SPECIES INFORMATION SYSTEM

USER'S GUIDE

National Marine Fisheries Service
Office of Science and Technology

(Updated November 2011)

VERSION 2.0

NOAA Fisheries

1.0 Introduction

1.1 System Background

The Species Information System (SIS) will create a storage system of data that will collect common and consistent species information across National Marine Fisheries Services (NMFS) regions, in support of services NMFS provides to fisheries and management services. SIS will also link to new and existing information from other distributed databases.

SIS provides users with web applications for data entry, retrieval, and report generation. SIS directly supports the Office of Sustainable Fisheries' (SF) *Annual Report to Congress on the Status of U.S. Fisheries* as well as other NMFS reporting requirements.

SIS will provide the most up-to-date information on the stocks it tracks. In order for the system to be maintained on a real-time basis, the Science Centers and Regions must input data as soon as it becomes available. If current information has not been entered into the database, the present state of knowledge will not be available to the users. Timeliness of reporting is discussed in Sections 6 and 7.

1.2 Document Purpose

The purpose of this document is to provide detailed guidance for SIS users performing data entry, data retrieval, and report generation functions. Text instructions and screen shots are provided to guide users in performing system tasks. Business rules relating to data entry and system use are also outlined.

1.3 Contact Information

For technical questions or trouble-shooting assistance related to the Species Information System, please contact the Office of Science and Technology via the following phone number: NMFS/ST6 IT team – (301) 713-2328.

For data change requests for admin data (stock listings, FMPs, etc.) or questions specific to the stock assessment applications, please contact Kristan Blackhart at Kristan.Blackhart@noaa.gov or (206) 302-2479.

For questions specific to the status determination applications, please contact Karen Greene at Karen.E.Greene@noaa.gov or (301) 427-8504.

2.0 Access Privileges

Access to data is determined by user's roles. The system defines the following roles.

SIS_ADMIN_AUTHOR: allowed to access the Admin menu to create, update, and delete Species records, Stock Records, Stock Group Records, FMP records, Stock Area records, and Jurisdiction records.

SIS_ADMIN_VIEWER: allowed to access the Admin menu to view Species records, Stock Records, Stock Group Records, FMP records, Stock Area records, and Jurisdiction records.

SIS_ASMT_AUTHOR: allowed to create, update, and delete Assessment records.

SIS_ASMT_VIEWER: allowed to view Assessment records.

SIS_SD_AUTHOR: allowed to create, update, and delete Status Determination records.

SIS_SD_VIEWER: allowed to view Status Determination records.

SIS_OVFG_SD_AUTHOR: allowed to create, update, and delete Overfishing Status Determination records.

SIS_OVFG_SD_VIEWER: allowed to view Overfishing Status Determination records.

SIS_OVFD_SD_AUTHOR: allowed to create, update, and delete Overfished Status Determination records.

SIS_OVFD_SD_VIEWER: allowed to view Overfished Status Determination records.

SIS_REPORT_AUTHOR: allowed to create, update, and delete Entity Alias records and Report Entity List records; allowed to generate reports.

SIS_REPORT_VIEWER: allowed to view Entity Alias records and Report Entity List records; allowed to generate reports.

Individual users access may be defined by multiple roles (i.e. SIS_OVFG_SD_AUTHOR, SIS_OVFD_SD_AUTHOR, and SIS_SD_AUTHOR).

3.0 System Characteristics

SIS has several features to assist users in accomplishing their tasks. These features include: menus, toolbars, help tips, error messages, working mode switch, data grid, and online user manuals.

3.1 Logging in to SIS

SIS is accessed via a web interface: https://www.st.nmfs.noaa.gov/sis/html/sis.html

SIS uses NMFS Central Account Management. Your log in information (user name and password) matches the log in information used for your NOAA email and calendar accounts.

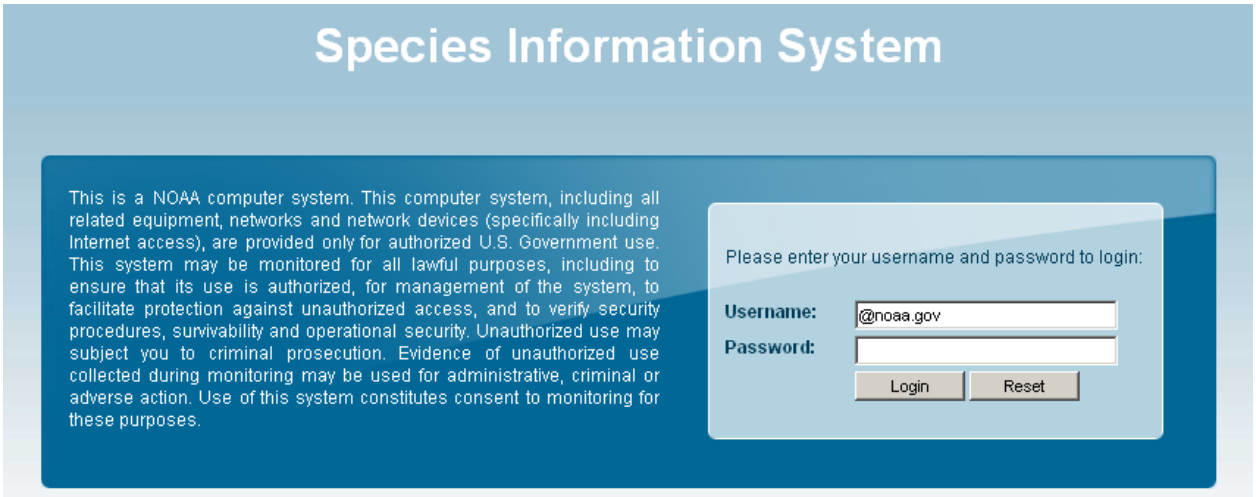


Figure 3.1. Screen shot of the SIS log in screen.

3.2 Helpful Hints

Hints are used throughout all SIS pages. They appear when the user places the mouse over the label of a particular field. Hints assist the user in gaining a greater understanding of the purpose of that field.

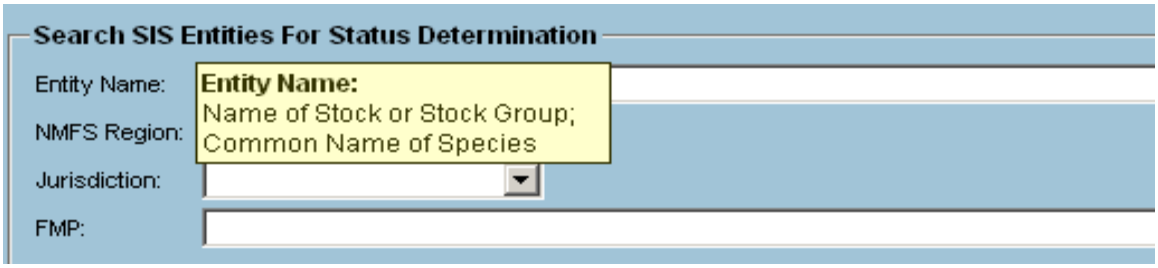


Figure 3.2. Screen shot displaying a helpful hint associated with the Entity Name field.

3.3 Confirmation Messages

Whenever users perform an action such as saving a new record, updating existing records, or deleting some records, a message asking for confirmation of the action will be displayed.

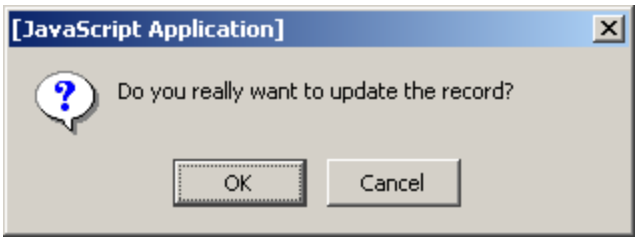


Figure 3.3a. Screen shot displaying a message asking for confirmation of action.

Whenever users complete an action such as saving a new record, updating existing records, or deleting some records, a message indicating the action is completed will be displayed.

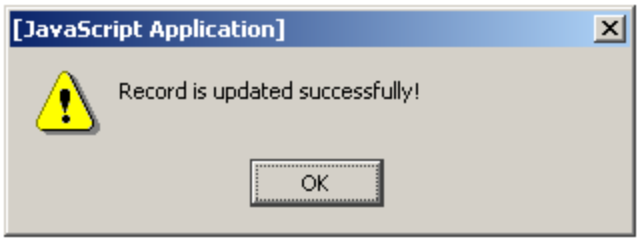


Figure 3.3b. Screen shot displaying a message indicating the success of action.

3.4 Menus

The SIS menu allows the user to access the system's modules: Admin Data Entry, Assessment Data Entry, Status Determination Data Entry, Report Generation, etc. Under each menu item, there is a sub-menu associated with them. For example, if the menu item "Admin" is selected, the Admin submenu will be displayed with submenu listed such as: Species, Stock, Stock Group, Stock Areas, Jurisdictions, FMPs. User then can select a further desired action. Assessment (Section 6) and Status Determination (Section 7) applications are both located under 'Data Entry' on the main menu.

Main Menu

Submenu

Figure 3.4. Screen shot displaying the main menu bar and associated submenu.

3.5 Toolbars

Along with the standard attached menu, each SIS module has an attached toolbar shown on the top of each screen (below the main menu bar). The toolbar consists of buttons specific to the module.

Figure 3.5. Screen shot of the attached toolbar associated with the status determination application.

3.6 Screen Layout and Switching Modes

Below the Menu and the toolbar, SIS screen is divided into two frames. The left side is the Search Frame and the right side is the Edit Frame.

To change the size of the Search Frame and Edit Frame, use the following approaches:

1. **Change the size of the Search or Edit frames.** Drag the border bar between the Search Frame and the Edit Frame to increase or decrease the size of the frame.

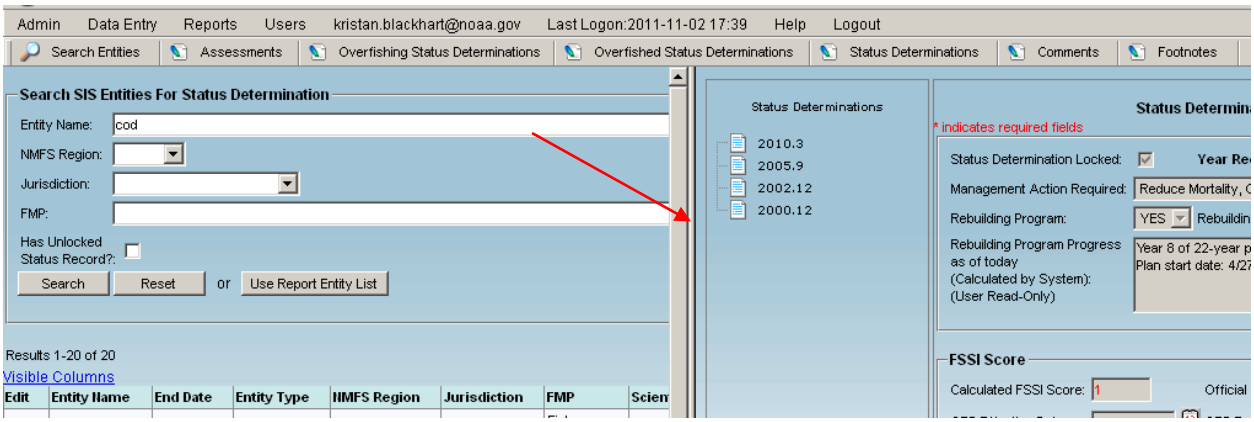


Figure 3.6a. Screen shot showing the border bar between the Search and Edit frames.

2. **Expand the Search frame.** Click the "Search XXX" button on the toolbar, for example "Search Entities" 

. The search frame will expand and the edit frame will be hidden.

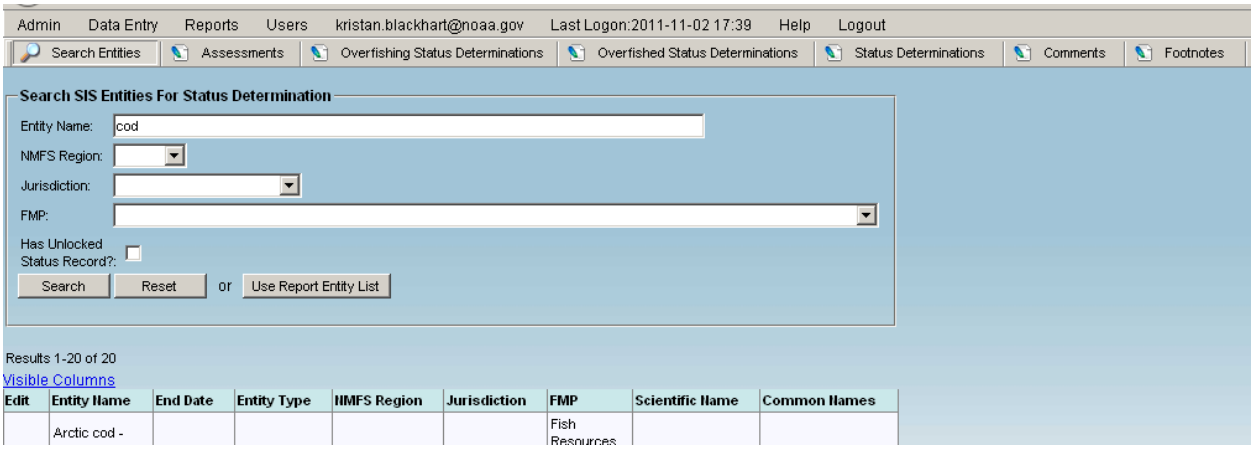
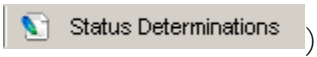


Figure 3.6b. Screen shot showing the Search frame expanded to full screen.

3. **Restore the Edit Frame.** Click on the Edit Button (such as Status Determination 

) on the toolbar to restore the edit frame to its default size, which shows all input fields.

3.7 Search Results Grid

SIS uses a grid to display search results. Below is an example. With this type of grid, users will have more control of how to view the search result.

Results 1-20 of 20

Visible Columns

Edit	Entity Name	End Date	Entity Type	NMFS Region	Jurisdiction	FMP	Scientific Name	Common Names
	Arctic cod - Arctic Management Area		Stock	ARO	NPFMC	Fish Resources of the Arctic Management Area	Boreogadus saida	N/A
	Atlantic cod - Georges Bank		Stock	NERO	NEFMC	Northeast Multispecies	Gadus morhua	Cod, Rock cod
	Atlantic cod - Gulf of Maine		Stock	NERO	NEFMC	Northeast Multispecies	Gadus morhua	Cod, Rock cod
	Blacktip grouper - Western Pacific Islands	**11/30/2004**	Stock	PIRO	WPFMC	Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region	Epinephelus fasciatus	Blacktip rockcod, Bluetipped rockcod, Footballer cod, Red barred rockcod, White grouper

Figure 3.7a. Screen shot of search results display grid.

1. **Select a record to view/edit.** Click on the edit icon of a record and the record will be displayed in the edit frame to view/edit.

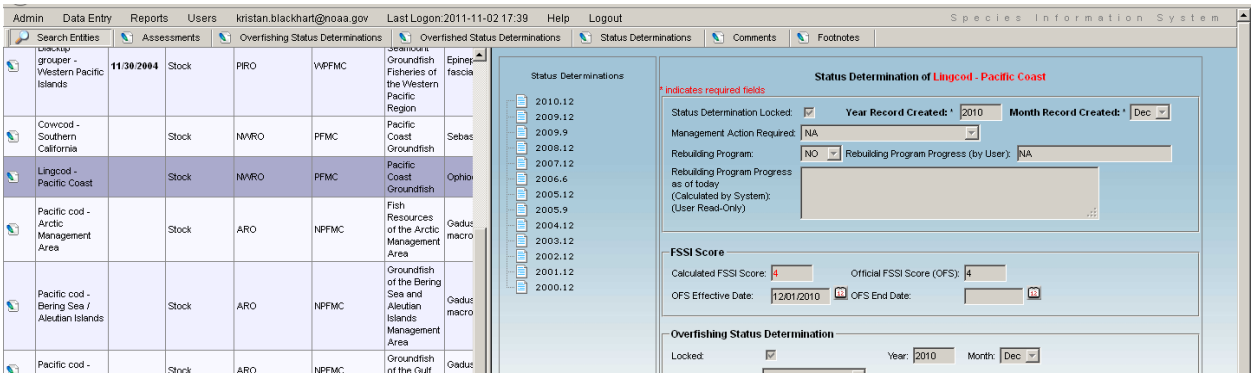


Figure 3.7b. Screen shot of the edit icons in the search results grid and the record displayed by clicking it.

2. **Change the order of the columns**. Move your mouse over the column header to be moved. Press and hold the mouse button to change the header to red, and then drag to the destination column. Release the mouse to drop the column into the new position.

Results 1-20 of 20

Visible Columns

Edit	Common Names	Entity Name	End Date	Entity Type	NMFS Region	Jurisdiction	FMP	Scientific Name
	N/A	Arctic cod - Arctic Management Area		Stock	ARO	NPFMC	Fish Resources of the Arctic Management Area	Boreogadus saida
	Cod, Rock cod	Atlantic cod - Georges Bank		Stock	NERO	NEFMC	Northeast Multispecies	Gadus morhua
	Cod, Rock cod	Atlantic cod - Gulf of Maine		Stock	NERO	NEFMC	Northeast Multispecies	Gadus morhua
	Blacktip rockcod, Bluetipped rockcod, Footballer cod, Red barred rockcod, White grouper	Blacktip grouper - Western Pacific Islands	11/30/2004	Stock	PIRO	WPFMC	Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region	Epinephelus fasciatus

Figure 3.7c. Screen shot of the search results display grid with the Common Names column moved from its normal position to next to the Entity Name column.

3. **Change the width of the columns**. Move the mouse over to a separator bar between two columns. Press and hold the mouse to turn the bar red, and then drag the bar to the left or right to the desired width. Release the mouse.

Results 1-20 of 20

Visible Columns

Edit	Common Names	Entity Name	End Date	Entity Type	NMFS Region	Jurisdiction	FMP	Scientific Name
	N/A	Arctic cod - Arctic Management Area		Stock	ARO	NPFMC	Fish Resources of the Arctic Management Area	Boreogadus saida
	Cod, Rock cod	Atlantic cod - Georges Bank		Stock	NERO	NEFMC	Northeast Multispecies	Gadus morhua
	Cod, Rock cod	Atlantic cod - Gulf of Maine		Stock	NERO	NEFMC	Northeast Multispecies	Gadus morhua
	Blacktip rockcod, Bluetipped rockcod, Footballer cod, Red barred rockcod, White grouper	Blacktip grouper - Western Pacific Islands	11/30/2004	Stock	PIRO	WPFMC	Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region	Epinephelus fasciatus

Figure 3.7d. Screen shot showing the FMP column being resized.

4. **Sort on Columns**. Click and release the mouse on a column header to sort the data by that data column (alternatively in ascending and descending order).

Results 1-20 of 20

Visible Columns

Edit	Common Names	Entity Name	End Date	Entity Type	NMFS Region	Jurisdiction	FMP	Scientific Name
	N/A	Cowcod - Southern California		Stock	NWRO	PFMC	Pacific Coast Groundfish	Sebastes levis
	N/A	Lingcod - Pacific Coast		Stock	NWRO	PFMC	Pacific Coast Groundfish	Ophiodon elongatus
	N/A	Pacific cod - Pacific Coast		Stock	NWRO	PFMC	Pacific Coast Groundfish	Gadus macrocephalus
	Finescale Antimora, Finescale codling	Pacific flatnose - Pacific Coast		Stock	NWRO	PFMC	Pacific Coast Groundfish	Antimora microlepis
	Black cod	Sablefish - Pacific Coast		Stock	NWRO	PFMC	Pacific Coast Groundfish	Anoplopoma fimbria
	Cod, Rock cod	Atlantic cod - Georges Bank		Stock	NERO	NEFMC	Northeast Multispecies	Gadus morhua

Figure 3.7e. Screen shot of the FMP data column sorted in decending order.

5. **Select columns to hide/show.** Click on the "Visible Columns" link to show a pop-up window displaying the names of the columns. Check/uncheck the column(s) to show/hide.

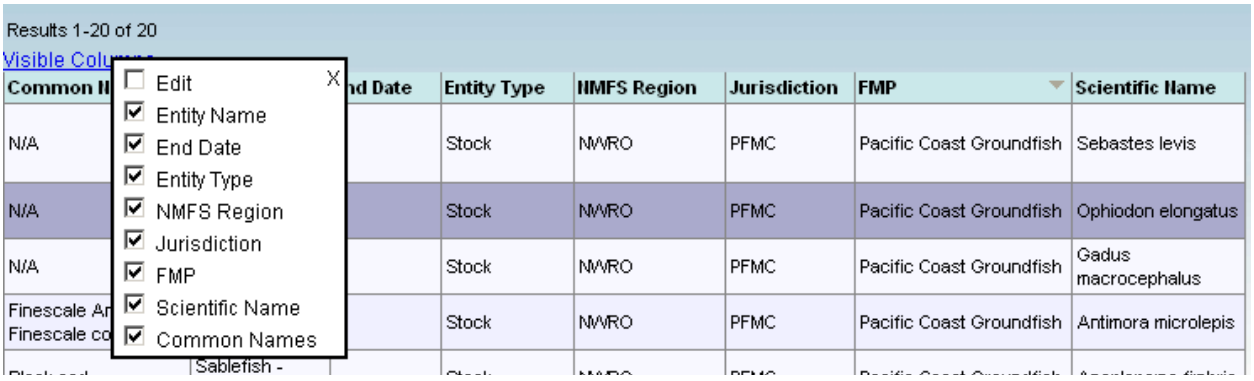


Figure 3.7f. Screen shot showing the visible columns pop-up. The Edit column has been hidden.

4.0 Manage SIS records

All SIS records are managed in a similar fashion. This section describes the common approach to create, search, retrieve, update, and delete records.

4.1 Create a New Record

1. Click the New button in the Edit Frame.
2. Enter data.
3. Click the Save button to commit to the database.

4.2 Search Existing Records

1. Click the Search XXX button in the Toolbar.
2. Enter search criteria.
3. Hit Enter or click the Search button.
4. Search results will be displayed in a grid.

4.3 Retrieve an Existing Record

1. Search the record first (refer to "Search Existing Records" above).
2. Click the Edit icon next to the record.
3. The record will be displayed in the Edit Frame.

4.4 Edit an Existing Record

1. Retrieve the record first (refer to Section 4.3, "Retrieve an Existing Record").
2. Make changes. If errors are made, the Reload button can be used to revert back to the last saved version of the record.
3. Click the update button to commit the changes to the database.

NOTE: Some records may be locked and Users will need to contact an Administrator to unlock the record before it can be edited (see Section 7.2).

4.5 Delete an Existing Record

1. Retrieve the record first (refer to Section 4.3, "Retrieve an Existing Record").
2. Click the "Delete" button.
3. Confirm that the record should be deleted.

NOTE: Some records may be locked and Users will need to contact an Administrator to unlock the record before it can be deleted (see Section 7.2).

5.0 Admin Data

Access to Admin data (Species, Stock, Stock Group, FMP, Jurisdiction, and Stock Area information) is limited to users with the following roles: SIS_ADMIN_AUTHOR and SIS_ADMIN_VIEWER. For questions, please contact Kristan Blackhart (ST4) at (206) 302-2479.

6.0 Assessment Summary Data

It is the responsibility of the selected Science Center representatives to enter the data for the stock assessment data application. Data for new stock assessments (summary, time series, and survey links) should be entered into the SIS database within 10 business days after an assessment is considered final (see Section 6.2).

Once an assessment has been completed and entered into SIS, the Science Center representative must contact the selected Regional Office representative to let them know the assessment data is available. This step should be completed immediately after the data entry into SIS is complete. The Regional Office representative will then update status determination information based on the assessment (see Section 7).

6.1 What Counts as a Stock Assessment?

Stock assessment refers to the processes of collecting, analyzing, and reporting demographic information for the purpose of determining the effects of fishing on fish populations. Assessments involve some sort of quantitative data analysis and provide information necessary to estimate the current abundance and exploitation rates of resources relative to predefined goals. Simple data reports (catch reports, report of abundance index from a recent fishery-independent survey, report on a data workshop for data that could be used in an assessment) do not qualify as assessments and do not need to be entered into SIS. The following do count as assessments and should be entered into SIS: update to a trend analysis using the most recent catch and abundance index to provide an updated status report; interpretation of the most recent survey abundance data as absolute biomass, multiplying by target exploitation rate, and providing updated quota recommendations; incorporation of the most recent data into a dynamic model and using the results to update status determinations, quotas, etc.

6.2 When is an Assessment Considered Final?

Stock assessments are considered final when the scientific review is complete and the results are available for use as advice to managers. Assessments can be entered before the final assessment report is available; however, in these cases the record will need to be updated with the correct citation for the assessment report when it is available.

6.3 Rejected Assessments

Stock assessments that do not pass their technical review should still be entered into SIS. Data related to F and biomass should not be entered for these records, but other data should be included to reflect the attempted level of effort for the assessment. For the citation field, enter information about the review (example: Draft was presented to SAW/SARC 24). If assessments are only partially accepted, the information entered should only reflect the accepted portions of the assessment. For assessments that attempted more complex analyses that were remanded for additional work, but accepted at a lower level, the information

entered for the assessment should reflect the portion of the assessment that was accepted. Notes should be added in the Comments section indicating additional efforts, reasons that the assessments were rejected, etc.

6.4 Locate an Entity

1. Click on "Data Entry" on the menu and then click on the "Assessment" entry.
2. Search for the Entity that you would like to enter data for by using search criteria.
3. In the search result grid, click on the Edit icon of the entity.
4. The Edit Frame is then displayed with the Entity's name shown at the top.
5. If the Entity has previous assessment information entered, the date (year.month) of the existing records will be displayed as links in the "Assessment List" panel on the left-hand side of the assessment window. The most recent assessment record will be displayed in the Assessment form.

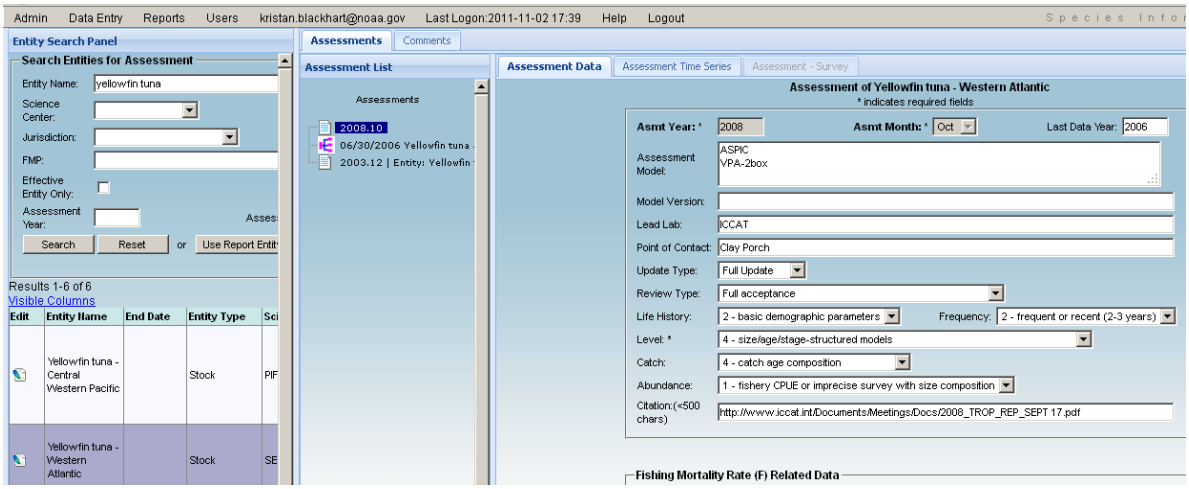


Figure 6.4. Screen shot showing an existing assessment displayed for the selected stock (highlighted in the search results grid).

6.5 Create an Assessment Record

1. Click on the "New" button at the bottom of the Edit Frame.
2. Enter assessment data.
3. Click the "Save" button to save the new assessment record.
4. The "Clone" button can be used to create a new record with identical information to the currently displayed record. Update the appropriate fields (be sure to enter the correct date information) and click Save.

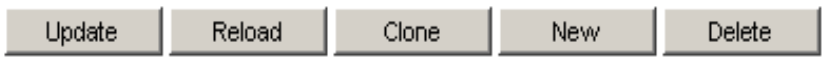


Figure 6.5. Screen shot of the buttons available at the bottom of the Edit Frame. The Save Button appears when working with a new record.

6.6 Edit an Existing Assessment Record

1. From the "Assessment List", click on the "year.month" link of the record to be updated.
2. Make changes. If errors are made while updating a record, the "Reload" button will revert all fields back to the original record.
3. Click the "Update" button to save changes.

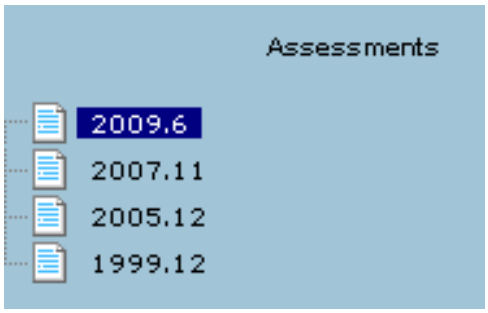


Figure 6.6. Screen shot of the assessment list for a selected stock in the assessment panel. This list will also display any applicable entity changes (stock splits, FMP changes, etc.).

6.7 Assessment Data Fields

1. Assessment Year and Assessment Month: The dates entered should be when the assessment completes its scientific review and is available for advice to management.
2. Last Data Year: The most recent year of data included in the assessment.
3. Assessment Model: Assessment model accepted by the scientific review process and used to complete the stock assessment.
4. Model Version: Version of the assessment model accepted by the scientific review process and used to complete the stock assessment.
5. Lead Lab: NMFS Laboratory or outside agency with lead responsibility for stock assessment.
6. Point of Contact: Full name of person to contact with questions regarding the assessment.
7. Update Type: Refers to the level of assessment effort; populated by a drop-down list (select one of the available options listed below):
    1. New: The stock has never been assessed before.
    2. Benchmark: Assessments which are substantially different from the previous assessment. Changes could include a new/updated model or inclusion of data not previously available or used.
    3. Full Update: Assessments that have included the most recent catch and/or abundance index data to provide updated status determinations or quota recommendations. Only minor reworking of the existing assessment model and no substantial changes to the methods of interpretation has occurred; typically takes a few weeks to prepare.
    4. Partial Update: Executive summaries that basically just advance the assessment projections by one year, perhaps adding the most recent year of

catch data in the process. Occur in years without surveys and typically take only a few hours to prepare, but are used to make management decisions and status determinations.

8. Review Type: Description of the results of the scientific review; populated by a drop-down list (select one of the available options listed below):
    1. Not Reviewed: Assessment was not reviewed by a scientific or technical review committee (please include an explanation in the Comments field).
    2. Accept previous approach, remand new attempt:
    3. Full acceptance: Assessment was accepted by the scientific review committee and is available for use as advice to management.
    4. Partial acceptance – Fishing mortality estimates: Only the fishing mortality estimates from the assessment were accepted by the scientific review committee as acceptable for management advice; biomass estimates were rejected.
    5. Partial acceptance – Biomass estimates: Only the biomass estimates from the assessment were accepted by the scientific review committee as acceptable for management advice; fishing mortality estimates were rejected.
    6. Reject – Data insufficient for assessment: Assessment was rejected by the scientific review committee because of insufficient data; assessment will not be used as advice for management.
    7. Reject – Results too uncertain to be considered adequate: Assessment was rejected by the scientific review committee because of high levels of uncertainty in the results; assessment will not be used as advice for management.
    8. Remand: Assessment has been sent back by the scientific review committee for changes or re-evaluation.
9. Levels of Life History data: populated by a drop-down list (select one of the available options listed below)

    0—No life history data.

    1—The size composition of harvested fish provides a simple index of a stock's growth potential and vulnerability to overharvesting.

    2—Basic demographic parameters such as age, growth, and maturity rates provide information on productivity and natural mortality.

    3—Seasonal and spatial patterns of mixing, migration, and variability in life history characteristics, especially growth and maturity, provides improved understanding of how a population responds to its environment.

    4—Food habits information defines the predator-prey and competitive relationships within the fish community, thus providing a first step towards direct estimation of natural mortality rates and ecologically-based harvest recommendations.
10. Levels of Stock Assessment Frequency: populated by a drop-down list (select one of the available options listed below):

    0—Never: an assessment has never been conducted.

    1—Infrequent: the most recent assessment was conducted more than three years ago.

2—Frequent or recent: the most recent assessment was conducted within the last three years but is not conducted annually.

3—Annual or more: assessments are conducted at least annually.

11. Levels of Stock Assessment Models

0—Although some data may have been collected on this species, these data have not been examined beyond simple time series plots or tabulations of catch.

1—Either:

a) time series of a (potentially imprecise) abundance index calculated as raw or standardized CPUE in commercial, recreational, or survey vessel data, or

b) onetime estimation of absolute abundance made on the basis of tagging results, a depletion study, or some form of calibrated survey.

2—Simple equilibrium models applied to life history information; for example, yield per recruit or spawner per recruit functions based on mortality, growth, and maturity schedules; catch curve analysis; survival analysis; or length-based cohort analysis.

3—Equilibrium and non-equilibrium production models aggregated both spatially and over age and size; for example, the Schaefer model and the Pella-Tomlinson model.

4—Size, stage, or age structured models such as cohort analysis and untuned and tuned VPA analyses, age-structured production models, CAGEAN, stock synthesis, size or age-structured Bayesian models, modified DeLury methods, and size or age-based mark-recapture models.

5—Assesssment models incorporating ecosystem considerations and spatial and seasonal analyses in addition to Levels 3 or 4. Ecosystem considerations include one or more of the following:

a) one or more time-varying parameters, either estimated as constrained series, or driven by environmental variables,

b) multiple target species as state variables in the model, or

c) living components of the ecosystem other than the target species included as state variables in the model.

12. Levels of Catch Data

0—No catch data.

1—Landed catch provides a minimum estimate of fishery removals and is typically obtained from mandatory landing receipts. In some cases, particularly recreational fisheries, a statistical sampling program is used to expand estimates of sampled catch up to the total angling population.

2—Catch size composition provides a measure of the sizes of fish being impacted by the fishery, and when tracked over time can provide an index of recruitment to the fishery and total mortality rates.

3—Spatial data on catch from logbooks can provide information on range extensions and contractions, and other changes in stock or fleet distribution.

4—Catch age composition requires the development of age determination techniques and an investment in the collection and processing of appropriate samples. The result is much greater stock assessment accuracy than can be obtained with size composition data alone.

5—Accurate and complete data on total removals (including landed catch, discards, bycatch in other fisheries, and cryptic mortality induced by fishing gear contact) will contribute to accurate stock assessment results. An at-sea observer

program can monitor total removals, cross-check logbook data, and collect site-specific biological samples. In many fisheries, the relative merits of observer programs for collecting data on total removals and /or age composition data may warrant consideration before or instead of investing in a fishery logbook program.

13. Levels of Abundance Data

    0—No abundance data.

    1—Relative abundance index from fishery catch per unit effort or an imprecise, infrequent survey. Another Level 1 situation would be a single survey from which an estimate of absolute abundance has been made. At this low level of information there will only be a limited ability to track changes in stock abundance because of uncertainties in the calibration of the index, or a high level of noise in the data relative to the magnitude of the expected changes in stock abundance.

    2—Precise, frequent surveys with age composition will provide more accurate tracking of changes in stock abundance and the associated age composition data will enable better estimation of historical and current levels of recruitment.

    3—Research surveys with known or estimated catchability, acoustic surveys with known or estimated target strengths, and statistically-designed tagging studies can provide estimates of absolute abundance. This is especially valuable when the time series of the survey is so short that no trend is detectable.

    4—Habitat-specific surveys refine the concept of stratified random surveys so that survey results are more closely associated with particular habitats. The result is improved knowledge of the relationship between fish assemblages and habitat features. In addition, these surveys use alternative methodologies to extend survey coverage into all relevant habitats.

14. Citation: Please include a complete citation for the assessment document so users can locate the source document if necessary. If the document is available in electronic format, include a web address **in addition** to the full citation. This text field has a limit of 500 characters.
15. Fishing Mortality Rate (F) Related Data: these data fields will be used for calculation of the stock's FSSI scores and other reporting.
    a. Minimum/Maximum/Best F Estimates: Best F Estimate should always be filled in unless no point estimate of F is available. If no point estimate is available, fill in the Minimum and Maximum fields to capture the range of F values. If both a point estimate and a range are available, fill in all fields.
    b. F Unit: Select the appropriate unit of measure for the F values from the drop-down menu. If the appropriate unit is not available from the list, enter a new text option in the field (see Section 6.8).
    c. F Year: The year of the F estimate(s).
    d. Flimit, Fmsy, and Ftarget: Fill in these values when available.
    e. F/Flimit, F/Fmsy, and F/Ftarget: These fields will be automatically calculated when values are entered in the associated fields. If no automatic calculation can be made (for instance, if no point estimate of F is available), please fill these fields in by hand if available.
    f. F/Flimit/Fmsy/Ftarget Basis: These fields have drop-down menus with common options available, but can also accommodate text entries (see Section 6.8).

16. B (biomass) Related Fields: this data will be used for calculation of stock's FSSI scores and other reporting.
    a. Minimum/Maximum/Best B Estimates: Best B Estimate should always be filled in unless no point estimate of biomass is available. If no point estimate is available, fill in the Minimum and Maximum fields to capture the range of biomass values. If both a point estimate and a range are available, fill in all fields.
    b. B Unit: Select the appropriate unit of measure for the biomass values from the drop-down menu. If the appropriate unit is not available from the list, enter a new text option in the field (see Section 6.8).
    c. B Year: The year of the biomass estimate(s).
    d. Blimit and Bmsy: Fill in these values when available.
    e. B/Blimit, B/Bmsy: These fields will be automatically calculated when values are entered in the associated fields. If no automatic calculation can be made (for instance, if no point estimate of biomass is available), please fill these fields in by hand if available.
    f. B/Blimit/Bmsy Basis: These fields have drop-down menus with common options available, but can also accommodate text entries (see section 8.5 below).
    g. MSY: Enter the value of the stock's maximum sustainable yield.
    h. MSY Unit: Select the appropriate unit of measure for the MSY values from the drop-down menu. If the appropriate unit is not available from the list, enter a new text option in the field (see Section 6.8).
    i. Stock Level to Bmsy: Enter the stock's biomass level relative to the stock's biomass at MSY. A drop-down list provides options.
        i. Below: B < 0.8Bmsy
        ii. Near: 0.8Bmsy < B < Bmsy
        iii. Above: B > Bmsy
        iv. Unknown: stock's current biomass, or biomass at MSY, is unknown

6.8 Edit Dropdown Lists

Dropdown lists for a number of F- and B-related fields in the Assessment form are editable so that new items can be input into the field. Text entries should only be made when no existing entry on the dropdown list matches the assessment in question.

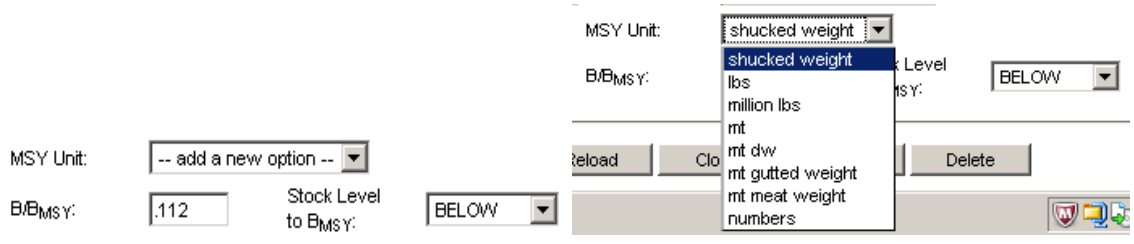


Figure 6.8. Screen shot showing how to add items to dropdown lists. Left, click on "add a new option"; right, type the appropriate entry into the field.

1. Open up the dropdown list by clicking on  .
2. Highlight the "add a new item" option.
3. Change "add a new item" to the value that needs to be added.

7.0 Assessment Time Series Data

The purpose of Time Series module is to track assessment time series information, and be able to produce analysis reports.

7.1 Time Series and Assessment

Each set of time series must be associated with an assessment record. To enter/view time series data for an entity's assessment, the entity and the assessment have to be located first.

7.2 Time Series Data

7.2.1 Time Series Data Fields

Each set of time series data must contain the following data fields:

1. Time Series Year
   Definition: The decimal year to which the data refer. Typically, the data refer to calendar year and the date values will not have a fractional component. However, fractional components can be used when appropriate to represent the data. Two cases where fractional components should be used are: (1) when assessment models have specified seasons and the user wishes to include seasonal model output in SIS; or (2) where the user wishes to specify the exact time within the year at which a particular parameter is being reported. For example, total biomass might be reported for Jan 1 (e.g. 1982.000) and Spawners for Mar 1 (e.g. 1982.250).
   Data type: number (7,3)
   Constraint: cannot accept null

2. Parameter Category
   Definition: The time series parameter category, which is used as reporting criteria for the Time Series Reports. Parameter category is represented by a lookup table.
   Current permissible values: Recruitment, Abundance, Spawners, Fmort, Catch, Index.
   Data type: string up to 50 characters
   Constraint: cannot accept null

3. Type
   Definition: Type provides a more detailed definition of the data being entered. For each parameter category, one or more types of data may be entered. For example, within the Catch category, the user could enter time series for total catch, commercial retained, commercial discards, recreational kept, and recreational released. The tables below show typical (but not exhaustive) values to define each of the parameter categories:

Abundance	Spawners	Recruitment	Catch	Fmort	Index
Age	Female mature	Age	Total	Apical F	NEFSC fall survey
Size	Gonad weight	Size	Commercial Retained	Mean F	NEFSC spring survey
Relative total biomass	Fecundity	Exploitable	Commercial Discard	Exploitation Index	Survey
Exploitable biomass	All mature	All	Recreational Kept	Exploitation Rate	
Unfished biomass	Exploitable		Recreational released	SPR	
Fishery impact (B/Bunfished)	%F*%Mat* Gonad weight		Commercial only	1-SPR	
B/Bmsy	Parents		Landings + discards	Equivalent SPR%	
			Landings only	Relative F	
			Directed fleet only	F/Fmsy	
			US only		
			US + foreign landings, US discards		
			Comm + rec landings, rec discards		
			Comm + rec landings, comm. discards		
			US commercial only		
			Closed season discards		
			Shrimp bycatch		
			Mexican catch		
			Unreported commercial catch		
			MRFSS catch		
			Headboat catch		
			Commercial catch – handlines		
			Commercial catch – trawl		
			Commercial catch – other		
			Commercial catch – traps		
			Commercial catch – H&L		
			Commercial catch – longline		
			Commercial catch – diving		
			Commercial discards - handline		
			Commercial discards – H&L		

			Headboat discards		
			MRFSS discards		

Data type: string up to 50 characters

4. Primary Flag
   Definition: This field identifies which of several data types within a parameter category will be the primary one selected for automatic reporting. In the catch example cited above, where the time series for total catch is entered in addition to several individual components of catch, the total catch would be flagged as the primary data field.
   Data type: string of 1 character.
   Domain values: Y and N
   Constraint: cannot accept null.

5. Source
   Definition: Source describes where a particular type of data comes from.
   Typical values are: Model; Survey; Fishery.
   Most time series results reported to SIS will be output from an assessment model. Source could also be "Survey" if the reported time series is an index of survey observations. Source would be "Fishery" if the time series data is reported catch rather than a model estimate of catch.
   Data type: string up to 50 characters
   Constraint: cannot accept null.

6. Basis
   Definition: Basis describes the kind of value and the units for the numbers being reported.
   Typical values include: Biomass-mt; Biomass-mt dw; Biomass-mt meat weight; Biomass-mt gutted weight; Biomass-lbs; Numbers, Rate, Index, Eggs. Rate would be used for the Fmort category and Index could be used for any relative index or a survey unit that was not biomass or numbers.
   Data type: string up to 50 characters
   Constraint: cannot accept null.

7. Range
   Definition: Range is used in conjunction with type to refine the description of the data being entered. It specifies a subset of the population to which the data apply.
   Typical values could be: Age n; Age n-m; All; Mature; Surveyed; Exploitable; Size <n cm; Size>n cm.
   Data type: string up to 50 characters
   Constraint: cannot accept null.

8. Statistic
   Definition: This attribute describes the statistical characteristics of a time series column.
   Typical values are: Mean; Median; Lower 95% CI; Upper 95% CI; Model1 Mean; MCMC; Index; Observed; Official.

Data type: string up to 50 characters
Constraint: can be null (assumed to be Mean if null).

9. Scalar
   Definition: This factor describes a multiplier by which the reported values should be multiplied to restore them to their natural units. For example if biomass is reported in 1000 mt, then enter a value of 1000 here. If a survey index or a Fmort value is being reported, then the unit is usually 1.
   Data type: number (9,0)
   Constraint: cannot accept null

10. Time series value
    Definition: This is the value of the observation being reported
    Data type: number(25,5): numeric with up to 5 decimal digits allowed

7.2.2 Time Series Data Formats

The System allows Users to cut and paste time series from assessment output tables or common programs like Excel into the User Interface to make data input easier.

The System accepts time series data in the format illustrated below: (for a selected assessment of a selected stock)

Category	Year	Recruitment	Abundance	Abundance	Spawners	Fmort	Catch	Catch	Abundance
Primary		Y	Y	N	Y	Y	Y	N	N
Type		Age	Age	Age	Fecundity	Apical F	Total	Commercial Retained	Exploitable
Source		Model	Model	Model	Model	Model	Model	Fishery	Survey
Basis		Numbers	Biomass	Numbers	Eggs	F	Biomass	Biomass	Numbers
Range		1	2-max	2-max	mature	Apical F	all	all	all
Statistic		Mean	MCMC	Mean	Mean	Mean	Mean	Mean	Mean
Scalar		1000000	1000	1000	1000000	1	1000	1000	1
	1970	45.3	1234	4321	1255	0.3	33344	30000	3.42
	1971	40.3	2233	3333	5432	0.24	25000	24000	3.1

headers

Actual values

Please note the following about data input for time series:

- The System will only accept the predefined Parameter Categories.
- Each column of a time series (except the year) must have a set of headers (i.e. time series parameters, consisting of category, primary flag, type, source, basis, range, statistic and scalar).
- The header must be entered in this order: 1) category; 2) primary flag; 3) type; 4) source; 5) basis; 6) range; 7) statistic; and 8) scalar.

- The User must provide valid values for series year, parameter type, source, basis, range, statistic and scalar.

- Users do not need to provide values for all columns in all years. In the case when a cell contains a null value, the time series entry will be null.
- Time series values are not allowed to contain non numeric data (for example: NA, <, >, range, etc).
- If any of the time series data/cell does not pass the data validation, the whole set of time series data will be rejected.

7.2.3 Data Examples

Example 1: formatted in Excel spreadsheet.

Category	Year	Recruitment	Abundance	Abundance	Spawners	Fmort	Catch	Abundance
Primary		Y	Y	N	Y	Y	Y	N
Type		Age	Age	Age	Fecundity	Apical F	Total	Exploitable
Source		Model	Model	Model	Model	Model	Model	Survey
Basis		Numbers	Biomass	Numbers	Eggs	F	Biomass	Numbers
Range		1	2-max	2-max	mature	Apical F	all	all
Statistic		Mean	MCMC	Mean	Mean	Mean	Mean	Mean
Scalar		1000000	1000	1000	1000000	1	1000	1
	1997	139.1	1234	4321	1255	0.3	33344	139.42
	1998	139.2	2233	3333	5432	0.24	25000	139.1

Figure 7.2.3a. Time Series Data in Excel spreadsheet.

Example 2: formatted as delimited text

- Any characters can be used as a delimiters except "." (dot), "," (comma) and " " (space).
- Only one delimiter can be used in one data entry

```
Category,Year;Recruitment;Abundance;Abundance;Spawners;Fmort;Catch;Abundance;
Primary;,Y;Y;N;Y;Y;Y;N;Type;,Age;Age;Age;Fecundity;Apical
F;Total;Exploitable;Source;,Model;Model;Model;Model;Model;Model;Survey;Basis;,
Numbers;Biomass;Numbers;Eggs;F;Biomass;Numbers;Range;,1;2-max;2-max;mature;
Apical F;all;all;Statistic;,Mean;MCMC;Mean;Mean;Mean;Mean;Mean;Scalar;, 1000000;
1000;1000;1000000;1;1000;1;,1997;139.1;1234;4321;1255;0.3;33344;139.42;,1998;
139.2;2233;3333;5432;0.24;25000;139.1
```

Figure 7.2.3b. Time Series Data as Delimited Text.

7.3 Enter Time Series Data

To enter time series data, the entity and assessment have to be located first, then the time series data formatted as described above can be pasted and then saved into the system.

7.3.1 Locate Entity and Assessment for Time Series

1. Click on "Data Entry" on the menu and then click on the "Assessment" entry.
2. Search for the Entity that you would like to enter data for by using search criteria.
3. In the search result grid, click on the Edit icon of the entity.
4. The Edit Frame is then displayed with the Entity's name shown at the top.
5. If the Entity has previous assessment information entered, the date (year.month) of the existing records will be displayed as links in the "Assessment List" panel on the left-hand side of the assessment window. The most recent assessment record will be displayed in the Assessment form.
6. Select the assessment for which the time series data will be entered by clicking on the assessment's year.month link displayed in the "Assessment List" panel. This will display the assessment data for that assessment in the assessment form.
7. The assessment tabs will be displayed – as shown in *Figure 7.3.1.*

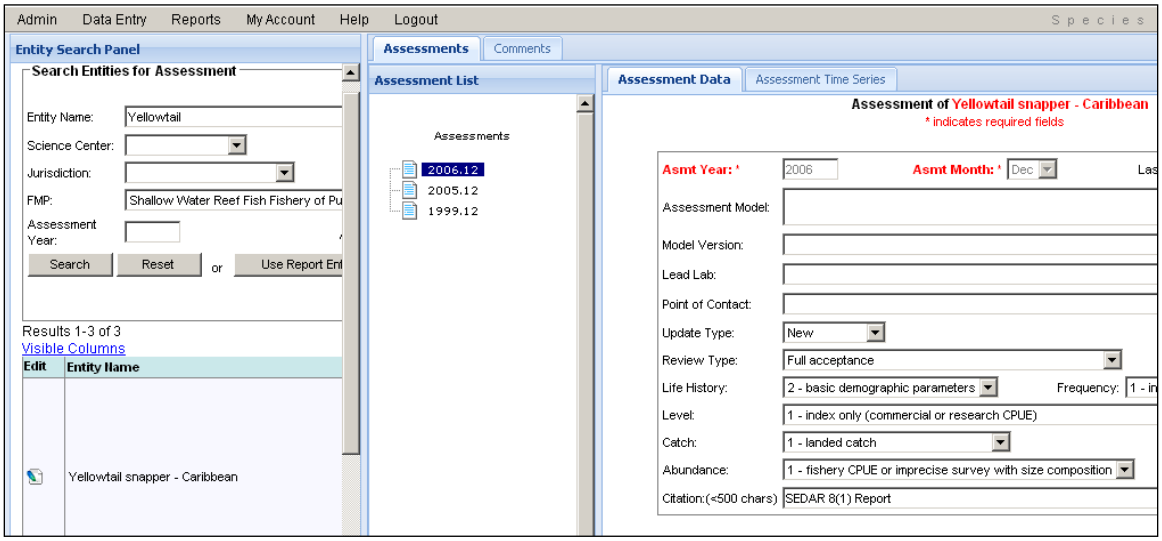


Figure 7.3.1. Locate Entity and Assessment for Time Series Data entry.

7.3.2 Save Time Series Data

After an Assessment is located, click on the Assessment Time Series tab to get the Time Series page – as shown in *Figure 7.3.2a.*

1. Copy the time series data from a spreadsheet or any other editors, then paste it to input box – as shown in *Figure 7.3.2b.*

2. Click on the 'Format Data' button. The data will be formatted and displayed – as shown in *Figure 7.3.2c.*
3. If the formatting is correct and you wish to proceed, click on the 'Save Data' button to save the data into the System's database, as shown in *Figure 7.3.2d.*

In case the System failed to format or save the time series data, the System will display error message and reject the data – as shown in *Figure 7.3.2e* and *Figure 7.3.2f.*

Alternative: After pasting data, user can click on the 'Save Data' button to save the data without formatting if you are confident the data has no errors.

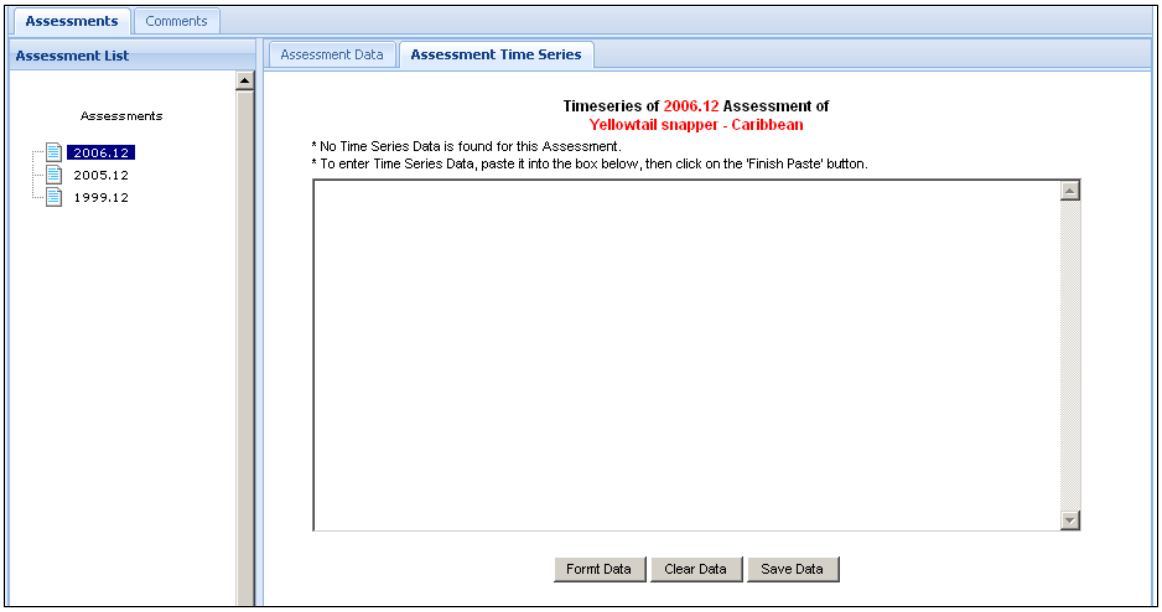


Figure 7.3.2a. Web page for Time Series Data Entry.

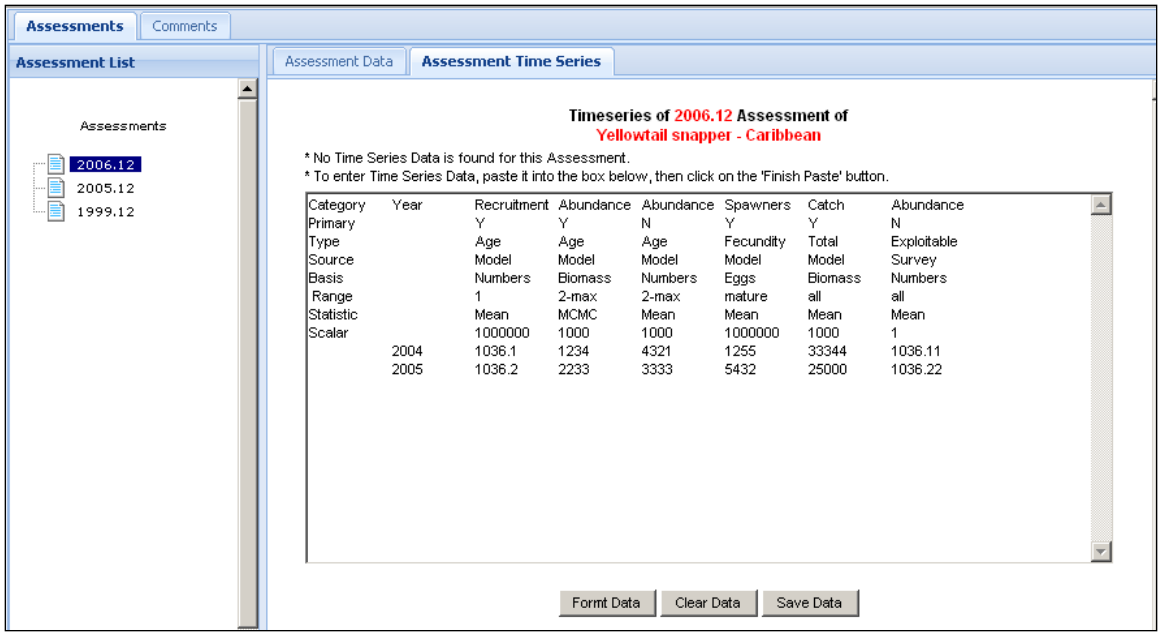


Figure 7.3.2b. Paste Time Series Data.

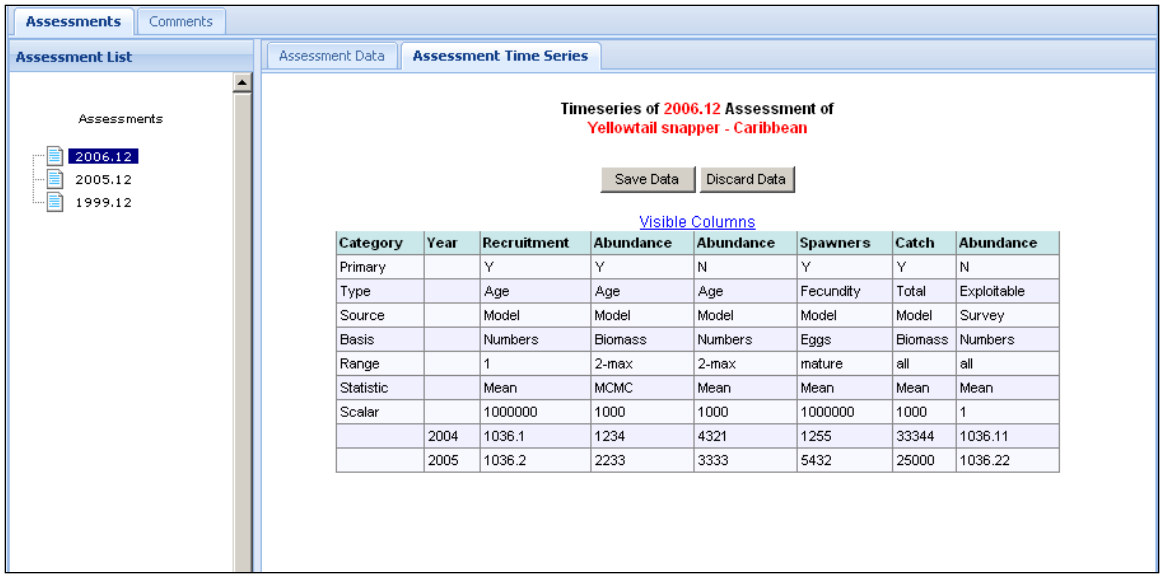


Figure 7.3.2c. Format Time Series Data.

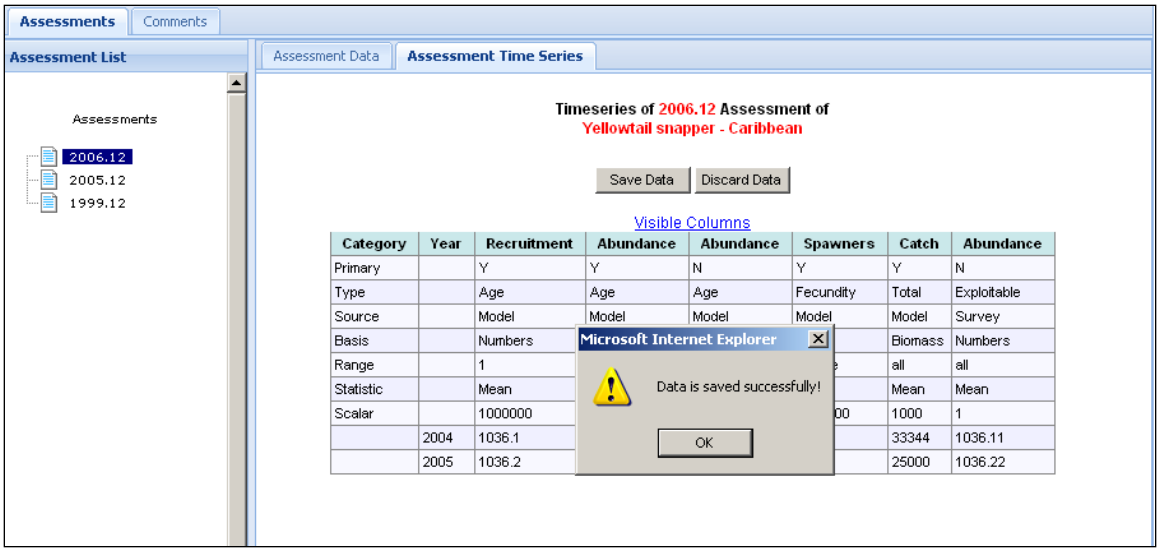


Figure 7.3.2d. Save Time Series Data.

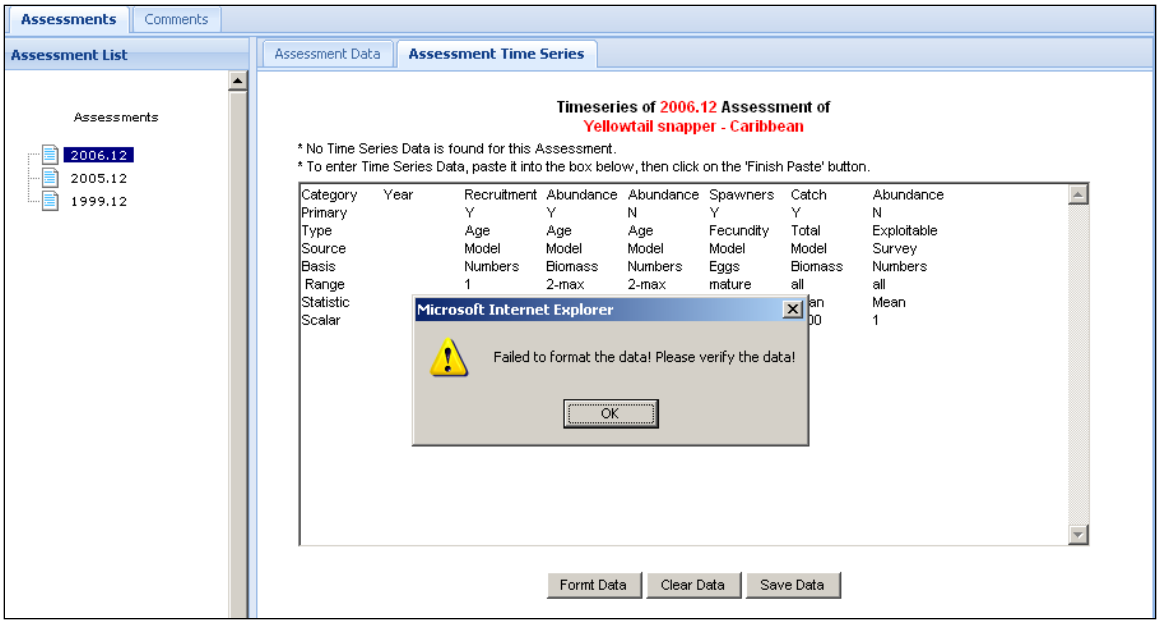


Figure 7.3.2e. Failed to format the data.

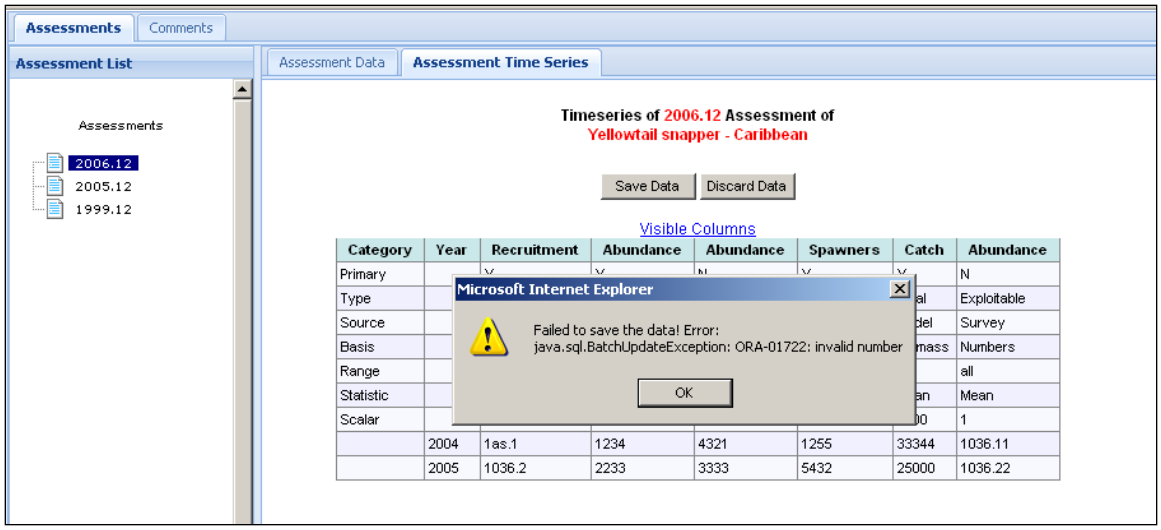
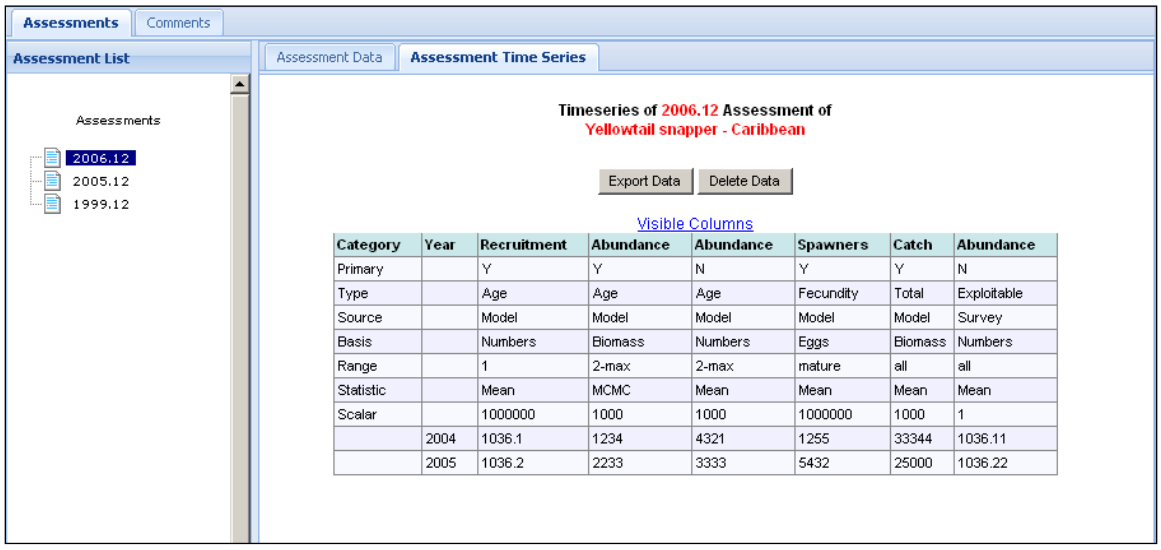


Figure 7.3.2f. Failed to save the data.

7.4 Export Time Series Data

Time series data that has already saved can be exported. Click on the 'Export Data' button to export the data to a spreadsheet (*Figures 7.4a and 7.4b*).



Category	Year	Recruitment	Abundance	Abundance	Spawners	Catch	Abundance
Primary		Y	Y	N	Y	Y	N
Type		Age	Age	Age	Fecundity	Total	Exploitable
Source		Model	Model	Model	Model	Model	Survey
Basis		Numbers	Biomass	Numbers	Eggs	Biomass	Numbers
Range		1	2-max	2-max	mature	all	all
Statistic		Mean	MCMC	Mean	Mean	Mean	Mean
Scalar		1000000	1000	1000	1000000	1000	1
	2004	1036.1	1234	4321	1255	33344	1036.11
	2005	1036.2	2233	3333	5432	25000	1036.22

Figure 7.4a. Export Time Series Data.

	A	B	C	D	E	F	G	H
1	TimeSeries of 2006.12 Assessment of Yellowtail snapper - Caribbean							
2								
3	Category	Year	Recruitment	Abundance	Abundance	Index	Catch	Abundance
4	Primary		Y	Y	N	Y	Y	N
5	Type		Age	Age	Age	Fecundity	Total	Exploitable
6	Source		Model	Model	Model	Model	Model	Survey
7	Basis		Numbers	Biomass	Numbers	Eggs	Biomass	Numbers
8	Range		1	2-max	2-max	mature	all	all
9	Statistic		Mean	MCMC	Mean	Mean	Mean	Mean
10	Scale		1000000	1000	1000	1000000	1000	1
11		2005	1036.2	2233	3333	5432	25000	1036.22
12		2004	1036.1	1234	4321	1255	33344	1036.11
13								

Figure 7.4b. Time Series Data exported.

7.5 Delete Time Series Data

Time series data that has already saved can be deleted. Click on the 'Delete Data' button to delete (*Figure 7.5*). You will get a pop-up window asking you confirm that you want to delete the selected time series record.

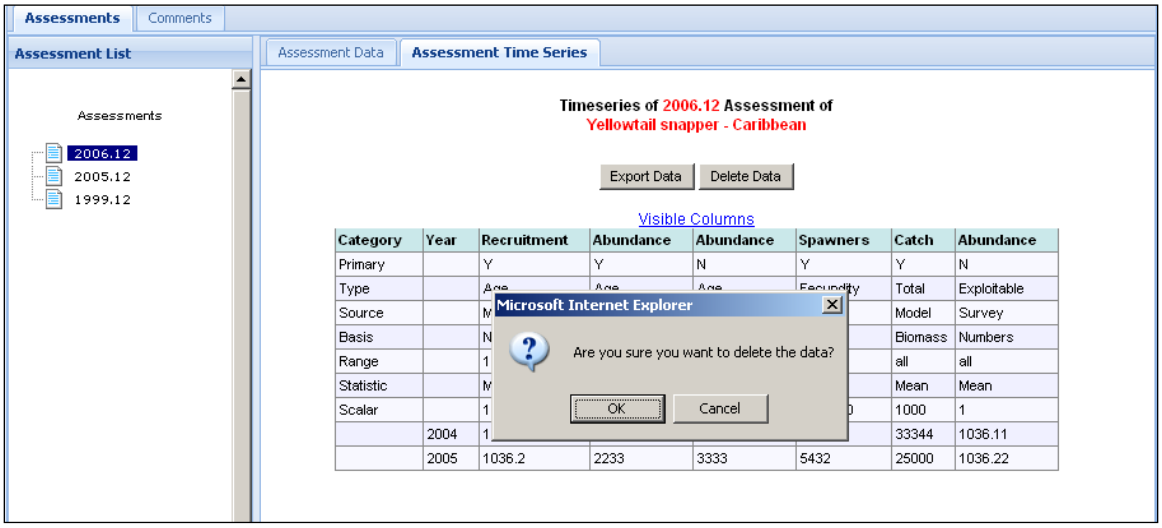


Figure 7.5. Delete Time Series Data.

8.0 Assessment – Survey Links

The purpose of the Assessment – Survey Links module is to track fishery-independent surveys and other inputs used as abundance indicators in stock assessments. Information on survey linkages stored in the SIS database is used to produce reports via the SIS User interface.

8.1 Survey Links and Assessment Records

Each Survey Links entry must be associated with an existing assessment record for a SIS stock. To enter/view survey links for an entity's assessment, locate the stock assessment record first (see **Section 8.3.1**).

8.2 Survey Link Data

Survey link records should be created (see **Section 8.3.2**) for each abundance indicator used in a stock assessment. New records should be created for each individual indicator/survey.

8.2.1 Survey Link Data Fields

Each survey link record must contain the following data inputs:

1. Survey Name or Other Category
   Definition: Assessment abundance indicator inputs are classified into one of five categories:
   a) Fishery-independent surveys – The Fishery-Independent Survey System (FINSS) database has been linked to SIS and serves as the source of information on fishery-independent surveys. A drop-down list of surveys currently listed in FINSS is available and sorted by the Science Center responsible for executing the surveys. NOAA surveys conducted from 2004 to present appear in the list. To quickly find surveys associated with an individual Science Center, click on the Survey Name data field and type in the first two letters of the Science Center (i.e. "NW") and the list will jump to surveys associated with that Center. Users can also scroll through the entire list to view all surveys listed in FINSS.
   b) Commercial effort or catch per unit of effort (CPUE) – Users are not required to enter individual CPUE time series. For commercial CPUE that has been used as an abundance indicator in the assessment, select "Commercial CPUE"; users will have the opportunity to enter additional information about the data (see Notes section below).
   c) Recreational effort or CPUE – Users are not required to enter individual CPUE time series. For recreational CPUE that has been used as an

abundance indicator in the assessment, select "Recreational CPUE"; users will have the opportunity to enter additional information about the data (see Notes section below).

d) Other surveys (e.g. historical surveys, state surveys) – Users entering fishery-independent surveys not appearing in the drop-down list of NOAA surveys from FINSS should select "Other Survey". Users will have the opportunity to enter additional information about the survey (see Notes section below). If appropriate, other surveys entered in SIS will be added to the FINSS survey database for future use.

e) Other methods (e.g. mark-recapture) – For non-survey or CPUE abundance indicators, select "Other Methods". Users will have the opportunity to enter additional information about the data (see Notes section below).

Data Type: text, select from drop-down list
Data Field Constraints: must select an option from list (cannot accept null)

2. Notes
Definition: Field is used to describe additional information associated with the following survey categories: Commercial CPUE, Recreational CPUE, Other Survey, and Other Method. Users should enter a short, but descriptive name of the survey used (i.e. Recreational CPUE – Oregon recreational charter observer data on discards; Other Survey – Pacific Coast triennial trawl survey (historical); Other Survey – Aerial survey estimate of absolute biomass).
Data Type: Free-form text field, limit to 4,000 characters
Data Field Constraints: must enter information (cannot accept null)

3. Influence Degree
Definition: A categorical description of the degree of influence that the survey has on the assessment. Three categories have been identified:

a) Primary – The index has a substantial influence on the assessment result.

b) Secondary – The index is downweighted or otherwise less influential in determining the assessment result. No definitive line exists to divide primary and secondary influence surveys, especially in assessments where many indexes contribute to assessment results. Users should err on the side of marking indexes as primary when in doubt, but please consider each individual and do not simply mark all inputs as primary.

c) Exploratory – The index was examined or explored for potential future use, but currently has no influence on the assessment result.

Data Type: text, select from drop-down list
Data Field Constraints: must select an option from list (cannot accept null)

8.3 Entering Survey Link Data

To enter survey link data, first locate an entity and select an existing stock assessment record (see below). If no assessment record exists for the assessment you wish to enter survey link data for, you must first create an assessment record first (see **Section 6**).

8.3.1 Locate Entity and Assessment for Survey Link

1. Click on "Data Entry" on the main menu and the click on "Assessment" from the drop-down menu.
2. Search for the entity that you would like to enter/view/edit data for by using the available search criteria.
3. In the search results grid, click on the Edit icon for the selected entity.
4. The view/edit frame is then displayed with the entity's name shown at the top.
5. If the entity has any assessment records entered, the most recent record will be displayed. The date (formatted as year.month) of existing assessment records will be displayed as links in the Assessment List panel on the left-hand side of the assessment window.
6. To switch between viewing assessments, click on assessments displayed in the Assessment List. The assessment highlighted in the Assessment List and displayed in the assessment panel is the active record; associated information (i.e. survey links) can be entered for the active record.
7. The assessment tabs displayed at the top of the assessment panel allow users to move between the main assessment page, the assessment time series page, and the assessment-survey page (see *Figure 8.3.1*).

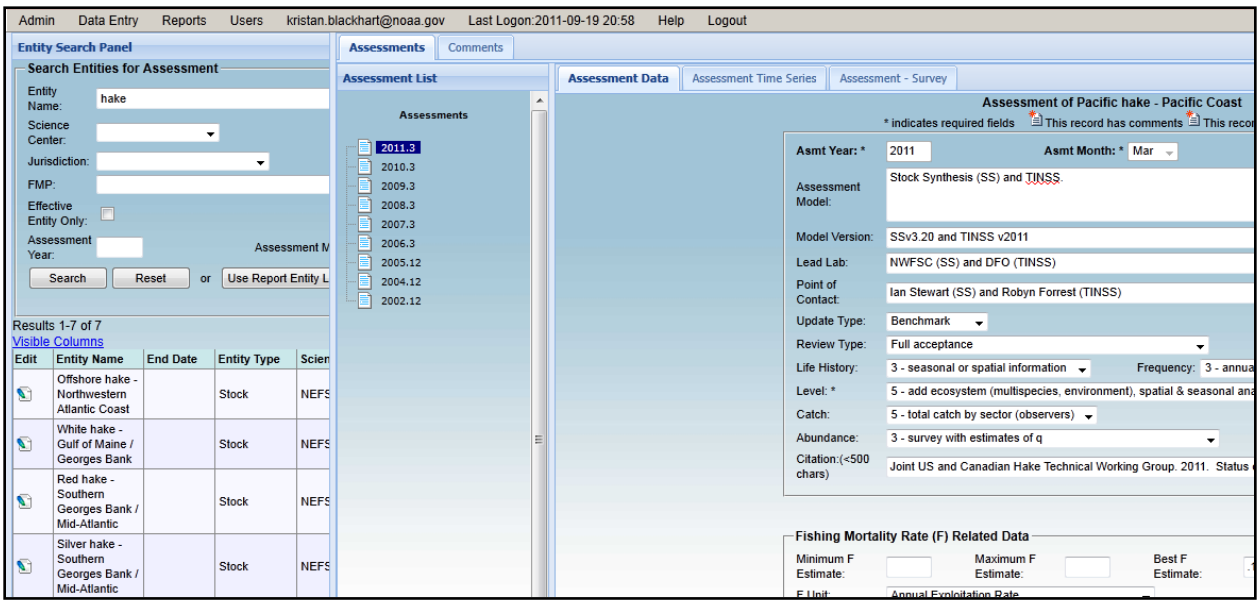


Figure 8.3.1. Selecting an entity and assessment to enter/view/edit survey link information.

8.3.2 Enter New Survey Link Records

1. Once users have located an entity and selected the appropriate assessment, click on the Assessment-Survey tab to display the survey links page (see *Figure 8.3.2*).

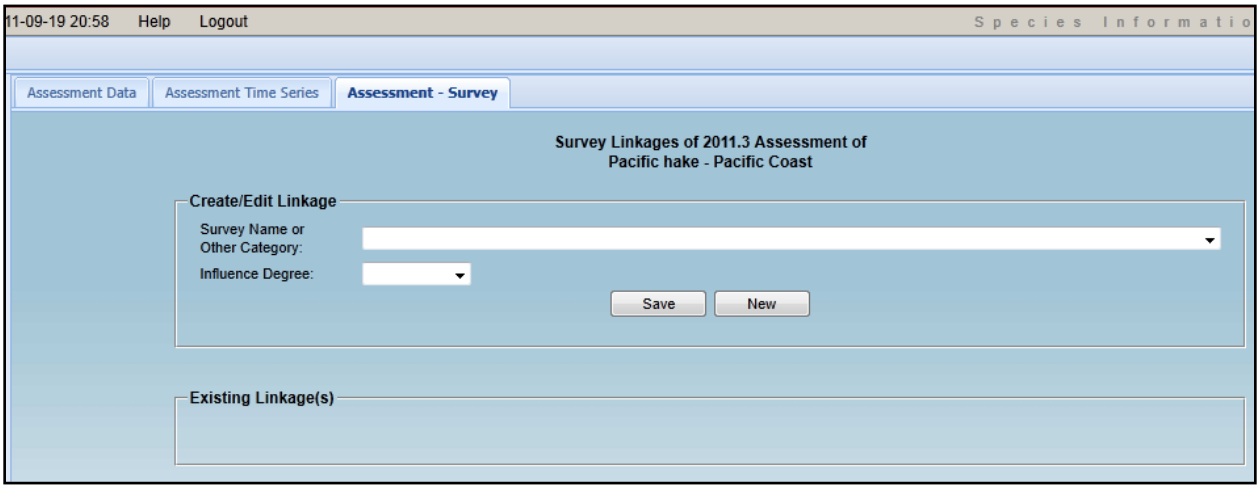


Figure 8.3.2a. Assessment survey linkage data entry page.

2. Click on the Survey Name field to display the drop-down list and select the appropriate entry. The list is prepopulated with existing fishery-independent surveys organized by Science Center; users can navigate through the list by typing in the first two letters of a Science Center (i.e. "NW"; see Figure 8.3.2b).

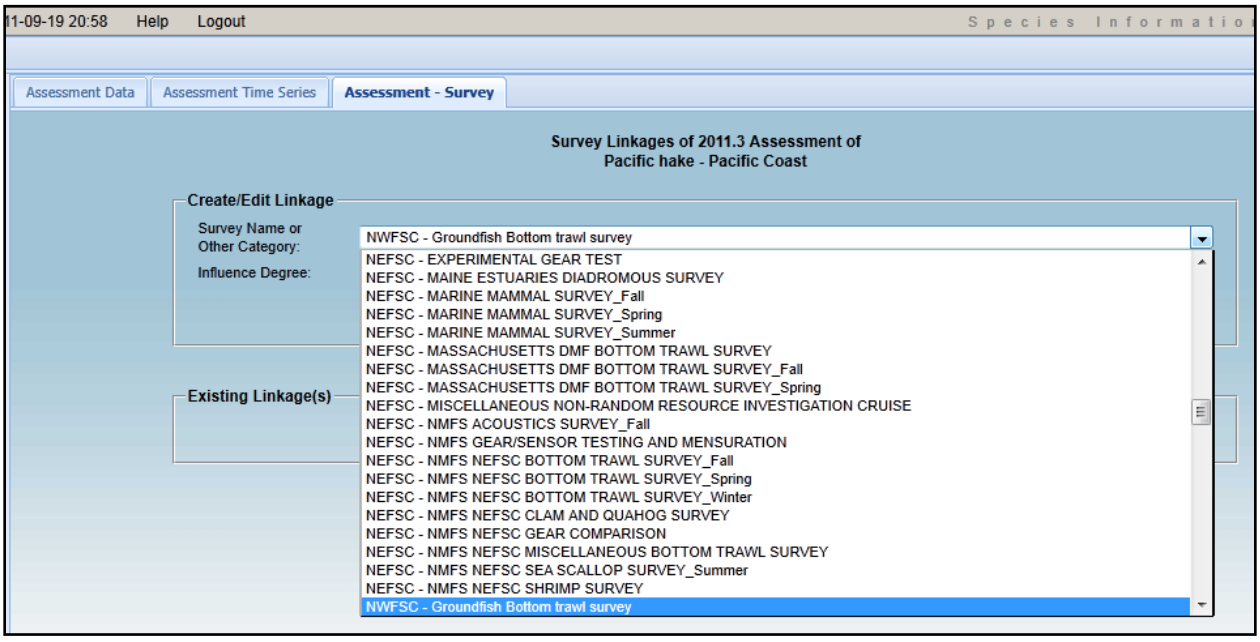


Figure 8.3.2b. Navigating existing surveys imported from the FINSS database (sorted by Science Center).

3. If CPUE, Other Survey, or Other Method is selected as the survey category, a notes field will automatically appear (see Figure 8.3.2c). Enter accompanying information about the category selected.

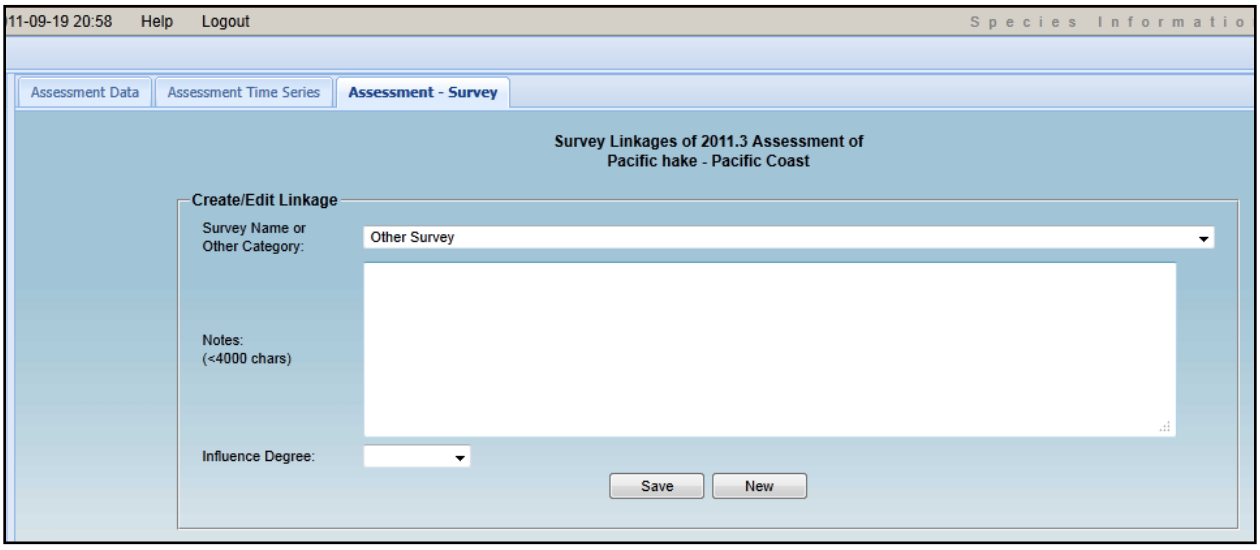


Figure 8.3.2c. Notes field – automatically displayed when user selects CPUE, other survey, or other method.

4. Select the Influence Degree from the drop-down list. To save the new survey link record, click on the "Save" button. A pop-up note will confirm that the record was successfully saved, and the new record will now be displayed in the Existing Linkage(s) box below the data entry panel (see Figure 8.3.2d).

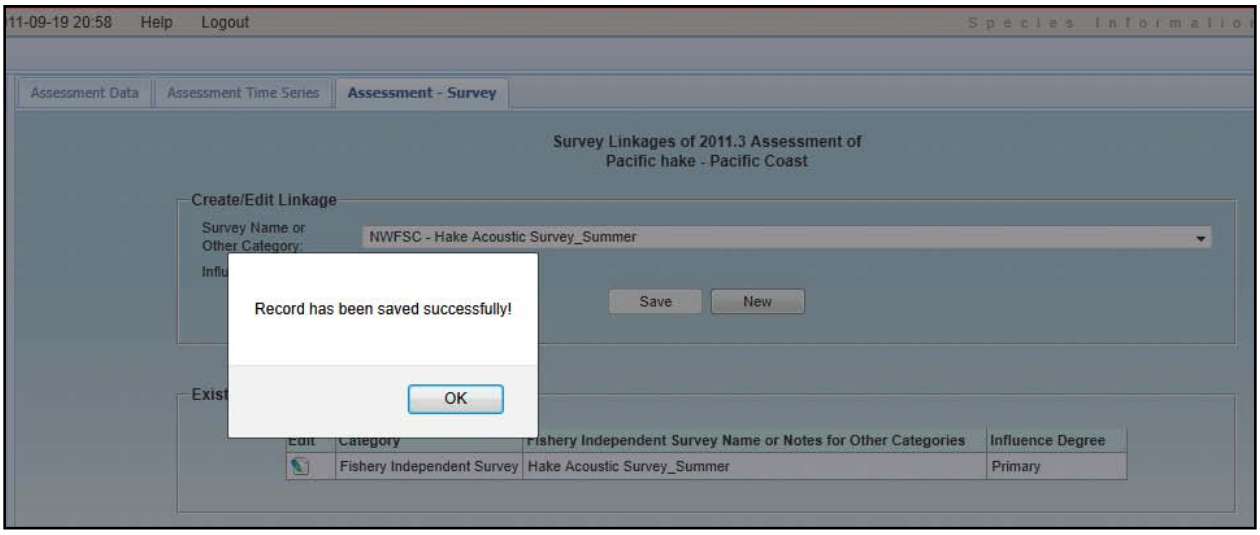


Figure 8.3.2d. Pop-up message confirming record has been successfully saved. New record is now displayed in existing linkage panel.

5. To enter another survey linkage record, click on the "New" button. This will display blanks for each of the data fields. Failure to click the New button will result in editing the currently displayed survey link record.

8.3.3 Edit or Delete Existing Survey Link Records

To edit or delete an existing survey linkage record, click on the Edit icon displayed next to the record in the Existing Linkage box. This will display the record in the active panel. Users may then change the information listed and click on "Save" to save the updated record, or click on "Delete" to remove the record from the database.

9.0 Status Determination Data

It is the responsibility of the official Regional contact to enter the data for the Status Determination Data frame. After the Science Center contact has entered new data in the Assessment frame, he/she will notify the official Regional contact to let them know new assessment data is available. The Regional contact should then create new Overfishing/Overfished records. Updates should be made no later than 1 week after being contacted by the stock assessment Science Center contact. Delays in data entry for the Status Determination frame could result in status determinations that are not up-to-date.

Regional contacts should create new overfishing and overfished records whenever a new stock assessment is completed, creating a link to the new stock assessment. Even if the new assessment did not result in a change to the overfishing/overfished status determination, a new record should be created so the newest overfishing/overfished record is linked to the most recent stock assessment. This is also important because the FSSI score is based, in part, on the latest B/Bmsy estimate from the most recent stock assessment. Thus, even if theoverfishing/overfished status does not change as the result of a new stock assessment, the FSSI score may change as a result of a new B/Bmsy estimate.

There are some exceptions to creating new records that link to new stock assessments:

1) The new stock assessment results in an unknown overfishing/overfished determination, but the previous overfishing/overfished determination was known. In this case, no new overfishing/overfished status determination record should be created, but a note should be made in the Comments field indicating that the overfishing/overfished determinations are not based on the most recent stock assessment because the new assessment did not support an overfishing/overfished determination.
2) There is no stock assessment that supports the status determination (because the determination is based on a qualitative assessment). In such cases, the Overfishing/Overfished Basis field should be left blank. In the Comments field the citation should be noted.

9.1 Locate an Entity

1. Click on "Data Entry" on the menu and then click on the "Status Determination" item.
2. Search for the Entities that you would like to enter data for.
3. In the search result grid, click on the Edit icon of the entity.
4. The Edit Frame is displayed with the Entity's name shown at the top.
5. If the Entity already has existing Status Determination records, the existing records' year.month links will be displayed in the "record list panel". The latest Status Determination record will be displayed in the Status Determination form.
   Note: Depending on the user's roles, the Edit Frame might display Overfishing Status Determination, Overfished Status Determination, and/or Status Determination.

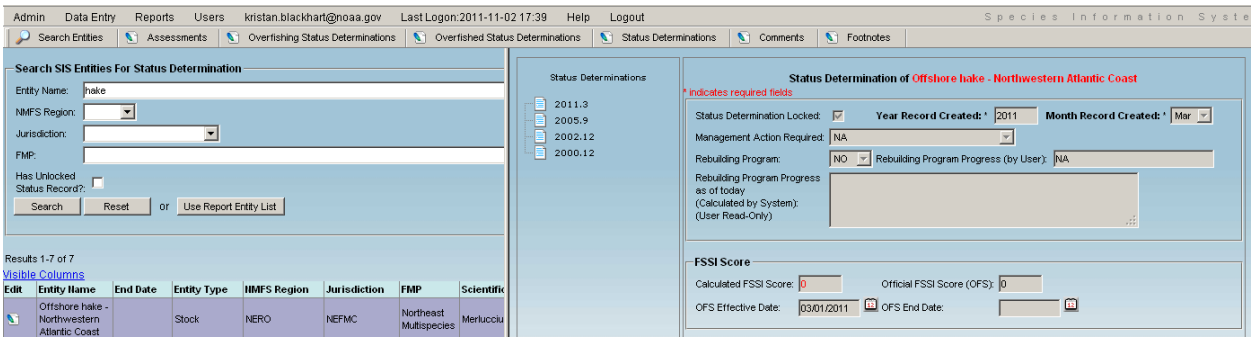


Figure 9.1. Screen shot displaying the status determination edit frame.

9.2 Lock/Unlock a Status Determination Record

Status determination records can be locked or unlocked only by authorized users. New status determination records will generally be locked at the end of each quarter to maintain a permanent record of that information. Once a record has been locked, no edits can be made to that record without contacting the Administrator to unlock the record.

9.3 Create an Overfishing Status Determination Record

1. Locate the Entity and click on the edit button next to the stock name in the search results grid.
2. Click on the "Overfishing Status Determination" button on the toolbar.
3. Click on the "New" button in the Edit Frame.
4. Enter data and click the "Save" button.

9.4 Update an Overfishing Status Determination Record

1. Locate the Entity (only records that are unlocked may be updated).
2. Click on the "Overfishing Status Determination" button on the toolbar.
3. In the record list panel, Click on the year.month link of interest to display the data in the data entry form.
4. Make changes to the data entry form.
5. Click the "Update" button to commit the changes to the database.

9.5 Overfishing Status Determination Data Fields

1. Overfishing Pre SFA and Overfishing Post SFA: The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires that status determination criteria specify a MFMT or reasonable proxy thereof. If the overfishing determination is based on status determination criteria that are compliant with the Sustainable Fisheries Act (SFA), then it is considered post SFA. If the overfishing determination

is based on status determination criteria that are not compliant with the SFA, then it is considered pre SFA.

2. FMP Overfishing Definition Used: Indicate whether or not the overfishing definition used to make the determination is contained in the FMP, or SAFE Report, in the case of Alaska stocks.
3. FMP Overfishing Definition Year: This is the year the overfishing definition in the FMP was approved.
4. FMP Overfishing Definition Month: This is the month the overfishing definition in the FMP was approved.
5. Based on Assessment: If the overfishing determination is based on a stock assessment, then the relevant year and month of the assessment is selected from the dropdown list in the Based on Assessment field. This will create a link between the overfishing record and the associated assessment record, and assessment data can be viewed by clicking on the "Assessment" button. In cases where more than one stock assessment is used for the overfishing status determination, the Regional contact should confer with the stock assessment Point of Contact (found on the Assessment page) to determine which assessment is the primary assessment supporting the determination. The primary assessment should be selected in the Based on Assessment field. Information on the additional assessments should be entered in the Comments section (see Section 8.0).
6. Overfishing Basis: The user should select the appropriate choice from the dropdown menu. For overfishing determinations that are not based on a stock assessment (i.e. catch data were used to support the determination), the Based on Assessment field should be left blank and Catch Data is selected as the Overfishing Basis. When a stock assessment link has been created for the record, the Overfishing Basis should be Stock Assessment.

9.6 Create an Overfished Status Determination Record

1. Locate the Entity and click on the edit button next to the stock name in the search results grid.
2. Click on the "Overfished Status Determination" button on the toolbar.
3. Click on the "New" button in the Edit Frame.
4. Enter data and click the "Save" button.

9.7 Update an Overfished Status Determination Record

1. Locate the Entity
2. Click on the "Overfished Status Determination" button on the toolbar
3. In the record list panel, Click on the year.month link of interest to display the data in the data entry form
4. Make changes to the data entry form.
5. Click the "Update" button to commit the changes to the database.

9.8 Overfished Status Determination Data Fields

1. Overfished Pre SFA and Overfished Post SFA: Overfished Pre SFA and Overfished Post SFA: The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires that status determination criteria specify a MSST or reasonable proxy thereof. If the overfished determination is based on status determination criteria that are compliant with the Sustainable Fisheries Act (SFA), then it is considered post SFA. If the overfished determination is based on status determination criteria that are not compliant with the SFA, then it is considered pre SFA.
2. FMP Overfished Definition Used: Indicate whether or not the overfished definition used to make the determination is contained in the FMP, or SAFE Report, in the case of Alaska stocks.
3. FMP Overfished Definition Year: This is the year the overfished definition in the FMP was approved.
4. FMP Overfished Definition Month: This is the month the overfished definition in the FMP was approved.
5. Based on Assessment: If the overfished determination is based on a stock assessment, then the relevant year and month of the assessment is selected from the dropdown list in the Based on Assessment field. This will create a link between the overfished record and the associated assessment record, and assessment data can be viewed by clicking on the "Assessment" button. In cases where more than one stock assessment is used for the overfished status determination, the Regional contact should confer with the stock assessment Point of Contact (found on the Assessment page) to determine which assessment is the primary assessment supporting the determination. The primary assessment should be selected in the Based on Assessment field. Information on the additional assessments should be entered in the Comments section (see Section 8.0).
6. Overfished Basis: The user should select the appropriate choice from the dropdown menu. For overfished determinations that are not based on a stock assessment (i.e. a qualitative determination was made), the Based on Assessment field should be left blank. In the Overfished Basis field, the user should select the appropriate choice from the dropdown menu. When a stock assessment link has been created for the record, the Overfished Basis should be Stock Assessment.

9.9 Create a Status Determination Record

Status Determination records are not created directly but created when a new Overfishing Status Determination record or a new Overfished Status Determination record is created.

9.10 Update a Status Determination Record

1. Locate the Entity by using search criteria or selecting a Report Entity List
2. Click on the "Status Determination" button on the toolbar.
3. In the record list panel, click on the year.month link of interest to display the data in the data entry form.

4. Make changes to the data entry form (note: if record is locked, changes to the record cannot be made).
5. Click the "Update" button to commit the changes to the database.

9.11 Status Determination Data Fields

1. Management Action Required: The appropriate choice is selected from the dropdown menu, based on the overfishing and overfished status determinations. For example, stocks subject to overfishing require "reduce mortality" as the management action required. Stocks that are overfished and rebuilding require "continue rebuilding" as the management action required.
2. Rebuilding Program: For stocks that are contained in a rebuilding plan or are under rebuilding measures, "yes" should be selected from the dropdown menu. For stocks that are not contained in a rebuilding program because they have never been overfished, or stocks that are overfished but a rebuilding plan has not yet been implemented, "no" should be selected from the dropdown menu.
3. Rebuilding Program Progress: The current year and length of rebuilding plan are displayed in this field. The current year will be automatically updated annually in the month the rebuilding plan was approved according to the rebuilding plan information entered for the stock.

9.12 FSSI Score

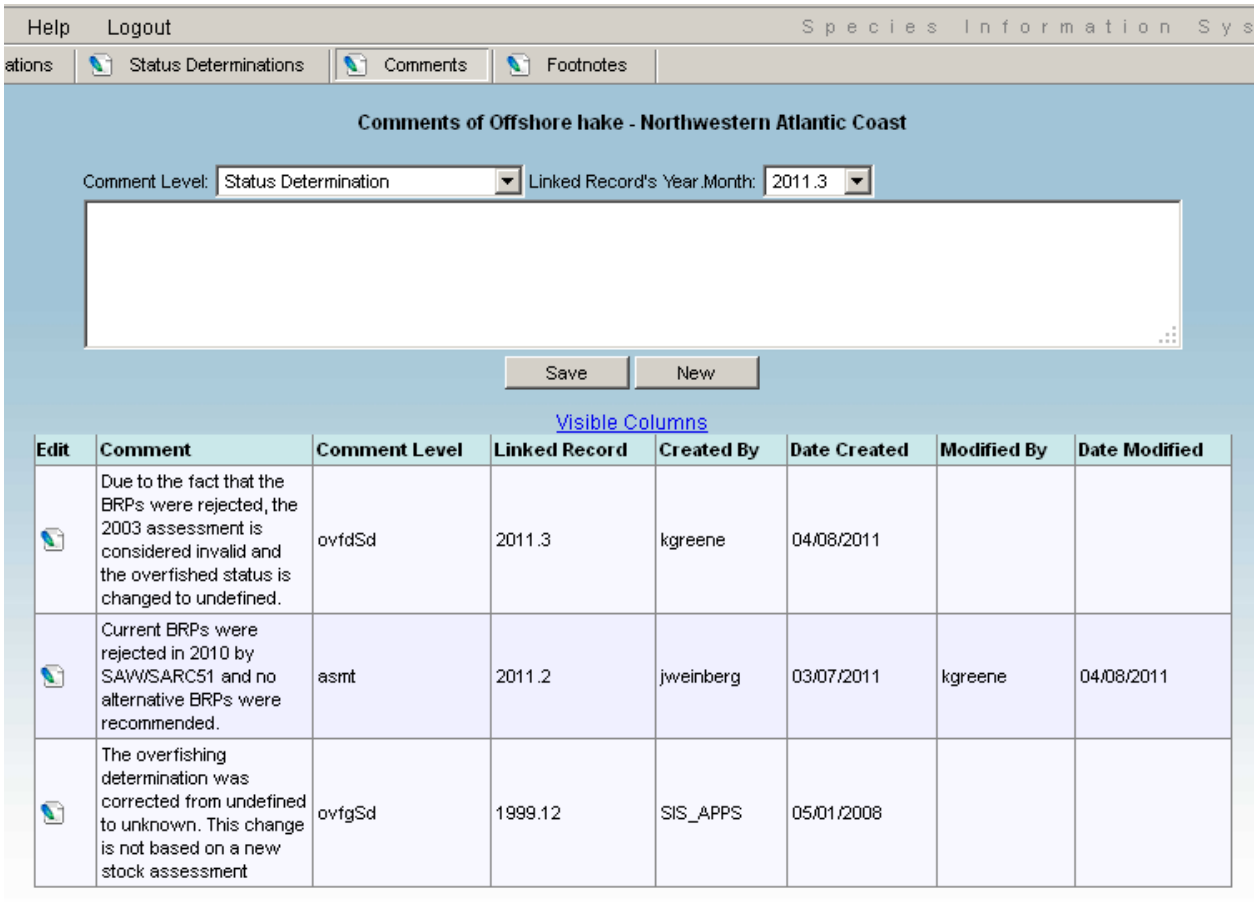
The FSSI score is automatically calculated by the system using stock assessment numeric results, status determinations, and assessment summary information. The B/Bmsy that supports the most recent overfished determination is used in the calculation of the score. In some cases the overfishing/overfishing status determinations will not change as a result of a new stock assessment, but the FSSI score will because the B/Bmsy estimate has increased above or decreased below a threshold level (i.e. 80%).

There may be some cases where the FSSI score is not based soley on these factors. For such cases where the score has been modified at the discretion of the relevant NMFS regional office, the FSSI score can be changed manually by the Administrator only. Notes should be provided in the comments field whenever this occurs. For example, a stock may have a B/Bmsy greater than 80%, but does not receive a point for this because the NMFS regional office has determined there is great uncertainty for this estimate and does not have the confidence to award a point for this.

10.0 Enter Comments on SIS Records

In SIS, comments can be entered on multiple screens and at different levels.

1. Comments can be entered on the Stock Management screen, Stock Group Management screen, Assessment screen, and Status Determination screens. On each of these screens, click on the "Edit Comments" button on the toolbar after selecting an Entity. This will display the Comment Page.



Edit	Comment	Comment Level	Linked Record	Created By	Date Created	Modified By	Date Modified
	Due to the fact that the BRPs were rejected, the 2003 assessment is considered invalid and the overfished status is changed to undefined.	ovfdSd	2011.3	kgreene	04/08/2011		
	Current BRPs were rejected in 2010 by SAW/SARC51 and no alternative BRPs were recommended.	asmt	2011.2	jweinberg	03/07/2011	kgreene	04/08/2011
	The overfishing determination was corrected from undefined to unknown. This change is not based on a new stock assessment	ovfgSd	1999.12	SIS_APPS	05/01/2008		

Figure 10.0 Screen shot showing the Comments page accessed via the Status Determination frame.

2. Comments can be entered related to individual Assessment records, Overfishing Status Determination records, Overfished Status Determination records, or Status Determination records. Comments may also be entered related to the stock in general.

11.0 Create Reports

Three types of reports are currently available in SIS: assessment reports, assessment time series reports, and status determination reports. To retrieve a SIS data report, first select the desired report type from the Report submenu on the SIS main menu bar.

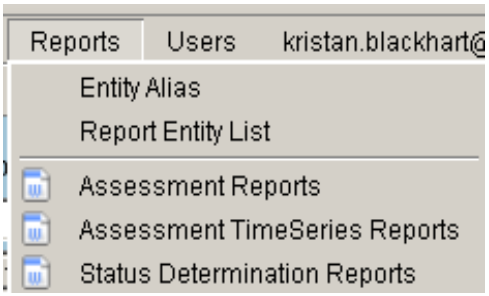


Figure 11.0. Screen shot of the Reports submenu.

11.1 Assessment Reports

1. Select Assessment Reports from the Reports menu to go to the Assessment Reports Selection Criteria screen (*Figure 11.1a*).

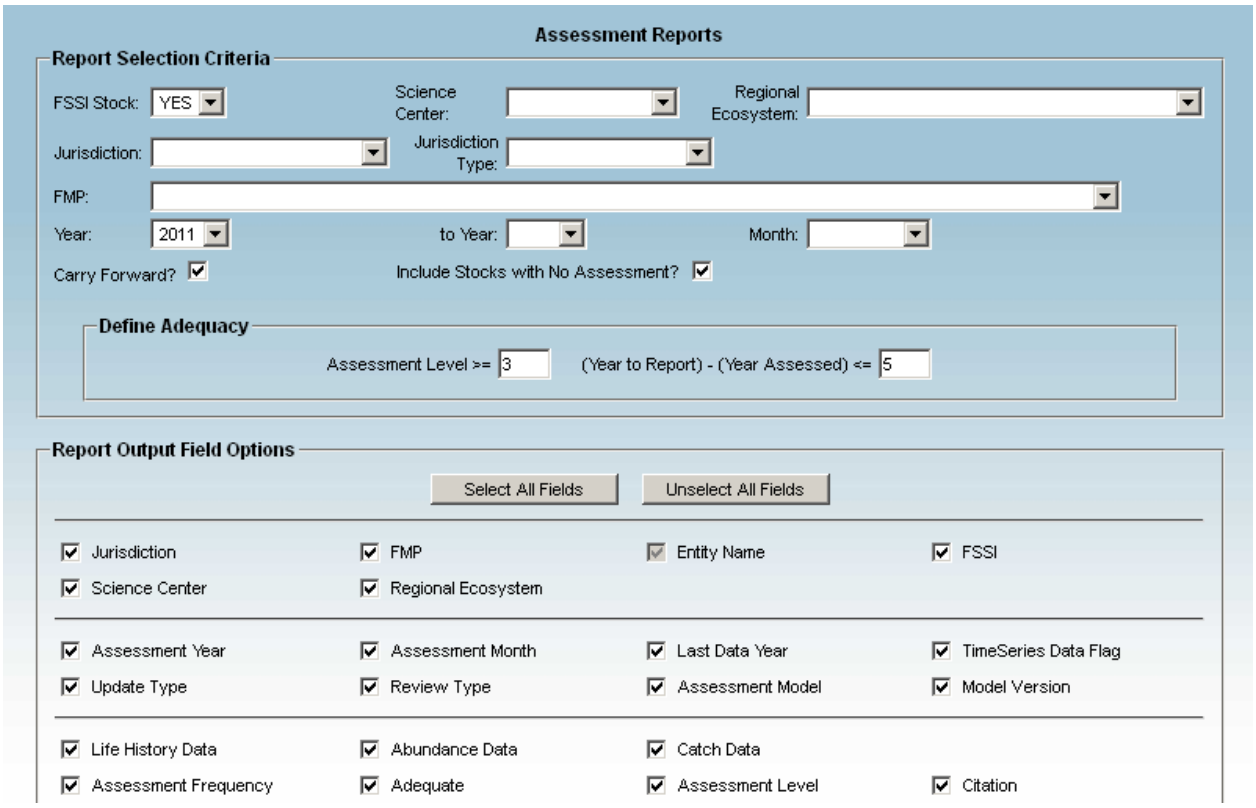


Figure 11.1a. Screen shot showing Assessment Report Selection Criteria.

2. Enter report criteria.
    a. The top panel of the assessment report criteria selection screen allows users to select options to specify the stocks and assessments that are included in the report output, using a range of criteria options.
        i. SIS allows users to produce assessment reports for single years or a range of years. To produce a report for a single year, select the desired year in the drop-down field labeled "Year" on the left-hand side of the top panel. To produce a report for multiple years, select the earlier year of the range in the drop-down field labeled "Year" on the left-hand side of the top panel, and select the end year of the range in the drop-down field labeled "To Year" immediately to the right of the "Year" field.
        ii. SIS automatically includes all currently active stocks in assessment reports, even if some stocks have not been assessed. To produce a report that does not include stocks with no assessment, uncheck the box labeled "Include Stocks with No Assessment?"
        iii. SIS automatically populates assessment reports with the most recent assessment for all stocks. To see only the assessments produced in the specified reporting year, uncheck the box labeled "Carry Forward".
    b. The lower panel allows users to customize the report output – users can select from all available fields to determine which will appear in the assessment report.
3. Click on the "Run Report" button.
4. Reports are output in Excel format (*Figure 11.1b*). Users are able to manipulate and save the Excel files once they have been downloaded from SIS.

Assessment Report

Report Criteria		
FSSI: Y	Science Center: Â	Regional Ecosystem: Â
Jurisdiction: Â	Jurisdiction Type: Â	
FMP: Â		
Year to Report: 2011	Month to Report: Â	Carry Forward: Y
Include Stocks with No Assessment: Y		
Adequacy Definition: (Assessment Level>=3; Assessment Age<=5)		

No	Jurisdiction	FMP	Entity Name	FSSI	Science Center	Regional Ecosystem	Assessment Year	Assessment Month
1	CFMC	Queen Conch Resources of Puerto Rico and the United States Virgin Islands	Queen conch - Caribbean	Y	SEFSC	Caribbean Sea	2007	7

Figure 11.1b. Screen shot of SIS assessment report output in Excel.

11.2 Assessment Time Series Reports

The time series module supports reports across multiple entities and multiple assessment years. To generate a report,

1. Click on "Reports" on the menu and then click on the "Assessment Time Series Reports" entry. The entity search form will be displayed – as shown in *Figure 11.2a.*
2. Specify search criteria and click on the 'Search' button.
3. The search results will be displayed – as shown in *Figure 11.2b.*
4. Select the entities to be reported, choose to report the primary columns only or not (see Section 7.2.1), and select the range of assessment years to report.
5. Click on 'Run Report' button to generate the report (*Figure 11.2c*).

Figure 11.2a. Search Entities to Report.

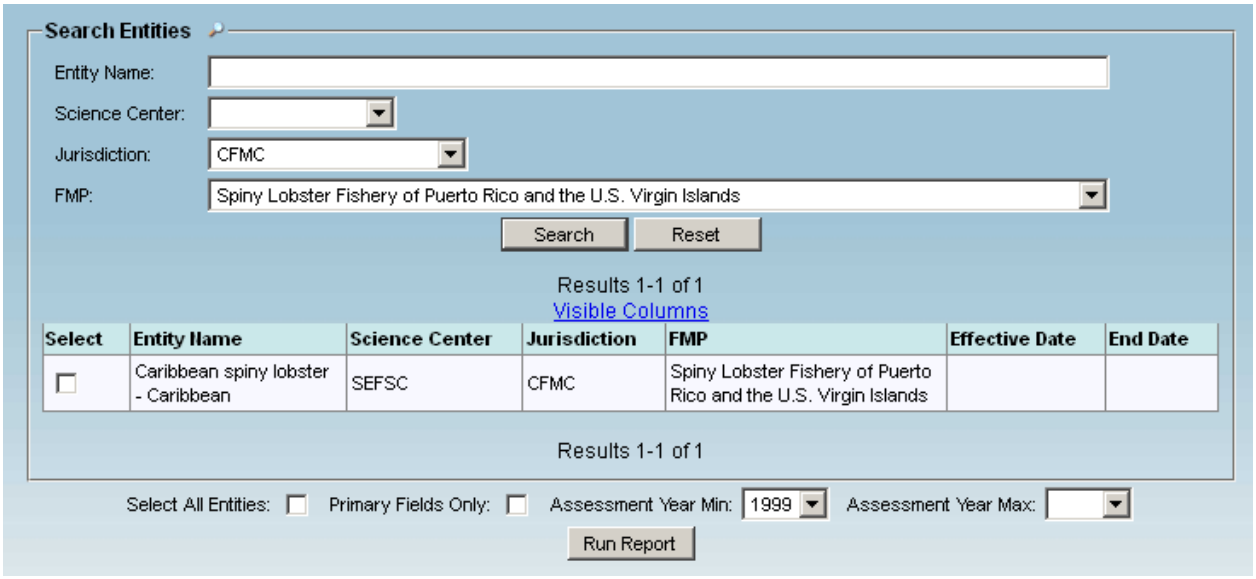


Figure 11.2b. Entity Search Result.

	A	B	C	D	E	F
2	**Assessment TimeSeries Report**					
3						
4	Report Criteria					
5	Entity: Multiple Entities					
6	Science Center:					
7	Jurisdiction:					
8	FMP: Shallow Water Reef Fish Fishery of Puerto Rico and the U.S. Virgin Islands					
9	Assessment Year(s) to Report: from 1999 to 2006					
10	Primary Parameter Only: N					
11						
12	Assessment Year		1999	1999	1999	
13	Stock		Yellowtail snapper - Caribbean	Yellowtail snapper - Caribbean	Yellowtail snapper - Caribbean	Yellowtail snapper - Cari
14	Parameter	Year	Recruitment	Abundance	Abundance	Catch
15	Primary		Y	Y	N	Y
16	Type		Age	Age	Age	Total
17	Source		Model	Model	Model	Model
18	Basis		Numbers	Biomass	Numbers	Biomass
19	Range		1	2-max	2-max	all
20	Statistic		Mean	MCMC	Mean	Mean
21	Scale		1000000	1000	1000	
22		1997	139.1	1234	4321	
23		1998	139.2	2233	3333	
24						

Figure 11.2c. Time Series Report output (Excel format).

11.3 Status Determination Reports

1. Select Status Determination Reports from the Reports menu to go to the Status Determination Reports Selection Criteria screen (*Figure 11.3a*).

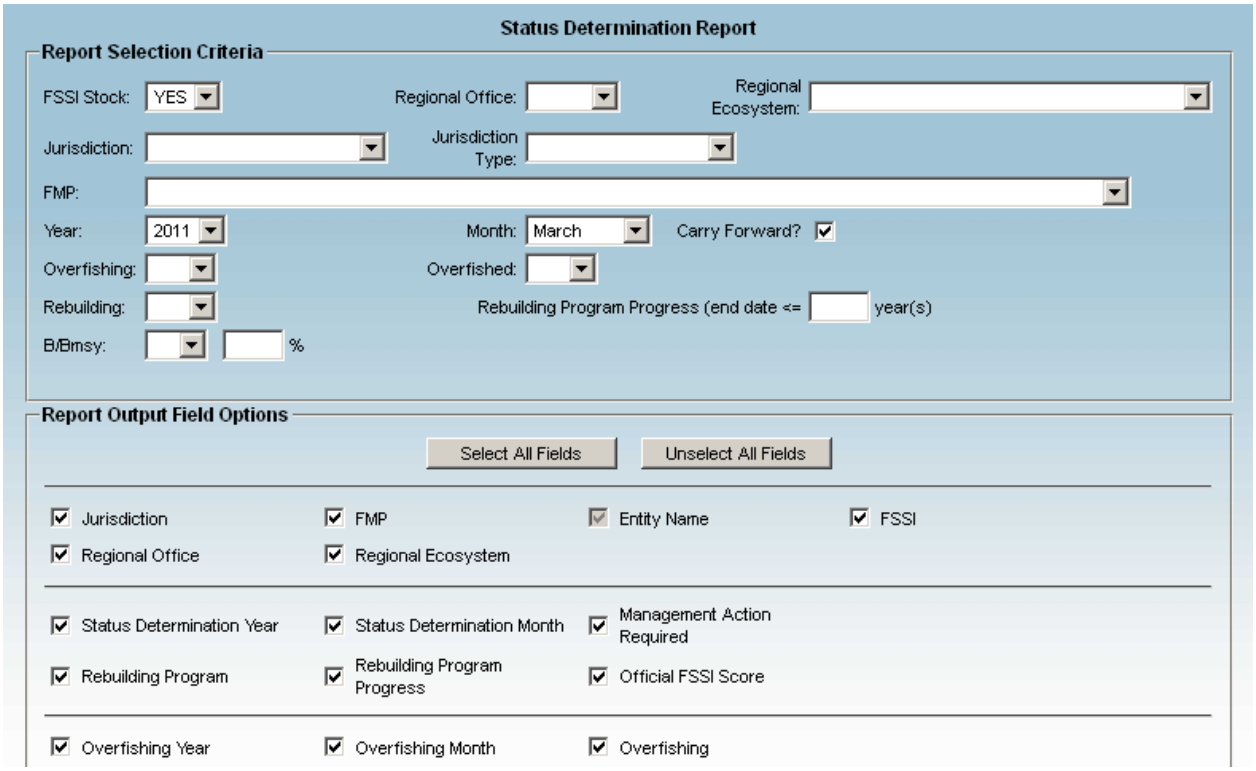


Figure 11.3a. Screen shot showing Status Determination Report Selection Criteria.

2. Enter report criteria.
    a. The top panel of the assessment report criteria selection screen allows users to select options to specify the stocks that are included in the report output, using a range of criteria options.
        i. SIS automatically populates status determination reports with the most recent records for all stocks. To see only the status determinations updated in the specified reporting year, uncheck the box labeled "Carry Forward".
    b. The lower panel allows users to customize the report output – users can select from all available fields to determine which will appear in the report.
3. Click on the "Run Report" button.
4. Reports are output in Excel format (*Figure 11.1b*). Users are able to manipulate and save the Excel files once they have been downloaded from SIS.

Status Determination Report

Report Criteria		
FSSI: Y	Regional Office:	Regional Ecosystem: Â
Jurisdiction: HMS	Jurisdiction Type: Â	
FMP: Â		
Year to Report: 2011	Month to Report: March	Carry Forward: Y
Overfishing: Yes	Overfished:	
Rebuilding:	Rebuilding Program:Progress end date <=year(s)	
B/Bmsy: %		

No	Jurisdiction	FMP	Entity Name	FSSI	Regional Office	Regional Ecosystem
1	HMS	Consolidated Atlantic Highly Migratory Species	Albacore - North Atlantic	Y	SERO	Atlantic Highly Migratory
2	HMS	Consolidated Atlantic Highly Migratory Species	Blacknose shark - Atlantic *	Y	SERO	Atlantic Highly Migratory
3	HMS	Consolidated Atlantic Highly Migratory Species	Blue marlin - Atlantic *	Y	SERO	Atlantic Highly Migratory
4	HMS	Consolidated Atlantic Highly Migratory Species	Bluefin tuna - Western Atlantic	Y	SERO	Atlantic Highly Migratory

Figure 11.1b. Screen shot of SIS status determination report output in Excel.

11.4 Survey Link Reports

Not yet available – to be completed…