

## FINAL REPORT:

### Water Fund Prioritization Tool Technical Workshop: Diagnostic Screening and Priority Area Selection

April 16-17 2012  
Tlalmanalco, Mexico

Representatives from multiple Latin American water funds, government agencies, NGOs and academia met in Tlalmanalco, Mexico to discuss the first version of a water fund investment prioritization tool being developed by the Latin America Water Funds Platform and the Natural Capital Project. With the Popo volcano smoking in the background, and the Aztec goddess of rivers and oceans watching over the meeting, we had lively discussion of several key issues and were able to produce and review the first water fund investment portfolio produced by the tool. The group's creativity produced great candidate names for the tool, and we voted in a new name: RIOS, the Resource Investment Optimization System. Here, we provide a brief summary of the proceedings, outcomes, and next steps.

#### CONSENSUS POINTS:

After an introduction to the history of water fund prioritization in Latin America and a walk through of the new RIOS tool, participants engaged in 18 breakout groups and discussed key issues over two days. Through these discussions, several points of consensus emerged.

**Stakeholders are an important part of the model-building process.** Participants agreed that stakeholder engagement starting in the earliest phases of model design will help increase the utility of the models and acceptance of their outputs once models are final. This supported the workplan of RIOS development team and encouraged the set of workshops we have planned for further stakeholder engagement throughout the development process.

**It is important to initiate monitoring before water fund investments begin and the RIOS tool can help design monitoring programs.** Pre-investment monitoring can start as soon as the fund is developed, providing at least some data on baseline conditions. Several intermediate outputs of RIOS could be used to identify good monitoring locations. The development team will develop guidance on how to use the outputs in this way.

**Water fund managers often want to define their budget based on what is needed to achieve their objectives.** In the current RIOS tool, managers have to input a budget. Many would like to be able to input an objective (such as 10% reduction in erosion), and learn how much funding is needed to meet that objective efficiently. We will develop guidance on how this can be done in the RIOS tool now, and we will continue to work towards a dynamic optimization tool that would do this directly for the user.

**The separation of transitions and activities, and the requirement of all data in the current RIOS tool are good things.** After detailed discussions about transitions and activities, there was understanding and support for this distinction, although the language differentiating the two needs to be improved. Similarly, there was support for requiring all data in the current RIOS tool to retain scientific credibility. There was general consensus that the data requirements are not too daunting.

**It will be hard to validate the selection of investment priorities done by RIOS.** After exploring several options, it was not clear how we could use data or alternative models to validate that RIOS does indeed pick the best places to invest. We *can* validate the individual models used to identify the portfolio sites and we can do sensitivity analyses to better understand how these models are working.

## SHORT TERM IMPROVEMENTS

Through discussions in the breakout groups, we identified many ways the RIOS tool can be improved. The tables here detail the improvements that will be made and released for public use by late July 2012.

### RIOS Software Development Priorities

User Options	Behind the Scenes	Outputs
o Allow user to input stakeholder preference area maps	o Improve general LULC classes to be more representative	o Provide activity and transition maps as outputs
o Include table for activity likelihood of success	o Improve fencing cost algorithm	o Add output table that summarizes area and cost by activity
o Provide option to adjust clumping factor	o Create Arc toolboxes to streamline data pre-processing	o Add output map that shows transition scores across all objectives
o Provide option to input features to restrict or promote activities (e.g. land tenure)	o Add <b>baseflow</b> objective	
o Make activities user-defined		

## Other Development Priorities

Tool Testing	Documentation	Communications & Engagement
o Check all internal functions, ensure code matches intent	o Add guidance on how to use RIOS to set budget	o Expert elicitation to derive objective weights
o Sensitivity analyses on 2-3 models?	o Improve guidance on beneficiaries data	o Update Advisory Group on progress, identify specific engagement opportunities
	o Improve guidance on mapping of LULC classes to general categories	
	o Improve guidance on preparing factor data	
	o Improve language describing education activity	

## LONGER TERM IMPROVEMENTS

Our discussions in the breakout groups identified many other issues that will take more thinking, discussion and software development time to address. The tables below capture these. Most advances identified here will be made as possible, with all being discussed and some being complete by November, 2012.

## RIOS Software Development Priorities

User Options	Behind the Scenes	Outputs
o Allow user to input own LULC table data	o Add objectives: Bacteria filtration, Carbon, Landslide risk?	
o Connect directly to InSEAM	o Include approach for representing diminishing returns	

o Translate RIOS and InSEAM into Spanish	O Include approach for representing efficiencies of multiple activities on one parcel	
	o Include approach for representing efficiencies of aggregating a single activity in space	

## Other Development Priorities

Tool Testing	Documentation	Communications & Engagement
o Full sensitivity analyses	o Develop guidance on how to use RIOS in the context of the overall waterfund process with examples of how it can be used	
	o Develop guidance on using RIOS outputs to inform monitoring program design	

## July Workshop

Our next chance for broader engagement with the water funds community will be in late July in another part of Latin America (likely Peru). We are still discussing the location and exact dates and will send invitations as soon as these details are resolved. At the July workshop, we will demonstrate an updated version of RIOS with the improvements noted in the short term development section, as well as the functionality to estimate return on investment for erosion control. The estimation of returns will be a big step for the tool and requires major software development. We will only be able to assess ROI for two objectives (erosion control for reservoir maintenance and erosion control for drinking water quality) by July, but other objectives will follow in October (likely nitrogen and phosphorous for drinking water quality and flood mitigation). We will use the July meeting to test the new functions on a few water funds (yet to be identified) and to get critical feedback on our tool design decisions.

***If you have any questions or concerns before the July workshop, please feel free to contact us. We welcome your input.***

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