Course Approval Form

For instructions see:
http://registrar.gmu.edu/facultystaff/catalog-revisions/course/

Action Requested:

[x] Create new course [ ] Inactivate existing course
[ ] Modify existing course (check all that apply)
[ ] Title [ ] Credits [ ] Repeat Status [ ] Grade Type
[ ] Prereq/coreq [ ] Schedule Type [ ] Restrictions
[ ] Other:

Course Level:

[ ] Undergraduate
[x] Graduate

College/School: COS
Department: Environmental Science & Policy
Submitted by: ECM Parsons
Ext:
Email: ecm-parsons@earthlink.net

Subject Code: EVPP **Number:** 529
(Do not list multiple codes or numbers. Each course proposal must have a separate form.)

Effective Term: [ ] Fall [x] Spring [ ] Summer *Year* 2016

Title:
Current
Banner (30 characters max w/ spaces): Env. & Cons. Sci. Comm. Tech.
New: Environmental & Conservation Science Communication Techniques

Fulfills Mason Core Req? (undergrad only)
[ ] Currently fulfills requirement
[ ] Submission in progress

Credits: (check one) [x] Fixed 3 or [ ] Variable to

Repeat Status: (check one) [x] Not Repeatable (NR) [ ] Repeatable within degree (RD) [ ] Repeatable within term (RT)
Maximum credits allowed: 3

Grade Mode: (check one) [x] Regular (A, B, C, etc.) [ ] Satisfactory/No Credit [ ] Special (A, B C, etc. +IP)

Schedule Type: (check one) LEC can include LAB or RCT
[x] Lecture (LEC) [ ] Lab (LAB) [ ] Recitation (RCT) [ ] Internship (INT)
[ ] Independent Study (IND) [ ] Seminar (SEM) [ ] Studio (STU)

Prerequisite(s):

Corequisite(s):

Instructional Mode:
[x] 100% face-to-face
[ ] Hybrid: ≤ 50% electronically delivered
[ ] 100% electronically delivered

Restrictions Enforced by System: Major, College, Degree, Program, etc. (include code)

Equivalencies: (check only as applicable)
[x] YES, course is 100% equivalent to: EVPP 429
[ ] YES, course is being renumbered to/will replace the following:

Catalog Copy for NEW Courses Only (Consult University Catalog for models)

Description (No more than 60 words, use verb phrases and present tense)	**Notes** (List additional information for the course)
Communicating environmental and conservation science is inherently challenging. The aim of this course is to expose students to the multiple ways environmental science and conservation issues can be communicated. Such exposure will be made both through a theoretical approach (science communication literature), as well as through hands-on activities and assignments.	

Indicate number of contact hours: Hours of Lecture or Seminar per week: 3 Hours of Lab or Studio:
When Offered: (check all that apply) [ ] Fall [ ] Summer [x] Spring

Approval Signatures

Department Approval Date
College/School Approval Date

If this course includes subject matter currently dealt with by any other units, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date

For Graduate Courses Only

Graduate Council Member
Provost Office
Graduate Council Approval Date

For Registrar Office's Use Only: Banner_____Catalog_____

revised 6/22/15

Course Proposal Submitted to the College of Science Curriculum Committee (COSCC)

The form above is processed by the Office of the University Registrar. This second page is for the COSCC's reference. Please complete the applicable portions of this page to clearly communicate what the form above is requesting.

FOR ALL COURSES (required)

Course Number and Title: EVPP 529 Environmental Science Communication

Date of Departmental Approval:

FOR NEW COURSES (required if creating a new course)

- Reason for the New Course: There is an environmental science communication crisis. One can simply see this in policy makers and the general public by the proportion that deny the existence of climate change. This course provides students taking a graduate degree (MS or PhD) in environmental science and policy with the theoretical and practical knowledge to better communicate environmental science to target audiences whether these audiences are academics, policy makers or members of the general public.

- Relationship to Existing Programs: This course fits into the MS and PhD in environmental science and policy and The course also fits well as an elective for the upcoming science communications graduate certificate.

- Relationship to Existing Courses: There are several courses on science communication that are complimentary to this class (e.g. COMM 639 Science communication and COMM 642 Science and the public) but there is minimal overlap in the content and this course has a unique concentration on conservation issues and the science communication class is aimed at physics/chemistry/engineering students rather than environmental students. There has been a recent COMM special topics class "Environmental Communication" (COMM 433) which again is complimentary to this class as it covers different environmental issues and is more theoretical, whereas this class has various activities and applied projects.

- The course is crosslisted with EVPP 429 (environmental science communication) and although both seniors and graduate students partake identical lectures and assignments, graduate students will be graded under a different rubric, level and standard to undergraduate students. Moreover allocation of points for assignments are different for graduate students and there is an additional, substantive, graduate assignment.

- Semester of Initial Offering: Spring 2016

- Proposed Instructors: Chris Parsons & Jenell Walsh-Thomas

- Insert Tentative Syllabus Below (see attached)

EVPP 429 / 529 Environmental Science Communication
Spring {Year}
{Date} 4:30 to 7:10PM
{Location}

Instructors:

Chris Parsons
Dept. of Environmental Science & Policy
David King Hall 3033
ecm-parsons@earthlink.net

Jenell M. Walsh-Thomas
Dept. of Environmental Science & Policy /
Center for Climate Change Communication
Research Hall 256C
jwalshth@masonlive.gmu.edu

Objectives:

Communicating science is inherently challenging whether it is in academia (peer-reviewed journals, in the classroom, conferences, etc.), in the public policy realm, or to the general publics. Such challenges make it all the more important to examine the current state of science communication and the many avenues that are available for such communication. Additionally, encouraging both professional and budding scientists alike to actively explore the opportunities and issues of communicating scientific work is imperative. The aim of this course will be to expose undergraduate students to the multiple ways environmental science can be communicated. Such exposure will be made both through a theoretical approach by examining available and relevant science communication literature, as well as through practical, hands-on activities and assignments. Components that will be included to make the course well rounded are: academic literature, "learning by doing" activities, and a final project. This course will incorporate student-led presentations, hands-on projects, discussions and participant critiques.

Structure:

Theoretical and practical frameworks will be covered. Course content and discussions will be centered on:

- The role communication plays in disseminating scientific information and knowledge (what is expert vs. lay knowledge)
- Understanding how communicated information is processed (experiential vs. analytical)
- How to use communication techniques which insure the information is well received
- Identify, compare, and contrast communication strategies to engage with the public about science and decision making
- How informed decision making is promoted through literacy, education, and citizen science
- How different channels facilitate engagement and communication

- Using communication and engagement to affect policy change pertaining to environmental issues (and other areas of science such as health, technology and risk assessment)
- What best practices are suggested, can be leveraged, or are used for communicating with different audiences (scientist to scientist, scientist to public, public to scientist)
- Case studies, which will be shared to provide examples of public engagement and communication
- Message creation: simple, clear messages repeated often by a variety of trusted sources
- Practice, practice, practice! Improving environmental science communication takes a lot of practice and refinement. Readings and theories will be applied to real-world communication scenarios

Class crosslisting

The undergraduate class EVPP 429 and the graduate class EVPP 529 co-meet. Although the courses have largely the same lecture material, undergraduate students and graduate students are graded separately to a different rubric and standard. Some assignments have different contributions to the final grade depending on whether students are undergraduates or graduate students. Moreover, graduate students have an additional assignment.

Topics:.

- Peer-to-peer communication
- Norms of science
- Science & politics
- Science & the media
- Science & the public
- Specific environmental science issues:
    - Climate change
    - Fracking
    - Sustainability
    - Biodiversity
    - Pollution (air, soil, water quality)
    - Energy (renewable/nonrenewable)
    - Environmental education

Assignments (in & out of class):

- 5% - Elevator speech
- 10% - Press release on an environmental science issue
- Undergraduate 10% ; Graduate 5% - Letter to the editor
- Undergraduate 10% ; Graduate 5% - Interview
- 10% - Environmental science outreach materials
- 5% - Social media: Twitter, Facebook micro-blog post on
- Undergraduate 20% (10% each) ; Graduate 10% (5% each)- Two Reflection papers

    - Only 1 can be on a selected documentary
    - 2 - 3 pages in length for undergraduate students; 3-4 pages for graduate students
- Undergraduate 30% ; Graduate 25% - Final presentation
    - Using the principles from *Made to Stick* and referencing other literature, design and articulate an informational campaign for an environmental issue of student's choice (*depending on class size, possibly complete in pairs*)

Graduate students have an additional science-writing assignment:

- Graduate 20% (10% each) - Write two articles on environmental science topics in the format of a well-known science blog (e.g. Southern Fried Science) or science magazine format (e.g. Nature News, Conservation Magazine or The Washington Post Science & Health section) (1000-1500 words each). One of the articles can be on the preliminary results of the student's graduate research, but this is not required.

Required Textbook & Readings:

Heath, C., & Heath, D. (2008). *Made to stick: why some ideas survive and others die*. New York: Random House.

We will supplement these readings with journal articles (to be posted on Blackboard), DVD videos, and other media. All required journal articles, etc. are listed in the course schedule.

Suggested/Optional Literature:

- Books

Baron, N. (2010). *Escape from the Ivory Tower: A Guide to Making Your Science matter*. Washington: Island Press.

Dean, C. (2009). Am I Making Myself Clear? A Scientist's Guide to Talking to the Public (1st edition.). Harvard University Press.

Olson, R. (2009). *Don't Be Such a Scientist: Talking Substance in an Age of Style*. Washington, DC: Island Press.

- Peer reviewed literature – see list at the end of the syllabus (**potentially helpful for citations in final project**)

Suggested Content to Review throughout the Semester:

****Some content that is presented in the following blogs may help you with ideas for the final project.**

- Blogs
    - http://www.scilogs.com/communication_breakdown/env-sci-media-paper-2013/
    - http://www.newyorker.com/online/blogs/elements/2014/01/the-six-things-that-make-stories-go-viral-will-amaze-and-maybe-infuriate-

you.html?utm_source=tny&utm_campaign=generalsocial&utm_medium=facebook

- Radio/Podcasts (i.e. Science Friday, StartTalk Radio, Science Magazine)

Course Schedule:

Week	Topic(s)	Readings (& other media) for Discussion	Assignments Due & Optional Reading
Week 1 **1/20**	***Topic 1:*** *Introduction & Course Overview* ➢ Brainstorm: What do you know about (a) environmental issues and (b) how are they communicated? ➢ Science communication Science communication overview ***Topic 2:*** *Role of Scientists in Science Communication* ➢ Introduction to science communication (continued) ➢ Norms of Science ➢ Primary literature ➢ Deficit model	Wikipedia - Norms of Science – the "Mertonian" approach Mitroff, I. (1974). Norms and Counter-Norms in a Select Group of the Apollo Moon Scientists: A Case Study of the Ambivalence of Scientists. *American Sociological Review*, *39*, 579-595. Sturgis, P., & Allum, N. (2004). Science in Society: Re-evaluating the Deficit Model of Public Attitudes. *Public Understanding of Science, 13,* 55-74. **Should the "adapted" H1N1 Flu Genome be Published? A Case Study in Norms of Science** ** Case studies on how scientists (should) communicate science: Climategate and natural gas drilling Parsons (2013) So you want to be a Jedi. Journal of Environmental Studies & Sciences.	
Week 2 **1/27**	***Topic 3:*** *Media Portrayal of Science* ➢ Journalistic norms ➢ False balance ➢ Obligations of scientists Guest speaker: Samantha Oester (environmental/science communication from a journalism perspective (?) ~20 min talk, ~10 min Q&A? ***Topic 4:*** *Mediums of Communication* ➢ TV/Radio/Film/Documentary	We Speak For The Trees – Media Reporting On The Environment Boykoff, Maxwell T., and Jules M. Boykoff. "Climate change and journalistic norms: A case-study of US mass-media coverage." *Geoforum* (2010). Web. 24 Mar. 2010. McComas, K., Shanahan, J., & Butler, J. (2001). Environmental content in prime-time network TV's non news entertainment and fictional programs. Society and	***DUE:*** **Elevator speeches** Boykoff, M.T., & Boykoff, J.M. (2004). Balances as bias: Global warming and the US prestige press. Global Environmental Change, 14, 125-136. Holbert, R.L., Kwak, N., & Shah, D.V. (2003). Environmental concern, patterns of television viewing, and pro-environmental behaviors: Integrating models of media consumption and effects. Journal of Broadcast & Electronic Media, 47(2),177-196

	➢ Print media ➢ Social media & Online	Natural Resources, 14, 533-542.	
Week 3 **2/3**	***Topic 5:*** *Strategic Communication Planning Process* "Simple, clear messages repeated often by a variety of trusted sources." ***Topic 6:*** *Strategic Communication Planning Process*	*Made to Stick*: Intro Abroms, L. C., & Maibach, E. W. (2008). The effectiveness of mass communication to change public behavior. *Annu. Rev. Public Health*, *29*, 219-234. *Made to Stick*: Chapter 1 Maibach E, Roser-Renouf C, Leiserowitz A. (2008) Communication and Marketing as Climate Change Intervention Assets. Pidgeon & Fischhoff (2011) The role of social and decision sciences in communicating uncertain climate risks. Nature Climate Change	***Discuss Final Projects & Paper Assignment*** McKechnie, A. (2013). *Not Just the Koch Brothers: New Drexel Study Reveals Funders Behind the Climate Change Denial Effort*. http://drexel.edu/now/news-media/releases/archive/2013/December/Climate-Change/ Bales (2004) Communications for Social Good
Week 4 **2/10**	***Topic 7:*** *Media Portrayal of Environmental Science* ➢ "Climategate" ➢ BP oil spill ***Topic 8:*** *Media Portrayal of Environmental Science* ➢ Popularization of science o The Day After Tomorrow o Promised Land o Discovery's "Shark Week" o Documentaries *Discuss – Press release, newspaper, or*	Climategate, Public Opinion, and the Loss of Trust http://environment.yale.edu/climate-communication/article/climategate-public-opinion-and-the-loss-of-trust Muralidharan, S. et al. (2011) The Gulf Coast oil spill: Extending the theory of image restoration discourse to the realm of social media and beyond petroleum Hart, P. S. & Leiserowitz, A. (2009, in press). Finding the teachable moment: An analysis of information-seeking behavior on global warming related websites during the release of The Day After Tomorrow. Environmental Communication: A journal of Nature and Culture, 3(3), 355-366 O'Bryhim, J. and Parsons, E.C.M. (2015). Increased	***DUE:*** **Reflection Paper #1 (choose 1 paper from weeks 1-3)**

	magazine article assignment	knowledge about sharks increases public concern about their conservation. Marine Policy 56: 43-47. Thaler, A. and Shiffman, D. (2015) Fish tales: combating fake science in popular media. Ocean and Coastal Management 115: 88-91.	
Week 5 **2/17**	***Topic 9:*** *Strategic Communication Planning Process* ***Topic 10:*** *Public Understanding/Perception of Science, Public Participation, & Attitudes* *Discuss – Letter to the editor assignment*	*Made to Stick*: Chapter 2 USGCRP (2013) 3rd National Climate Assessment: Cover Letter + Executive Summary Rowe, G., & Frewer, L. J. (2000). Public participation methods: A framework for evaluation. *Science, Technology & Human Values, 25*, 3-29. Pidgeon, N., & Demski, C. C. (2012). From nuclear to renewable: Energy system transformation and public attitudes. *Bulletin of the Atomic Scientists, 68*, 41-51. Rose, N.A. & Parsons, E.C.M. (2015). "Back off, man, I'm a scientist!" When marine conservation science meets policy. *Ocean & Coastal Management,* 115, 71-76. Research presentation: public perception of marine conservation in Scotland	***DUE:*** **Environmental science press release** Kurath, M., & Gisler, P. (2009). Informing, involving, or engaging? Science communication, in the ages of atom, bio, and nanotechnology. *Public Understanding of Sciences, 18,* 559-573. National Science Board. (2010). Science and Technology: Public Attitudes and Understanding. In *Science & Engineering Indicators—2010.* Washington, D.C.: U.S. Government Printing Office. (This URL is a ~2 page summary. Feel free to browse any other part of the full report). Devine-Wright, P. (2005). Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy. *Wind Energy, 8*, 125-139. Doran (2009) Scientific consensus on climate change. Eos.
Week 6 **2/24**	***Topic 11:*** *Strategic Communication Planning Process* ***Topic 12:*** *Communicating scientific*	*Made to Stick*: Chapter 3 Abroms & Maibach (2008) The effectiveness of mass communication to change population behavior. Zehr, S. C. (2000). Public representations of scientific	***DUE: Letter to the editor*** Dietz et al (2009) Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions. PNAS

	uncertainty *Discuss – Interview assignment*	uncertainty about global climate change. *Public Understanding of Science*, *9*(2), 85-103. Wardekker, J. A., van der Sluijs, J. P., Janssen, P. H., Kloprogge, P., & Petersen, A. C. (2008). Uncertainty communication in environmental assessments: views from the Dutch science-policy interface. *Environmental science & policy*, *11*(7), 627-641. Changing Planet: Past, Present, Future Lecture 4 – Climate Change: How Do We Know We're Not Wrong? by Naomi Oreskes, Ph.D. http://media.hhmi.org/hl/12Lect4.html	Friedman, S. M., Dunwoody, S., & Rogers, C. L. (Eds.). (1999). *Communicating uncertainty: Media coverage of new and controversial science*. Routledge. Kriebel, D., Tickner, J., Epstein, P., Lemons, J., Levins, R., Loechler, E. L., ... & Stoto, M. (2001). The precautionary principle in environmental science. *Environmental health perspectives*, *109*(9), 871.
Week 7 **3/3**	***Topic 13:*** *Strategic Communication Planning Process* ***Topic 14:*** *Politics & environmental communication* *Discuss – Final project topics* *Hot topic for discussion* *"I'm not a scientist"* *"Shirt-gate"*	*Made to Stick*: Chapter 4 Leiserowitz et al (2011) Politics and global warming: Democrats, Republicans, Independents & the Tea Party Sommerville & Hassol (2011) Communicating the science of climate change http://climatecommunication.org/wp-content/uploads/2011/10/Somerville-Hassol-Physics-Today-2011.pdf Kerr, R. A., & Kintisch, E. (2010). Climatologists feel the heat as science meets politics. *Science*, *330*(6011), 1623-1623. Parsons, E.C.M. & Wright, A.J. (2015). The good, the bad and the ugly science: examples from the marine science arena. *Frontiers in Marine Science,* **2**,33, doi: 10.3389/fmars.2015.00033	***DUE:*** **List of interview questions –interviews will be done in class** Andrews, E (2010) Implications for audience segmentation strategies. National Academies. Maibach et al. (2011) Identifying Like-Minded Audiences for Global Warming Public Engagement Campaigns. PLoS ONE. (Most current Six Americas reports can be downloaded from http://climatechange.gmu.edu) Fascione, N., & Kendrot, S.R. (2001). Facilitating citizen participation in Adirondack wolf recovery. In V.A. Shapre, B. Norton, & S. Donnelley (Eds.), *Wolves and human communities: Biology, politics and ethics* (pp. 51-60). Washington, D.C.: Island Press. Davenport, Coral. (2013). *Kerry Quietly Makes Priority of Climate Pact.* New York Times. http://www.nytimes.com/2014/01/03/world/asia/kerry-shifts-state-department-focus-to-

		Nie, M. (2002). Wolf recovery and management as value-based political conflict. *Ethics, Place, and Environment, 5,* 65-71. O'Riordan, T. (2004). Environmental science, sustainability and politics. *Transactions of the Institute of British Geographers*, *29*(2), 234-247. Wright, A.J., Parsons, E.C.M., Rose, N.A. & Witcomb-Vos, E. (2013). The science-policy disconnect: language issues at the science-policy boundary. *Environmental Practice*, 15(1), 79-83.	environment.html?a=1&m=en-us&_r=0 Nie, M.A. (2001). The sociopolitical dimensions of wolf management and restoration in the United States. *Human Ecology Review, 8*(1), 1-12.
Week 8 **3/10**	***SPRING BREAK***	***SPRING BREAK*** ➢ ***Start thinking about final project topic***	***SPRING BREAK***
Week 9 **3/17**	***Topic 15:*** *Strategic Communication Planning Process* ***Topic 16:*** *Controversial Communications: Examples & Improving Communication* ➢ ScienceOnline Program ➢ Social Media *Discuss – research poster related project topics* *Final project outline & list of at least 5 initial sources DUE Week 11*	*Made to Stick*: Chapter 5 Climate Nexus (2012) Connecting the dots Maibach, Nisbet & Weathers (2011) Conveying the human implications of climate change: A climate change communication primer for public health professionals. Anderson, A. A., Brossard, D., & Scheufele, D. A. (2012). Online Talk: How Exposure to Disagreement in Online Comments Affects Beliefs in the Promise of Controversial Science. *Citizen Voices: Performing Public Participation in Science and Environment Communication*, 119.	***DUE:*** **Final project topics** Environmental Working Group (2011) Meat eaters guide to climate change and health http://scienceonline.com/
Week	***Topic 17:*** *Strategic Communication*	*Made to Stick*: Chapter 6	***DUE: Research Poster – bring in examples (2-3)***

10 **3/24**	*Planning Process* ***Topic 18:*** *Media imagery of environmental issues* *Final project outline & list of at least 5 initial sources DUE next week* ***mermaid documentary*	Hornik & Woolf (1999) Using cross-sectional surveys to plan message strategies. Social Marketing Quarterly 10:34. Maibach, Nisbet et al (2010) Reframing climate change as a public health issue. BMC Public Health. (skim only) Feldman et al (2011) Climate on cable Hanson, A. (1991). The media and the social construction of the environment. Media, Culture,and Society, 13, 443-458. Video clip: The legacy of Rachel Carson's Silent Spring https://www.youtube.com/watch?v=hDicpd4Ry8E Parsons, E.C.M., Shiffman, D.S., Darling, E.S., Spillman, N. & Wright, A.J. (2014). How being Twitter-literate can help conservation scientists. *Conservation Biology,* 28(2), 299-301.	Wood et al. (2012) Cognitive mapping tools Micklos et al. (2011) Lessons from a science education portal. Ferraro et al. (2011) Persistence of Treatment effects Malka et al (2009) Featuring skeptics in news media stories about GW reduces public beliefs in the seriousness of GW. Hart S & Nisbet E (2011) Boomerang effects in science communication: Political partisanship, social identity and public support for climate mitigation. Communication Research Backes, D. (1995). The biosocial perspective and environmental communication research. Journal of Communication, 45(3), 147-163.
Week 11 **3/31**	***Topic 19:*** *Media imagery of environmental issues* ***Topic 20:*** *Discussion about final project topics* *Social media – Twitter, Facebook*	Holbert, R.L., Kwak, N., & Shah, D.V. (2003). Environmental concern, patterns of television viewing, and pro-environmental behaviors: Integrating models of media consumption and effects. Journal of Broadcast & Electronic Media, 47(2),177-196 McComas, K., Shanahan, J., & Butler, J. (2001). Environmental content in prime-time network TV's non news entertainment and fictional programs. Society and Natural Resources, 14, 533-	***DUE: Final project topics, outline & initial sources*** Downs, A. (1972). Up and down with ecology – the "issue-attention" cycle. Public Interest, 28, 38-51. McComas, K.A., & Shanahan, J. (1999). Telling stories about global climate change: Measuring the impact of narratives on issue cycles. Communication Research, 26(1), 30-57.

		542.	
Week 12 **4/7**	***Topic 21:*** *Environmental problems & risk* ***Topic 22:*** *Guest Speaker* – Topic: Fracking (Dr. Chris Clarke, Dept. of Communication)	Clarke, C.E., Boudet, H.S., & Bugden, D. (2013) Fracking in the American Mind: Americans' Views on Hydraulic Fracturing in September, 2012. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication. http://www.climatechangecommunication.org/reports ** UK podcast on fracking	***DUE: Tweets & Facebook posts*** Besley, J., & Shanahan, J. (2004). Skepticism about media effects concerning the environment: Examining Lomborg's hypotheses. Society and Natural Resources, 17, 861-880. Scheufele, D.A., & Tewksbury, D. (2007). Framing, agenda setting, and priming: The evolution of three media effects models. Journal of Communication, 57, 9-20.
Week 13 **4/14**	***Topic 23:*** *Environmental risk communication* ***Topic 24:*** *Guest Speaker* – National Parks (Melissa Clark - graduate student in the MPA program that may be able to come in to do this guest speaker talk) **Set up times to meet with students during second half of Week 14 to discuss project progress	Chess, C., Burger, J., & McDermott, M.H. (2005). Speaking like a state: Environmental justice and fish consumption advisories. Society and Natural Resources, 18, 267-278. Schweizer, S., Thompson, J. L., Teel, T., & Bruyere, B. (2009). Strategies for communicating about climate change impacts on public lands. *Science Communication*, *31*(2), 266-274.	Jardine, C.G. (2003). Development of a public participation and communication protocol for establishing fish consumption advisories. Risk Analysis, 23(3), 461-471. John Muir, *Features of the Proposed Yosemite National Park* http://www.yosemite.ca.us/john_muir_writings/features_of_the_proposed_yosemite_national_park/
Week 14 **4/21**	***Topic 25:*** *Environmental Behavior* ➢ Psychological & sociological perspectives **Time allocated to work on assignment in class; meet with students during second half of class to discuss projects**	Bator, R.J., & Cialdini, R.B. (2000). The application of persuasion theory to the development of effective proenvironmental public service announcements. Journal of Social Issues, 56(3), 527-541. Burn (1991) Social psychology and the stimulation of recycling behaviors: The block leader approach. JASP, 21:611-29	***DUE: Reflection paper #2 (last day to turn in reflection paper 2 – can be turned in at any point between Weeks 5 – 14)*** Kaiser, F.G., Hubner, G., & Bogner, F.X. (2005). Contrasting the theory of planned behavior with the value-belief-norm model in explaining conservation behavior. Journal of Applied Social Psychology, 35(10), 2150-2170.

		**Social marketing **Cute & cuddly species names	Stern, P.C., Dietz, T., Abel, T., Guagnano, G.A., & Kalof, L. (1999). A value-belief-norm theory of support for movements: The case of environmentalism. Human Ecology Review, 6(2), 81-97.
Week 15 4/28	***Final presentations***		
	Finals week – Graduate science writing assignment DUE Tuesday, May 12, 2014 11:59PM Late assignments will not be accepted.		

Suggested Peer Reviewed Literature:

Besley, J.C., & Nisbet, M. (in press). How scientists view the public, the media, and the political process. *Public Understanding of Science* (16 pages).

Bubela. T. et al. (2009). Science communication reconsidered. *Nature Biotechnology, 27,* 514-518.

Blockstein, D. E. (2002). How to lose your political virginity while keeping your scientific credibility. BioScience, 52(1), 91–96.

Briggs, S. V. (2006). Integrating policy and science in natural resources: Why so difficult? Ecological Management and Restoration, 7(1)

Chess, C., & Purcell, K. (1999). Public participation and the environment: Do we know what works? *Environmental Science & Technology, 33*(15), 2685-2691.

Devine-Wright, P. (2005). Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy. *Wind Energy, 8,* 125-139.

Ding, D., Maibach, E. W., Zhao, X., Roser-Renouf, C., & Leiserowitz, A. (2011). Support for climate policy and societal action are linked to perceptions about scientific agreement. *Nature Climate Change, 1*(9), 462–466.

Dunwoody, S. (2008). Science journalism. In M. Bucchi & B. Trench (Eds.), *Handbook of Public Communication of Science and Technology* (pp. 15-26). London: Routledge

Feldman, L.A. et al. (2012). Climate on Cable The Nature and Impact of Global Warming Coverage on Fox News, CNN, and MSNBC. *The International Journal of Press/Politics, 17*(1), 3–31.

Fascione, N., & Kendrot, S.R. (2001). Facilitating citizen participation in Adirondack wolf recovery. In V.A. Shapre, B. Norton, & S. Donnelley (Eds.), *Wolves and human communities: Biology, politics and ethics* (pp. 51-60). Washington, D.C.: Island Press.

Foote, L., Krogman, M., & Spence, J. (2009). Should Academics Advocate on Environmental Issues? *Society and Natural Resources, 22,* 579-589

Friedman, S. (2011). Three Mile Island, Chernobyl, and Fukushima: An Analysis of Traditional and New Media Coverage of Nuclear Accidents and Radiation. *Bulletin of the Atomic Scientists 67,* 55-65.

Hart, P. S. & Leiserowitz, A. (2009). Finding the teachable moment: An analysis of information-seeking behavior on global warming related websites during the release of The Day After Tomorrow. *Environmental Communication: A Journal of Nature and Culture,* 3*(3),* 355-366.

Jacquet, J. B. (2012). Landowner attitudes toward natural gas and wind farm development in northern Pennsylvania. *Energy Policy, 50,* 677-688.

Johnson, B.B. (2012). Climate change communication: A provocative inquiry into motives,

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