

## 16 Questions to ask in review of a stream project proposal:

RiverRAT is a web-based tool consisting of 16 questions that guide you through a critical evaluation of proposed stream projects. Each yes-or-no question follows the project development sequence shown in the right margin. As you answer questions, the boxes light up green or red; unanswered questions remain gray. Each question page provides a space to record your thoughts and notes.

For each question, there is a “More Information” button that provides more detailed explanation of the question, as well as implications of a “no” response to the question.

The screenshot displays the RiverRAT web application interface. At the top, the browser address bar shows the URL: <http://www.restorationreview.com/questions/6/0c748759a825d90a4c7b85d6f6101974>. The page title is "Restoration Review - Montana River - Question 6".

The main content area features the "River RAT RESTORATION ANALYSIS TOOL" logo and a "Project Title: Montana River" label. A navigation bar includes a "Back to My Projects" button and a progress indicator for 16 questions. Question 6, "Are objectives measurable?", is currently selected and answered "No". A "More Information" button is visible next to the question.

A warning message states: "You answered No to this question. Please see more information about this issue by clicking [here](#)." Below this, a "Your Notes: Question 6" section contains a text area with the note: "The objectives listed are not articulated as measurable outcomes, and therefore do not provide a basis for evaluating project success through monitoring." A "Save This Note" button is located at the bottom right of the notes section.

On the right side of the interface, a list of 16 questions is displayed, organized into seven sections:

- I Project Identification**
  1. Is the problem identified?
  2. Are causes identified at appropriate scales?
- II Project Context**
  3. Is the project identified as part of a Plan?
  4. Does the plan consider ecological, geomorphic, and socioeconomic context?
- III Goals & Objectives**
  5. Do goals and objectives address problem, causes, and context?
  6. **Are objectives measurable?**
- IV Alternatives Evaluation**
  7. Were alternatives considered?
  8. Are uncertainty and risk associated with selected alternative acceptable?
  9. Do project elements collectively support project objectives?
  10. Are design criteria defined for all project elements?
- V Project Design**
  11. Do project elements work with stream processes to create and maintain habitat?
  12. Is the technical basis of design sound for each project element?
- VI Implementation**
  13. Are plans and specs sufficient in scope and detail to execute the project?
  14. Does plan address potential implementation impacts and risks?
- VII Monitoring & Management**
  15. Does monitoring plan address project compliance?
  16. Does monitoring plan directly measure project effectiveness?

A tool for review of stream project proposals:

RiverRAT serves as a tool and an archive for reviewing stream projects. Each project reviewed is archived in your account. In the My Projects view, you can review or edit your project summaries, and or print your project summary and notes. This view gives you a quick overview of the project status, where green represents elements of the project proposal that are acceptable, and red indicates those that are not. Gray indicates elements not yet completed in your review.

The screenshot shows a web browser window titled "Restoration Review - Your Projects" with the URL <http://www.restorationreview.com/account/projects>. The browser's address bar and tabs are visible, showing tabs for Pandora Radio, Yahoo personal, Bridger Bowl, Bridger snowfall, Weather, and Wikipedia.

The main content area features the "River RAT" logo, with the subtitle "RESTORATION ANALYSIS TOOL". A navigation bar includes a "My Projects" button and a "Logged in as: restoringrivers@yahoo.com" status with a "Sign Out" link.

Below the navigation bar is a link to "+ Add A New Project". The main content area displays a list of projects, each with "Resume" and "Details" links. The projects listed are:

- Klamath River - MAY 04, 2009
- Willow Ck - MAY 04, 2009
- Blacktail Deer Ck - MAY 04, 2009
- RiverRAT project - MAY 04, 2009
- Nooksack bank stabilization - MAY 02, 2009
- Montana River - MAY 02, 2009

For the Montana River project, additional information is provided: "PROGRESSION: NOT COMPLETED - QUESTION 11 - LAST EDITED: 05/04/2009" and a link to "VIEW AND PRINT NOTES".

A progress bar is shown below the project list, labeled "V PROJECT DESIGN". The bar consists of 16 colored squares representing different elements of the project. Squares 1 through 4 are green, 5 through 7 are red, 8 through 10 are green, and 11 through 16 are gray.

Below the progress bar, the list of projects continues with:

- Secret Creek, NA - MAY 02, 2009
- May 2 final draft test - MAY 02, 2009

RiverRAT was developed as an educational tool as well as a tool to facilitate project reviews. For each question, a “More Information” button provides a pop-up window with more detailed explanation of the question, as well as implications of a “no” response to the question.

It also provides references to specific relevant sections within the companion *Science Base for Evaluating Stream Engineering, Management and Restoration Proposals* document. For any “no” response to a question, the tool encourages you to review the implications, or to refer to detailed information provided in the companion document.

The screenshot displays the River RAT web application interface. The browser address bar shows the URL: <http://www.restorationreview.com/questions/6/6bd93741ad8f1e3bb4d87ab0baa45772>. The page title is "Restoration Review - Secret Creek, NA - Question 6".

The main content area shows the "River RAT RESTORATION ANALYSIS TOOL" logo and a progress bar with 7 questions. Question 6 is currently selected and highlighted in red. The question text is: "#6: Are objectives measurable?". Below the question, there are two buttons: "Prev Question" and "Yes".

A pop-up window titled "River RAT RESTORATION ANALYSIS TOOL" is overlaid on the right side of the page. It contains the following text:

**#6: Are objectives measurable?**

Project objectives define the actions necessary to achieve a stated goal and should be articulated as statements of measurable outcomes. There are two advantages to quantifiable objectives. First, objectives that specify quantifiable outcomes provide a concrete and specific link to design. Particularly where engineering design practices are applied to design, quantifiable objectives provide a specific target outcome that can be compared to predicted outcomes from alternative design scenarios. Additionally, engineering design analyses may be more defensible if they predict outcomes that are consistent with specific objectives. The second advantage of specific and measurable objectives is that they provide a foundation for monitoring. Ideally, monitoring will measure the same metrics as specified in project objectives, thereby providing a means to conclusively evaluate project success. Without measurable objectives, monitoring and post-project appraisal can be only qualitative endeavors.

**If You Answered "No"**

River restoration and stabilization project descriptions often fail to differentiate goals and objectives, and even more frequently fail to define measurable objectives. However, this may be one of the most important avenues for establishing an understanding of and agreement on project intent among all parties. Project objectives that are not stated as quantifiable or measurable outcomes may limit the capacity for stakeholders, project owners, and permitting agencies to fully understand project intent; it may limit the ability of project designers to defend their designs as consistent with project objectives; and it will likely limit the ability to demonstrate project success. While monitoring to evaluate project success may be possible using qualitative criteria, definitive measures of success are greatly facilitated by comparing outcomes to specific and measurable objectives.

For further information:

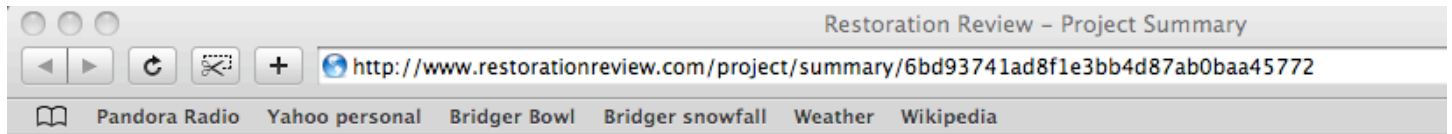
- \* Section 3 - 4 Goals and Objectives
- \* Section 3 - 8.3 Considerations for Undertaking Effectiveness Monitoring

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[CLOSE THIS WINDOW](#)

At the bottom of the pop-up window, there is a "Save This Note" button and a warning message: "If you do not save your note before moving on to the next question, you will lose all unsaved changes."

RiverRAT summarizes your responses to questions and compiles all your notes in a print-ready format. Or you can copy your notes to a word document for formatting..



## River RAT

RESTORATION ANALYSIS TOOL

### Secret Creek, NA

User: restoringrivers@yahoo.com

#### #1 - Is the problem identified?

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**Answer:** Yes

#### Notes

Note: 05/04/2009 8:41pm by peter

The problem stated is habitat degradation associated with unstable stream conditions. Unstable conditions are stated as resulting from straightening of the channel upstream, which caused a headcut and bed degradation, and related sediment plug moving downstream.

#### #2 - Are causes identified at appropriate scales?

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**Answer:** Yes

#### Notes

Note: 05/04/2009 8:43pm by peter

The causes stated are reach-scale causes and clearly related to the reach-scale problem. However, it appears that there is more systemic instability, perhaps explained by considerable development in the basin and changes in hydrology and sediment supply, so there may watershed-scale causes that must also be addressed. Be sure to check this in design phase.

#### #3 - Is the project identified as part of a Plan?

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**Answer:** No

#### Notes