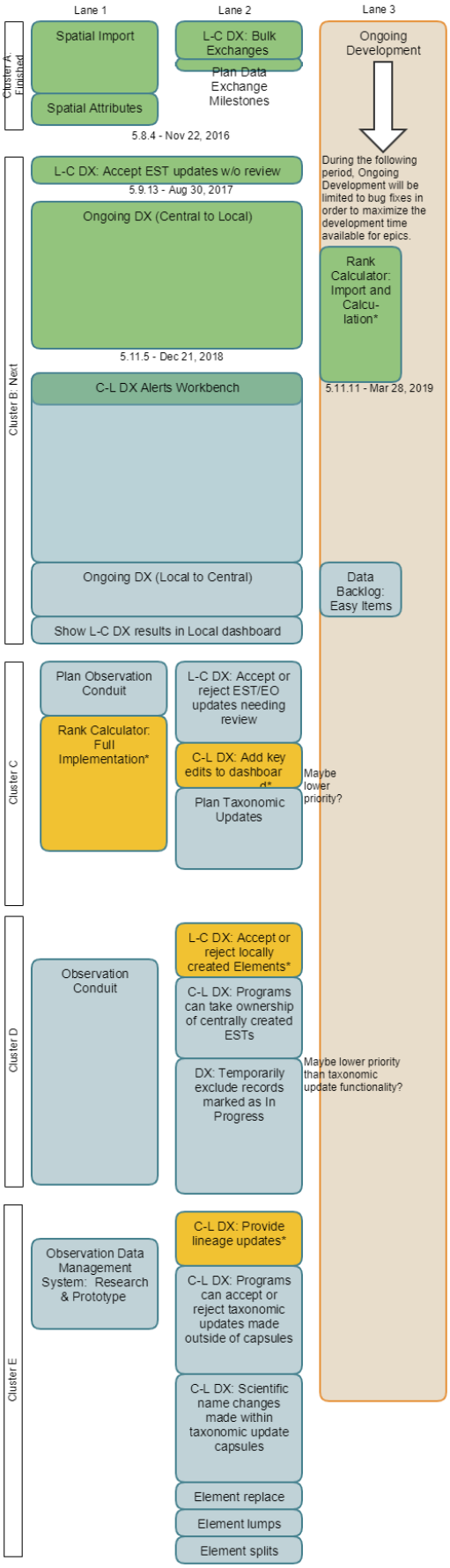
Project Roadmap



Key:

L-C DX = Local to Central Data Exchange
C-L DX = Central to Local Data Exchange
Local db = Member Program database

*Confirm priority with member programs

Data Exchange Epics To Incorporate Into Broader Roadmap.

On Demand DX	Not ranked
C-L DX: Dist. data	Not ranked
DX w/ non-Biotics	Not ranked
Mgt. rel data sets	Not ranked

These items will be incorporated into the roadmap when their scope is better defined.

- Data Backlog: Larger Items
- SMRT: Easy Items
- SMRT: Larger Items

Other epics that have not yet been prioritized

- Observation Data Management System
- EIA: Easy Items
- Data Backlog: Lower Priority Items
- SMRT: Lower Priority Items
- EIA: Remainder
- QA/Partner Edits

How to Interpret the Roadmap

- This is focused on our plans for managing software development activities, as well as planning periods that will require significant time from the same people (both developers and testers).
- There are three lanes of capacity available. This is done to limit overall complexity at a given point in time.
- The items on the roadmap are our broad areas of development, known as epics.
- In order to be included on the roadmap, an item must have a definable scope. It must be possible to reach a point at which we can declare the item to be complete. Additional improvements can be made, but they will likely be handled as part of ongoing development.
- The size (total area) of each roadmap item represents our best guess at the total effort to implement it. However, sizes are approximate and reflect the general magnitude rather than a very specific estimate. But roughly speaking:
    - For a single development lane, 1 pixel of height represents 2 hours of effort
    - For an epic spanning two lanes, 1 pixel of height represents 4 hours of effort
    - For an epic that is taking up some of the Ongoing Development lane, 1 pixel of height represents 1.33 hours of effort
- An epic can be split into multiple roadmap items in order to front load some higher priority aspects.
- Gaps are used to indicate places in which all items above the gap will be completed before continuing on to the next items on the roadmap.
- Each roadmap item is hyperlinked to a page that provides further details about the epic.

Immediate Priorities

Here is the rationale for why some items have been included the list of immediate priorities.

Observation Conduit - alleviates pain points until a broader solution is available.

Observation Data Management System - at a minimum, we need an immediate budget proposal for research that is necessary to determine an estimated cost.

QA for Partner Provided Edits - the inclusion assumes that we can come up with a fairly low cost solution.

Ecological Integrity Assessment (EIA) - Element Level - this is something we have been trying to advance for 10 years. Need to understand how much is supported through extensible tables, and hope to identify lower cost ways to implement the highest needs.

Additional Priorities

These are listed in no particular order.

Extensible Tables - Shelley suspects a lot of programs are being quiet until an easy solution is available. Possible candidate to present the SQL workarounds in a webinar?

Streamlined UI (per instance) - could be elevated if funding were available

Custom Views/Data Access (per user) - could be elevated if funding were available

Data Visualization

Central Biotics Map Viewer

Other Identification Integration

Taxonomy Service

Dashboards

Long Term Priorities

These are listed in no particular order.

Habitat Climate Change Vulnerability Index (HCCVI) - viewed as long term priority if Kristin can confirm the existing extensible fields are capturing the data that needs to be captured

Red List for Communities - Same rationale, also need to confirm with Kristin

Species Climate Change Vulnerability Index (CCVI) - Same rationale; need to confirm with Anne

Red List for Species

Data Exchange with Non-Biotics programs - we need to discuss impact with conservation services, but there is some reluctance to prioritize functionality that doesn't benefit Biotics users. Perhaps there are specific ways to alleviate pain points? One main complication is missing data and impact on MJD quality.

Data Management for LAC - assumption is that observation data management solution would go a long way toward meeting their needs. Less need for EO data. Cost (for individual programs) and technical approach (subnational agency focus) are other issues.

Eco Obs - assumption is that observation data management solution would meet a lot of these needs, and would like to try to shape overall needs into something that would better fit into what might be available.

CMECS data management - could potentially be moved higher if work is funded

Topology/Precision/Tolerance/Geometric Complexity - not broad impact; portions might be handled through spatial import.

Roadmap Details

Roadmap Details: Bulk Import of Spatial Data

Complete support for bulk importing spatial data. This would include:

- Import Managed Areas
- Import Sites
- Create new EOs from imported Source Features
- Add an imported shape to an existing unmapped record
- Crosswalk tools to allow define how to map fields in the imported data set to Biotics fields
- Support for importing from other formats. Candidates include: file geodatabase layers, csv files, kml, geojson

The JIRA epic for this issue is ~~BX-2863~~ - Bulk Import of Spatial Data CLOSED

Key	T	Summary	sprint	Status	Resolution
BX-1904		Bulk import and delete operations can cause performance issues due to large numbers of redundant spatial attribute jobs	BX 5.7.14	CLOSED	Fixed
BX-2890		Bulk Import of shapefile fails if a feature contains null geometry	BX 5.8	CLOSED	Fixed
BX-2198		Bulk SF Import fails with bad geometry and stops entire import process	BX 5.8	CLOSED	Fixed
BX-1184		Bulk import via geodatabase	BX 5.8	CLOSED	Fixed
BX-820		Implement ability to bulk import managed areas	BX 5.8	CLOSED	Fixed
BX-821		Implement ability to bulk import conservation sites	BX 5.8	CLOSED	Fixed
BX-1346		Implement ability to uploaded shapefile and link records to unmapped Managed Area/Sites or replace shapes for mapped records	BX 5.8	CLOSED	Fixed
BX-676		Implement ability to batch import SF shapes & link shapes to existing unmapped SF data records or replace shapes for mapped SFs	BX 5.8	CLOSED	Fixed
BX-2025		Automatically use default LUC for bulk imported SFs records with null values if element only has one LUC defined in EO Specs	BX 5.8	CLOSED	Fixed
BX-1871		Add new security function (Bulk Import) to enable/disable bulk upload functionality	BX 5.8	CLOSED	Fixed
BX-1318		Allow bulk import of all data associated with a SF during bulk importing of source features	BX 5.8.2	CLOSED	Fixed
BX-2938		Allow Digital Mapping By, Digitial Mapping Date, Map QC Status, Map QC By to be updated to values other than the default during bulk import	BX 5.8.2	CLOSED	Fixed
BX-2942		When importing SFs with null LUC, the determination of a default LUC value should also consider parent elements for subspecies, populations, or varieties when searching for EO specs	BX 5.8.2	CLOSED	Fixed
BX-1655		Include ability to bulk upload tabular data as part of bulk EO creation process	BX 5.8.2	CLOSED	Fixed
BX-2974		Disable editing for Digital Mapping By and Digital Mapping Date in Site & MA records, for consistency	BX 5.8.2	CLOSED	Fixed
BX-2982		Bulk Create/Replace/Link tool: change the default values for "Reason for Creating new EO" and "Separation Distance Comments" fields from "Bulk Import" to "[Separation distance analysis bypassed:]Source Feature created through bulk import process."	BX 5.8.3	CLOSED	Fixed
BX-3012		Bulk Create/Replace/Link tool: use default values for "Reason for Creating new EO" and "Separation Distance Comments" fields if provided values only contain whitespace	BX 5.8.3	CLOSED	Fixed
BX-2130		Provide way to cross-walk fields when bulk importing features	BX 5.8.3	CLOSED	Fixed
BX-3010		Bulk Create tool failing and import stopping prematurely due to bad handling of missing item in additional eo table	BX 5.8.3	CLOSED	Fixed
BX-3019		'Bulk create' does not appear to work with IE 11	BX 5.8.3	CLOSED	Fixed

BX-3060		Visits & References not importing with Bulk Create SF	BX 5.8.4	CLOSED	Fixed
BX-3044		Filter Bulk Import Crosswalk Attributes List to only appropriate type	BX 5.8.4	CLOSED	Fixed
BX-3030		Change bulk create/replace/link tools to obtain EO values from either tbl_eo or source feature data but never both	BX 5.8.4	CLOSED	Fixed
BX-3000		Allow Bulk Replace/Link Shape tools to update MA and Site names	BX 5.8.4	CLOSED	Fixed

24 issues

The following issue relates to this topic, but was fixed before the epic was created.

- ~~BX-822~~ - Implement ability to create EOs from bulk imported SFs CLOSED

The following issue is related to this topic, but has been included within a separate epic.

- ~~BX-1904~~ - Bulk import and delete operations can cause performance issues due to large numbers of redundant spatial attribute jobs CLOSED

The following issues were originally identified as related to this topic, but were closed as duplicates of other issues that are already included within the epic.

- ~~BX-2707~~ - timeout errors when doing bulk upload/delete on bioticsMN CLOSED
- ~~BX-2738~~ - bulk import SFs from ArcGISOnline feature service CLOSED

The following issue is currently deferred, but relates to this topic. However, because the issue is deferred, it is not included within this epic.

- BX-1027 - Add "Save to Working List" option to "Bulk Import Report" dialog OPEN

We are assuming that these improvements to the bulk import functionality are likely to alleviate some of the most pressing needs identified by the data backlog working group.

Principals: Whitney

Roadmap Details: Central Biotics Map Viewer

Provide online map viewer for central Biotics users, and show mapped location thumbnails on individual record pages.

Look for overlap within spatial methodology working group.

Principals: Cameron, Whitney, Dave, Amanda, Regan

Roadmap Details: CMECS Data Management

Make data model and other necessary changes to support managing CMECS data within Biotics.

Principals: Kathy, Kristin

Roadmap Details: Custom Views/Access Control for Partners

Hide fields/record types/individual records from external partners that are working within a system. NVC and CMECS use cases.

Principals: Kathy, Kristin, Lori

Roadmap Details: Dashboards

Pending decisions, workflows to support day-to-day work, benchmark content standard indicators,

Principals: Lori

Roadmap Details: Data Backlog Working Group Recommendations

Review and incorporate specific recommendations from the data backlog working group. The June 2018 presentation containing all changes recommended by the Data Backlog Working Group can be viewed here, although it does require logging into Sharepoint.

See Roadmap Details: Data Backlog Easy Items for implementation details regarding some of the easier, high priority recommendations.

Currently, a small set of recommendations have been selected for implementation. We intend to implement them and gather feedback. Once the approach has been vetted, we will expand the implementation to a wider range of fields.

We have not yet selected the range of changes which will be included as part of the Easy Items epic. Once this is done, we anticipate that the remainder of the recommendations will be deferred until a future date.

We also expect that some of the initial recommendations may have been alleviated by adding support for bulk import of spatial data in the 5.8.x releases.

Principals: Dave, Karen Cieminski

Lead for refining description and scope: Shelley

Roadmap Details: Data Management for Latin America

Multiple barriers to Biotics usage. ProNatura, Peru, Puerto Rico are candidates for exploring further.

Principals: Pat

Roadmap Details: Data Visualization

I'm on the fence as to whether this is a discrete set of tasks which we can ever declare done, or a broader category for ongoing work. But right now, we have a lot of outstanding feature requests for new ways or changes to how users can visualize data or incorporate other data sets within the map viewer.

- Allow programs to customize their managed layer map services
- Allow individual users some additional degree of customization
- Allow optional labeling of features
- Improve the user experience for using uploaded shapefiles (color ramp, user-defined symbology, allow permanent usage through the instance's spatial library, etc)
- Provide support for using additional types of map services (feature, WMS, WFS, image, kml, others?)
- Provide support for using secured map services

Principals: Whitney, Allen

Roadmap Details: Ecological Integrity Assessment (EIA) - Element Level

Revamp EO Rank Specs for communities to support new methodology. EcoObs is prototype and workaround.

- New Metric Dictionary data model and window
- Complete reworking of the ecology EO Rank Specs window
- Edits to Community EO window to support some new EO Ranking fields
- Possibly addition of a hierarchy to the element_group data model.
- Does NOT include observation-level needs; those are covered under Observation Data Management System

Principals: Pat, Don, Kristin

Lead for refining description and scope: Pat

Roadmap Details: Eco Obs

Ideally, we'd like this to be incorporated into a larger system rather than being its own standalone system. A working assumption is that the observation data management solution would meet a lot of these needs, and would like to try to shape the overall needs for Eco Obs into something that would better fit into what might be available.

Principals: Kristin, Pat, Don

Roadmap Details: Extensible Tables

Complete support for extensible tables. This would include:

- The ability for users to manage their own extensible tables. Create new tables, delete existing tables, add new fields, delete existing fields
- Change how extensible tables are displayed. Define the order in which they appear, change the labels for fields, re-order fields
- Allow extensible fields to reference core data tables (such as Reference records)
- Implement (optional) audit tracking for extensible tables

The JIRA epic for this issue is **BX-3129** - Complete support for extensible tables OPEN

Key	T	Summary	sprint	Status	Resolution
BX-379		Implement the ability to administer extensible tables	BX 5.8.4	CLOSED	Fixed
BX-3094		In Administer Extensible Section, domain table reverts to ID instead of Display value, causing error when saving record when field is populated	BX 5.9	CLOSED	Fixed
BX-3077		Tooltip value is not defined for the Adminster Extensible Data | Edit row button	BX 5.9	CLOSED	Fixed
BX-2255		In left navigation pane, visually distinguish extensible sections from standard sections	BX 5.9	CLOSED	Fixed
BX-3106		Remove Domain Display Width from Extensible Section Attribute Details for Domain Table	BX 5.9	CLOSED	Fixed
BX-1468		Allow extensible table dropdowns to use non-domain tables		OPEN	Unresolved
BX-1749		Add support for audit tracking of extensible tables		OPEN	Unresolved
BX-838		Add ability to support mult-list control field type in extensible tables		CLOSED	Fixed
BX-1075		Allow administrators to configure order of extensible sections within a record		CLOSED	Fixed

9 issues

Principals: Whitney/Shelley (or Kristin, if she were available)

Roadmap Details: Habitat Climate Change Vulnerability Index (HCCVI)

Emphasis would be on data we'd like to present on NatureServe Explorer. Currently in extensible tab; further needs anticipated. Further discussion required on desired approach.

Principals: Pat, Kristin

Roadmap Details: Observation Conduit

Mechanism for allowing Source Features to be created/updated based upon observations stored in an arbitrary third party system. The specifics need further definition but should consider:

- Documenting precision and accuracy in observations.
- Potentially consider absence/negative observations
- Identify known third-party systems.

There are areas of overlap with other items on the roadmap which should also be considered.

Spatial Methodology Working Group

- Observation documentation
- Observation fields and approach for negative data
- Map surfaces management

Eco Obs

- Consider how Eco Obs could fit into the observation conduit

Principals: Shara/Cameron, programs heavily invested in observations (WY), Whitney, Shelley, Kristin, Amanda

Leads for refining description and scope: Dave, Rob, Whitney, Trang

Roadmap Details: Observation Data Management System

Replacement for Kestrel. This system is envisioned to be a highly scalable, online system suitable for storing, managing, and viewing observations.System is intended for member programs and other organizations. Observations can use variable data models. Includes absence/negative observations.

The next step for this item is to draft a budget proposal for research that is necessary to determine the estimated cost.

Principals: Lori, Rob, Dave, network representation – existing Kestrel users plus others, Kentucky has expressed interest, plus those listed in the observation conduit

Lead for refining description and scope: Dave

Summary of Observation Data Management System goals identified during preliminary planning meetings among: Dave, Rob, Lori, Trang, Whitney, Kathy, Kristin

Overview

- Users will be able to create and save observations.
- Observations can use different data models. The system will integrate with NatureServe's Template Library, which will be used to design the data model used for individual observations.
- The system will provide access to observations through an online map viewer with integrated search and filter capabilities.
- All users will share a single, cloud-hosted system
- Security will be implemented to allow very granular options for sharing or restricting access to view and/or edit observations.
- The system will be able to scale to handle enormous numbers of observations – tens of millions of records, and potentially hundreds of millions.
- The system will provide an API to support importing, updating, and exporting sets of data.

Observation Data

- Observation data can be stored using data models defined through NatureServe's Template Library.
- Observations must:
    - have a location
    - have a time
    - have an observer
    - indicate the presence or absence of something
- Observations are organized within projects. All observations will belong to a single project.
- Projects will define the allowable templates for observations contained within the project.

TBD: There needs to be a TBD way to allow for a single location, time, and/or observer to apply to multiple "presence or absence of something" entries. This would allow for multiple "observed things" to be part of a single observation record.

TBD: Need to consider how to handle situations where auxiliary things which are not the main focus of the observation are identified within a single observation. For example, an ecological community observation (which is its own thing) might record specific lists of plants and animals as supporting information. We might want to consider how/whether these auxiliary identifications could/should be treated as observations.

TBD: Need to define complexity of inter-related records. For example, consider iMap invasives. There's more to the data model beyond just observations and projects. Observations can be associated with infestations and also management and treatment records, which are then related to one another in certain ways, and with very specific rules about how they can interact with one another. This is beyond the scope of what our system could support. We're looking to capture and store the observation data – not everything else that is potentially related to it in a tangential way.

Stretch goals:

- Image and other multimedia support
- Derived fields – for example, field X = field Y + field Z when entering/editing/importing data
- Conditional fields – for example, if field X=Y when entering/editing data, then hide field Z. Or swap in a different set of dropdown choices.

Security

TBD. We need to define the ways in which security rules can be defined, striving for a mix between usability and flexibility.

The basic operations which can be performed on observation data are:

- Create – add a new observation to a project
- View an existing observation
    - There may be location-specific logic. Perhaps a user can view everything but a location, or perhaps might be restricted to viewing a generalized location. There may be other sensitive fields to which access needs to be restricted.
- Edit an existing observation
    - Potentially limited to certain fields?
- Delete an existing observation

The available information upon which the rules for deciding whether a user can perform these actions include:

- The project to which an observation belongs
- The organization that owns the project
- The user groups to which the user belongs, either directly or indirectly
- Other user groups that exist within the system
- Other organizations that exist within the system
- The observation data itself

TBD: do we need user groups and organizations? Or could we just model organizations as (potentially nested) user groups?

Scalability

We aim to use a big-data solution to allow the system to handle extremely large numbers of observations. We expect to use an architecture that distributes the storage and processing of observation data across a cluster of (probably virtualized) machines. Additional machines can be added to the cluster to increase its capacity as needed.

We haven't yet planned the specifics of how this will be done. This will be the major focus for upcoming research and prototypes. But some possible components that we expect to consider for the technology stack include:

- Hadoop
- Esri's GIS Tools for Hadoop
- ArcGIS GeoEvent Extension for Server
- GeoMesa
- Cassandra, Accumulo, HBase or some other NoSQL data store

Viewing Observation Maps

Viewing observations on a map will likely fall into two broad categories: summarized and specific.

Specific: this is the standard way of viewing GIS data – generate a map that shows the actual locations of all observations meeting some criteria within a particular extent, possibly using some class-based symbology rule to help visually differentiate observations of different types, as well as scale-dependent visualization rules for centroids, outlines, polygonal shapes, etc.

Summarized: there will be situations where there is too much data meeting a criteria, and it won't be feasible to draw everything on a map. It would either be visually overwhelming to try to display everything, or it would take too long to do so. For these situations, the system would use some mechanism to visually summarize the available data – heatmaps, hotspots, distribution analyses, etc.

Search and Filter Capabilities

Exact mechanisms are again TBD, and probably heavily dependent upon the NoSQL data store being used and the way in which it is leveraged. But possible ways in which users would want to search and filter data include:

- By project
- By template
- By whether the observation's template includes an attribute
- By some logical combination of recorded attribute values – for example: observed item in (A, B, C) and is present and date between (Y, Z) and location within (some polygon)
- By taxonomy – for example: observed thing is/can be crosswalked to a NatureServe global element, observed thing is a cmecs component, observed thing is a plant, etc
- By combinations of the above factors

Unlike Biotics, users would not have a mechanism to directly execute SQL queries against the underlying data store.

- Depending on the data store, SQL syntax might not be supported.
- Even if SQL syntax is supported, we need to ensure that security rules are strictly enforced. This is imperative, given the sensitive nature of some observation data combined with the fact that all users will be sharing a single system. Allowing users to execute arbitrary queries would likely make it much, much harder to enforce security rules.

Stretch goals:

- Taxonomy crosswalk – attempt to crosswalk/reconcile data recorded using some taxonomic system to another. For example, if an observation originated from iNaturalist, can the species be crosswalked to a NatureServe EGT, or a Kentucky EST? For a member program-entered EST, what's the associated EGT? What are the higher classification units for a recorded identification.
- Analysis – beyond just reporting what data meets some criteria, perform some type of analysis upon the data and return the results.
- QC – find/manage/exclude records that are incomplete/invalid according to their template. For example, perhaps a template rule specifies that if field X=Y when entering/editing data, then field Z should be hidden. But what if a (possibly imported) record contains a value for field Z?
    - This might potentially be considered a sort of analysis task

Tabular View of Data

Primary challenges for presenting a tabular view of data include:

- Designating which columns to include
- How to flatten data, e.g., pivoting the data to a columnar view.

"Tabular views" include any flat format we wish to target – HTML table, CSV/Excel export, shapefile, etc.

Exporting Data

Full exports of data would require the use of formats that support hierarchical data: geojson, xml, etc. Exporting to flat formats is a special case of creating a tabular view of data.

Exports of large data sets may have to be performed as background tasks, with a download link sent via email when complete.

Importing Data

Importing data would be easiest using formats that support hierarchical data. Importing hierarchical data from flat files would likely involve the use of the same pivot strategies used to flatten data, except in reverse.

Importing data would become more complex if we aimed to support advanced template structures such as derived fields or conditional fields. We would need to handle situations where incoming data is incomplete, doesn't follow the defined rules, etc.

Roadmap Details: Other Identification Integration

Manage/incorporate crosswalks to other data management systems, ideally reflecting status. Examples: ITIS, IUCN Red List, Flora of North America, USDA Plants. Avoid having to manually maintain links between systems.

Principals: Anne, Margaret

Roadmap Details: QA for Partner Provided Edits

QA/Vetting/review of edits made by outside contributors before permanently storing changes.

We want to consider approaches that may be easier to implement other than direct access to central Biotics + a temporary holding area for changes. For example, perhaps allow programs to make proposed changes to the centrally maintained data which is visible in their system, and send the changes as diff files which can be compared to the current values, reviewed and incorporated. This item is identified on the current roadmap as a very high priority under the assumption that we can come up with a fairly low cost solution.

The JIRA epic for this functionality is

BX-2868 - Provide method for reviewing proposed edits to records before incorporating changes into the database OPEN

Key	T	Summary	sprint	Status	Resolution
BX-2835		QA Edits in Member Programs		OPEN	Unresolved

1 issue

Per **BX-2835** - QA Edits in Member Programs OPEN , member programs might also be interested in a solution that would allow them to review and incorporate/reject suggested changes to their own records.

Principal: Anne

Other contributors: Bruce

Reviewers: Kristin, Margaret

Roadmap Details: Rank Calculator: Full Implementation

Online replacement for rank calculator spreadsheet. Should support integration with Biotics as well as standalone use.

Port of existing methodology at this time (Margaret); specific functionality may have minor improvements

Fairly high priority from network survey.

The JIRA epic is:

Key	Summary	Description
BX-2865	Develop Online Rank Calculator	This Epic has been split into two phases: "Rank Calculator: Import and Calculation" (~~BX-3932~~) and "Rank Calculator: Full Implementation" (this issue). Descriptions for each follow. **Rank Calculator: Import and Calculation:** Easy improvements to streamline using the existing rank calculator with Biotics 5. These changes should make it easier to use the Excel calculator until a fully integrated online calculator can be built. Specific improvements include • facilitating import from the rank calculator into Biotics (including the threats grid). • providing the calculated rank within Biotics when rank factor data are entered. **Rank Calculator: Full Implementation:** Online replacement for rank calculator spreadsheet. Should support integration with Biotics as well as standalone use. **Priority notes:** Fairly high priority from network survey.

The issues included in the epic are:

Key	T	Summary	sprint	Status	Resolution
BX-2252		Create online replacement for rank calculator spreadsheet		OPEN	Unresolved
BX-2688		Addition of Fields to Threats in the ESR for Rank Calculator		OPEN	Unresolved
BX-3982		Add way to calculate ESR area of occupancy, extent, number of occurrences from EOs		OPEN	Unresolved
BX-3983		Add way to count EOs using a blanket separation distance		OPEN	Unresolved
BX-3984		Consider additional shapes not in Biotics when calculating ESR area of occupancy from EOs		OPEN	Unresolved

5 issues

~~BX-3932~~ - Rank Calculator: import and calculation CLOSED covers a streamlined implementation of higher priority, easier improvements that will be implemented solely within Biotics. See Roadmap Details: Rank Calculator: Import and Calculation for details.

Principals: Kristin, Amanda/Anne/Adele, Margaret, network participation – Leah Ramsey

Lead for refining description and scope: Anne, Amanda, Adele

Roadmap Details: Red Listing for Communities

Manage the status in the same place as G Ranks.

Principals: Pat, Kristin

Roadmap Details: Red Listing for Species

Manage the status in the same place as G Ranks. Stored in core data model field + extensible fields. Kind of a mess; clean up.

Principals: Bruce, Margaret, Anne

Roadmap Details: Spatial Attributes

Allow programs to better manage spatial attribute values. This would include:

- Defining and managing the desired calculations
- Providing mechanisms to allow users to recalculate selected attributes for a set of features in a layer, or the entire layer
- Allow UI to automatically refresh feature dialogs when spatial attributes have finished recalculating
- Fix known bugs (failures caused by international characters, manual recalculations for a feature also update related layers, feature deletions don't remove spatial attribute calculations that found the feature).

The JIRA epic for this issue is ~~BX-2864~~ - Allow programs to manage spatial attributes CLOSED

Key	T	Summary	sprint	Status	Resolution
BX-1883		When a spatial record is deleted, recalculate spatial attributes for related managed layers	BX 5.7.14	CLOSED	Fixed
BX-2882		Clean up spatial attributes that reference previously deleted features	BX 5.7.14	CLOSED	Fixed
BX-703		Implement ability to recalculate one or more spatial attributes for all features in a managed layer	BX 5.8.3	CLOSED	Fixed
BX-1897		Do not recalculates attributes for related managed layers when manually recalculating spatial attributes for a single feature	BX 5.8.3	CLOSED	Fixed
BX-1928		Update Status to Valid whenever a spatial attribute value is manually edited	BX 5.8.3	CLOSED	Fixed
BX-704		Implement ability to recalculate spatial attributes for selected features in a managed layer using a working list	BX 5.8.3	CLOSED	Fixed
BX-815		Implement ability to administer the spatial attribute calculations	BX 5.8.3	CLOSED	Fixed
BX-886		Recalculating Spatial Attributes - refresh dialog to show newly calculated attributes	BX 5.8.3	CLOSED	Fixed
BX-3008		Update display values for AD_FEATURE_CODES table entries; used when editing Spatial Calculation Attributes	BX 5.8.3	CLOSED	Fixed
BX-3001		MA/Site Name Change Not Reflected in Spatial Attributes	BX 5.8.4	CLOSED	Fixed
BX-2945		Implement ability to recalculate spatial attributes for selected features in a managed layer using features selected adhoc through map using search or spatial clipboard	BX 5.8.4	CLOSED	Fixed

11 issues

Fixing performance problems that occur when bulk importing or bulk deleting features due to redundant spatial attribute jobs (~~BX-1904~~ - Bulk import and delete operations can cause performance issues due to large numbers of redundant spatial attribute jobs CLOSED) is very closely related, but is being handled within another epic, ~~BX-2863~~ - Bulk Import of Spatial Data CLOSED , because it is viewed as a critical dependency for allowing users to bulk import spatial data.

This epic could potentially include the following issues. However, all of these are currently classified as low priority or deferred. If we feel that any of these issues should be completed within this epic, we should elevate their priority.

- BX-1087 - Remove spatial attributes which do not apply after Modify Mapping Attributes changes a SF geometry type OPEN
- BX-1111 - Allow spatial attribute jobs to handle intermittent network issues when communicating with ArcGIS Server OPEN
- BX-1113 - UTM coordinates calculated for centroid spatial attribute are slightly off OPEN
- BX-1126 - Support spatial calculation from rasters OPEN
- BX-1818 - Allow POP_.._DATA functions to calculate values for Town_Range_Section notes for some (but not all) programs REOPENED
- BX-1972 - Recalculate Acreage & Hectares for ALL SF Polygons within ALL B5 instances? OPEN
- BX-2052 - Update spatial attribute names to be consistent for correct query results REOPENED

- ~~BX-2232~~ - Spatial attribute calc fails when result feature contains an international character CLOSED
- BX-680 - Allow map features to be filtered or queried using spatial attribute values OPEN
- BX-914 - The "update when shape edited" checkbox for centroid related spatial attributes should all be updated whenever one is modified OPEN

Principals: Whitney

Roadmap Details: Spatial Methodology Working Group Recommendations

Review and incorporate specific recommendations from the spatial methodology working group, e.g.

- Complete design of geodatabase module linked [by element codes] to Biotics 5 for managing element distributions as map surfaces (i.e., species distribution models, natural community map products).

Under development; plan to complete over next several months. But per Leslie, at least two concrete recommendations should be forthcoming in the near term.

Principals: Pat, Shara, network members from working group as needed

Lead for refining description and scope: Pat

Roadmap Details: Species Climate Change Vulnerability Index (CCVI)

None of these data are in Biotics.

Principals: Anne, Bruce

Roadmap Details: Streamlined UI

Allow programs to hide portions of the data model which they don't use and customize how other fields are presented. Highly rated on network survey.

Principals: Shelley, Rob, Parks Canada

Roadmap Details: Taxonomy Service

Support for following third-party taxonomies for some elements, and allowing other programs a way to follow ours.

Principals: Lori

Roadmap Details: Topology/Precision/Geometric Complexity

There are a variety of bugs stemming from the design of how geometry is managed within Biotics 5. This topic would be to address known bugs and enhancements:

- Allow Managed Areas and Conservation Sites to be stored using a higher precision. Some programs (especially FL) use very carefully delimited, high precision data. But when the data is imported into Biotics 5, rounding errors cause unexpected overlaps with one another. Programs would like to store and use exact copies of spatial data sets that originate from outside of Biotics.
- Figure out ways to handle geometry errors that occur when attempting to union complex shapes together. Illegal topological conditions can occur when working with shapes that are ever-so-slightly different, or intersect in strange ways.
- Figure out ways to support updating extremely complex shapes for which online editing is impractical.

JIRA epic: **BX-2899** - Fix bugs that are edge cases caused by complex geometry OPEN

Key	T	Summary	sprint	Status	Resolution
BX-1687		A timeout error occurs when editing the tabular record for a very complex managed feature (bioticsFL - MA record)		OPEN	Unresolved
BX-1221		A topology error occurs when calculating the new EO shape when a new SF is added (bioticsMA)		OPEN	Unresolved
BX-1731		A topology error occurs when calculating the new EO shape when the shape of a SF (one of thousands) is modified (bioticsMB)		OPEN	Unresolved
BX-1316		MA Spatial tolerance causing overlapping of MAs		OPEN	Unresolved
BX-1115		modifying shape of large, complex shape returns "Warning: Unsresponsive Script" multiple times (bioticsVA, bioticsFL, bioticsNE)		OPEN	Unresolved
BX-2024		Node error when creating Eo from 148 SFs		OPEN	Unresolved
BX-1962		Figure out reasons why some EO shapes can't be regenerated in VA, NE, NJ, and ON.		OPEN	Unresolved
BX-3617		Topological error - Points of LinearRing do not form a closed linestring		OPEN	Unresolved
BX-1214		Creating a shape by copying a very complex (and possibly topologically invalid?) record from a shapefile does not work because the server cannot deserialize the passed-in geometry: outer ring is counter clockwise		OPEN	Unresolved
BX-1215		Creating a shape by copying a very complex record from a shapefile gives an out of memory exception while simplifying the geometry		OPEN	Unresolved
BX-1268		The Feature Details dialog returns an error when viewing extremely complex shapes through identify tool, feature search, spatial clipboard, etc		OPEN	Unresolved

11 issues

Principals: Dave, Florida (Frank Price)

Roadmap Details: Ongoing Work

There are some broad categories that will continue to be driving factors for making changes. We will likely never reach a point at which we will declare any of these to be complete.

One lane of capacity is reserved for these ongoing development tasks. This is to ensure that a very large epic which we have decided should be the major focus for development doesn't block our ability to continue to make other improvements to the application. When reviewing and choosing the specific JIRA issues to work on within a sprint, we intend to use the following guidelines:

- Critical bug fixes and security patches always get priority.
- Once these have been included, the remaining capacity which we have reserved for ongoing work will be divided among issues that fall into the following three categories, using a TBD target ratio:
    - Usability improvements - these are changes that make Biotics easier to use and improve the efficiency for accomplishing tasks. Performance enhancements might also fall into this category, since they improve the user experience.
    - Architectural improvements/technical debt - these changes don't provide much benefit to end users, if any. However, they make it easier for us to build and maintain the application. This includes things like refactoring code to be more maintainable, keeping our use of third-party libraries and applications up-to-date with the most recent versions, etc.
    - Other
        - New functionality - note that even once we declare something to be "feature complete", we are bound to continue to generate and receive suggestions to allow users to do new things which are not yet part of the application. For these, though, we should also bear in mind that new functionality usually means increased complexity. This adds to our total long-term cost. It's inevitable that we will eventually want to make a major architectural shift, and a more complex application will ultimately make this a more difficult and more expensive proposition
        - Data Model changes - major changes will likely be driven by discrete goals, such as incorporate CMECS data or include changes recommended by working groups. But there will likely be an ongoing need for minor adjustments to meet changing needs.
        - Other - there's always something that won't fit easily into any of the other categories which we've defined.

For example, let's say we have 150 developer hours allocated for a sprint, and are trying to balance these three categories using a ratio of 50/20/30. One third of the total hours (50) would be dedicated to ongoing development. First, we'd try to include issues that fix critical bugs and security problems. If the estimates for these issues add up to 15 hours, we have 35 hours remaining for other work. We would try to select other issues such that approximately 17.5 hours (50%) were being used for usability improvements, 7 hours (20%) were being used for architectural improvements, and 10.5 hours (30%) were being used for other improvements. It's unlikely that we'd hit these ratios exactly, but at the end of the sprint we'd look at how we actually spent our time. We would use the results to influence our issue selection process for upcoming sprints in an attempt to keep the long-term ratio more-or-less balanced.

Roadmap Details: Data Exchange

This is a placeholder for grouping together all of the epics related to data exchange.

Roadmap Details: C-L DX Alerts Workbench

The JIRA epic for this issue is:

Key	Summary	Description

BX-3023	Develop a workbench for viewing and fixing ongoing dx errors and rejections	**Brief Description**: Build an interface in Biotics to enable local users to process incoming changes to global and national records from the central database. The workbench tool will allow users to filter, dismiss, and process notifications for changes that are of key interest (such as Grank updates) and alerts that identify requested or required changes to local data (such as taxonomic updates). **Challenge**: Local programs need to be informed about changes to certain global data (e.g., ranks) of elements they track in their subnation. Additionally, central users regularly update the taxonomy and classification of elements to follow the most current science, but local programs must be notified in order to accept the change and move data from old concepts to current concepts. This process must be done manually when local data are sent to central and encounter errors, is not transparent, takes months to years to complete, and results in subnational ranks and EOs remaining on out-of-date taxonomy where it is difficult for data users to access. The tool will enable clear communication about the updates and allow local users to easily update records to current taxonomy. **Objective:** Local users will be able to easily identify important updates to global data pertinent to them and easily update local data to follow current taxonomy. **Solution:** The tool will have an interface in Biotics where local users can see and filter notifications of key updates to global and national data and alerts about updates which may request or require updates to local data. Functionality of data exchange will be expanded to enable communication of information supporting taxonomic updates, including inactive records and lineage information. Major activities that are part of this epic are: • Build the basic architecture. • Expand data exchanged to include inactive global element records and lineage tables. • Design the user interface to report results of significant incoming record outcomes. Identify specific data to report so users can understand issues (e.g., changes in classification status, lineage successors); provide links in the workbench interface to local records for ease of navigation. • Define criteria for incoming data that create notifications of significant record updates and alerts to potential problems or need for local review or action in the user interface (e.g., Grank changes or taxonomic changes for elements the program tracks). • Create functionality to enable users to sort and filter notifications and alerts. • Create functionality to enable users to process notifications and alerts (e.g., dismiss notifications, reprocess rejections). Identify features that will be included in the short-term versus more complex actions that will be enabled in future epics. • Create basic functionality in Biotics to allow users to efficiently update local data in response to alerts (e.g., update Sname to match Nname, EST reparent tool for moving rather than copying an EST from an old concept to a new one in taxonomic updates). Functionality to access the tools from within the workbench will be implemented in a future epic. • Create Help documentation. **Related Epics:** This epic follows the Ongoing DX for Central to Local epic [BX-2867, now complete] which created functionality for automatic delivery of updated and new global and national data to local databases. This epic begins the process of delivering information about new records that should replace old ones in a user interface that provides supporting information and some tools to enable local data managers to make corresponding taxonomic updates. As part of future epics (after epics for ongoing L-C DX BX-3630 and developing the workbench to handle L-C DX rejections BX-2243) the workbench will be developed further to directly incorporate those tools to enable the user to perform multiple updates with one-click to accept taxonomic updates. User decisions of key importance to central data (such as rejection of taxonomic updates) will be recorded by the tool and sent back to the central database. This information will be received and processed with functionality created in future epics for Local to Central data exchange. **Assumptions:** The working direction of exchange functionality will be to reduce or eliminate the need for users to manually update records and record keys with SQL. The workbench must be generalizable so it can also be used from the central side to process alerts for local data sent to the central database (future epic). Alerts will provide clear and standard descriptions of what actions are suggested or necessary. **Dependencies**: Central staff will need to train local staff to use the workbench, especially while there are a series of actions that need to be performed manually by local staff in order to resolve issues (e.g., reparenting ESTs to perform a taxonomic update). Some of this can be accomplished with documentation, but direct support will probably need to supplement that. **Stakeholders:** Central science staff, local programs, all users of subnational and occurrence data (NSX, data products). **Consult:** Feature requirements: Margaret Ormes, Kristin Snow, Gwen Davis, Anne Frances, Leah Oliver Usability: local program staff **Notify**: Central Science Staff, Biotics Steering Committee Jan. 12, 2021: Added the Epic Description discussed by the Governance Committee above. Left Dave Hauver 's original description below so he can make sure the new text captured all important notes. Development of a data exchange workbench with basic functionality of displaying failed and rejected records. The records are displayed in a dashboard with a simple explanation of the reason for failure or rejection. If technically possible, it would be desirable for this workbench to show errors for ongoing data exchanges that occurred in the past, prior to the workbench's implementation. **Priority notes:** Many other epics are dependent on the architecture built in this step. And having it earlier rather than later would make ongoing dx more transparent, easier to handle, and also would give us a visual to help us be clear about requirements in future steps. **Terminology Change:** This was originally described as a record level DX dashboard, but after completing the design, we realized it was neither record level (since multiple alerts could exist for the same record) nor a dashboard (due to the lack of summary information). We decided DX Alerts Workbench was a more accurate description.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-2772		DX record counts are misleading	BX 5.11.3	CLOSED	Fixed
BX-3073		Update Data Exchange reports to clearly identify EO/SF top level records with failed SQL updates for child tables	BX 5.11.4	CLOSED	Fixed
BX-4660		Cleanup DX Alerts table UI	Dev Ending 2021-05-11	CLOSED	Fixed
BX-3934		Create preliminary design for DX Record Dashboard	BX 5.11.6	CLOSED	Fixed
BX-4052		Finalize design for DX record level dashboard	BX 5.11.7/8	CLOSED	Fixed
BX-4094		Work through DX record dashboard use cases	Biotics 5.11.9/10	CLOSED	Fixed
BX-4117		Define actions needed for DX Record Dashboard entries & revise messages	BX 5.11.11/12	CLOSED	Fixed
BX-4096		Define initial set of data exchange action items and notifications to show in DX record dashboard	BX 5.11.11/12	CLOSED	Fixed
BX-4098		Design and estimate core architecture for DX record level dashboard	BX 5.11.11/12	CLOSED	Fixed
BX-4149		Create development roadmap for DX alerts dashboard	BX 5.11.13	CLOSED	Done
BX-4097		Decide on additional rejection rules needed to support exchanging inactive EGTs	BX 5.11.13	CLOSED	Fixed
BX-4095		Decide what to show for each record type in DX record dashboard details view	BX 5.11.13	CLOSED	Fixed
BX-4210		Estimate DX Alerts Workbench implementation tasks	Biotics 5.11.14	CLOSED	Fixed
BX-4215		Develop requirements for Reparent EST Utility and finalize C-L DX Alerts epic	Biotics 5.12.0	CLOSED	Fixed
BX-4248		Implement ability to update EST SName to match NName	Biotics 5.12.2	CLOSED	Fixed
BX-4249		Implement ability to update ENT NName to match GName	Biotics 5.12.2	CLOSED	Fixed
BX-4275		Write help topics for update Element Name utilities	Biotics 5.12.2	CLOSED	Fixed
BX-4202		Implement Reparent EST Utility	BX 5.12.13	CLOSED	Fixed
BX-4292		Write help topic for reparent EST utility	BX 5.12.13	CLOSED	Fixed
BX-4486		Get DX Dev/Test Servers ready for use	BX 5.12.16	CLOSED	Fixed
BX-4051		Document records used for testing (unit tests and manual)	BX 5.12.17	CLOSED	Fixed
BX-4557		Improve unit testing framework for DX rejection rules to support more realistic scenarios	BX 5.12.18	CLOSED	Fixed
BX-4291		Ramp up time for Alerts workbench	BX 5.12.18	CLOSED	Fixed
BX-3856		C-L DX: Support exchanging inactive EGT records	BX 5.12.19	CLOSED	Fixed

BX-4178		Refactor data_exchange_log	BX 5.12.19	CLOSED	Fixed
BX-4599		Plan implementation approach for DX Alerts workbench UI	BX 5.12.19	CLOSED	Fixed
BX-4614		L-C DX fails if record group information needs to be written to refactored DB tables	BX Jan/Feb 2021	CLOSED	Fixed
BX-4613		Research integrating react components into Biotics UI	BX Jan/Feb 2021	CLOSED	Fixed
BX-4585		Migrate data from data_exchange_log table to replacement tables	BX Jan/Feb 2021	CLOSED	Fixed
BX-4610		Incorrect DX errors are reported when subtype relies on record not in target DB	BX Jan/Feb 2021	CLOSED	Fixed
BX-4611		Add DX alert keys for subtype deletion errors	BX Jan/Feb 2021	CLOSED	Fixed
BX-4612		Reject matched subtype deletions if primary record is not being deleted	BX Jan/Feb 2021	CLOSED	Fixed
BX-4598		Implement basic Search DX Alerts web service	BX Jan/Feb 2021	CLOSED	Fixed
BX-4635		Incorrect treatment of records which rely on the import of a subtype during DX	BX 5.12.20	CLOSED	Fixed
BX-4179		Extract DX Record Summaries for C-L exchange	BX 5.12.20	CLOSED	Fixed
BX-4183		View DX Alerts Table Prototype	BX 5.12.20	CLOSED	Fixed
BX-4657		Include concept reference, classification status for EGTs included as DX supporting records	BX 5.12.21	RESOLVED	Fixed
BX-4658		View DX Alerts Table	BX 5.12.21	CLOSED	Fixed
BX-4181		Implement First Notification: Grank Change	BX 5.12.21	CLOSED	Fixed
BX-4671		Include additional domains and child tables for ESTs and Scientific Names included in DX as supporting records	BX 5.12.22	CLOSED	Fixed
BX-4700		Implement web services to support viewing critical DX Alert Details for C-L exchange	Dev Ending 2021-06-01	CLOSED	Fixed
BX-4724		getDxInfoFor web service is broken due to json serialization error of DataExchange object	Dev Ending 2021-06-22	CLOSED	Fixed
BX-4725		Add missing unit tests for JpaDxDataLoader#getDxAlertTargetRecordData	Dev Ending 2021-06-22	CLOSED	Fixed
BX-4651		Generate Open API specification for implemented web services	Dev Ending 2021-07-13	CLOSED	Fixed
BX-4666		Implement Skeletal UI to view DX Alert Details for C-L exchange	Dev Ending 2021-08-03	CLOSED	Fixed
BX-4760		DX Alerts Workbench Table columns Name Type and Name Category are showing incorrect data	Dev Ending 2021-08-03	CLOSED	Fixed
BX-4761		DX Alert Details displays incorrect link to DX report	Dev Ending 2021-08-03	CLOSED	Fixed
BX-4768		Investigate and DX alert dependency edge cases and identify next steps	Dev Ending 2021-08-03	CLOSED	Fixed
BX-4776		Records are being unnecessarily rejected because isMatchedButNotRejected is not getting tracked for most record types	Dev Ending 2021-08-03	CLOSED	Fixed
BX-4637		Store dependencies between DX alerts in the database	Dev Ending 2021-08-24	CLOSED	Fixed
BX-4185		View critical DX Alert Details for C-L exchange	Dev Ending 2021-08-24	CLOSED	Fixed

BX-4720		Get react unit tests working on Jenkins	Dev Ending 2021-08-24	CLOSED	Fixed
BX-4189		View Match Info for Child Row DX Alert Details	Dev Ending 2021-08-24	CLOSED	Fixed
BX-4741		Search/Filter DX Alerts by record type	Dev Ending 2021-08-24	CLOSED	Fixed
BX-4182		Implement High Priority Notifications for EGT Changes	Dev Ending 2021-08-24	CLOSED	Fixed
BX-4783		Include Classification level in Imported DX Record Summaries	Dev Ending 2021-08-24	CLOSED	Fixed
BX-4627		Differentiate between DX Update errors due to parent record vs other records	Dev Ending 2021-08-24	CLOSED	Fixed
BX-4796		Modify GName Notification Message to include the scientific_names involved	Dev Ending 2021-09-14	CLOSED	Fixed
BX-4794		Improve Dx Alerts Table Formatting	Dev Ending 2021-11-23	IN PROGRESS	Unresolved
BX-4184		Search/Filter DX Alerts by critical criteria	Dev Ending 2021-11-23	OPEN	Unresolved
BX-4813		Display alert icons in DX Alerts table and DX Alert Details dialog	Dev Ending 2021-11-23	OPEN	Unresolved
BX-4186		Change default search to exclude less important DX Alerts	Dev Ending 2021-11-23	OPEN	Unresolved
BX-4838		Finalize design for searching by alert dependencies	Dev Ending 2021-11-23	OPEN	Unresolved
BX-4763		Refine generated Open API specification and use within React unit tests	Dev Sprint Possibilities	OPEN	Unresolved
BX-4757		Automate generation of Open API specification	Dev Sprint Possibilities	OPEN	Unresolved
BX-4615		Intelligently filter available options for DX alerts search criteria	BX Upcoming Priorities	OPEN	Unresolved
BX-4301		Implement Additional Notifications for ENT Changes	BX Upcoming Priorities	OPEN	Unresolved
BX-4609		View additional DX Alert Details for C-L exchange	BX Upcoming Priorities	OPEN	Unresolved
BX-4188		View SQL Error DX Alert Details	BX Upcoming Priorities	OPEN	Unresolved
BX-4607		Implement Lesser Priority Notifications for EGT Changes	BX Upcoming Priorities	OPEN	Unresolved
BX-4608		Search/Filter DX Alerts by less critical criteria	BX Upcoming Priorities	OPEN	Unresolved
BX-4191		View all DX Alerts for Record	BX Upcoming Priorities	OPEN	Unresolved
BX-4197		Manually Initiated Exchange – send to Central (using API)	BX Upcoming Priorities	OPEN	Unresolved
BX-4198		Manually Initiated Bi-Directional Exchanges through Member Program User Interface	BX Upcoming Priorities	OPEN	Unresolved
BX-4199		Manually Initiated L-C Exchanges through Central User Interface	BX Upcoming Priorities	OPEN	Unresolved
BX-4201		Custom DX Alert Action for Std-to-NonStd EGT	BX Upcoming Priorities	OPEN	Unresolved
BX-4227		Custom DX Alert Action: Keep EST on NonStd EGT	BX Upcoming Priorities	OPEN	Unresolved
BX-4203		Custom DX Alert Actions for Inactive EGTs	BX Upcoming Priorities	OPEN	Unresolved

BX-4229	Custom DX Alert Action: Reactivate EGT	BX Upcoming Priorities	OPEN	Unresolved
BX-4247	Custom DX Alert: Retain EGT which was centrally deleted	BX Upcoming Priorities	OPEN	Unresolved
BX-3024	Resend records that failed or were rejected by DX import (all programs, both directions)	BX Upcoming Priorities	OPEN	Unresolved
BX-4208	Minor C-L DX Import Rules Changes	BX Upcoming Priorities	OPEN	Unresolved
BX-4160	DX Record Dashboard Future Improvements	BX Upcoming Priorities	OPEN	Unresolved
BX-4207	Custom DX Alert Action: Update Sname to match Gname	BX Upcoming Priorities	OPEN	Unresolved
BX-4793	Link DX Alert Child Row Details to Maintenance Page containing child row	BX Upcoming Priorities	OPEN	Unresolved
BX-4638	Allow users to search for alerts which depend on another alert	BX next 3 months	OPEN	Unresolved
BX-4767	Easy way to filter on the NAME associated with a DX Alert	BX next 3 months	OPEN	Unresolved
BX-4764	Include failed domain table insertions in Alerts workbench and CSV report	BX next 3 months	OPEN	Unresolved
BX-4765	Include blocking, unmatched domain records records in Alerts workbench and CSV report	BX next 3 months	OPEN	Unresolved
BX-4766	Include blocking, unmatched supporting records records in Alerts workbench and CSV report	BX next 3 months	OPEN	Unresolved
BX-4818	Add CSH Link from DX Alerts Workbench title to general overview help topic	BX next 3 months	OPEN	Unresolved
BX-4192	Dismiss DX Alerts	BX next 3 months	OPEN	Unresolved
BX-4193	DX Alert Action: Exchange Again	BX next 3 months	OPEN	Unresolved
BX-4195	Exchange Selected Sets of Records	BX next 3 months	OPEN	Unresolved
BX-4196	Manually Initiated Exchange – receive from Central (using API)	BX next 3 months	OPEN	Unresolved
BX-4606	Publish help documentation for DX Alerts workbench	BX next 3 months	OPEN	Unresolved
BX-4736	Get react unit tests working on Jenkins		CLOSED	Duplicate
BX-4782	Display table name in DX workbench for child row alerts		CLOSED	Duplicate
BX-2924	DX: separate rejections from errors in import reports and counts		CLOSED	Won't Fix
BX-4762	dx_alert_dependency does not handle record dependencies with no alerts		RESOLVED	Duplicate

100 issues

Roadmap Details: C-L DX Capsules - Scientific name changes made within taxonomic capsules

The JIRA epic for this issue is:

Key	Summary	Description
BX-2248	Add support for grouping related scientific name changes into capsules, and members to respond to them	Allow central users to identify working lists of records as "capsules" containing a taxonomic update with a description of the update. In this case the update would be to Gname and Nname; the description would include the suggestion to each member program maintaining ESTs in the capsule that they make they same update to Sname. When the local program receives a capsule containing records for which they have a local EST, the local ESTs that are part of the capsule will be displayed in a list to facilitate easy update if they agree with it. Ideally, the local user can accept the entire capsule and updates to Sname for each EST will occur as a batch. A communication of acceptance or rejection of the capsule is sent back to the central database and entered for each program in the capsule. **Priority notes:** This is a simple step for beginning capsule functionality; 4 effort level really reflects the initial effort to introduce capsules into the system, not the difficulty of this particular type of taxonomic change. Other kinds of taxonomic updates in capsules come next. Taxonomic updates with capsules are dependent on BX-3029, C-L DX display high-interest Central updates in program dbs. Effort also assumes we've either solved BX-2000, "in progress" functionality" or decided it's not needed. Original Description: In this phase, only element name changes are supported within capsules. Taxonomic changes made outside of capsules will continue to be individually raised as notifications. Develop utility for member programs to update ESTs/ENTs to match EGT names. Records in capsules are blocked from data exchange until the capsule is sealed. Member programs need a way to view capsules. Does EGT page need a way to easily see history of capsules that relate to the current element, or draw attention to recent ones?

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-1765		Add table(s) to store information on taxonomic updates for use in data exchange		OPEN	Unresolved

1 issue

Roadmap Details: C-L DX Capsules - Support and tools for 1:1 Element replacement

The JIRA epic for this issue is:

Key	Summary	Description
BX-2249	Add support for one-to-one element replacement workflow	Expand taxonomic capsules to provide support for changes that involve one predecessor and one successor. This is not a common situation, but builds the underlying architecture for the complicated taxonomic changes.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: C-L DX Capsules - Support and tools for Element lumps

The JIRA epic for this issue is:

Key	Summary	Description
BX-2250	Add support for taxonomic lump workflow	Expand taxonomic capsules to provide support for changes that involve taxonomic lumps, and appropriate tools for member programs to respond.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: C-L DX Capsules - Support and tools for Element splits

The JIRA epic for this issue is:

Key	Summary	Description
BX-2251	Add support for taxonomic split workflow	Expand taxonomic capsules to provide support for changes that involve taxonomic splits, and appropriate tools for member programs to respond.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: C-L DX - Notify programs about key updates made centrally

The JIRA epic for this issue is:

Key	Summary	Description
BX-3029	C-L DX: Display high-interest Central updates in program dbs (e.g., grank changes, inactivation)	(Notifications only; not ability to accept/reject.) Under discussion and needs input from network. Would allow programs to easily view specific updates made during ongoing DX (e.g., a report of all GRank changes for their tracked elements). Ideally would also include list of records that have been inactivated or made nonstandard in Central and provide lists of successors. These notifications could be implemented as lists of records in the dashboard, or a faster implementation of buttons in the dashboard to run canned queries. Possible tasks being considered for this epic include: • Full-fledged Dashboard improvement OR quick fix of adding buttons to the dashboard • Facilitate communication of taxonomic updates, such as the indication that an element has been inactivated and report of successor elements. Display locally maintained ESTs attached to inactivated and nonstandard elements with the successor elements as candidates for a recommended EST move. Ideally, for inactive records which have no related ESTs in the local database, the system will delete EGTs (and all child records) from the local database (with no review), but that may need to wait until future steps. **Priority notes:** Programs can get this information now by running queries. This is a step towards "C-L allow program review decisions of taxonomic updates (not in capsules)". Dependent on BX-3023, DX Record Dashboard.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: C-L DX - Programs can accept or reject taxonomic updates made outside of capsules

The JIRA epic for this issue is:

Key	Summary	Description
BX-2247	Allow members to accept all EGT/ENT changes, including changes to inactive records, made outside of capsules	Programs are notified of taxonomic updates and have the ability to communicate acceptance or rejection back to Central. Program can decide to move their data to follow the taxonomic update, or not. Their decision affects whether Central can inactivate a record or must keep it as nonstandard. Future: capsules will be a way to group all records involved. **Priority notes**: Unclear about whether this will necessarily be useful first step towards developing capsules; tough to say without really diving into the implementation. But a valuable decision point may be whether we want to initially focus on allowing programs to respond to changes that have occurred in the past, or whether we want to focus on an implementing a better way to recognize taxonomic changes and defer catching up on older changes until later. Dependent on BX-3029, C-L DX Display high-interest Central updates in program dbs. Possible tasks: • C-L push information about record inactivation. Original Description: --- Taxonomic changes are individually raised as notifications. (I'm assuming we're not likely to backfill old taxonomic changes into capsules, so they'll be reported using this approach.)

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: C-L DX - Programs can take ownership of Centrally Created ESTs

The JIRA epic for this issue is:

Key	Summary	Description
BX-2246	DX Allow programs to accept and take ownership for centrally created ESTs	Local users can import and accept responsibity for Centrally-maintained EST records for their subnation from Central Biotics. **Priority notes:** "Automatically force acceptance of Centrally created ESTs" would be easier (effort level 1) and could happen earlier (which could be very helpful). Full implementation allowing programs to accept or reject is effort level 2 and is dependent on BX-3023 DX Record Dashboard. Need MP opinion. Related to reparenting ESTs (BX-3032) – that could meet this need. Possible tasks needed: • Tool for program to reject certain updates - clarification is needed as to whether this is rejection of newly created ESTs by central, or updates to existing (presumably centrally maintained?) ESTs. Original Description --- Review Decisions - member programs can accept/reject new EST records Claim Responsibility - member programs can claim ESTs if desired Matching - centrally created ESTs should be ignored by member programs if they already have an equivalent. Their EST should be sent in the next exchange. Reparent??? Member programs need the option at this time to reparent existing ESTs to replace ESTs newly created by central.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-1770		Add wizard for central users to batch create multiple ESTs for single EGT	BX Upcoming Priorities	OPEN	Unresolved

1 issue

Roadmap Details: C-L DX - Provide distribution data to programs

The JIRA epic for this issue is:

Key	Summary	Description
BX-3038	Provide EGT distribution data to programs	Provide member programs with national and subnational distribution information. The means of doing this needs to be determined; options include a link to NatureServe Explorer, summarized results stored in EGT or ENT, sending all ESTs to all programs. **Priority notes:** This functionality has never been available. A link to NatureServe Explorer or summarized results stored in EGT are easy mechanisms; distributing other ESTs would be very high effort.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: C-L DX - Provide lineage updates for inactive and non-standard elements

The JIRA epic for this issue is:

Key	Summary	Description
BX-3034	C-L DX: Provide lineage updates to member programs	Lineage tracking is used to track changes in the standard classification used by NatureServe Central Sciences. Sharing this lineage data with the programs will enable them to determine what happened to inactive and nonstandard elements. Doing so requires either sending them inactive records or some other creative approach. **Priority notes:** Candidate for lower priority than tax update functionality for species. Higher priority for ecology.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: Data Exchange With Non-Biotics Programs

Mechanism to exchange data with organizations that do not use Biotics.

Principals: Margaret, Nicole, Cameron/Suzanne, California, Atlantic Canada

The JIRA epic for this issue is:

Key	Summary	Description
BX-3035	Non-Biotics DX and Basic Import Functionality	Mechanisms to exchange data with member programs and other partners that do not use Biotics at all or that use Biotics for elements but not for EOs. Conversations in Aug 2018 in which Jason identified these different scenarios: **Alternative 1:** Program uses Biotics for Element Data. Observations managed externally and kept in sync with the Biotics Element Data. Program is able to generate their own “proxy” EO layer from the data which they can just hand over to us. **Alternative 2:** Program uses Biotics for Element Data. Observations managed externally and kept in sync with the Biotics Element Data. Program is not able to generate their own “proxy” EO layer. **Alternative 3:** Program does not use Biotics at all. Both Element data and observation data are maintained in other formats. This scenario requires us having to first synch their elements with Biotics outside of the data exchange process and then develop a “proxy” EO layer. **Alternative 4:** Program does not use Biotics at all but mostly follows the methodology and data model, and does create traditional EOs. **Priority notes:** Our workaround is Exchanger; there is concern about that. It can be used for Element DX for alternative 3, and for Element and EO data for alternative 4. It is not possible to use for alternatives 1 and 2. Are there other alternatives, e.g. program manages their ESTs in Central and exports into a db with their EOs? Before tax updates in priority? Look at list of non-BX programs and their priority in our work

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-3919	☑	Load MT proxy EOs into Central Biotics	BX 5.11.2	CLOSED	Fixed
BX-4007	●	Load ID proxy EOs into central Biotics		CLOSED	Won't Do

2 issues

Roadmap Details: Develop Plan for Taxonomic Updates

The JIRA epic for this issue is:

Key	Summary	Description
BX-3040	Plan taxonomic update epics	There are several epics that all relate to dealing with taxonomic updates. Plan these epics in more detail.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-3901	☑	Data Exchange Taxonomic Update Planning	BX 5.11.5	CLOSED	Fixed

1 issue

Roadmap Details: DX - Temporarily exclude records marked as In Progress

The JIRA epic for this issue is:

Key	Summary	Description
BX-2000	Do not send records marked as "in progress" during data exchange, or other records that depend upon these records	A single record or a group of records can be temporarily marked for exclusion from data exports while they are part of major updates to taxonomy or rank so that records are not exported with partial updates. Once the In-Progress indicator is removed, records will then be included in exports even if updates to those records occurred before the last export. **Priority Notes** Central deliverables aren't much of an issue because they're now coming from monthly snapshots. But Program deliverables that contain global data are an issue. Ongoing dx run overnight, but on-demand dx could be during the day. Dave expects this to be extremely complicated to develop and test. It could block epics that come after it for a long time. We need to understand the need better to decide on priority. Possible workaround: could just communicate that a record is in progress but still send it. Original Description: --- Do not send records marked as "in progress" during data exchange, or other records that depend upon these records. Once the blocking record is no longer marked as "in progress," it should be included in the next data exchange. Note that there's one very subtle use case. Let's say record A is "in progress", and record B depends on record A. Therefore, record B can't be sent. When record A is modified so that it's no longer "in progress", this change will be in the audit trail and so record A will be naturally included in the next data exchange. However, record B might not have been otherwise modified. Additional bookkeeping may be needed to keep track of records that were blocked in this manner to ensure they can be sent in future data exchanges.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-1981		Add "in progress" indicator to EO records to exclude them from being sent during data exchange		OPEN	Unresolved
BX-2665		Create utility to update "In Progress" to Yes or No in all records in a working list		OPEN	Unresolved
BX-3033		Ensure that records don't remain marked as "in progress" once updates are finished		OPEN	Unresolved

3 issues

Roadmap Details: L-C DX - Accept EST updates if no review is needed

Technically, all issues within this epic were completed in the 5.9.13 release (August 30, 2017), but we left it open during the 5.9.14/15 sprint cycle in case any critical bugs were discovered. None were, and so we deemed this epic to be complete when 5.9.15 was released on Oct 18, 2017.

The JIRA epic for this issue is:

Key	Summary	Description
BX-3002	L-C DX: Accept EST updates if no review needed	ESTs that are maintained by local programs are exported for import into central. Records that match on UID and meet specific criteria are imported (overwrite) central records. Specific criteria include (but are not limited to) a valid Sname, valid Srank and distribution data combination, and a LACK of updates that may suggest a change in taxonomic treatment. **Priority notes:** This is a step towards L-C Review-Needed ESTs. A priority for getting updates to SRanks, etc. that go with the EOs we've been receiving through bulk upload.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-2949	☑	Decide criteria for ESTs that can be accepted through data exchange without review	BX 5.8.2	CLOSED	Fixed
BX-2992	☑	Finalize EST DX acceptance criteria	BX 5.8.4	CLOSED	Fixed
BX-3084	☑	L-C DX: Determine how to exchange ESTs for programs for which a bulk exchange has already been performed	BX 5.9	CLOSED	Fixed
BX-3081	🔖	L-C DX: Include ESTs and supporting records (EGT/ENT/ESTs with duplicated snames) in exported data	BX 5.9.2	CLOSED	Fixed
BX-3088	🔖	L-C DX: Confirm EST acceptance/rejection criteria	BX 5.9.2	CLOSED	Fixed
BX-3184	🔖	Add initial testing framework for data exchange rules	BX 5.9.4	CLOSED	Fixed
BX-3232	🔖	Implement ability to test EST acceptance rules	BX 5.9.5	CLOSED	Fixed
BX-3287	🔖	Build first set of actual unit tests for testing L-C DX	BX 5.9.6	CLOSED	Fixed
BX-3288	☑	DX unit test handoff	BX 5.9.6	CLOSED	Fixed
BX-3085	🔖	L-C DX: Don't cascade EST rejections to EO/SFs groups	BX 5.9.6	CLOSED	Fixed
BX-3347	🔖	Modify L-C DX template for EST DX	BX 5.9.7 /8	CLOSED	Fixed
BX-3295	🔖	L-C DX: Reject ESTs if there are two locally maintained ESTs in subnation for standard EGT and a related non-standard (rule 7)	BX 5.9.7 /8	CLOSED	Fixed
BX-3296	🔖	L-C DX: Reject ESTs with invalid DDF values (rule 8)	BX 5.9.7 /8	CLOSED	Fixed
BX-3294	🔖	L-C DX: Implement basic EST rejection criteria	BX 5.9.7 /8	CLOSED	Fixed
BX-3297	🔖	L-C DX: Properly match EST distribution rows and reject updates if existing central rows can't be matched (rule 9)	BX 5.9.7 /8	CLOSED	Fixed
BX-3298	🔖	L-C DX: Reject ESTs with drastic changes to SRank (rule 10)	BX 5.9.7 /8	CLOSED	Fixed
BX-2935	🔖	L-C DX: Accept EST updates if no review is needed; reject those requiring review	BX 5.9.7 /8	CLOSED	Fixed

BX-3082		L-C DX: Add scenario for bulk exchange of all ESTs	BX 5.9.7/8	CLOSED	Fixed
BX-3369		L-C DX: Improve handling of locally-deleted ESTs	BX 5.9.9	CLOSED	Fixed
BX-3383		L-C DX: report EST no-match rejection even if supporting records don't match	BX 5.9.9	CLOSED	Fixed
BX-3386		L-C DX: Add Rule number/key to EST error messages	BX 5.9.9	CLOSED	Fixed
BX-3375		L-C DX: improve messages for rejected EST child records	BX 5.9.9	CLOSED	Fixed
BX-3384		Include CAS tables and fields in L-C DX template for EST DX	BX 5.9.9	CLOSED	Fixed
BX-3376		L-C DX: some CURRENT ESTs have DX_LAST_RECEIVED_STATUS = F	BX 5.9.9	CLOSED	Fixed
BX-3083		L-C DX: Modify bulk exchange process to include ESTs	BX 5.9.13	CLOSED	Fixed

25 issues

Roadmap Details: L-C DX - Accept or reject EST/EO updates needing review

The JIRA epic for this issue is:

Key	Summary	Description
BX-2243	Allow central to accept or reject (existing) EST / EO updates needing review	Implement screening rules that will allow Central to review incoming ESTs that have potential conflicts (criteria previously defined). Some situations may result in a notification, others will require a manual acceptance or rejection of the record. Dependent on BX-3023, DX Record Dashboard. **Priority notes:** Mostly completes the Local to Central flow of ESTs and EOs. --- Architectural components require the following enhancements. Screening Rules Review Decisions • Accept/override values within a record • Acknowledge a reported condition

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-2395		Modify dropdowns tables to distinguish between standard and locally added values (d_xx_habitat, d_watershed, d_mapsheet, d_data_sensitive_category)	BX 5.9.9	CLOSED	Fixed
BX-2239		Turn COMM/TAXON_[G-N-S]_RANK_CHANGES extensible table into standard fields that automatically populate	BX 5.9.10	CLOSED	Fixed
BX-2609		Phase 2 EO exchange will need to avoid taxonomic ambiguity	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-2618		UID should be a searchable field		OPEN	Unresolved
BX-2587		DX: Implement way to handle updates to EOs that have been reparented		OPEN	Unresolved
BX-2777		DX: create health check for detecting whether central db contains EOs which have been deleted from member programs by an unaudited deleted		OPEN	Unresolved
BX-1711		add pending_ind field to Scientific_Name table		OPEN	Unresolved
BX-2031		Populate "received date" fields in EST		OPEN	Unresolved
BX-2746		Only allow central users to select standard watershed/mapsheet values for CAN records		OPEN	Unresolved
BX-1967		Fix tests for warning messages about EST distribution data in conflict with ENT		OPEN	Unresolved
BX-3026		Improve record-level dashboard to add tool for reviewing and resolving issues		OPEN	Unresolved
BX-3027		Accept/reject record updates		OPEN	Unresolved
BX-3028		Accept/reject new records		OPEN	Unresolved
BX-3344		L-C DX: Accept new Scientific Name records		OPEN	Unresolved
BX-3343		L-C DX: Review deleted ESTs		OPEN	Unresolved

15 issues

Roadmap Details: L-C DX - Accept or reject locally created Elements

The JIRA epic for this issue is:

Key	Summary	Description
BX-2245	Allow central to accept member-created EGT, ENTs, and associated ESTs	Elements added by a local program (by their creation of a new EGT, ENT, EST, and Sciname) can be exported for import in the central database. Central users can review the imported records and 1) reject (records remain Locally-maintained), 2) accept (records become Centrally-maintained), 3) accept (records remain locally-maintained), 4) match to an existing central record (triggers UID updates to synchronize). Dependent on BX-3023, DX Record Dashboard. Additional issues need to be created for: • Accepting local edits to EGTs/ENTs/Scinames that don't require central review • Accept or reject locally created EGTs/ENTs/Scientific Names. We expect each of these will likely require several issues apiece, but have opted to hold off on creating individual JIRA issues for these until we have a firmer grasp on the required work. **Priority notes** New, locally-created SciNames may be associated with either a new EGT/ENT or with SYNONYM_SUBNATIONAL. EST exchange could be missing some synonyms until this is implemented. Candidate for lowering priority. Review priority with Programs after ongoing dx has started. Ask them now, too. Already programs are encouraged to ask Central staff to do this--but Central is a bottleneck. Esp. for scinames they want to add as EST synonyms and new EGT taxonomic groups. Can we resolve the bottleneck? Programs have been creating these records. Bulk loads, mini-dx, and ongoing dx will help with this issue. 10/19/2016 Anne: need will likely reduce over time. MO: except for scinames (synonym subnational). Original description: --- Add initial support for Claiming Responsibility - central users can claim EGTs and ENTs • If central were to decide to take over ownership for a locally created element, its associated CAG could potentially be using a local domain value for one of the D_X_HABITAT fields. This needs to be accommodated somehow. The easiest implementation would likely be to notify the user of this situation beforehand, identifying the problematic rows and domain values, and then remove these rows when the record's ownership is transferred to central. If central wants to continue to use the values, they'd have to coordinate adding these to the list of standard values in the next release, and them add them back to the record when they are available. Create EST wizard - needed to create ESTs for other jurisdictions in which member-created elements might occur

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-2244		Allow central to accept new ESTs attached to existing ENTs		OPEN	Unresolved
BX-2003		Create acknowledgement report that describes whether/how records exported during data exchange were incorporated into the remote system		OPEN	Unresolved
BX-1995		Deal with non-matching EGTs in member programs databases that aren't active in Central Biotics		OPEN	Unresolved

3 issues

Roadmap Details: Management of or integration with related data sets

The JIRA epic for this issue is:

Key	Summary	Description
BX-3036	Management of or integration with other data sets related to Biotics data	There are certain datasets that live outside of Biotics but relate to our elements (primarily EGTs). These datasets are maintained in various locations and formats, but there has been some thought put into whether they should be stored within Biotics. If stored within Biotics the Non-Biotics DX functionality would likely be useful as well as other functionality that helps maintain taxonomic consistency. Jason McNees, Anne Francis, Margaret Ormes, and Cameron Scott might be primary contacts for fleshing this out more. Examples:distribution maps, fish/mussel data, WA animal data. This isn't strictly data exchange functionality but may use non-Biotics data exchange functionality (BX-3035)

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: On Demand Data Exchanges initiated by member programs

The JIRA epic for this issue is:

Key	Summary	Description
BX-3037	On Demand Data Exchanges	Allow member programs to initate a data exchange in between their scheduled ongoing exchanges. It will likely be limited to specific use cases (such as importing a new EGT and ENT created in Central for that member program, exporting EOs for a specific species). Current workaround: Central can run mini data exchanges for programs based on a working list. **Priority notes:** programs may want this higher, at least parts of it

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-2050		Implement ability for member program users to trigger on-demand data exchanges		OPEN	Unresolved
BX-2063		Update Data Exchange API to support on-demand downloads and updates of individual records from the central database by member programs		OPEN	Unresolved
BX-1983		Add ability for users to lock system from DX activities		OPEN	Unresolved

3 issues

Roadmap Details: Ongoing C-L Data Exchange

The JIRA epic for this issue is:

Key	Summary	Description
BX-2867	Ongoing C-L Data Exchange for records meeting bulk load criteria	Functionality of automatic scheduled (probably weekly or bi-weekly) dx in both directions to keep data up to date after the initial bulk loads. (This epic is split into Central-to-Local and Local-to-Central in the Roadmap because there are a few additional development steps needed for Local to Central ongoing DX after Central to Local ongoing DX is ready.) The same criteria and fields used in bulk load are still used; the difference is that it's frequent and automatic. Will run at night. Completion of the epic does not mean that ongoing Central to Local DX will be turned on for all programs. We will begin by turning on ongoing dx one program at a time in a process that is not represented in the Roadmap. **Priority notes:** Programs are anxious for ongoing C-L DX. In the meantime we are having to manually send them updates they need.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-2826	☑	Finish testing BX-2767 (from audit ID / to audit ID parameters in ongoing data exchange)	BX 5.8	CLOSED	Fixed
BX-2907	🔖	Investigate technical feasibility of using off-heap storage for DX payload	BX 5.8	CLOSED	Fixed
BX-2894	🔖	Upgrade to Java 8 and Tomcat 8	BX 5.8.2	CLOSED	Fixed
BX-2947	🔖	Investigate dynamically sizing jvm memory allocation	BX 5.8.2	CLOSED	Fixed
BX-2983	🔖	Test proposed memory settings on member programs	BX 5.8.3	CLOSED	Fixed
BX-3014	🔖	Call java garbage collector after user sessions end or data exchanges finish	BX 5.8.3	CLOSED	Fixed
BX-3015	🔖	Ensure java garbage collector is called at least once a day during off-hours	BX 5.8.3	CLOSED	Fixed
BX-3046	🔖	Refactor data exchange exports to use off-heap storage	BX 5.8.4	CLOSED	Fixed
BX-2987	🔖	Investigate and fix memory spike that occurs at the end of data exchange imports	BX 5.8.4	CLOSED	Fixed
BX-2986	🔖	Refactor data exchange to use off heap storage for record contents	BX 5.9	CLOSED	Fixed
BX-3609	🔖	DX: Refactor DxImporter class into multiple classes	BX 5.10.1-2	CLOSED	Fixed
BX-3559	●	DX: Refactor matching for 1:n tables using unique constraints; SQL errors can occur in L-C DX when deleting EOs and their SFs	BX 5.10.1-2	CLOSED	Fixed
BX-3595	🔖	Add UIDs to error messages for EO and SF rejections	BX 5.10.1-2	CLOSED	Fixed
BX-3614	●	DX import can fail if a field value starts and ends with curly braces	BX 5.10.3	CLOSED	Fixed
BX-3619	●	L-C DX: COMM_EO_COMPOSITION record fail to insert when testing export EO #19524 in biodxmem02tst	BX 5.10.3	CLOSED	Fixed
BX-3625	🔖	Further improve error messages for EO and SF rejections	BX 5.10.3	CLOSED	Fixed
BX-3624	🔖	Missing Error ID and Error Keys for some DX errors	BX 5.10.3	CLOSED	Fixed
BX-3628	🔖	Review and fix unique key constraints and values used for domain tables	BX 5.10.3	CLOSED	Fixed

BX-3629		Review and fix data exchange template for domain values	BX 5.10.3	CLOSED	Fixed
BX-3672		Remove unused tables from data exchange template for domain values	BX 5.10.4	CLOSED	Fixed
BX-3663		Fix duplicate rows in member program databases	BX 5.10.4	CLOSED	Fixed
BX-3664		Drop digitizing_base_cd field from d_digitizing_base table	BX 5.10.4	CLOSED	Fixed
BX-3665		Drop redundant unique constraint D_COUNTY_AK1 for d_state_id, county_cd from DE, PCA	BX 5.10.4	CLOSED	Fixed
BX-3666		Make sure D_DIST_*_MATRIX tables aren't problematic for ongoing DX	BX 5.10.4	CLOSED	Fixed
BX-3667		Add unique constraints to domain tables without any constraints	BX 5.10.4	CLOSED	Fixed
BX-3704		RecGroup-MatchErrorOrRejected errors are now too long	BX 5.10.5	CLOSED	Fixed
BX-3691		data_exchange_log updates	BX 5.10.5	CLOSED	Fixed
BX-3656		Refactor how records are selected for DX Export	BX 5.10.6	CLOSED	Fixed
BX-3622		Exclude invalid parent/sub EOs from data exchange (ex: EOs that are their own parent)	BX 5.10.6	CLOSED	Fixed
BX-3711		Handle duplicate UIDs in DX export.	BX 5.10.6	CLOSED	Fixed
BX-3698		Deal with domain tables that have _cd/_desc columns that aren't included in unique constraints	BX 5.10.7/8	CLOSED	Fixed
BX-3771		Do not exchange obsolete domain table values (threats, MA presence)	BX 5.10.7/8	CLOSED	Fixed
BX-3769		Provide list of domain value insertions made during data exchange	BX 5.10.9	CLOSED	Fixed
BX-2683		DX: Implement aggregating domain values centrally and locally	BX 5.10.9	CLOSED	Fixed
BX-3810		Show consecutive spaces in Domain Comparison report tables	BX 5.10.9	CLOSED	Fixed
BX-3636		Change domain matching to use all fields used in any unique constraint	BX 5.10.9	CLOSED	Fixed
BX-3472		Change domain matching in comparison report to only use unique constraint fields	BX 5.10.9	CLOSED	Fixed
BX-3793		Domain Comparisons report does not properly escape reserved HTML characters such as <	BX 5.10.9	CLOSED	Fixed
BX-2748		Restore ability for central users to add new landform entries	BX 5.10.9	CLOSED	Fixed
BX-3795		Change order in which data exchange reports are generated	BX 5.10.9	CLOSED	Fixed
BX-3754		Finalize scope of ongoing C-L exchange epic	BX 5.10.9	CLOSED	Fixed
BX-3782		Support DX testing	BX 5.10.9	CLOSED	Fixed
BX-3807		Do not substitute in null values for nullable fields that refer to missing domain values that cannot be inserted	BX 5.10.9	CLOSED	Fixed
BX-2750		Track audit range and scenario for on-demand DX	BX 5.10.9	CLOSED	Fixed
BX-3846		Fix DX import performance bottleneck caused by inspecting column types	BX 5.10.10	CLOSED	Fixed

BX-3818	Develop rollout plan for ongoing C-L Data Exchange	BX 5.10.10	CLOSED	Done
BX-3820	Refresh databases for servers used to test ongoing DX	BX 5.10.10	CLOSED	Fixed
BX-3815	Rename DX audit ID parameters and record separately in DB from observed audit ID ranges	BX 5.10.10	CLOSED	Fixed
BX-2684	DX: Implement ongoing exchanges that contain too many records	BX 5.10.10	CLOSED	Fixed
BX-2779	DX: Verify ongoing central-to-local exchange works on MN pilot	BX 5.10.10	CLOSED	Fixed
BX-1409	Ongoing DX: pull centrally-maintained active EGTs, applicable ENT, Scientific Names, Element Groups, Higher Class Units, and supporting References from central into local databases	BX 5.10.10	CLOSED	Fixed
BX-3819	Technical support for testing ongoing DX	BX 5.10.10	CLOSED	Fixed
BX-3841	Restore test cases in biodxcntrldbtst that were created since September 2017	BX 5.10.10	CLOSED	Fixed
BX-3844	Remove leading/trailing spaces from county_cd to fix DX errors	BX 5.10.10	CLOSED	Fixed
BX-3249	Add validations or warnings to prevent incorrect reference creation/update	BX 5.11.0	CLOSED	Fixed
BX-2716	DX: Do not export live records which are referenced by deleted rows within live records	BX 5.11.0	CLOSED	Fixed
BX-3864	set up MN production to run ongoing dx every Friday starting tonight	BX 5.11.0	CLOSED	Fixed
BX-3872	set up NC production to run ongoing dx every weekend starting this weekend	BX 5.11.0	CLOSED	Fixed
BX-3917	set up SD production to run ongoing C-L dx every Monday am starting 9/3	BX 5.11.1	CLOSED	Fixed
BX-3903	set up FL production to run ongoing C-L dx every Monday am; change MN to Saturday am	BX 5.11.1	CLOSED	Fixed
BX-3907	set up YT production to run ongoing C-L dx every Saturday starting 8/25	BX 5.11.1	CLOSED	Fixed
BX-3933	set up PA production to run ongoing C-L dx every Monday starting 9/17	BX 5.11.2	CLOSED	Fixed
BX-3949	DX exports take an excessive amount of time when lots of not-exchangeable records are considered	BX 5.11.4	CLOSED	Fixed
BX-3868	Figure out why VEAM backups interrupt data exchanges for central server	BX 5.11.4	CLOSED	Fixed
BX-3964	change labels "Top Level Error" and "Child Record Error" in DX Dashboard	BX 5.11.5	CLOSED	Fixed
BX-4006	Set up BioticsMB to run ongoing C-L dx	BX 5.11.5	CLOSED	Fixed
BX-4041	Set up BioticsSK to run ongoing C-L dx	BX 5.11.6	CLOSED	Fixed
BX-2923	Create a new set of rec_last_mod (and rec_create?) fields and populate during dx		CLOSED	Won't Fix
BX-3778	Change domain comparison report to include potential SQL update statements		CLOSED	Won't Fix

69 issues

Roadmap Details: Show L-C DX results in local record-level dashboard

The JIRA epic for this issue is:

Key	Summary	Description
BX-3025	Show results of L-C DX in member program DX record dashboard	Implementation of DX Dashboard which will automatically produce a report in the local system (from which data were exported) to display records that resulted in errors or were rejected upon import into the central database with a simple explanation of the error or reason. The dashboard will include a link to the local record with the error. (Epic "DX Basic Record-level Dashboard" will only display information for records the system attempted to import into the local database from central. This epic adds ability to view data about EOs and Source Features exported from the local database that the system attempted to import into Central database.) **Priority notes:** Check with programs for priority. With ongoing dx, Central will not have time to manually send reports to programs for every L-C DX. If program knows where errors are, they can fix them. Dependent on BX-3023, DX Record Dashboard.

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution

No issues found

Roadmap Details: Ongoing L-C Data Exchange

The JIRA epic for this issue is:

BX-3630 - Ongoing L-C Data Exchange for records meeting bulk load criteria OPEN

The issues included within this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-3702		TAXON_SUBNATL_DIST grid rows erroneously deleted during DX	BX 5.10.5	CLOSED	Fixed
BX-3777		Do not include Site or Managed Area TRS table data in L-C data exchange	BX 5.10.9	CLOSED	Fixed
BX-3779		Exchange ELEMENT_SUBNATL_RANK fields D_THREAT_IMPACT_ASSIGNED_ID and D_THREAT_IMPACT_CALC_ID	BX 5.10.9	CLOSED	Fixed
BX-3749		Add summary of excluded records to DX Export reports	BX 5.11.1	CLOSED	Fixed
BX-3920		DX fails when a record refers to a record not included in the export	BX 5.11.2	CLOSED	Fixed
BX-3947		DX matching error for D_SEPARATION_DIST_TYPE row due to trailing space in CD value	BX 5.11.2	CLOSED	Fixed
BX-3937		DX Exports take a long time due to inefficiencies while inspecting supporting records	BX 5.11.3	CLOSED	Fixed
BX-3948		Allow data exchanges to recover from network connectivity problems	BX 5.11.3	CLOSED	Fixed
BX-3946		Clean up outdated comments in code referring to old DX rule numbers	BX 5.11.4	CLOSED	Fixed
BX-3965		Add constraint or validation to some community distribution fields	BX 5.11.5	CLOSED	Fixed
BX-3658		EO DX error RecGroup-MissingRecord oddities occur when record ou_uid values don't match program's ou_uid	BX 5.11.6	CLOSED	Fixed
BX-4036		DX Matching Bug: 1:n child tables (such as EO_OWNER) use original DB values when rows refer to unmatched domain or FK references	BX 5.11.6	CLOSED	Fixed
BX-3942		Update MJD standard domain tables/process so that they don't block records in Ongoing DX	BX Upcoming Priorities	OPEN	Unresolved
BX-380		Implement the ability to administer customizable domain tables	BX Upcoming Priorities	OPEN	Unresolved
BX-2651		Provide indication of whether a domain table is editable or not by member programs	BX Upcoming Priorities	OPEN	Unresolved
BX-3669		Delete Do-Not-Exchange records from Central during L-C DX	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3166		Improve DX ability to handle SFs that are moved to other EOs or deleted	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3240		Include Independent SF records in L-C DX	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-2727		Local to Central Ongoing DX needs to accurately assess EO rejection criteria	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3131		L-C DX: Use database table to track ESTs for which EOs and SFs should be rejected	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3687		Data Exchange Export fails when generated zip file is too large (BioticsON)	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-1410		Implement ongoing data exchange: push non-conflicting EO and SF information from local databases to central	BX Ongoing L-C Data Exchange	RESOLVED	Fixed

BX-2084		Implement ongoing data exchange: push MAs, Sites, and locally maintained References to the central database	BX Ongoing L-C Data Exchange	REOPENED	Unresolved
BX-2691		Automatically Update MJDGIS Tables in Central with Data Exchange	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3130		L-C DX: Add scenario to resend all previously rejected EOs and SFs	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3227		Define needs and approach for to automate MJDGIS table population	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3215		Do Not Exchange flag can create quirks in Central data	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3748		Improve efficiency of extracting records for DX export	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-4079		add do_not_exchange_ind field to EST	BX Ongoing L-C Data Exchange	OPEN	Unresolved
BX-3775		Make D_COUNTY an NS Standard table	BX Old Sprint Possibilities	OPEN	Unresolved
BX-3770		Include domain insertions and matching errors in DX reports	BX Old Sprint Possibilities	OPEN	Unresolved

31 issues

Roadmap Details: Rank Calculator: Import and Calculation

Easy improvements to streamline using the existing rank calculator with Biotics 5. These changes should make it easier to use the Excel calculator until a fully integrated online calculator can be built. Specific improvements include:

- facilitating import from the rank calculator into Biotics, and
- providing the calculated rank within Biotics when rank factor data are entered.

The JIRA epic for this is:

Key	Summary	Description
BX-3932	Rank Calculator: import and calculation	Easy improvements to streamline using the existing rank calculator with Biotics 5. These changes should make it easier to use the Excel calculator until a fully integrated online calculator can be built. Specific improvements include • facilitating import from the rank calculator into Biotics (including the threats grid). • providing the calculated rank within Biotics when rank factor data are entered.

The issues included in this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-3900	✓	Estimate effort for calculating element rank from data stored within Biotics	BX 5.11.1	CLOSED	Fixed
BX-2261	🔖	Calculate rank status from rank factor data	BX 5.11.3	CLOSED	Fixed
BX-3969	✓	Plan how to use rank calculator within Biotics	BX 5.11.4	CLOSED	Fixed
BX-3970	✓	Assist in planning rank calculator	BX 5.11.4	CLOSED	Fixed
BX-3963	🔖	Display calculated rank status in Biotics	BX 5.11.5	CLOSED	Fixed
BX-3992	✓	Estimate rank calculator threat impact	BX 5.11.5	CLOSED	Fixed
BX-4024	🔖	AOO Spatial Pattern for Ranking dropdown missing one function	BX 5.11.6	CLOSED	Fixed
BX-3966	🔖	Calculate Threat Impact and Overall Threat Impact from Threat Assesment Grid	BX 5.11.6	CLOSED	Fixed
BX-4059	🔖	Continue Implementing Rank Calculator Threats Grid	BX 5.11.7/8	CLOSED	Fixed
BX-4091	🔖	Finish Implementing Rank Calculator Threats Grid	Biotics 5.11.9 /10	CLOSED	Fixed
BX-4092	🔖	New help topic for Element Ranking Threats section	Biotics 5.11.9 /10	CLOSED	Fixed
BX-4122	●	Add tooltip for Threats Assessment grid on all Element Ranking pages	BX 5.11.11/12	CLOSED	Fixed
BX-823	✓	Add SQL for integrating existing rank calculator spreadsheet to knowledgebase	BX 5.11.11/12	CLOSED	Fixed
BX-3929	🔖	Move Global Rank Review and Change Fields in the EGR		CLOSED	Duplicate
BX-2834	✓	Option missing in EGR threats for Calculated Overall Threat Impact		CLOSED	Won't Fix

15 issues

BX-2865 - Develop Online Rank Calculator OPEN covers a more full featured, complete online replacement for the rank calculator spreadsheet. See Roadmap Details: Rank Calculator: Full Implementation for details.

Principals: Kristin, Amanda/Anne/Adele, Margaret, network participation – Leah Ramsey

Lead for refining description and scope: Anne, Amanda, Adele

Roadmap Details: Data Backlog Easy Items

Implement relatively easy to achieve, high priority needs based upon recommendations provided by the network's data backlog working group. Mockups of the proposed implementation of the following issues can be viewed here, although it does require logging into Sharepoint.

The JIRA epic is:

Key	Summary	Description
BX-3951	Data Backlog Easy Items	Implement easier to achieve, high priority needs based upon recommendations provided by the network's data backlog working group. As of Oct 2018, a small set of recommendations have been selected for an initial round of implementation: • EO References - this is a field which is pretty straight forward to roll up from visit level to EO • EO Rank - this is a field for which some values might roll up, but manual review will sometimes be needed to resolve conflicting values. SF Viability and Comments, and potentially Visit detected/not detected might also be included In addition to being among the highest priorities, these fields were selected because they are good examples of two different patterns for how to roll up values from visit records to EOs. We anticipate using similar patterns for other fields. Prior to implementing these fields, present the proposed solution to the entire network, gather and evaluate feedback before implementing wireframes. After they have been implemented and the network has had time to evaluate the end result within their own Biotics instance and provide any feedback, the patterns which have been established for these initial fields could then be applied to a wider range of TBD fields

The issues included in this epic are:

Key	T	Summary	sprint	Status	Resolution
BX-3899	☑	Develop wireframes for data backlog working group prototype	BX 5.11.3	CLOSED	Fixed
BX-3828	☑	Screen data backlog group recommendations for feasibility	BX Old Sprint Possibilities	OPEN	Unresolved

2 issues

See Roadmap Details: Data Backlog Working Group Recommendations for information about the remainder of the working group's recommendations. The June 2018 presentation containing all changes recommended by the Data Backlog Working Group can be viewed here, although it does require logging into Sharepoint.