**RAM Legacy Database Assessment Entry Guide**

In addition to the instructions listed in the assessment entry template file, “RLSAD-template-\_\_\_\_.xlsx”, we provide additional instructions here to aid in preparing an entry for submission.

**General:**

1. **When to use multiple templates (separate Excel files) for one assessment document:** Split up an assessment into sub-stocks if assessment models are fit and reported separately by sub-stock. (Here, an assessment model is an age-structured or other population dynamics model that is used to estimate abundance and/or fishing mortality rates along with their corresponding biological reference points). For example, if B/Bmsy, U/Umsy, B/Bmgt, or U/Umgt are presented separately by sub-stock, prepare an entry for each sub-stock. Otherwise, keep sub-stocks together and prepare a single entry for the full stock.
2. **Multiple data sources:** Generally, only data from the current assessment should be entered in the template. There may be reasons to include external data or data from a previous assessment, but only if these do not involve assessment model outputs. For example, if catch but not TAC time series are available in an assessment document, and corresponding TAC time series are available externally, those could be included, with explanation in “notes” of the Data Sources tab as well as in comments for the “TAC” time series. Model outputs from separate assessment documents should not be blended into the same entry template; separate templates can be submitted for separate assessment documents.
3. **Auto-filled templates:**  If new assessment data are inputted into an auto-filled template (a file also containing tabs named “\_\_ (old data)” with previous assessment data, in red font), compare values from current assessment with those from older assessment. Look for possible mistakes in either the new or the old entry which may result from issues with units, values in 000’s, confusion of F and ER, confusion of TB and SSB, confusion of survey abundance estimates and abundance estimates from an assessment model, or incorrect pairing of time series values with reference points. Review all comments provided (in Data Sources tab see “notes” and “assesscomments”, and in other tabs see comments associated with each variable). In some cases, comments may reveal issues that should be addressed before submitting the entry template, and/or reasons why some data should be excluded.
4. **Your comments:**
5. If comments for specific variables in “Catch”, “Surveys”, “Status” or “Biometrics” tabs are important enough to have meaningful effects for the whole assessment, also copy them to Data Sources tab in “assesscomments” (there is no 300-word limit for Data Sources fields).
6. If comments are provided but the corresponding variable’s value(s) are all missing, this comment will not be incorporated into the database. If it is important, move it instead to Data Sources tab in “notes” or “assesscomments”, as appropriate.
7. **Character formatting:**
8. Special characters or characters with accents should be removed or replaced (for example replace ń with n) since they cause entry issues. This mainly crops up in the fullcitation field in the Data Sources tab.
9. Quotes. Single and double quotes should be avoided since they cause entry issues. This mainly crops up in the Data Sources tab, and in comments fields.
10. **Digitized data:**  If data are digitized and estimated from a figure in the assessment, the figure number (or page number) from which they came should be noted in the comments field for the relevant time series or parameter.
11. **Figures:**  Figures, charts, pivot tables, summary statistics, and other formulae should be avoided in all data tabs except for the “Working space” tab.

**Distinguishing different types of abundance/biomass time series:**

Several different types of abundance estimates (time series as well as reference points) can be found in assessment documents, and we distinguish these based on several distinctions:

- estimates can result from a survey, or are outputs from a population (assessment) model  
- if they're from a survey, the survey can be either fishery-independent or fishery dependent  
- the estimate can be in absolute (i.e. represents the full population) or relative (an index) terms  
- for absolute estimates of abundance, the units can be in weight units or in numbers  
- for relative abundance estimates (an index), there are many possible types of units  
  
We recommend first asking whether the estimate is the output from a population model (i.e. a stock assessment model). If so, this will generally be an absolute estimate, and abundance may be in numbers or in biomass (SSB, TB, or other forms of summary biomass). These data types will always go in the 'Status' tab, under N, SSB, or TB, as appropriate.  
  
If the biomass estimate is NOT the output from a population model, it's probably the result of a survey (or based on fishery CPUE). If so, the second question to ask is whether this is a fishery-independent survey (data should be entered in the “Survey” tab), or whether it's based on data from the capture fishery (data should be entered under 'CPUE' in the “Catch” tab). Usually either type (fishery-independent or fishery-dependent) would be considered as a relative index (i.e. it's not an estimate of the full population size), but occasionally extrapolations are used to estimate absolute from survey data. This does not make it an output from a population model, it is still the output of survey data, it just happens to be extrapolated to better represent the full population including the portion not surveyed. Fishery-independent survey estimates are entered either as “absolute” or “relative” values, as appropriate.  
  
A couple things can make these distinctions between abundance types tricky:  
- indices of abundance, whether they are fishery-independent or fishery-dependent, are often used as inputs in assessment models.   
- it may be hard to distinguish survey-based absolute abundance estimates from population model-based absolute abundance estimates because they might both share the same units and be close in magnitude.  
- fishery-independent surveys can be presented as 'CPUE', so the label 'CPUE' does not necessarily mean it's a fishery-dependent index.

**Tabs in template file:**

**‘Readme’:**

Contains general instructions to accompany the information in this document, as well as directions on how to cite the RAM Legacy Database.

**‘Data Sources’:**

1. Generally, most fields should be filled out. Some fields may not be relevant, including ‘assessContact’, ‘notes’, ‘assesscomments’, ‘nextassess’, and the four questions about representation of stock status.
2. Download and open the assessment available through the link in assessURL, and ensure that this document corresponds to the one listed in fullcitation.
3. For new assessment entries (rather than previous submissions that were based on the same assessment document), the downloaded pdf file should also be submitted. Its filename should be entered under ‘pdfname’. If a pdf file of the assessment was previously submitted, ensure the filename matches what is listed under pdfname.
4. In orange-shaded cells, existing values in the drop-down lists are preferred unless no values are suitable. To add new values when necessary, type directly in the orange-shaded cell, and the value will be incorporated into future versions of entry code lists (so in the future will appear in drop-down lists as options). Thus, we wish to avoid values that are nearly identical to a value already in the drop-down list. When adding new values, make sure that enough information is present so that a new entry can be generated for that drop-down list. For a new assessor organization, a corresponding management authority should also be specified (see row 36 in the greyed-out rows).
5. Verify that the automatic values in greyed-out cells (rows 29-39) make sense and correspond to the values selected in orange drop-down boxes above. Ignore “#N/A” values that result from a new value not already present in a drop-down list.
6. Pay special attention that single quotes, double quotes, and special characters are removed in pdfname and fullcitation fields.

**‘Catch’:**

This tab is for fishery-dependent data only—no fishery independent surveys.

1. Please note some assessments may refer to a time series as a survey when functionally, it is a fishery-dependent time series and so should be entered as CPUE.
2. Check that each time series has a “units” entry. If the entry is new (rather than from drop-down menu), make sure units are clear, particularly for CPUE.
3. Make sure the three inclusion fields (recreational; discards; unreported) are filled out and make sense for the time series. If any details are unknown, ‘unknown’ is an option in the drop-down menus.
4. If a TAC or Cadvised is entered, make sure a corresponding Cpair is also entered. This may be equivalent to TL or to TC, depending on what the TAC or Cadvised represents (inclusion or exclusion of discards, recreational catches, and unreported catches)
5. Make sure the units and inclusion fields (rows 7-10) are identical across Cpair, TAC, and Cadvised time series.
6. Ensure all time series values are either numeric or blank (do not use “NA”, “none”, etc.)
7. Convert weight values to metric tons.
8. Convert order-of-magnitude units to their base units (e.g. “1000s of individuals” should be converted to “individuals”).
9. Check time series comments to see if any adjustments need to be made for that time series (i.e. if the time series applies only to a sub-area instead of to the full stock, then change the “tslong” and “tsshort” to reflect that this is a sub-area time series).
10. Condense time series comments if too long (approximately 300 characters maximum).
11. Try to identify any obvious outliers that could correspond to entry error. Quick time series plots of year (x axis) vs. other variables (y axis) can be created in the Working space tab to help identify transcription errors.
12. If a new time series type is added (in columns off to the right), make sure that enough information is present in tslong and tsshort codes so that a new entry can be generated for this type.

**‘Surveys’:**

Only fishery-independent survey data goes in this section. (If indices of abundance are instead fishery-dependent, they would be entered as CPUE in the Catch tab).

**‘Status’:**

This tab should only contain outputs from population assessment models. This tab should not contain any fishery-dependent catch data or fishery-independent survey data.

1. Check that each time series has a units entry. If the entry is new (rather than from drop-down menu), make sure units are clear. Also check that units are entered if only reference points (but no time series) are available in the column.
2. If reference points are available, check to see that they correspond to the time series, both in magnitude and in type. Units of reference points should be the same as the units for corresponding time series.
3. If ‘ages included’ is present for Recruits and is not = zero, verify that the time series was adjusted accordingly (shifted upwards on page).
4. Ensure that all time series values and reference point values are either numeric or blank.
5. Convert weight values to MT.
6. Convert orders of magnitude units to their base units (ie, 1000s of individuals to individuals).
7. Check time series comments to see if any adjustments need to be made for that time series. For example, if the time series applies only to a sub-area, then change the tslong and tsshort codes to reflect that it’s a sub-area time series.
8. Condense time series comments if too long (approximately 300 characters).
9. Try to identify any obvious outliers that could correspond to entry error.
10. If a new time series type is added, make sure that enough information is present so that a new entry can be generated in the database.
11. Exploitation rate (ER) time series should not be entered if they are based on survey data and not on outputs of abundance or biomass from population assessment models.

**‘Biometrics’:** Various static bioparameters such as habitat type, MSY, fecundity.

1. Ensure values make sense for the parameter type (e.g. numerical vs. categorical data types; reasonable magnitude of numerical values).
2. Ensure units for values listed correspond with default units listed in column H. If necessary, convert values so units match those in column H. (Or if not possible, overwrite units in column H and add comment about change in units).
3. For REC-ESTIMATED, look in assessment text for the years that recruitment or recruitment deviates are estimated independently. Compare this range with a figure showing recruitment time series to verify that recruitment is variable within this year range, and deterministic outside of this year range.
4. For BH-h and for M, indicate in rows beneath values whether these values are estimated or assumed, and specific to this stock or to similar stocks or species. Hover over cells to see comment boxes with options 1-8.
5. Check parameter comments to see if any adjustments need to be made (i.e. if an A50M parameter says it is sex-specific in the notes, move the data to the correct sex-specific field).
6. Condense parameter comments if too long (approximately 300 characters maximum).
7. If a new parameter type is added, make sure that enough information is present so that a new entry can be generated.

**‘Working space’:**

This space is for entering plot digitized and table data before transferring it to the Catch, Survey, or Status tabs. We recommend making graphs to double-check time series that were digitized. This space can also be used for notes for the person entering the data. None of the information in this tab will be imported into the RAM database.

**‘At-age vectors’:**

Lower priority than other tabs. Few age-specific data are currently available in RAM, but are providing this template for data gathering into the future.

**‘At-age matrix’:**

Lower priority than other tabs. Few age-specific data are currently available in RAM, but are providing this template for data gathering into the future.

**‘Entry codes’:**

For internal use only. Contains data lists used for drop-down boxes in other tabs.