Broader Impacts

• Joshua Drew
• @Drew_Lab
In our last exciting episode

- The NSF mandates that all funded activities provide broader impacts to the (tax paying, American) public
- This is seen by some as a burdensome waste of time and resources
- I, however, love it
GET IN LOSERS

WE’RE GOING TO DO SCIENCE.
Broader Impacts

• How well does the activity advance discovery, while promoting teaching, training and learning

• Does it broaden the participation of underrepresented groups (broadly defined)

• How does it enhance learning infrastructures

• How will the results be disseminated broadly

• What societal benefits will the activity produce
@ProfLikeSubst (not his real name)’s list of what it’s not

- Entering information on organisms into a database
- Creating a website
- Training grad students
- Teaching
- All of the above mixed with some vague language using the word outreach

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What Broader Impacts are

• Broad does not mean other fields of science, it means the people you stand in line with when you get coffee

• It is how your science can pay back the tax payers of America
When writing BI section of a grant

- Do not be afraid to put some money into the grant
- My last NSF had ~$40,000 for broader impacts
- Think about existing partners
- Columbia has strong educational outreach links with the broader Harlem and Morningside communities
- As with other parts of your grant, make it viable
Using Twitter for science outreach

http://sociable360.blogspot.com/2012/02/infographic-just-how-big-is-twitter-in.html
We decided to tweet an expedition to Papua New Guinea

- Expand the Field Museum’s membership
- Let people see the science behind the exhibits
- Interact with people real time
#FMPNG

- Approximately 75 tweets sent over a 21 day period
- Included one fundraising tweet (raised ~$165)
- Tweets were largely science based but also shared insight into the people
Conservation Connection
From the West Side to the West Pacific

• Sponsored by MacArthur Digital Learning and Media Grant
Specific Aims

• Teach about coral reef ecology

• Be able to identify specific organisms

• Provide students with digital tools and skills for further studies
Bringing together two schools
Fijireef.ning

• A custom made social website
• Had blogs, questions, videos and photo capabilities
• Served as a common digital classroom for students in Fiji and Chicago
Team projects

- Students in both countries concentrated on a focal taxa
- Team parrotfish, team reef shark etc.
- One group would make a video and it would be critiqued by their sister group in the other country
Initial preparation

WHYREEF
FLIP CAMERAS
Learning as an iterative process
Value of collaborators
Mentor Responsibilities

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A Special Announcement on Pollution

http://vimeo.com/27538531
This project gave students an opportunity to learn about marine conservation in a way that would not have been possible 10 years ago.
A summer internship run during 2011
Open access publishing

- Over 1500 accesses in under two months
- Bringing the data from the reef to people who live near the reef, a post-colonial approach to doing science

http://www.biomedcentral.com/1472-6785/12/15/abstract
Using cutting edge technology to inspire the next generation of marine scientists

Joshua Drew, Field Museum of Natural History Chicago

Joshua – So I was working in Fiji where we were describing new species and recognising the high levels of endemism in Fiji. And whenever we told people in the villages about that they became really excited about it, and I thought it would be great if we could work more systematically and not just do it piecemeal from village to village, but rather get it engrained into the education system.

And so, I wanted to work with high schoolers in Fiji to teach them from the very beginning, you know 14-15 years old, about how special their marine resources are and how they’re the stewards of those endemic species, that they’re the people who are responsible for the health of the entire world’s population of these species.

And that’s a pretty big responsibility but it’s also a big source of pride. We have the phrase Na ika kai viti, the ‘Fijian Fish’.
So what can you do?

- If you are local do outreach local
- Work with high schools
- Work to underrepresented undergrads
- Involve in sampling, data analysis, be specific about how you will bring them in
If not local

- If you have the ability bring students with you
- Work with local schools and organizations
  - Give lectures at local uni/church/community group
- Bring students out sampling
Not just schools

- Science Communication is a underutilized outlet
- TedEd talks are great avenues for outreach
Think about how your science can be used to tell a story