

# PubCreds: Incentivizing peer review by 'privatizing' the 'peer review commons'

Jeremy Fox

Dept. of Biological Sciences

University of Calgary

Collaborator: Owen Petchey (U. Zurich)

**TheScientist** (Feb. 2006)

Is PEER  
REVIEW  
Broken?

REJECTED

A close-up photograph of a hand holding a red rubber stamp. The stamp is positioned over a document, and the word "REJECTED" is visible on the paper. The background is slightly blurred, showing a computer keyboard on the left.

# Widespread perception of problems



- 32% of academics agree peer review needs a “complete overhaul”, only 35% disagree

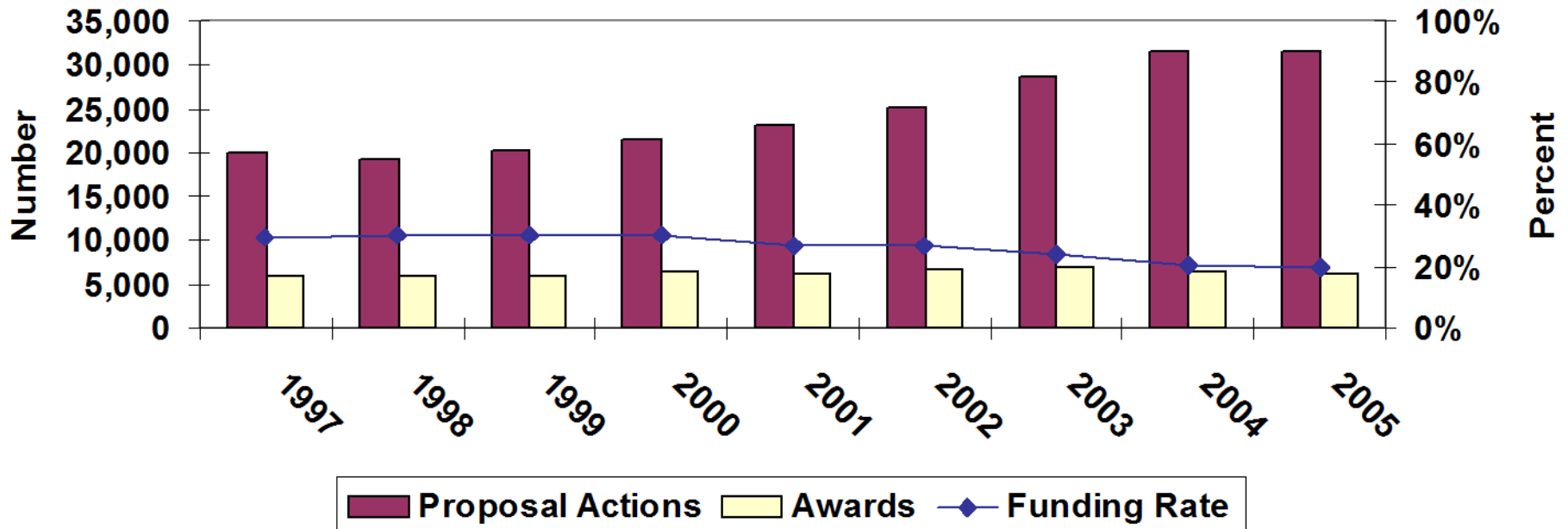
## **My focus: increasing difficulty of obtaining reviews**

- 50% say peer review takes too long
- On average, peer reviewers report doing about as many reviews as they can
- A minority of active reviewers do most of the reviewing, and do more than they can
- In ecology, EiCs of many leading journals have editorialized about the increasing difficulty of obtaining reviews.

# A problem of incentives

- Strong incentives to submit papers
- Weak incentives to review
- Mismatch of incentives increasing as time pressures and competition increase

NSF Funding Rate for Competitive Research Grants



# A 'tragedy of the commons'

- 'Tragedy of the Peer Review Commons'  
(Hochberg et al. 2009 *Ecol. Lett.*)
  - Reviewers are an open access resource ('commons') on which authors are free to draw
- 'Tragedy of the Commons' (Hardin 1968 *Science*)



Cows on Selsley Common, UK

# Proposed solutions

## Treat the symptoms

- Increase rates of rejection without review
- Issue more requests for reviews
- Add grad students to reviewer pool

## Ignore the causes

- Ask authors to submit less, and to less-selective journals
- Post-publication review
- Carry-over of reviews across journals

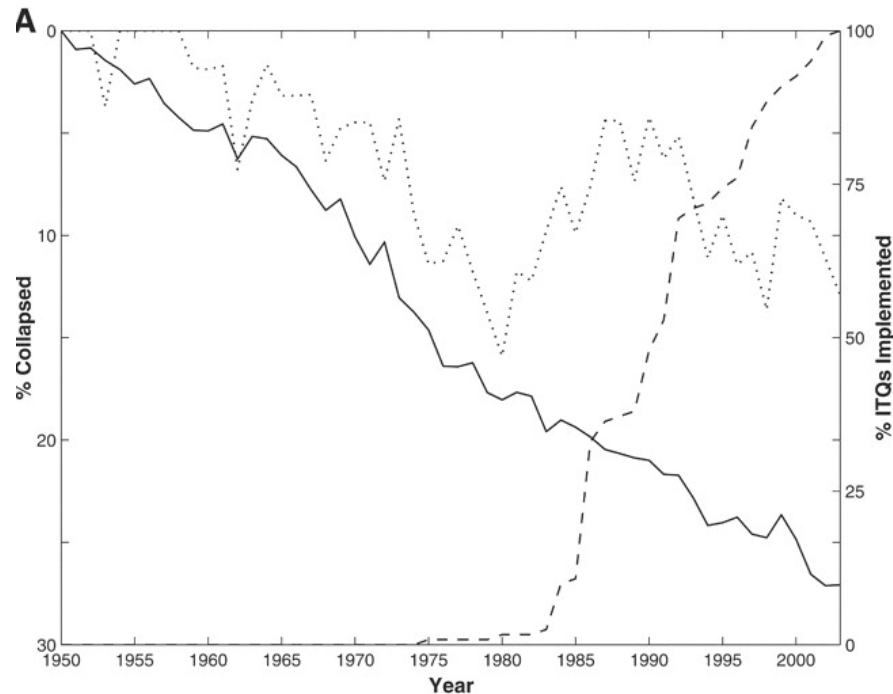
## Treat the causes (?)

- Low-cost rewards for reviewers
- Penalize those who decline to review
- Pay reviewers

**The ideal solution would align incentives to ensure that the reviewer commons cannot be overexploited.**

# A new solution: PubCreds

- Classic solution to TotC: privatize the commons
  - Enclosure Acts
  - Catch shares in fisheries



Costello et al. 2008  
*Science*

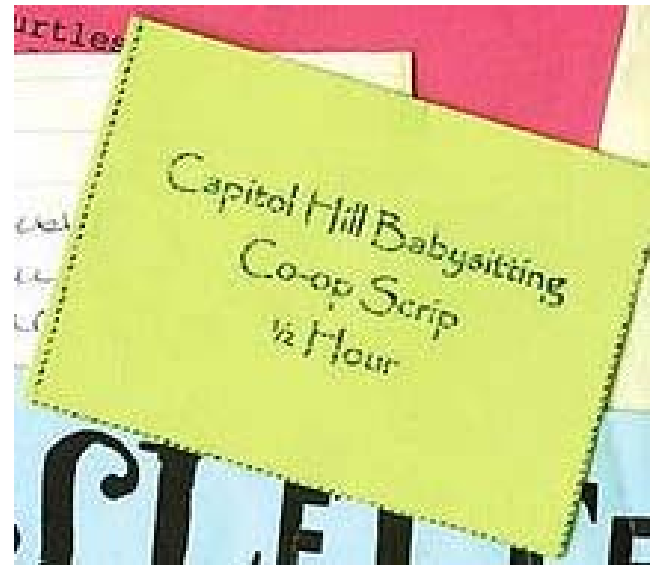
- PubCreds is a way to ‘privatize’ the ‘reviewer commons’

# PubCreds overview

(Fox & Petchey 2010 *ESA Bull.*; [tiny.cc/vyvy6](http://tiny.cc/vyvy6))

- PubCreds: an artificial currency
- Submitting a paper costs 3 PubCreds
- Performing a review pays 1 PubCred
  - 2 reviews, plus 1 PubCred to the handling editor
- Co-authors can split the fee
- Author gets 2 PubCreds back if ms rejected without review
- Reviewers paid after final decision (must review invited revisions)
- PubCreds earned from one journal can be spent at another
  - Ideally, all journals in the field participate
- All participating journals charge & pay same rates
- PubCreds not transferable between individuals

# Aside: Capitol Hill Babysitting Co-op



# PubCreds is technically feasible



- Online ms handling systems already collect all the info
- Those systems would need to send data to/from a central database ('PubCred Bank')
- Authors and reviewers would have accounts at the Bank
- Who would develop, operate, pay for PubCred Bank is a good question to which I'll return

# Scrutinizing the details



# What about those who lack credits through no fault of their own?

- Anyone not asked to review much or at all
  - early-career researchers
  - amateur scientists
  - anyone not well-known
- Several possible solutions
  - overdrafts
  - give new entrants some free PubCreds
  - small # of free submissions/year for those lacking credits (or coauthors with credits)
  - direct review requests towards those lacking credits
- Solution can't be overgenerous

# Other issues

- Won't quality of reviews suffer?
  - No. Editors can refuse payment for unhelpful reviews
  - Journals should publish standards for good reviews
- PubCreds doesn't stop 'wasteful' submissions & resubmissions
  - No, but it indirectly discourages them
- Don't you need unique IDs for individuals?
  - No. Just as with real banks, you need unique IDs for accounts

# The biggest challenge: implementation



- Would work if implemented
  - But implementation challenging
- A collective action problem
- Who pays? Cross Ref model?
- Equally challenging issues in privatization of other commons
- Challenges us to think hard and get serious

PubCreds

[tiny.cc/vyvy6](https://tiny.cc/vyvy6)

# Other issues (con.)

- Why should you have to review in order to submit?
  - Because science cannot progress without reviewers
- Why can't you get credit for teaching or service?
  - Valuable as they are, those activities are not substitutes for reviewing
- What about including submission & reviewing of grants?
  - Any big granting agency could introduce 'GrantCredits'
  - ...unless there are legal obstacles (?)
- Won't it erode professional values?
  - Yes, but those values are already eroding