

Report to JSPS from Keith Aune Research Fellow S15082

Schedule of research activities during the fellowship in Japan

In January, 2015 I received the official invitation to attend the International Wildlife Management Congress and participate in several field research activities in Japan from JSPS and Hokkaido Research Organization. I accepted a JPS fellowship on January 21 and began my preparations for travel. The trip has been completed. Below is the schedule of events and a report on my fellowship experience in Japan from July 25 through August 7, 2015.

February 5, 2015	I submitted an abstract to the IWMC via the Oasis Website (see below).
July 16	I uploaded a Power Point Presentation to Oasis Website.
July 24-25	I traveled to Sapporo Japan from Bozeman, Montana, U.S.
July 26	Registered at the International Wildlife Management Congress in Sapporo.
July 27	During the day I attended IWMC: Session 08 and Session 20
July 28	I judged 6 student poster presentations for IWMC and attended Session 39
July 29	I gave a presentation and participated in the discussion at IWMC Session 54 titled: Wildlife Conservation and Management in Shiretoko National Park: Sharing Experience and Knowledge.
July 30	I attended the IWMC Plenary Session, Session 78 and Closing Ceremony
July 31	We traveled to Shiretoko NP and discussion among scientists about wildlife
August 1	We attended a field excursion to Rurua to witness wildlife and visit fishing village
August 2	We participated in an excursion to Rausu town. I attended the afternoon Town Meeting in Shari with the host team. We discussed the future of wildlife management in Shiretoko NP and how to manage human-wildlife conflicts in communities neighboring Shiretoko.
August 3	I returned from Shari to Sapporo with the research team.
August 4	I prepared notes from the field excursion.
August 6	I gave a presentation to the Hokkaido Research Organization on the "Impacts of Brucellosis on Bison in Yellowstone".
August 7	I travel from Japan to U.S.

Preliminary review and recommendations on the conservation of wildlife in Shiretoko National Park.

My visit to Shiretoko National Park, presentations at IWMC, and discussions with the town people near Shiretoko were excellent and provided me with many thoughts about the future of Shiretoko National Park. In a preliminary evaluation I have outlined 8 areas of thoughts that could help Japan shape a healthy pathway toward excellent management for this spectacular National Park. I will prepare a more detailed assessment and a full report with supporting documentation to inform scientists and managers sharing in this great adventure. I will draw on examples of wildlife management in Yellowstone National Park and other areas of the United States and Canada based on my readings, experience and knowledge.

Important thoughts regarding Shiretoko National Park:

- 1) It is important to determine and then articulate what to preserve at Shiretoko National Park.
 - a. Is it the integrity of a functional ecosystem?
 - b. Is it targeted toward priority species?
 - c. Is it important to manage the human experience to connect Japanese people to nature?

- 2) Then develop the legal framework, governance and agency cooperation to achieve that goal.
 - a. Coordinate law enforcement and rulemaking
- 3) Continue to strengthen science capacity of the various management agencies.
 - a. Consider a multi-disciplinary systems research approach.
 - b. Efficiently translate the new science to policy and decision making.
- 4) Manage the population of sika deer in ways compatible with nature.
 - a. Focus on natural regulatory mechanisms and ecological processes.
 - b. Practice culling in a manner that emulates natural predation.
 - c. Enable predation by large carnivores.
 - i. Conduct a feasibility study to look at wolf reintroduction to Shiretoko.
 - ii. Reintroduce this predator if it is feasible.
- 5) Focus on the prevention of human-wildlife conflict as well as response to incidents.
 - a. Improve garbage and sanitation control in gateway communities
 - b. Develop relationships with agriculture in rural landscapes.
 - c. Use fencing as a management tool but be cautious in its impact to wildlife movement.
 - d. Modify human behavior and support human adaptations for living near bears
 - e. Modifying bear behavior using some aversive conditioning.
 - f. Manipulate deer densities near communities and agriculture.
 - g. Employ management specialists to mitigate conflicts in communities.
- 6) Create a culture of conservation in and near Shiretoko.
 - a. Continue public education and outreach
 - b. Translate best science to formats understood by the general public.
 - c. Engage youth in science and in conservation practices.
 - d. Re-engage hunting programs and build a stronger hunting community to support deer population management
- 7) Anticipate and manage growing commercial interests for ecotourism.
 - a. Develop programs compatible with nature and National Park conservation goals.
 - b. Hunting and Ecotourism can help fund the management under a permitting system i.
 - Gate proceeds for visitors
 - ii. Backcountry use permits for trekking.
 - iii. Special Use permits for commercial ventures.
 - iv. Hunting permits (including international sportsmen)
- 8) Consider conservation for the long term.
 - a. Practice Seven Generations Thinking.

IWMC ABSTRACT: Conservation and Management of Large Ungulates in and Near Yellowstone National Park

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Yellowstone National Park forms an important core protected area at the center of a larger region called the Greater Yellowstone Ecosystem (GYE). The GYE is one of the last remaining large, nearly intact ecosystems in the northern temperate zone of the earth. It is approximately 76,890 square kilometers in size and embraces many management jurisdictions and land types. This region is home to a wide suite of ungulate species including bison (*Bison bison*), elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), moose (*Alces alces*) pronghorn antelope (*Antilocapra americana*), bighorn sheep (*Ovis canadensis*) and mountain goats (*Oreamnos americanus*). These ungulates are widely distributed across the Greater Yellowstone Ecosystem but are naturally segregated by space, time, habitat preference and elevation. Moose and white-tailed deer are dominant in forested and riparian habitats. Bison, elk, mule deer, and antelope select the

middle elevation grasslands. Bighorn sheep and mountain goats are mountain ungulates that occupy xeric habitats at higher elevations up to the mountain peaks. These species serve as the prey base for a complementary suite of carnivores and are a major biological driver in this fully functional ecosystem. There are many threats facing wild ungulates in the GYE including; timber harvest, mining, roads, livestock grazing, human development, diseases and recreational activity. These threats are anthropogenic in nature so must be mitigated by human decisions and land use policies. Resolving conservation problems in this ecosystem requires novel policies and practices that embrace multiple interests from many stakeholders, economic sectors, and jurisdictional bodies.