

# Writing Grant Proposals in the Natural Resources Sciences

*General Guidelines, Tips, and Advice*



NRC 601 – Research Concepts (Fall 2009)

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Research Proposal = describes in detail the research you propose to do.

Grant Proposal = describes in detail the research you propose to do  
and how much it will cost to do it.

*The two are really one in the same . . . someone is going to pay.*



## Three general approaches:

- (1) You have a topic in mind and seek funding for that research
  - the topic/questions/objectives are at your discretion
  
- (2) You are responding to an RFP (Request for Proposals)
  - general RFPs (i.e., area of climate change/global warming)
  - specific RFPs (i.e., very specific topic and objectives)
  
- (3) There is a direct request from a cooperating agency or organization
  - usually very topic-specific
  - they have a need
  - they have the (or some) money
  - you write the proposal
  - often “non-competitive”





A key point:

Identify the requirements, needs, purpose, mission, and desires of the potential funding entity . . .

. . . What is it that they want, they do, they seek to accomplish?

Two major parts:

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(1) a review of the relevant scientific literature

- review the primary literature on a particular topic
- do so with a specific goal in mind

*“you wish to lead your reader to the inescapable conclusion that the question you propose to address follows logically from the research that has gone before.”*

(2) a description of the proposed research

- study area, methods, budget, etc.



## Some general tips:

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### (1) Plan ahead

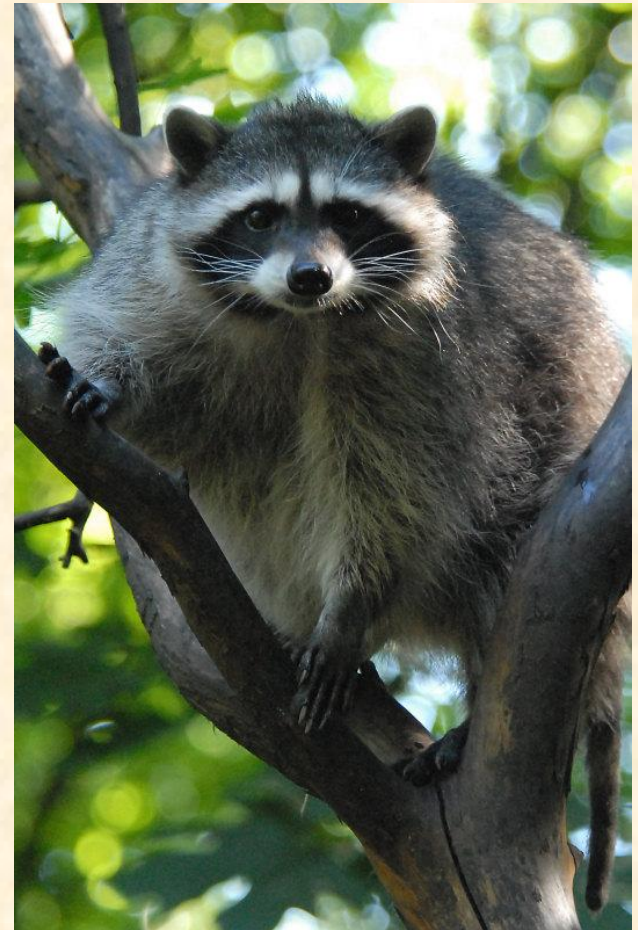
- note the deadlines
- review the requirements

### (2) Keep it focused and simple

- identify clear questions and objectives
- describe what has been done in the past
- provide a justification
- only propose what is do-able

### (3) Prove that you can do it

- develop and justify a budget
- provide resumes and backgrounds of participants
- show any match (salaries, equipment, facilities)



*(from McGill University)*

## Major components:

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### Thorough literature review

- what has been done
- how was it done
- what questions arise

### Clearly stated objectives and questions

- concisely & precisely state what will be done

### Justification

- why should anyone pay to have you do this

### Iron-clad methodology

- explain in detail how are you going to do this

### Schedule or Time-frame

- when are you going to do this

### Budget and Budget Justification

- what are the costs
- “why” are the costs

### Qualifications

- resumès and background





### Other details:

- required permits
- IACUC or Human Subjects approval
- resumés for all participants
- qualified P.I.
- required facilities
- appendices or attachments



Appendices can include:

- Verification of tax-exempt status (IRS determination letter).
- Certificate of Incorporation and By-Laws.
- Listing of officers and Board of Directors.
- Financial statements for last completed fiscal year (audited, preferred).
- Current general operating budget and special project budget (if applicable).
- List of clients served (if appropriate).
- List of other current funding sources and uses.
- Biographies of key personnel or resumes (only if requested).
- Support letters or endorsements (limited number).
- Commitment letters from project/program consultants or subcontractors (if applicable).
- Diagrams for equipment or schematics for building requests (if applicable).

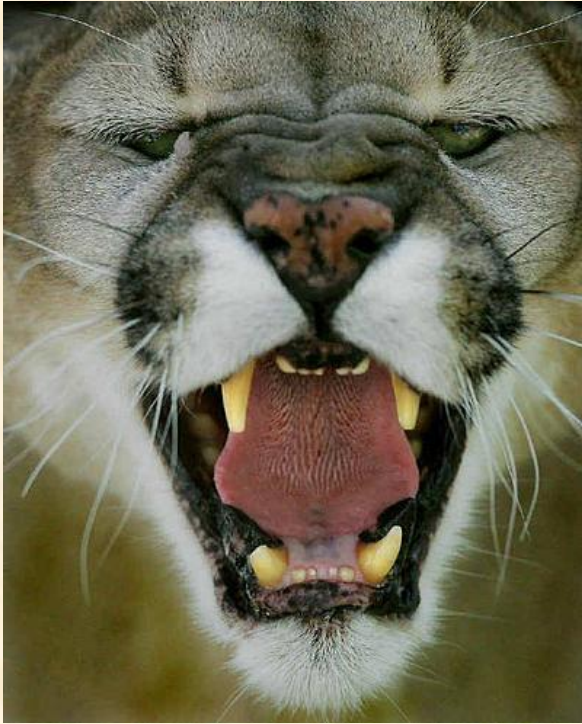
## Ten Steps to Success (from *Professional Proposal Services*)

- (1) Download all documents, attachments, amendments.
- (2) Read the ENTIRE RFP.
- (3) Create a compliance matrix.
- (4) Create a detailed outline using the instructions.
- (5) Create a proposal schedule (writing, reviews, delivery).
- (6) Meet to make individual assignments or tasks.
- (7) Make sure the funder knows your qualifications.
- (8) Write for the reader (funding officials, agency personnel, reviewers).
- (9) Create a budget that is both adequate and competitive.
- (10) Assemble, proof, and deliver your proposal ON TIME.

A compliance matrix is a table that tells evaluators where they can find your responses to specific RFP requirements.

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XYZ Company	Request for Proposal					XYZ Company
Prop Para Number	Requirement	SOW	Section L	Section M	Other RFP Sections	Prop Tab/Page Number
	<b>VOLUME 1: TECHNICAL PROPOSAL</b>		L.21	M.4		
	Mission Suitability Factor		L.21.1.A, Atch J-1	M.4		
	Subfactor A -Technical Approach		L.21.1.A, Atch J-1	M.4.1.A		
1.A.0	INTRODUCTION		L.21.1.A, Atch J-1	M.4.1.A		A-1
1.A.1	UNDERSTANDING THE REQUIREMENTS		L.21.1.A, Atch J-1	M.4.1.A		A-3, 6 - 13
1.A.1.1	Purposes		L.21.1.A, Atch J-1	M.4.1.A		A-3, 6 - 13
1.A.1.2	Services to be Performed		L.21.1.A, Atch J-1	M.4.1.A		A-4
1.A.1.3	Contract Information and Mechanisms		L.21.1.A, Atch J-1	M.4.1.A		A-4
1.A.2	TECHNICAL APPROACH AND METHODOLOGY		L.21.1.A, Atch J-1	M.4.1.A		A-14
1.A.2.1	Institutional Program Implementation and Business Management	1.0	L.21.1.A, Atch J-1	M.4.1.A		A-6 - 13, 14
1.A.2.2	Facilities Planning, Engineering & Construction Management Services	2.0	L.21.1.A, Atch J-1	M.4.1.A		A-6 - 13, 14
1.A.2.3	Facilities Operation and Maintenance	3.0	L.21.1.A, Atch J-1	M.4.1.A		A-6 - 13, 14
1.A.2.4	Construction Services	4.0	L.21.1.A, Atch J-1	M.4.1.A		A-6 - 13, 15



## Include a Cover Letter

*To Whom It May Concern . . .*

Provide a clear, concise overview of the organization, purpose and reason for and amount of the funding request.

Be sure to show how your proposal furthers the grantmaker's mission, goals and matches the funder's grant application guidelines.

Cover Letters should be typed on letterhead.



## Pre-proposal:

Sometimes funders ask for a letter or brief (1-2 pages) proposal first . . .

. . . you may then be asked to submit a full proposal later.



Pilot study:

Do you have any preliminary data or results?

If so, include that in your proposal (required for NSF).

\* Neatness counts

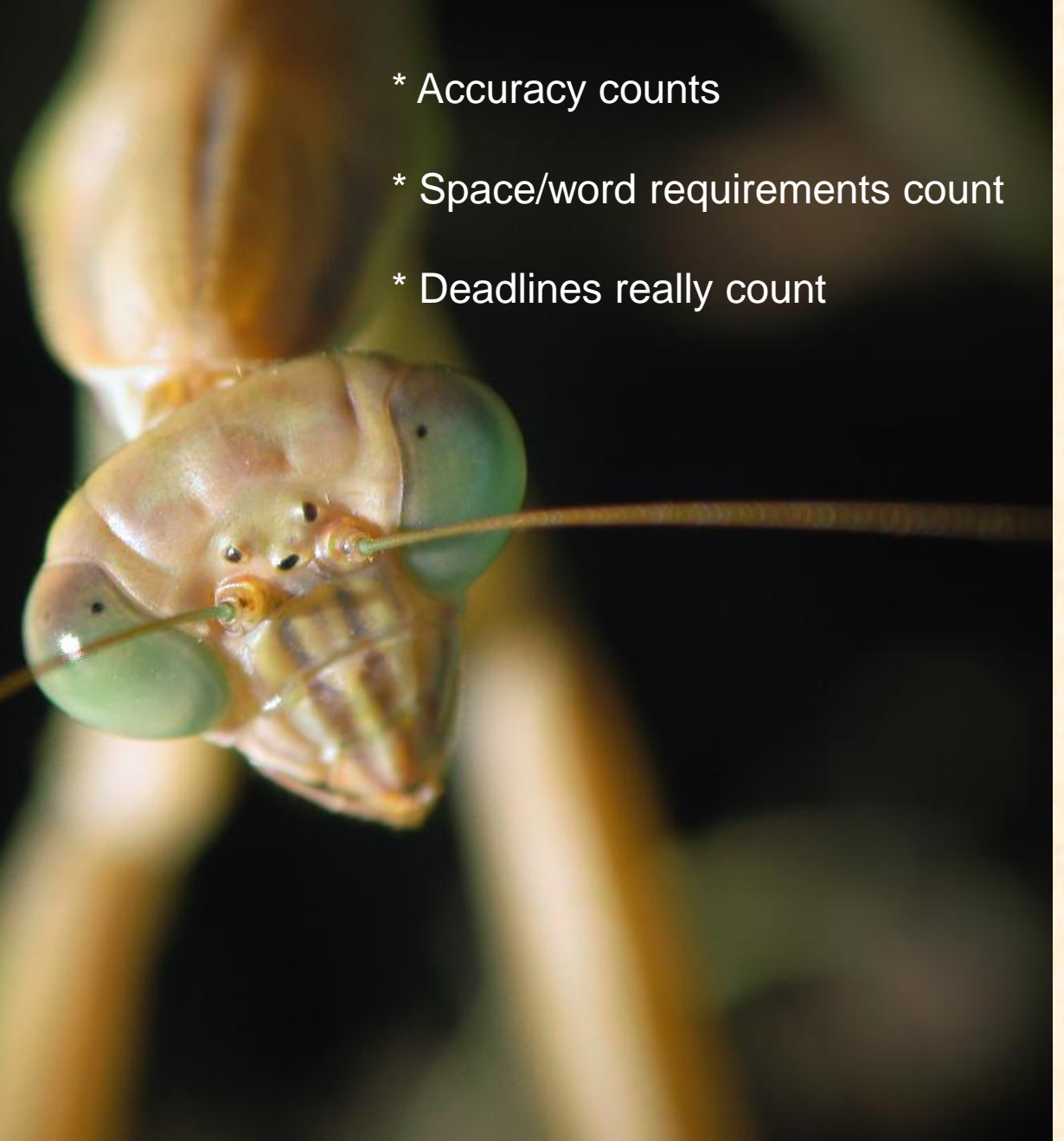
\* Spelling counts

\* Formatting counts

\* Accuracy counts

\* Space/word requirements count

\* Deadlines really count



## Four major problems (from an NSF Program Director):

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- (1) The proposal lacks a strong conceptual basis.
- (2) The experiments do not adequately test the stated hypotheses.
- (3) There are no preliminary data in a critical area.
- (4) Inadequate justification why a particular system or species has been selected, or why particular response variables will be measured.

## Four ideas to increase success (from an NSF Program Director):

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- (1) Review before submission.
- (2) Address all previous comments when resubmitting.
- (3) Justify the budget request thoroughly.
- (4) DO NOT ANNOY PANELISTS AND REVIEWERS.

Confer early and often with the University of Massachusetts

Research web site: [www.umass.edu/research](http://www.umass.edu/research)

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- follow their instructions, and requirements
- review guidelines, tutorials, and examples
- \*\*\* incorporate time for OGCA review \*\*\*

