

**RECOMMENDATIONS REGARDING CONTENT AND FORMAT  
OF RecFIN WEBSITE  
PFMC Scientific and Statistical Committee  
October 2007**

**I. Background**

In June 2007, the Council tasked the SSC with providing recommendations to the RecFIN Technical Committee regarding needed improvements to the content and format of the RecFIN website. The recommendations provided here are based on the SSC's experience with stock assessment and regulatory analysis and involvement in activities such as STAR Panels, the June 2004 RecFIN CPUE Workshop and the August 2006 RecFIN Workshop. The recommendations focus on information needs and (to a lesser extent) ways to organize information on the website. Advice from other Council advisory bodies (e.g., Groundfish Management Team) will likely also be needed to ensure that Council needs with which the SSC is less familiar (e.g., in-season monitoring) are addressed as well.

The SSC notes that substantive improvements to current website design and content will require dedicated organization and collaboration, considerable time commitment, and strong web development expertise. The intent of this document is to provide a starting point for discussion with the RecFIN Technical Committee regarding areas of potential website improvement; the extent to which such improvements are constrained by available data and documentation; a process for accomplishing improvements; the relative roles of the SSC, the RecFIN Technical Committee and other entities in this process; and next steps that will be taken to get the work underway.

RecFIN includes a number of surveys that are conducted for diverse reasons with diverse methods, and that vary in their temporal and spatial coverage. RecFIN data address multiple management needs (e.g., stock assessment, regulatory analysis, fishery status reports), and are of interest to the angling and general public as well. In order to address Council needs, the website should provide not only access to data but also the metadata needed to properly understand and interpret the data. Users can currently access RecFIN data through queries and downloads of various types of data files. In addition to refining and expanding these existing methods of access, a third method is needed – namely, standardized tables that provide annual estimates of aggregate effort, and retained and released catch. Section II focuses on ways to facilitate user understanding and use of the website, Section III on documentation of survey methods and estimates, Section IV on current and proposed methods of data access (tables, queries and sample data files), and Section V on the desirability of including other types of information on the website.

## **II. Website “Users Manual”**

Given the many types of RecFIN data and the many potential uses of these data, a website “users manual” is needed that provides users with a quick orientation to the contents of the website and guidance that allows them to efficiently navigate the website. Some potential topics for inclusion in manual:

- Itemization of RecFIN surveys covered on the website
- Itemization of non-RecFIN surveys also covered on the website (if any). For instance, salmon catch/effort sampling programs are currently conducted outside the purview of RecFIN. To what extent are the results of these programs included on the RecFIN website? If not included, does the website provide links to these other programs?
- Itemization of non-survey information available on website (if any). One example of useful non-survey data not currently provided on the website are state fishery regulations.
- Instructions on various methods of accessing survey data (e.g., tables, queries, sample data files)
- General policies that affect website content - e.g., State estimates superseding MRFSS estimates

## **III. Documentation of Surveys and Variables of Interest**

### **III.A. Surveys**

In addition to the itemization of surveys provided in the users manual, it would be helpful if the website provided a comparative overview of all surveys in terms of their coverage (e.g., years, areas, modes, species/trip types). Gaps in coverage (e.g., years, areas, modes, species/trip types not covered by any survey) should be explicitly noted. Survey-specific documentation should include (1) survey objective, (2) survey coverage, (3) whether coverage is incomplete relative to objective (e.g., noncoverage of private access sites), (4) sampling methods, and (5) questionnaires. Changes made over time in coverage, methods and questionnaire content should be noted. The current content of the RecFIN website will need to be augmented with additional information to provide the level of documentation suggested here.

### **III.B. Variables of Interest**

The website currently provides documentation of sampling and estimation methods associated with each RecFIN survey. However, users are often less interested in specific surveys than in specific variables (e.g., effort, retained catch, released catch) which are often constructed by combining results across multiple surveys (e.g., estimation of aggregate catch based on aggregate effort from one survey and CPUE from another survey). To facilitate proper interpretation of such data, it would be helpful if the website provided documentation on (1) which surveys are used to estimate each variable, (2) how estimates from multiple surveys are combined to produce estimates of each variable, and (3) how comprehensively each variable is covered in terms of years, areas, modes, and species/trip types.

Metadata for each variable of interest should include the following: (1) formulas used to calculate relevant statistics (e.g., means, totals, variances), (2) methods used to impute values for missing or sparse data (e.g., pooling, borrowing from adjacent cells), (3) estimation programs, (4) identification of missing or incomplete cells (e.g., missing waves in reports of annual catch or effort, missing species in reports of total catch), and (5) caveats (e.g., noncomparability of MRFSS and CRFS estimates). Development of such metadata will require that survey documentation currently provided on the website be augmented with other sources of information.

### **III.C. Code Lists and Maps**

Survey and variable documentation as described in Sections III.A. and III.B should also include species, trip type and site code lists as appropriate.

- Species codes should be accompanied by taxonomic and common names and mapped to meaningful species complexes (e.g., taxonomic groups, management groups).
- Trip types should be defined (target species, species accounting for plurality of landings, presence of particular species in landings, etc.)
- Site codes should be accompanied by a site description (e.g., Pacifica Pier) and identified by lat/long coordinates, zipcode, city and state. Maps should be provided that layer site locations over relevant county, state and management area boundaries.

Code lists and maps are useful not only for survey and variable documentation but also to facilitate user understanding and interpretation of tables, queries and sample data files (as discussed below in Section IV). Some code lists are currently provided on the website in various states of completeness.

## **IV. Accessing Survey Results**

### **IV.A. Catch and Effort Tables**

As indicated in Section II, a helpful addition to the website would be standardized tables, updated annually, that provide estimates of effort, retained and released catch (stratified by year, state, mode, species/trip type and other variables that are meaningful to users). Such tables would be useful for regulatory analysis and fishery status reports, as well as serve as a source of fishery information to the public.

A list of useful standardized tables should be devised, based on input from users. Once constructed, these tables should be listed together somewhere on the website to provide users an overview of the types of tabular information available to them. Values in each table that do not represent complete coverage of particular cells (e.g., missing waves in reports of annual catch or effort, missing species in reports of total catch) should be flagged. Appropriate caveats should be noted (e.g., non-comparability of MRFSS and CRFS estimates). Links to area maps and species code/trip type/site code lists (see Section III.C) should be provided as appropriate. Each table should have a table creation date and version number.

## **IV.B. Queries**

Queries of various types are available on the RecFIN website that provide estimates of effort and retained and released catch. Existing queries should be reviewed to determine whether they are meeting user needs. Values provided by each query that do not represent complete coverage (e.g., missing waves in reports of annual catch or effort, missing species in reports of total catch) should be flagged. Appropriate caveats should be noted (e.g., non-comparability of MRFSS and CRFS estimates). Links to area maps and species code/trip type/site code lists (see Section III.C) should be provided as appropriate. Results from each query should be dated. The flags and caveats that currently accompany queries of the RecFIN website consist mostly of terse warnings that provide little information regarding the source or context of the problem being flagged.

## **IV.C. Sample Data Files**

Sample data files of various types (e.g., for bag limit analysis, catch-effort GLM analysis, length frequency analysis) are available on the website or via individual requests to RecFIN. Existing files should be reviewed to determine whether enhancements are needed, and additional file needs (including specific content) should be identified, based on input from users. For instance, vessel trip files that provide detailed information on trip characteristics (e.g., mean depth fished, boat size, number of anglers, retained and released fish) would be useful for stock assessment and regulatory analysis. All available standardized data files should be listed together on the website to provide users with an overview of the types of sample data available to them.

Metadata for each file should include: (1) a description of file contents, (2) estimation methods for constructed variables included in the file, and (3) appropriate caveats (pertaining to changes in survey methods or coverage over time, representativeness and completeness of data). File description should include variable name, variable format, variable description (if categorical variable, the definition of each category), units (e.g., pounds, # fish, angler days, boat days) and missing value codes. Links to area maps and species code/trip type/site code lists should be provided as needed (see Section III.C). Each file should have a file creation date and version number.

## **V. Other Information Needs**

The utility of the RecFIN website would be enhanced by the addition of various types of non-survey and pre-RecFIN survey information. For instance:

- Tables that describe fishery regulations (e.g., bag limits, size limits, season/area/gear restrictions) by state, species and year would be useful for stock assessment and regulatory analysis. Given the increasing complexity of regulations, the SSC requests RecFIN input regarding the extent to which comprehensible summaries of regulations

can be provided.

- The Council has identified historical catch reconstructions for groundfish species as a high-priority 2008 activity. It would be helpful if these reconstructions were made available to stock assessment authors on the RecFIN website.