FREQUENTLY ASKED QUESTIONS
About Recovery Potential Screening

What is Recovery Potential Screening?
Recovery Potential Screening (RPS) is a systematic, comparative method for identifying differences among watersheds that may influence their relative likelihood to be successfully restored or protected. It was developed by the EPA Office of Water as a flexible, user-driven tool to help States and others compare impaired waters more quickly and efficiently and set priorities for investing limited restoration resources. The RPS screening approach involves identifying a group of watersheds to be compared and a specific purpose for comparison, selecting appropriate indicators in three categories (Ecological, Stressor, Social), calculating index values for the watersheds, and applying the results as part of strategic planning and prioritization.

Why use Recovery Potential Screening?
Whether government or private, restoration programs typically have far more impaired waters to restore than resources to restore them with. Strategic planning and priority-setting are inevitable, and wise choices with limited resources can result in greater benefits from more healthy waterways. RPS was developed to provide States and other restoration planners with a systematic, flexible tool that could help them compare watershed differences in terms of key environmental and social factors affecting prospects for restoration success. As such, RPS provides water programs with an easy to use, desktop screening and comparison tool that is user-customizable for the geographic area of interest and a variety of specific comparison and prioritization purposes.

What is the Recovery Potential Screening Tool?
The RPS Tool is a custom-coded Excel spreadsheet that performs all RPS calculations and generates RPS outputs. It was developed several years ago to help users calculate Ecological, Stressor, Social, and Recovery Potential Integrated index scores for comparing up to thousands of watersheds systematically in a desktop environment using widely familiar software. Earlier versions of the RPS Tool were individually developed for single States. Current versions of the Tool include:
- Generic RPS tool (which hasn't had data embedded and is not specific to a geographic location – both are selected and provided by the user),
- Statewide RPS Tools (individual tools for each of the lower 48 States with HUC12 indicator data already embedded),
- Lower 48 States RPS Tool (developed using a smaller set of indicators at the more general HUC8 scale),
- Custom-Area RPS Tools (specially developed to cover areas like multi-state river basins), and
- The Watershed Index Online Tool (an online tool and watershed database where users define their geographic area, select their indicators from a data library, and download their own custom-made tool).

Other than the presence or absence of data and a selected geographic area and related map functions, all the above tools are similar in most ways. Complete usage directions are included on all the Tool's worksheets and in the User Manual online.

What does a Statewide Recovery Potential Screening Tool contain, and do?
Statewide RPS Tools have been developed for each of the lower 48 States and will be updated periodically. The Version 1.0 Statewide RPS Tools issued in July 2014 each have an embedded data table containing measurements on selected indicators for all HUC12s that are wholly or partially within the State's boundary. In this release there were 21 Base, 47 Ecological, 98 Stressor, and 41 Social metrics,

totaling 207 metrics. A user can choose to run a screening on all the State's HUC12s or a subset, and can select the indicators (3 to 10 per group) most relevant to their screening purpose. The Tool then performs all calculations automatically and generates the results for every watershed as index scores and rank orders (Ecological, Stressor, Social, and Integrated), a graphic bubble plot display, and a HUC12 Statewide map. Users can customize the bubble plot display and the map (e.g., use a color gradient on the HUC12 bubbles or the mapped HUC12s to represent value differences for one key indicator of interest), and different iterations of the map and bubble plot can be saved as JPGs for future use while iteratively changing settings and exploring prioritization options with screening results. Although each useful screening run should be documented by saving and renaming the file, the user can also "Reset" to clear the contents and begin again.

What kinds of data are used in the RPS Tool?

In order to compare a group of watersheds, the RPS Tool requires data on specific watershed attributes measured consistently across those watersheds. These attributes include Base (such as watershed name or ID), Ecological, Stressor, and Social metrics. Many of the indicators are landscape characteristics derived from common GIS datasets, but other attributes derived from field monitoring and geo-referenced to water bodies or watersheds, such as selected impairment-specific 303(d) and TMDL data, are also included. The indicators selected for this purpose were included mainly because they were useful in other RPS projects and were available with consistent data across the lower 48 States. More indicators that complement those already included are typically available in any given State, but were not available as a nationally consistent dataset.

What do the RPS indicators mean?

Each Statewide RPS Tool contains a worksheet called INDICATOR_INFO that lists all indicators and brief descriptions. For many of these or similar indicators, standard metadata are available and more detailed indicator descriptions, including data source, how measured, relevance to restorability, and excerpts from technical literature, are compiled on the Recovery Potential Website's Indicator Section. Users should be aware that the relevance of a given indicator to a watershed's condition and restorability can vary depending on the type of water body, type and degree of impairment, and other factors.

How big is a typical RPS Tool file?

The answer varies with whether the Tool file is a State-specific version with embedded data and map, or an 'empty shell' generic version. Most Statewide RPS Tools are between 5 and 15MB in size, but each of these contains a Statewide data table of over 200 indicators at the HUC12 scale and a HUC12 mapping display component. The generic version, which is not location-specific and therefore has no embedded data or mapping component, is about 3MB and allows users to upload data on up to three different user-defined watershed scales. Including more watersheds or more indicators in an RPS Tool are the main factors that increase file size. In contrast, the GIS datasets from which RPS indicators are measured would require orders of magnitude more file space than the typical RPS Tool file.

What kinds of skills and equipment does an RPS Tool user need?

Anyone with basic familiarity with Microsoft Excel (versions 2007 or later) and a personal computer can learn how to use the RPS Tool quickly at their own desktop. Directions for each step and worksheet are contained within the Tool file, and a user manual with more detailed directions is on the RPS website.

What kind of outputs can an RPS Tool generate?
The RPS Tool generates the results from each screening run in tabular, graphic, and map format; the generic RPS Tool does not include the map option because no geographic location has yet been selected. Results from a Statewide RPS Tool include a table of index scores (Ecological, Stressor, Social, and Integrated) and rank orders of each, a graphic bubble plot display, and a HUC12 Statewide map display. Users can customize the bubble plot display and the map (e.g., use a color gradient on the HUC12 bubbles or the mapped HUC12s to represent value differences for one key indicator of interest), and different iterations of the map and bubble plot can be saved as JPGs for future use while iteratively changing settings and exploring options with screening results.

Can more data unique to my State or watershed be added to my RPS Tool?
Yes. Every RPS Statewide Tool allows users to add more indicators to the data table already embedded, and includes directions on how to do so. New indicator data must be at the HUC12 scale, and HUC12s without an indicator value must be left blank. However, users need to be certain that their new data relate to the same HUC12s and are ordered in the same sequence as those already in the Tool.

I already have an older RPS Statewide Tool from a previous project – how does it differ from the new tool and what should I do?
Definitely do not discard either version, as the older version likely contains some indicators not available nationally, and the newer version contains some indicators not measured for your earlier project. That said, consider whether it is possible to combine the older data with the new tool version in any way. It is important to note that whereas most State-specific RPS projects truncated the State's HUC12s at the State border, the Statewide RPS Tools contain data measured for the entirety of all HUC12s. Contact EPA for assistance if you run into any difficulties.

Will the RPS Statewide Tools be updated?
Yes, future EPA budgets permitting. Feedback from users of our existing Tool versions can help us make improvements and/or add new functionality. Also, key datasets are continually being created or updated.

Will the RPS national indicator data be updated?
Yes, future EPA budgets permitting. The indicators measured on the HUC12s across the lower 48 States continue to grow in number and variety, and RPS user suggestions provide great ideas for particularly useful additions. The national indicator data used to develop RPS Tools is housed in the Watershed Index Online (WSIO) indicator data library.

How can I use the RPS Tool on watershed scales other than HUC12?
The RPS Tool was developed to compare watersheds at any given scale, or even individual waterbody segments, to one another. RPS projects have compared watersheds as small as NHDPlus Catchments and as large as HUC8s. Most projects have found the HUC12 scale most useful. Users who want to do RPS analyses on other watershed scales can embed their own indicator data for up to three different watershed scales in the generic RPS Tool and generate indices, rank orders and bubble plots (but not maps) for screenings from any of the three scales. Data generated by an RPS Tool can easily be used in GIS software to make maps as well.

I don't need to compare all my State's watersheds- can I use the RPS Tool to compare a portion of my State's watersheds that share a common characteristic (e.g., only watersheds with impaired waters)?
This presents no problem, and in fact it is common or even preferable to compare watersheds within a subset rather than always comparing all watersheds Statewide for every screening. We call this 'subsetting', and it is easily done. When you have identified the watershed subset of interest for your screening (e.g., all watersheds with pathogen impaired waters and TMDLs Statewide; or all HUC12s within a given river basin), copy and paste a column of the HUC IDs for that subset into the left column of the Tool's "Setup" worksheet. The screening will calculate indexes and display results only for the watersheds in your chosen subset.

What if my area of interest isn't entirely within one State? Can I still use the RPS Tool and data?
Yes, you have two main options (offline and online): 1) Working offline with two or more Statewide Tools and the Generic RPS Tool, you can copy and paste all the HUC12 IDs, names, and all indicator data for just the HUC12s in your area of interest from each Statewide Tool into a new spreadsheet. Sort by ID number and eliminate duplicates (the HUC12s that cross a boundary and exist in 2 or more Statewide tools). Then copy and paste this combined data into the SCALE A DATA sheet in your Generic Tool, following the instructions carefully. Note that you will have to first paste in just the watershed IDs and names, then add the indicators one category at a time (Base, Ecological, Stressor, and Social). 2) The online option is through the Watershed Index Online, which supports user-defined study areas and indicator selections for online custom tool development and offline analysis (see instructions on this website).

Is the RPS Tool online?
Yes, in different forms. The Generic and Statewide RPS Tools are being posted on the Recovery Potential Website. An online, modified version of the RPS Tool is the analytical interface for the Watershed Index Online, which also hosts the complete library of hundreds of HUC12 scale watershed indicators across the lower 48 States and supports user-defined study areas and indicator selections for online custom tool development and offline analysis.

Will RPS Tools for Hawaii, Alaska and Puerto Rico become available?
Yes, if requested. The opportunity to develop tools and data as a batch for the lower 48 States enabled great cost savings and efficiency, which was made possible by the uniformity of data availability for many important indicators across the lower 48. We plan to generate RPS tools for the other States and territories upon request, but the indicator data compilation and tool development will have to occur as single-area projects because of indicator and watershed boundary dataset differences.

Will Tribes be able to use the RPS Tool for watersheds with Tribal lands?
Yes. Although we have not developed Tribal-specific RPS Tools, we have developed a method to enable Tribes to use the Statewide RPS Tools for Tribal purposes. We have compiled national HUC12 ID lists for all HUCs containing or immediately adjacent to Tribal lands across the lower 48 States, and identified each HUC12's percent Tribal lands by State, and by specific Tribe. The lists will enable a user to select out only the Tribal HUCs and bordering HUCs in their RPS screening within a given Statewide RPS Tool and perform their analysis specifically on those Tribal watersheds.