

## The Kyoto Consortium for Japanese Studies (KCJS)

KCJS is an in-country program for the intensive study of Japanese language, humanities, and social sciences. Established in 1989, the thirteen institutions that govern KCJS include Boston University, Brown University, University of Chicago, Columbia University/Barnard College, Cornell University, Emory University, Harvard University, University of Pennsylvania, Princeton University, Stanford University, Washington University in St. Louis, Yale University, and University of Virginia. For more information, see [www.kcjs.jp](http://www.kcjs.jp)

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### Course Title: Environmental and Conservation Issues in Japan

Professor name: Mizuki Takahashi

Spring 2020

Meeting Time: Tuesdays & Thursdays 2:55-4:25pm

Instructor Contact: [mt027@bucknell.edu](mailto:mt027@bucknell.edu)

私は両生類の生態学、行動学、保全学を研究している生物学者です。この大きな動物は世界で最大の両生類、オオサンショウウオです。(I am a biologist who studies ecology, ethology, and conservation biology of amphibians. This large animal is one of the world largest amphibian, Japanese giant salamander, *Andrias japonicus*).



#### Textbook:

No textbook required. We will read a series of articles throughout the semester

#### Course Description:

When my grandpa was born, the world human population was less than two billion. It has rapidly grown to the current 7.7 billion. This rapid population expansion has caused an ever growing number of environmental issues. These issues not only have degraded the quality of human life but also have driven extinction of a number of wildlife populations. As a result, scientists argue that humans are causing the 6<sup>th</sup> mass extinction event, which will be the first mass extinction caused by a single species, us, in the history of Earth. Japan is one of the most populated countries in the world; yet, it had such a long history of coexisting with nature until the recent rapid economy growth, during which the country started experiencing serious environmental problems. Thus, Japan serves an excellent model to learn and analyze the global environmental issues and to think about the ways to mitigate these problems in order to live sustainably, in harmony with nature. This seminar style course also emphasizes how cultural and religious values may interact the way we treat nature. While student presentations and discussions will be an important part of the course, I will give lectures providing enough background information for student activities. In addition, several field trips are scheduled throughout the semester to learn assigned material from real life examples.

#### Course Objectives: The course aims to provide an opportunity for students to

- Learn the units and values of biodiversity
- Understand global conservation and environmental issues through Japanese examples
- Develop an understanding of how culture and religion may influence people's way to interact with nature
- Read, critique, and interpret scientific papers addressing conservation and environmental issues
- Foster their ability to present in both written and oral format.

**Professionalism:**

You are expected to attend every class and to participate in discussions, which will be evaluated as "Class Participation". Please be prepared for class discussions by carefully going over assigned readings before attending classes. Contact me when at all possible BEFORE planned absences or ASAP after illnesses. Please turn off your electronic devices (no phones, no tablets, and no laptops) during a class unless instructed otherwise. Participation points will be taken off for each violation of the rule.

**Plagiarism:**

It is academically dishonest to steal ideas, paragraphs, or sentences from existent sources and use them in your works. I, as an educator and as a scholar, take plagiarism seriously and will report any possible cases of plagiarism to the AKP program director. If you have any questions about plagiarism, please contact me before you submit papers. All submissions will be done through Moodle unless instructed otherwise.

**Late Submission Policy:**

5% point reduction per day for late submission unless you have a legitimate reason.

**Explore Japanese Nature (自然探索) :**

Every class unless a field trip is planned, I will ask 2 or 3 of you to present a small discovery about surrounding Japanese nature. It can be about an animal or a plant that you find in this area, or about a news article about local nature. I would like you to do a little research into the subject, ask a few Japanese people about your discovery (their perspective) and spend ~ 5 minutes to talk about it. I encourage you to take photos and send them to me before the class so that I can show them to the class while you are presenting.

**Read & Interview with Japanese (読んでみよう、聞いてみよう) :**

You are expected to read an assigned article, create two questions related to the theme, ask them to Japanese people around you, and summarize your findings (1 to 2 single-spaced pages, Times New Roman font 12, one-inch margins). There are several of these throughout the semester. Each summary consists of 1) two questions that you create, 2) the importance of the questions, 3) interview with at least 2 up to 5 Japanese people and 4) analysis of their answers.

**Environmental Issue in Your Country (あなたの国の環境問題) :**

Now that you have a Japanese perspective, tell us about your country! What is a major environmental issue in your country? How good, bad or different is the issue compared with the Japanese situation? In this exercise, you will apply a comparative approach to the analysis of an environmental issue in your own country (if you are Japanese, find an issue in the US and do research into it). You will choose a contemporary environmental/conservation issue in your country. Once your theme is found, 1) you will research into the scholarly background of the environmental issue by exploring primary literatures to deepen your knowledge on the issue and also to confirm what is commonly known about the issue is scientifically sound. 2) You will analyze the issue by comparing the data with the Japanese situation. 3) Finally, you will make future management recommendations on the issue either on your own country (when the issue is worse in your country), Japan (when the issue is better managed in your

country), or both. Your theme has to be approved by me by the Thursday of Week 5. You will develop a 3-4 page paper (single-spaced, Times New Roman font 12, one-inch margins) will be developed based on the above outline. Each student will also give 10-minute oral presentation followed by a 5-min Q/A session.

**Field Trips:**

There are three field trips scheduled throughout the semester. Please dress appropriately for the trips.

**Grading** (A = 100 – 92%, A- = 92 – 90%, B+ = 90 – 88%, B = 88 – 82%, B- = 82 – 80%, C+ = 80 – 78%,

C = 78 – 72%, C- = 72 – 70%, D = 70 – 60%)

Class Participation and leadership of assigned discussion	20 %
Explore Japanese Nature	20 %
Reading & Interview	30 %
<u>Environmental Issue Paper and Oral Presentation</u>	<u>30 %</u>
Total	100%

## COURSE SCHEDULE (SUBJECT TO CHANGE)

- *Student activities are italicized with underlines for important dates.*

### Part I: Japanese View of Nature

#### **Week 1-2: Course Introduction & Traditional view of nature**

- Basic taxonomy of animals and plants
- My neighbor Totoro & Princess Mononoke
- Influence of Buddhism and Shintoism
- *Read & Interview 1 (due 2<sup>nd</sup> week Tuesday):*
  - Watanabe, M. 1974. The conception of nature in Japanese culture. *Science*, 183: 279-282

#### **Week 3: Modern view of nature**

- Overview of current environmental issues in Japan
- *Read & Interview 2 (due 3<sup>rd</sup> week Tuesday):*
  - Kellert, S. R. 1991. Japanese perceptions of wildlife. *Conservation Biology*, 5(3), 297-308.

### Part II: Principles of Conservation Biology

#### **Week 4: Values of biodiversity**

- Biodiversity – what is it and why is it important?
- Field Trip 1: Kyoto Imperial Palace (4<sup>th</sup> week Tuesday)

#### **Week 5: The Sixth Mass Extinction**

- Global loss of biodiversity
- *Environmental Issue Topic Approval (due 5<sup>th</sup> Week Thursday)*

### Part III: Selected Environmental Issues

#### **Week 6: Conflicts between humans and wildlife I**

- Sika deer
- Field Trip 2: Takaraga-Ike Park (6<sup>th</sup> week Tuesday)
- Supplemental reading:
  - van Doormaal, N., Ohashi, H., Koike, S., & Kaji, K. 2015. Influence of human activities on the activity patterns of Japanese sika deer (*Cervus nippon*) and wild boar (*Sus scrofa*) in Central Japan. *European journal of wildlife research*, 61, 517-527.)

#### **Week 7: Conflicts between humans and wildlife II**

- Wild boar, black bear and Japanese macaque
- *Read & interview 3 (due 7<sup>th</sup> week Tuesday):*
  - Takatsuki, S. 2009. Effects of sika deer on vegetation in Japan: a review. *Biological Conservation*, 142(9), 1922-1929.
- Guest Speaker: Kyoto City Agriculture, Forestry & Fishery (7<sup>th</sup> Week Thursday)
- Supplemental Reading:
  - Honda, T. 2009. Environmental factors affecting the distribution of the wild boar, sika deer, Asiatic black bear and Japanese macaque in central Japan, with implications for human-wildlife conflict. *Mammal Study*, 34, 107-116.

- Sakurai, R., & Jacobson, S. K. 2011. Public perceptions of bears and management interventions in Japan. *Human–Wildlife Interactions*, 5, 14.

<b>Spring Break (February 29-March 8)</b>
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### **Week 8: Climate Change I**

- Overview
- Environmental Issue Outline Due: Individual meetings
- Supplemental Reading:
  - Dawson, T. P., Jackson, S. T., House, J. I., Prentice, I. C., & Mace, G. M. 2011. Beyond predictions: biodiversity conservation in a changing climate. *Science*, 332: 53-58.

### **Week 9: Climate Change II**

- *Read & Interview 4 (due 9<sup>th</sup> week Tuesday)*
  - Lenton et al. 2019. Climate tipping points — too risky to bet against
- Japan's Energy Use
- Fukushima Nuclear Disaster
- Supplemental Reading:
  - Wilhite, H., Nakagami, H., Masuda, T., Yamaga, Y., & Haneda, H. 1996. A cross-cultural analysis of household energy use behaviour in Japan and Norway. *Energy Policy*, 24: 795-803.
  - Hong, S., Bradshaw, C. J., & Brook, B. W. 2013. Evaluating options for the future energy mix of Japan after the Fukushima nuclear crisis. *Energy Policy*, 56, 418-424.

### **Week 10: Water Pollution**

- Historical Issues
  - Minamata Disease, Itai-Itai Disease, Yokkaichi Asthma
- **Field Trip 3: Kamogawa River (10<sup>th</sup> week Thursday)**
- Supplemental Reading:
  - Harada, M. 1995. Minamata disease: methylmercury poisoning in Japan caused by environmental pollution. *CRC Critical Reviews in Toxicology*, 25: 1-24.
  - Kashiwada, S., Ishikawa, H., Miyamoto, N., Ohnishi, Y., & Magara, Y. 2002. Fish test for endocrine-disruption and estimation of water quality of Japanese rivers. *Water research*, 36(8), 2161-2166.

### **Part IV: Student Presentations**

**Week 11-12: Environmental Issue Presentations (Papers due 12<sup>th</sup> week Thursday)**

## Part V: Conservation

### Week 13: Conservation Efforts in Japan

- Satoyama Conservation
- National and Prefectural Park System
- World Natural Heritage
- A role of temples and shrines
- *Read and Interview 5 (due 13<sup>th</sup> week Thursday)*
  - Ishii, H. T., Manabe, T., Ito, K., Fujita, N., Imanishi, A., Hashimoto, D., & Iwasaki, A. 2010. Integrating ecological and cultural values toward conservation and utilization of shrine/temple forests as urban green space in Japanese cities. *Landscape and Ecological Engineering*, 6: 307-315