

Analysis of Proposer & Reviewer Workloads

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What are the issues?

- It's claimed that the Planetary Science community is over-burdened by writing too many proposals
- It's also claimed that the same community is over-burdened with reviewing proposals.

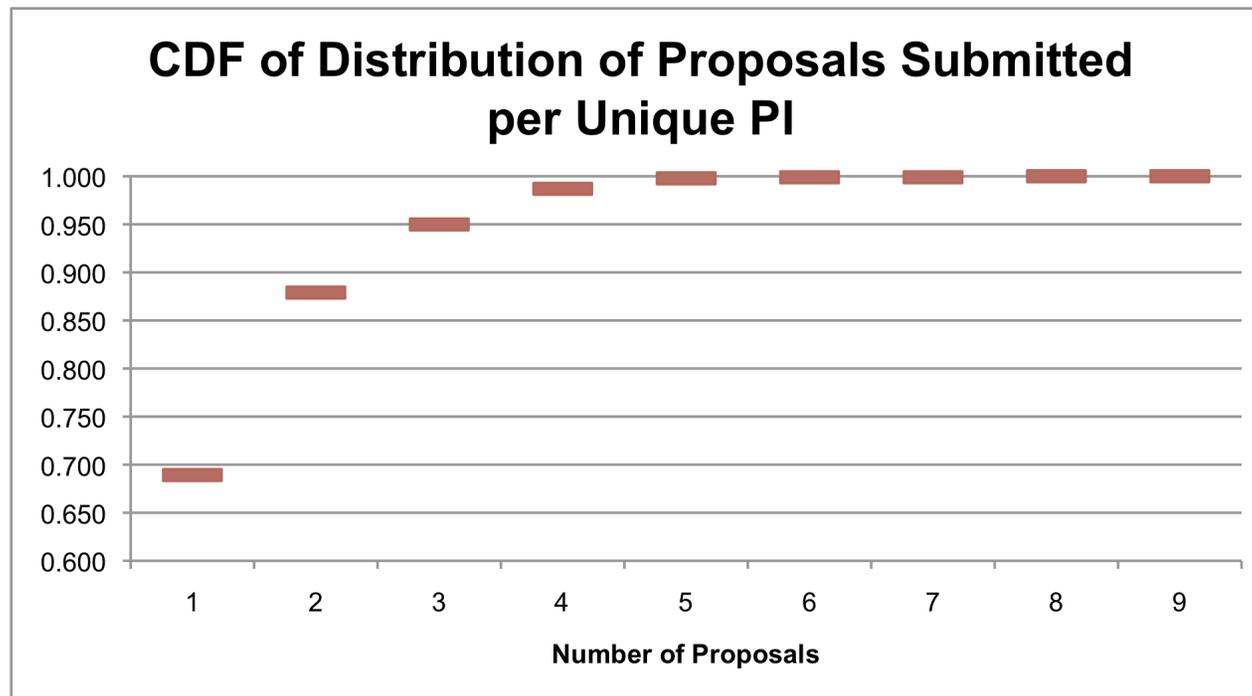
GOAL: Address these questions through analysis of NSPIRES data, not anecdotes.

PROPOSER WORKLOAD

ROSES-2009 Proposal Database

- Contains records of 1,375 proposals submitted to PSD program elements of ROSES-2009.
 - 17 solicitations
 - 6 Core, 4 DAPs, 1 PSP, 5 Targeted, 1 Tech Dev
 - 917 unique PIs
- Hand-curated from collected selection spreadsheets.
 - Thanks to Dr. Susan Keddie for collecting the spreadsheets.

Distribution of Number of Submissions Per PI



- 68.9% of those submitting proposals submitted only a single proposal.
- 95.0% submitted 3 or less
- 5.0% (46) submitted 4 or more

But there is variation across institution types

Fraction of proposers who submit...	Submitting Organization Type					
	# Props	Universities	For-Profits	Non-Profits	NASA Centers	Other Gov't
1		0.72	0.66	0.58	0.68	0.61
2		0.17	0.31	0.23	0.16	0.28
≥ 3		0.10	0.03	0.18	0.16	0.11

- Researchers from non-profits are more likely to submit more than 1 proposal than researchers from other organization types.
 - 41% did in 2009
- Researchers from NASA Centers (not including JPL) were likely to submit more than 1 proposal too.
 - 32% did in 2009

Supporting Data from the DPS

- DPS 2010 Member Survey
 - 1290 emailed out
 - 510 responded
 - 40% return rate
 - Higher than 2005 survey (32%) but much lower than 1995 survey (86%)
 - Of course, in 1995 only 831 paper surveys were sent out.
- 56.8% of respondents need 1 or 2 grants to stay afloat.
 - 76.4% need 3 or fewer grants

REVIEWER WORKLOAD

ROSES-2010 Reviewer Database

- Compiled by Dr. Susan Keddie, SAIC (assigned to NRESS)
- Contains all review assignments made for PSD reviews arising from ROSES-2010
 - Did not include assignments for NEOO since review was not held.
- 7,813 assignments, not including OSS (APD)

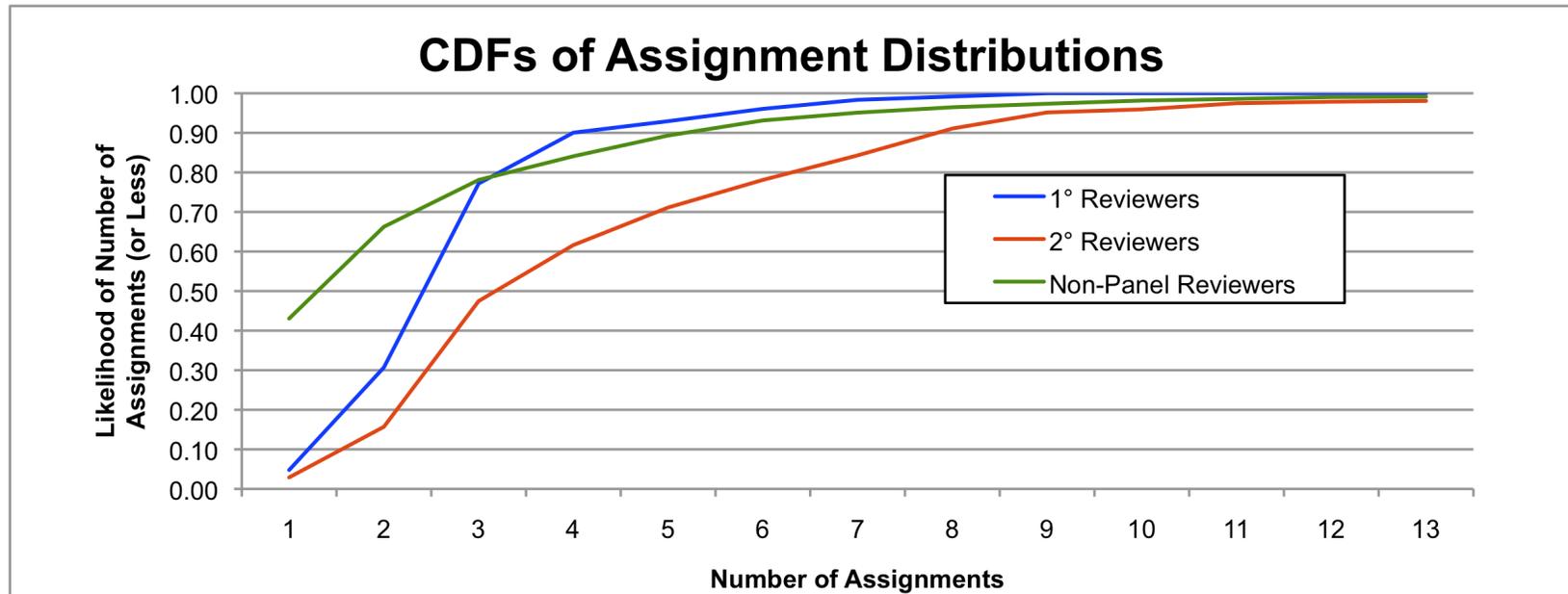
Overview of Data

- 1,699 individuals participated as reviewers
 - 35% were PIs of activities receiving FY10 or FY11 funds.
 - NB: There were 1,019 PSD PIs receiving FY10 or FY11 funds.
 - No information on presence of Co-Is & non-PSD awards.
- 482 had Primary Reviewer assignments
 - Median of **3** proposals per 1^o Reviewer.
 - IQR of **1**.
- 516 had Secondary Reviewer assignments
 - Median of **4** proposals per 2^o Reviewer.
 - IQR of **3**.
- 1,470 had Non-panelist review assignments
 - Median of **2** proposals per reviewer.
 - IQR of **2**.

What's the size of the “community”?

- Since there is no single organization to which all applicants to PSD solicitations belong, best we can do is estimate.
- DPS membership is ~1,300. MetSoc US, non-student membership is ~500. GSA Planetary Geology Division is ~500. AGU/Planetary Sciences Section has 2,141 “Primary Affiliations” and 4,218 “Secondary Affiliations”. ISSOL has 500 members, many from outside US, though.
- The Planetary Science Workforce Survey (<http://lasp.colorado.edu/mop/resources/links/PlanetaryScienceWorkForceSurvey2011/>) assumed that the community is ~2,000. This seems likely to be an underestimate.
- I estimate the size of the community to be between 3,000 and 5,000 professionals, including some astrobiologists who would not be members of any of the above organizations.
 - For comparison, there were about 3,900 stamp collectors in 2007.
- **Therefore, between ~30-60% of the community was involved in evaluating proposals for ROSES-2010.**
 - **On a related note, 58% of active PIs served as reviewers. So 42% of active PIs *did not* serve as reviewers.**

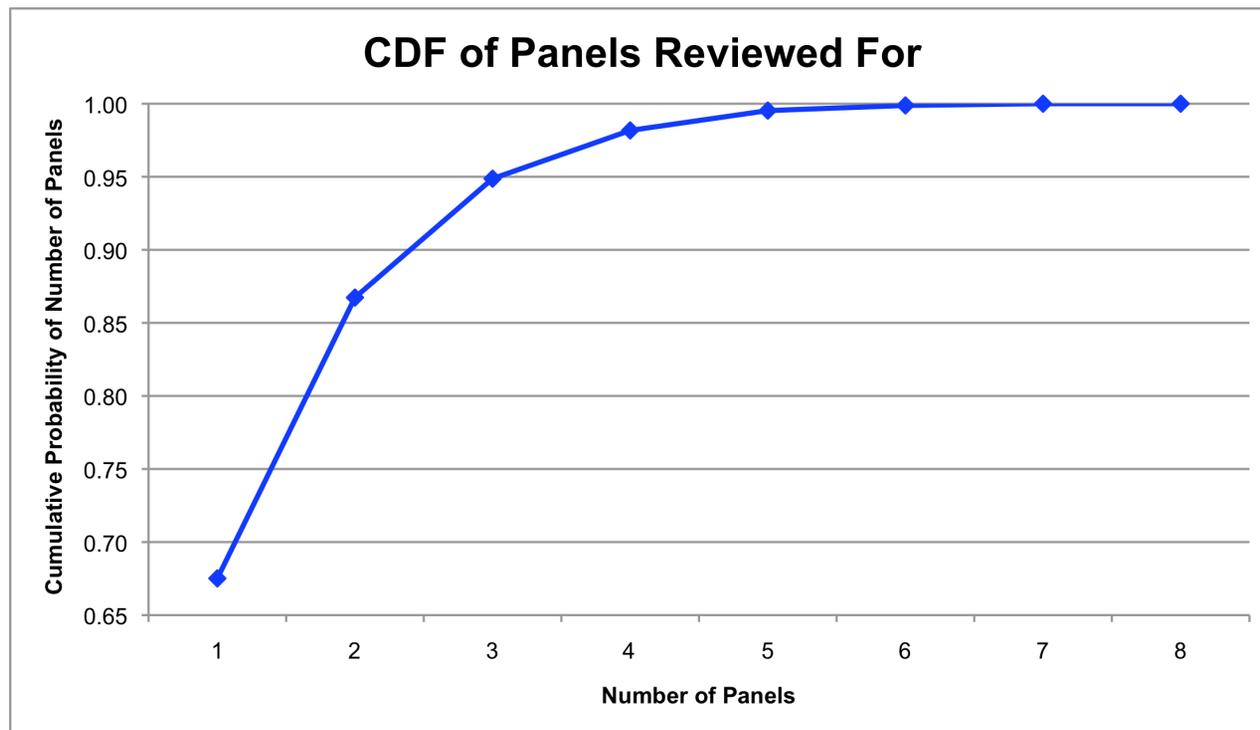
Distributions of Assignments



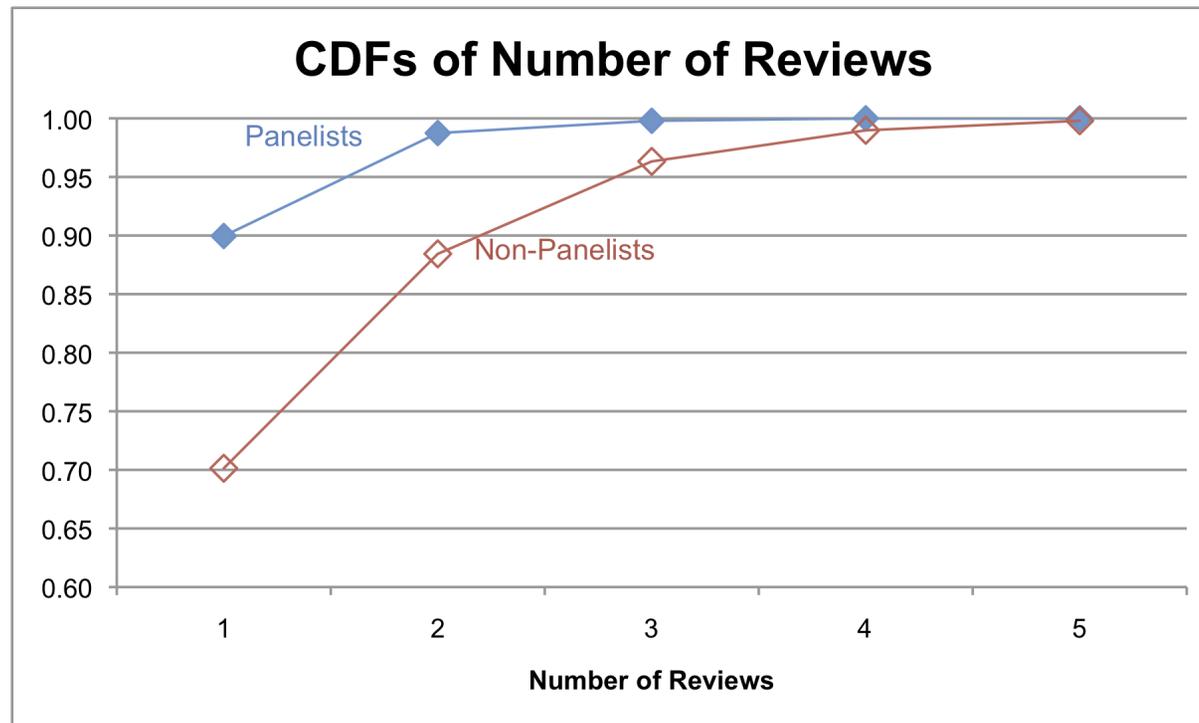
- 78% of non-panel reviewers were assigned 3 or fewer proposals.
- 90% of panel reviewers were assigned 4 or fewer proposals for 1° review.
- 78% of panel reviewers were assigned 6 or fewer proposals for 2° review.
- 14% of this reviewer pool were assigned 10 or more proposals in 2010.

Service to Reviews

- There were 20 reviews for programs solicited in ROSES-2010.
- 95% of the reviewer pool reviewed for 3 or fewer panels.

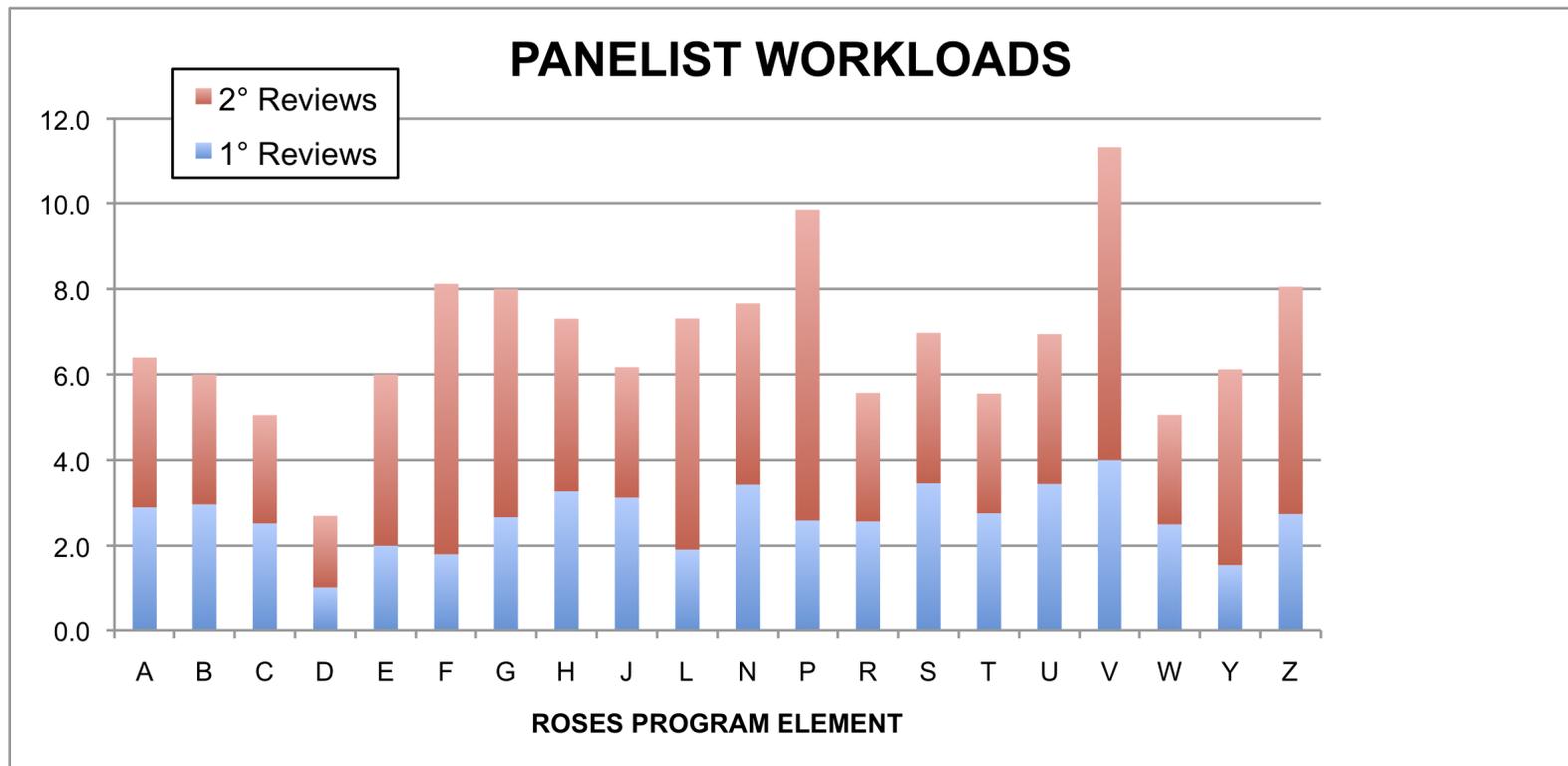


Panel Service Details

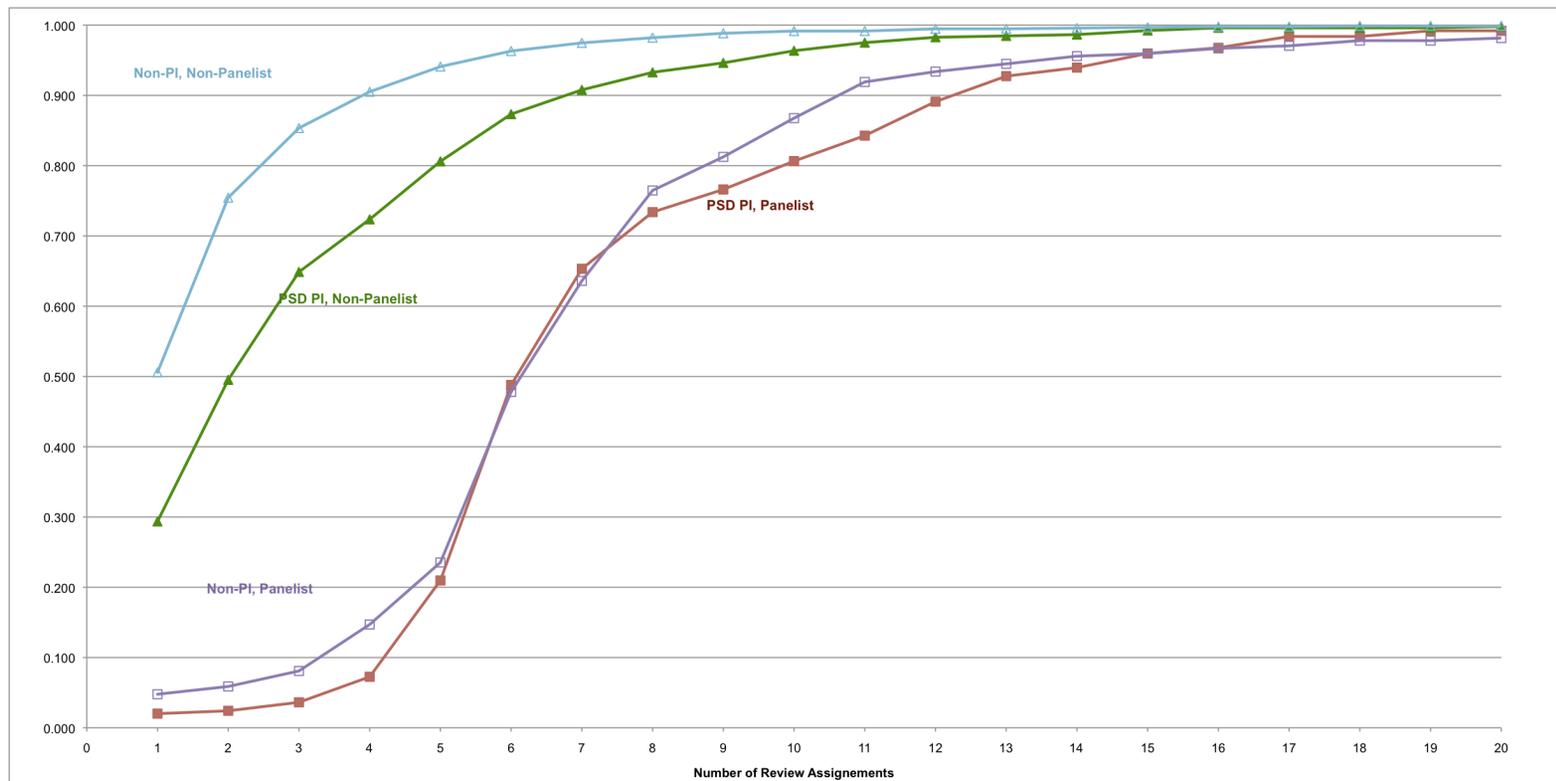


- 90% of those who serve on a panel, serve on only 1 panel.
- 90% of those who provide external reviews do so for just over 2 panels.
- Average total panelist workload was 6.6 ± 1.8 proposals.
- On average, external reviewers were assigned 1.7 ± 1.3 proposals.

Wide Variation in Workload, Though



Being a Funded PI has a Small Effect on Reviewer Workload



- PI status had no effect on panelist reviewer workload.
- PI status has a moderate effect on non-panelist reviewer workload.
 - 80% of non-PI, non-panelist reviewers evaluated **2** or fewer proposals
 - 80% of PI, non-panelist reviewers evaluated **5** or fewer proposals

Conclusions

- On average, the community is not submitting multiple proposals to NASA
 - Some sub-groups and individuals are.
- On average, community members serve on only 1 review panel per year and provide a small number of non-panelist reviews to 2 other panels.
 - A large fraction of the community is involved in reviewing each year.
 - This large fraction may be the source of the sentiment that the community is overburdened by review assignments.
 - A small fraction of the community agrees to perform many reviews
 - Possibly too many (>10)
- Funded PIs are assigned more non-panelist reviews than those not currently funded by PSD.
- Approximately 58% of funded PIs served as reviewers. 35% of the analyzed reviewer pool were PSD PIs.
 - So 42% of funded PIs *didn't* serve as reviewers.