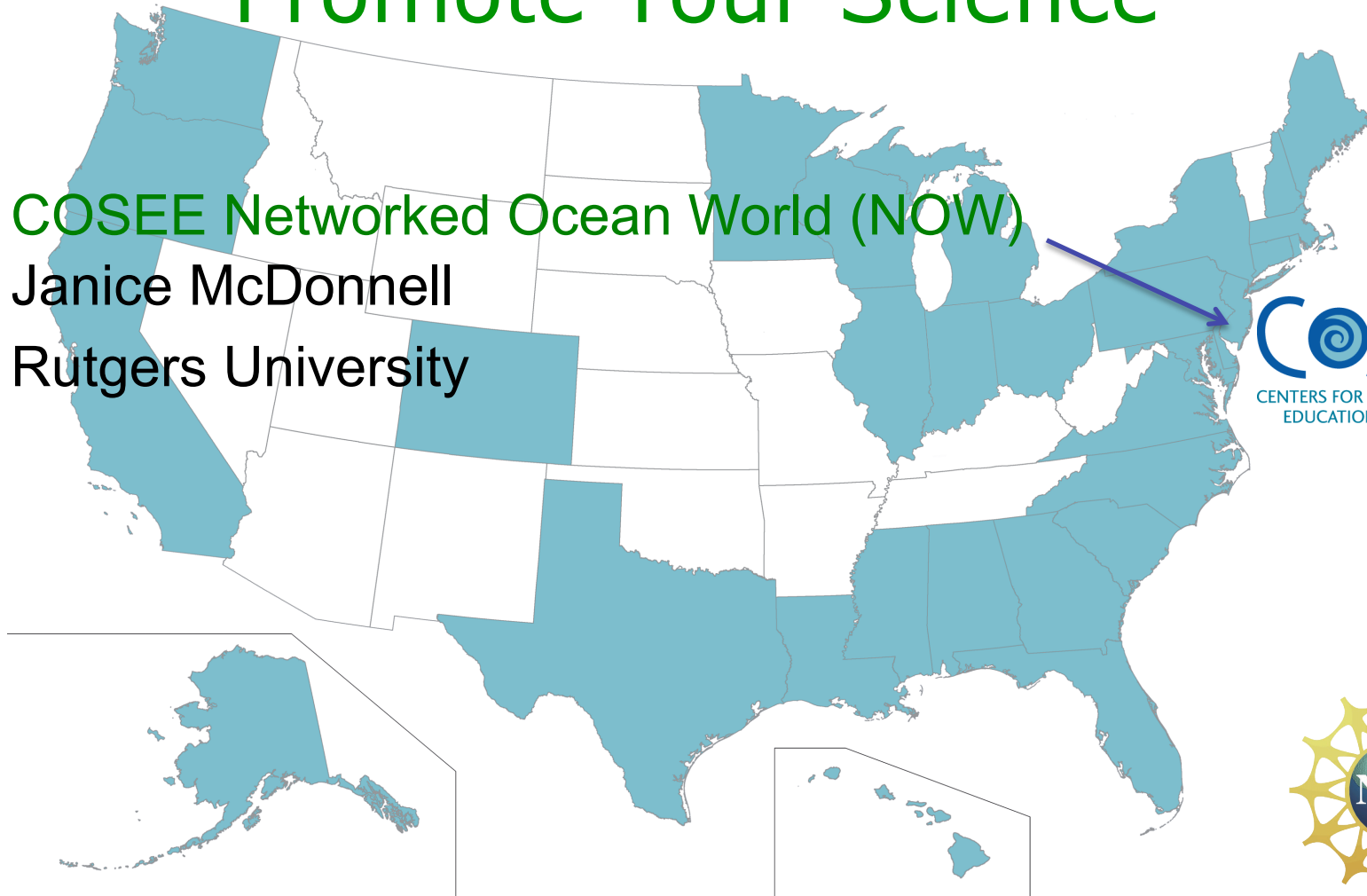


Using Social Networking to Promote Your Science

COSEE Networked Ocean World (NOW)

Janice McDonnell

Rutgers University



COSEE
CENTERS FOR OCEAN SCIENCES
EDUCATION EXCELLENCE



COSEE NOW: Fostering Collaboration

• COSEENOW.net

• Scientists



• Educators

1. Foster a Community
2. Provide Professional Development
3. Facilitate Resource Development

Social Media



...is becoming just plain media

Many Uses of Social Media



How many of us use social media?

A. Twitter

B. Facebook

C. LinkedIn

D. YouTube

E. I use none of this

Write below with the text tool something you use not listed.

Types of Social Media

facebook.

As of 2012:

901 million

Active users



1 in every **13**
people on Earth

The **18-24 demographic**
grew the fastest:

74% in 2010-11

The **35+** demographic now represents more than 30% of the entire userbase



twitter

There are

106 million

accounts on Twitter

Every day

300,000

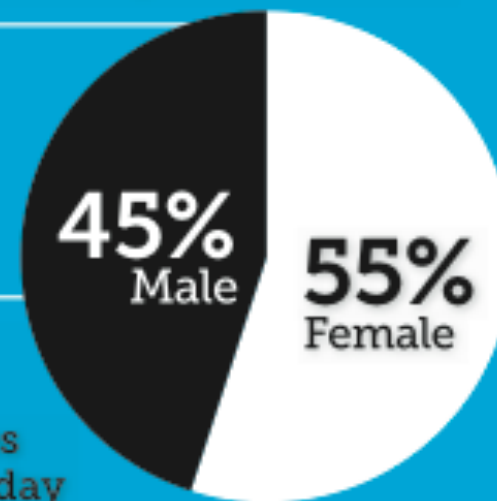
users join Twitter

55 million

tweets are published every day

Twitter's search engine gets

600 million queries every day





Every day YouTube exceeds

2 billion views

The average person spends

15 minutes a day

on the site

Linked in

There are

100 million

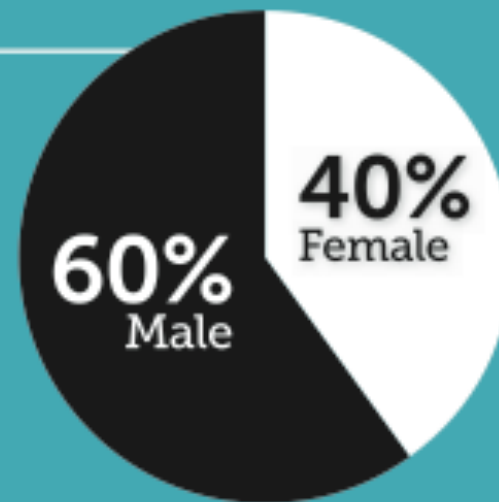
active LinkedIn users

A new member joins

**every
second**

The average age is

25-45



Reasons you might be motivated to use social media in science

- A. Personal branding
- B. Help increase public understanding of science
- C. Help me network with other scientists
- D. Amplify my NSF Broader Impacts

Why Person Branding?

Paul Knoepfler wrote in a comment for NatureNews:

“Savvy scientists must increasingly engage with blogs and social media... Even if you choose not to blog, you can certainly expect your papers and ideas will increasingly be blogged about. So there it is – blog or be blogged.”



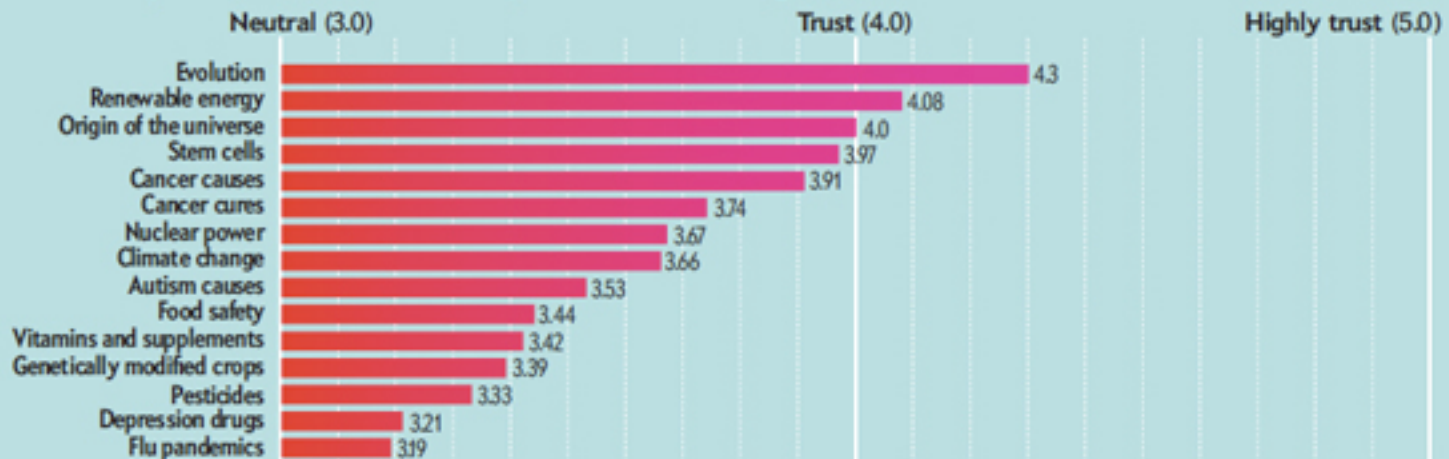
The screenshot shows the Nature website's navigation bar with the logo "nature" and the tagline "International weekly journal of science". The navigation menu includes "Home", "News & Comment", "Research", "Careers & Jobs", "Current Issue", "Archive", "Audio & Video", and "For". Below the navigation bar, the "News & Comment" section is highlighted, with sub-links for "News archive", "Specials", "Comment", "Features", and "News Blog". The main content area displays a "NEWS & COMMENT" header with a pagination control showing pages 1 through 8. The featured article is titled "Cholera vaccine deployed to control African outbreak" and includes a sub-headline: "Patients in Guinea are first in Africa to be given oral vaccination during an epidemic." The article text states: "For the first time, health officials in West Africa have begun a vacci...". A photo credit "ANDRE KOSTERS/EPA/CORBIS" is visible at the bottom of the image. A "Add comment" link is located at the bottom right of the article preview.

Public Understanding: It's about trust.

Whom do you typically trust to provide accurate information about important issues in society?



How much do you trust what scientists say about the following topics?



Interface between Science and Society

Scientists need to:

- Use new models of engagement with audiences
- frame science in ways that is more meaningful to your audiences
- Use new communication tools
- Reach large and diverse target groups

Networking: Building a Tribe



Gain access to the most precious resource on the planet: *other people's attention*

Broader Impacts and Social Media

Share useful information

ROSS SEA CONNECTION
Connecting classrooms with research in the Ross Sea

ABOUT THE EXPEDITION | ARCHIVE | EXPEDITION MAP | LIVE CALLS | EMAIL | POSTS

Daily Journals by Hugh and Chris | **For Teachers** Teacher Resources | **Glider Updates** Pre-cruise science | **Mission Extras** Info and interviews | **Multimedia** Photos, Video, and Audio

Archive | Daily Journals [RSS feed for this section](#)

Homecoming for Glider RU26
FEBRUARY 5, 2011 | 5 COMMENTS

Late yesterday evening we recovered glider RU26, which had been cruising the waters of the Ross Sea since December 11. After 55 days, RU26 had traveled 732 miles, made 2,187 dives, and come within 2 miles of crossing the International Dateline and becoming a Golden Dragon like the rest of us (see yesterday's post). But [...]

[Read more](#)

Daily Journals
Eli Hunter, featured, Filipa Carvalho, gliders, Jeremy Lucke, Josh Kohut, RU26

Attention All Scoundrels and Pollywogs
FEBRUARY 4, 2011 | 12 COMMENTS

Yesterday I got an e-mail entitled 'ATTENTION ALL SCOUNDRELS AND POLLYWOGS.' As I read it, I realized I was being summoned before King Neptune's Court. I had never crossed the International Dateline before this trip, and so in the eyes of Neptune I was a pollywog—an insignificant landlubber with no business being at sea. I [...]

[Read more](#)

Daily Journals
Adam Kustka, Ashley New, Bill Jirsa, Chris Measures, Eli Hunter, foosball, Julius Busecke, Karen Selph, Katie Watkins-Brandt, King Neptune, knitting,

Follow Along! [f](#) [t](#) [r](#) [y](#)

Map
View the Full Expedition Map

POPULAR LATEST

COMMENTS TAGS

- Plants That Eat Food JANUARY 30, 2011
- Where Biology and Chemistry Meet JANUARY 27, 2011
- Time-Lapse Tour of the Ship JANUARY 31, 2011
- Antarctica by Redeye JANUARY 18, 2011

What are your barriers to social networking for your science?

1. Time
2. Money
3. I don't want to become a public target for discourse
4. The public will not understand my science or be interested anyway

Work as a Laboratory Team

- Twitter

The image shows a screenshot of a Twitter interface. In the background, the profile of **janicemcdonnell** (@janicemcdonnell) is visible, with the bio "Ocean educator" and a link to "http://coseenow.net".

Two profile pop-ups are overlaid on the screen:

- NASA @NASA**:
 - Profile picture: NASA logo
 - Verified account: ✓
 - Bio: "News from NASA. | We typically post in Eastern Time (ET). To convert to UT/GMT, add 5 hours (4 hours during Daylight Saving Time). <http://www.nasa.gov>"
 - Followed by: Project Kaisei and COSEE.
 - Stats: 20,730 TWEETS, 174 FOLLOWING, 2,344,290 FOLLOWERS
 - Buttons: Follow, Go to full profile →
 - Recent tweets:
 - 18h: "Great conversations start with great questions – do you have a question about the future of Mars exploration? go.nasa.gov/MNfDqG"
 - 9 Jun: "Interested in the future of Mars exploration? Join the conversation with NASA on future planning efforts: go.nasa.gov/MNfDqG"
 - 8 Jun: "@capricorn1860 Commercial space is part of the equation for the future of human spaceflight: http://www.nasa.gov/externalflash/human_space/"
- Scarlet @RU27**:
 - Profile picture: Scarlet's profile picture
 - Bio: "Follow me as I attempt to cross the Atlantic Ocean! New Brunswick, NJ · <http://rucool.marine.rutgers.edu/atlantic/>"
 - Followed by: S Lichtenwalner.
 - Stats: 930 TWEETS, 26 FOLLOWING, 225 FOLLOWERS
 - Buttons: Following, Go to full profile →
 - Recent tweets:
 - 30 May: "Barnacle Analysis i-cool.org/?p=11984"
 - 24 May: "A bit of good news, just in time for the start of the summer season! fb.me/13iQ3eVNg"
 - 23 May: "Quite a Day Indeed i-cool.org/?p=11955"



Nisbet 2012 – Deficit Model

Table 1. A comparison of selected aspects of the deficit and public engagement models

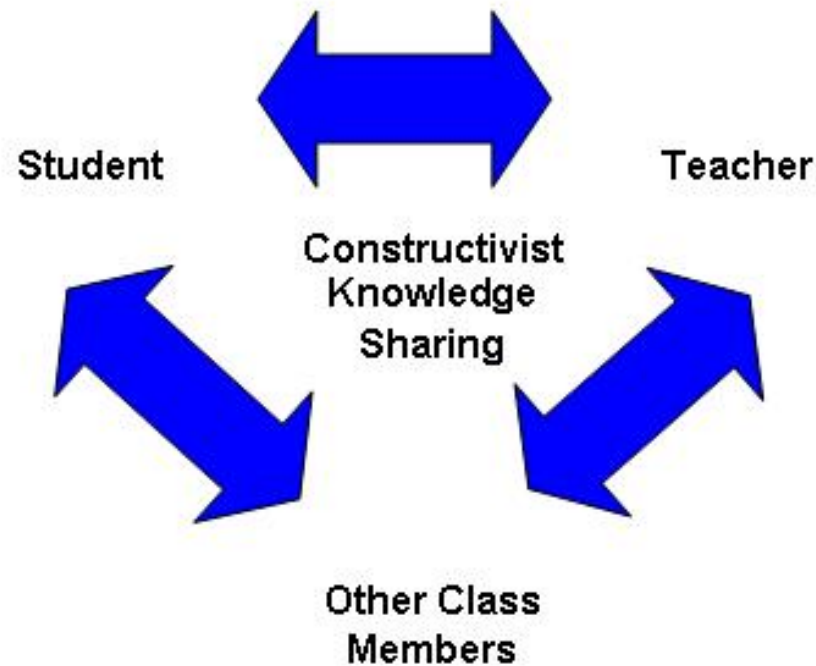
Aspect	Deficit model	Public engagement model
Major influence(s) on public beliefs and decisions	Science literacy or the lack thereof	Values, trust, identity, and social networks
Proposed solution to societal inaction	To improve science literacy (ie to fill in the "deficit" in the public's technical understanding of an environmental problem)	To connect an environmental problem to public values while building trust and empowering public participation
Communication is a process of...	...transmission, which means "popularizing" and "simplifying" technical information that flows from experts to the public	...dialogue and the two-way exchange of perspectives; both the public and experts learn from this process
The definition of "reaching the public"	Increasing the amount and technical accuracy of science news coverage, focusing on traditional outlets such as the newspaper science beat, popular science magazines and books, or public television programming	Reframing a complex issue around relevant and familiar dimensions; engaging in local community forums and dialogue; partnering with opinion leaders and other societal groups; and complementing traditional science coverage with novel entertainment genres and social-media initiatives
Scientists and their organizations...	...are under attack in society; any communication failures are blamed on public ignorance, the media, or "politicization" and "anti-science"	...hold almost unrivaled trust, authority, and respect in society; scientists need to use this communication capital effectively and wisely, otherwise scientists share some of the blame for communication failures
The ultimate goal	To improve science literacy – once the public is brought up to speed on the science, they will view issues and decisions as scientists do, controversies will go away, and progress will occur in dealing with environmental problems	To motivate, enable, and empower the public to make decisions about environmental problems – yet, no matter how accurately communicated and understood the science, public decisions cannot be separated from values, political context, and necessary tradeoffs between costs, benefits, and risks



A Main Goal of Constructivist Teaching:

- To cause a shift in the conceptual

f



Strategies for Addressing Preconceptions

1. Find out what learners already think, elicit their prior ideas.
2. Provide multiple opportunities for meaningful conceptual learning. Focus on reasoning, comprehension, and depth.
3. Set up learning situations and/or discrepant events where learners have to grapple with conflicting ideas and alternate conceptions. Facilitate open debate.

Tips for Addressing Preconceptions

- Be flexible—adapt your instructional materials to be relevant and responsive to learner needs.
- Use real-world investigations and materials. Use models, but be aware of and discuss their limitations.
- Give learners ample chance to think, re-think, discuss, reflect, and apply their ideas to new situations. It takes time to construct new concepts.

Terms that have different meanings for scientists and the public

Scientific term	Public meaning	Better choice
enhance	improve	intensify, increase
aerosol	spray can	tiny atmospheric particle
positive trend	good trend	upward trend
positive feedback	good response, praise	vicious cycle, self-reinforcing cycle
theory	hunch, speculation	scientific understanding
uncertainty	ignorance	range
error	mistake, wrong, incorrect	difference from exact true number
bias	distortion, political motive	offset from an observation
sign	indication, astrological sign	plus or minus sign
values	ethics, monetary value	numbers, quantity
manipulation	illicit tampering	scientific data processing
scheme	devious plot	systematic plan
anomaly	abnormal occurrence	change from long-term average

Use Social Networks to...

The screenshot shows the COSEE Networked Ocean World website. At the top, there are links for "COSEE NOW", "Log In", "Sign Up", and "Visit". The main header features the COSEE logo (Centers for Ocean Sciences Education Excellence) and the title "Networked Ocean World" with the tagline "Linking ocean scientists and educators in the real and virtual world". A navigation menu includes "Home", "Activity", "Members", "Groups", "Forums", "Blogs", "About NOW", "Resources", "Training and Events", and "Contact".

The main content area is divided into three columns:

- Left Column:** A large image of the ship "Nathaniel B. Palmer" with the text "ROSS SEA CONNECTION BLOG". Below the image, it says "View the amazing photos and stories as scientists aboard the Nathaniel B. Palmer explore the ecosystem of the coast of Antarctica." There are navigation arrows and page numbers (01, 02, 03, 04, 05).
- Middle Column:** A "Ocean Gazing podcast" section with the tagline "The poetry of our planet!". It lists "12/31", "Slick of oil 12/17", and "Clams in a jam 11/26". At the bottom are social media icons for Facebook, RSS, and a lightbulb.
- Right Column:** A login section with the text "To start connecting please log in first. You can also [create an account.](#)". It includes input fields for "Username" and "Password", a "Remember Me" checkbox, and a "Log In" button. Below this is a "Site Contents" section with links for "Education Materials (23)" and "Events (18)".

At the bottom, there are two sections: "Latest Posts" and "New Resources".

- Latest Posts:** A post titled "Move It Or Lose It – Fish Migration Game" by a user with a profile picture, dated "1 month, 2 weeks ago".
- New Resources:** A resource titled "Move It Or Lose It – Fish Migration Game" with a blue fish icon, dated "April 29th, 2011".

Provide Support for Learning

GrOE

Wall

Info

Photos

Discussions

About

GrOE is sponsored by COSEE OCEAN.

95

people like this

Likes



Cosee Florida

Graduate students for Ocean Education (GrOE)

Like

Education · Boston, Massachusetts



Wall

Graduate students for Oce... · Top Posts ▾

GrOE

Graduate students for Ocean Education (GrOE)

The National Science Foundation (NSF) will be holding a workshop, "Science: Becoming the Messenger" on July 21, 2011, at Clayton Hall on the University of Delaware campus for principal investigators, early career researchers and engineers, graduate students and postdocs from institutions and universities in Delaware who would like to learn to communicate effectively to a broad audience.

WT.mc_id=USNSF_13



[nsf.gov](http://www.nsf.gov) – National Science Foundation (NSF) Events
– Science: Becoming the Messenger – US National
S
www.nsf.gov

July 21, 2011 7:30 AM to July 21, 2011 6:00 PM

June 9 at 9:58am · Like · Comment

...help the development of communities of practice within organizations or professions.



...help you engaging with others

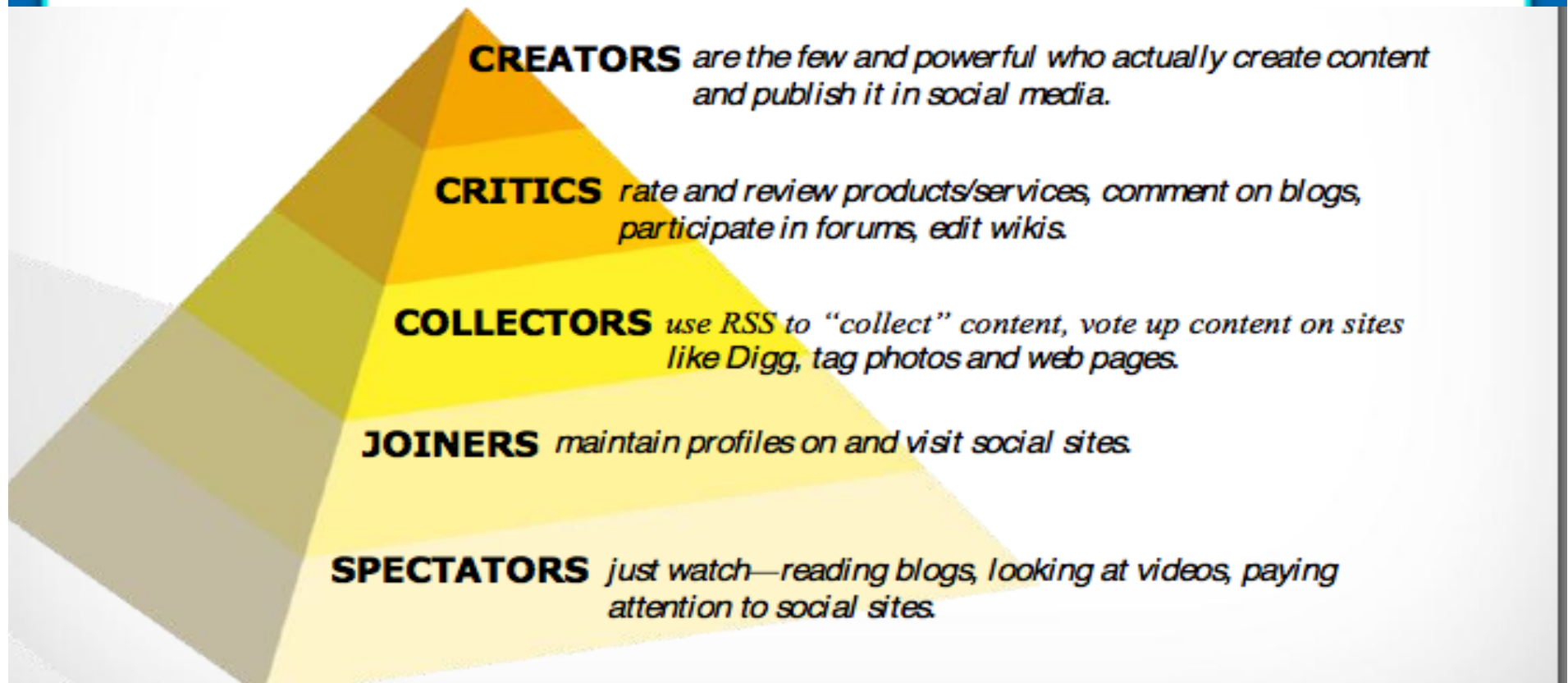
Characteristics of a Social Network

- All Networks have a Common interface which span work/social boundaries.



- Ease of access to information and applications.

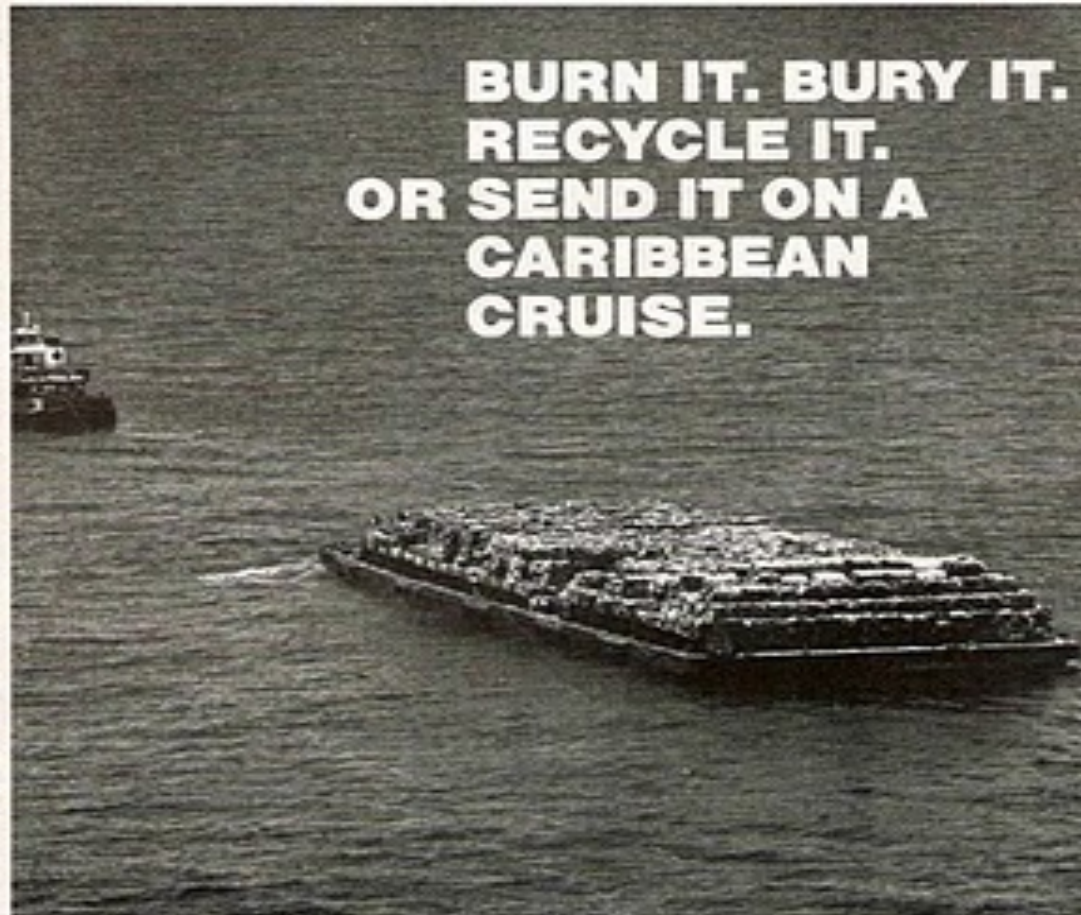
Know Your Audience and What You Want to Accomplish



•<http://noteandpoint.com/documents/pdf/story-socialmedia-ebook2.pdf>

Why Tell Stories?

Stories bring the invisible and abstract to life.



The significance of Mobra 4000's journey was not lost on industry. This full page advertisement in the Wall Street Journal was sponsored by The Steamfitters Industry Promotion Fund.

Sharing of Ideas Depends on Stories

T M I: TOO MUCH INFORMATION

Successful Stories...

- are small enough to be easily digested,
- simple enough to be told and re-told,
- sufficiently clear and compelling enough to that they succeed in illuminating larger issues.



While this process is not easy, it is *easier* than ever before.



With the right leadership and use of social media tools, virtually anyone can build a platform today.

Thank You

Janice McDonnell

Rutgers University

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Phone: 848 932 3285