

Prioritizing Research Funding: A Draft Framework for Soliciting and Selecting Science Support Program (SSP) Proposals in Region 5

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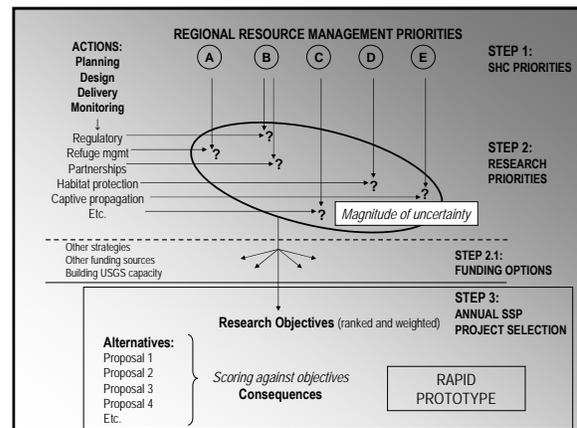
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Background

- Scope: Region wide
- Decision Maker: RD
- Recommendation: RSC
- Timeframe: Annual; RFP-spring, decision-mid-August

Decision Problem

1. ID Regional Management Priorities
2. ID Research Priorities and solicit RFP
3. Select Proposals for Funding
 - Multi-objective allocation decision
 - Linked Decisions



Objective 1

- Proposal addresses high research priority

Attribute: 10 point scale, with the top ranked research priority receiving 10 pts, and the other topics scored relative to that

Objective 2

- The proposal meets the research needs identified in the RFP.

Attribute: Score 0-4

Score 4: >75%; Research priority is nearly fully addressed
 Score 3: 50-75%;
 Score 2: 25-50%
 Score 1: 10-25%
 Score 0: <10%

Objective 3

- The proposal includes funding from other sources (i.e. partnerships)

Attribute: Score 1-99%
% of budget funded by other sources (non SSP)

Objective 4

- The proposal is technically sound, feasible, and has a high likelihood of success.

Attributes: Score 3-6

- Is research feasible? Yes/Maybe/No
- Are methods and design appropriate to answer the question? Yes/Maybe/No
- Does the design have the power to discriminate the questions addressed? Yes/Maybe/No

Yes = 2 Maybe = 1 No = 0

Weighting of Objectives

- Individual proposal objectives
 - Direct Elicitation
 - Swing Weights

Weighting of Objectives

- Individual proposal objectives
 - direct elicitation
 - swing weights
- Results:
 - Objective 1 - 26%
 - Objective 2 - 47%
 - Objective 3 - 8%
 - Objective 4 - 19%

Normalizing Proposal Scores

- The score for the proposal is given by:

$$S = 0.26 \left(\frac{\text{Priority Weight}}{10} \right) + 0.47 \left(\frac{\text{Efficacy}}{4} \right) + 0.08 \left(\frac{\% \text{ external}}{99\%} \right) + 0.19 \left(\frac{\text{Des / Fes} - 3}{6 - 3} \right)$$

- Also, for each proposal, indicate
- How much will it cost in the first year?
- How much will it cost in the second year?

Proposal	Score	Cost	
		1st yr	2nd yr
1	67	50	50
2	53	90	90
3	23	47	85
4	84	150	350
Available funding		216	500

Alternative Portfolios

- Choices will be among portfolios
- 3 Proposal Example
 - 1, 2, 3, 1&2, 1&3, 2&3, 1&2&3
- Portfolio 2 objectives (threshold criteria)
 - Within budget & \$100K available out-year

Portfolios	Score	1st yr	2nd yr	Within budget?	100K left on table next year?
1,4	151	200	400	Yes	Yes
1,2,3	143	187	225	Yes	Yes
1,2	120	140	140	Yes	Yes
1,3	90	97	135	Yes	Yes
4	84	150	350	Yes	Yes
2,3	76	137	175	Yes	Yes
1	67	50	50	Yes	Yes
2	53	90	90	Yes	Yes
3	23	47	85	Yes	Yes
3,4	107	197	435	Yes	No
1,2,3,4	227	337	575	No	No
1,2,4	204	290	490	No	No
1,3,4	174	247	485	No	No
2,3,4	160	287	525	No	No
2,4	137	240	440	No	No

Next Steps

- Test and refine decision analysis for Step 3
- Develop objectives for Step 2

