Feb 2nd, 11:35 AM - 11:45 AM

Native Americans and ranchers (rural Nevada)

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Nevada Infrastructure for Climate Change Science, Education, and Outreach

Policy and Outreach Component

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Steering Committee
Karletta Chief, Ph.D. (DRI)
Derek Kauneckis, Ph.D. (UNR)

Project PI
Tom Piechota (UNLV)

Featured research
Rural Nevada: Native American and Rancher/Farmers
W. Smith, K. Chief & Zhongwei Liu Post-Docs, Ahmad Safi Ph.D. and Fulbright Student
Rancher and Farmer Surveys

- Survey: Socioeconomic characteristics, cc perceptions, and relations with nature.

- IRB approved work generated in new cc lab.

- Packages: 4 pg back-to-back survey, holiday card with local pic, hand-signed personalized letter and a self-add. pre-paid return env.

- A list of almost all Nevada ranchers and farmers (1893) were collected from a partner academic institution.
Ranchers and Farmers Survey

• Packages sent on Dec. 29, 2009
• Till now we have
  - Approximately 300 (16%) returned surveys
  - 2 returned packages because of changing career
Nevada Tribes

- Great Basin is ancestral land of 4 major tribes
- Washoe, Northern Paiute, Southern Paiute and Western Shoshone
- 27 NV tribal councils
- 31 colonies and reservations
- Majority are in rural areas
- Total Area of 2,000 mi²
- Avg. Tribal Pop. is 400 people
- Avg. Tribal Land Area 70 mi²
### Nevada Native American General Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>National</th>
<th>Nevada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Native Americans</td>
<td>2,367,505</td>
<td>26,420</td>
</tr>
<tr>
<td>Self Identified</td>
<td>68%</td>
<td>60.2%</td>
</tr>
<tr>
<td>Percentage Enrolled in tribes</td>
<td>36%</td>
<td>32%</td>
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<tr>
<td>Percentage Living in reservations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On reservations Poverty Level</td>
<td>39.4%</td>
<td>23%</td>
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<tr>
<td>On reservation unemployment rate</td>
<td>21.9%</td>
<td>14.1%</td>
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<tr>
<td>On reservation % of houses lack proper sanitation</td>
<td>12%</td>
<td>6.3%</td>
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<tr>
<td>On reservation Percentage of adults with higher education</td>
<td>11%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Native American Lands</td>
<td>Pop.</td>
<td>Housing Units</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td>Pyramid Lake Res.</td>
<td>1,734</td>
<td>687</td>
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<tr>
<td>Duck Valley Res.</td>
<td>1,017</td>
<td>371</td>
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<tr>
<td>Reno-Sparks Colony</td>
<td>881</td>
<td>282</td>
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<tr>
<td>Walker River Res.</td>
<td>853</td>
<td>339</td>
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<td>Elko Colony</td>
<td>729</td>
<td>257</td>
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<td>Fallon Paiute-Shoshone Res.</td>
<td>620</td>
<td>256</td>
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<tr>
<td>Campbell Ranch</td>
<td>446</td>
<td>80</td>
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<tr>
<td>Dresserville Colony</td>
<td>315</td>
<td>116</td>
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<tr>
<td>Fort McDermitt Res.</td>
<td>309</td>
<td>119</td>
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<tr>
<td>Carson Colony</td>
<td>286</td>
<td>105</td>
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<tr>
<td>Moapa River Res.</td>
<td>206</td>
<td>90</td>
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<tr>
<td>Stewart Community</td>
<td>196</td>
<td>62</td>
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<tr>
<td>Duckwater Res.</td>
<td>149</td>
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<tr>
<td>Yerington Colony</td>
<td>139</td>
<td>54</td>
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<tr>
<td>Ely Res.</td>
<td>133</td>
<td>67</td>
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<tr>
<td>Battle Mountain Res.</td>
<td>124</td>
<td>63</td>
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<tr>
<td>South Fork Res.</td>
<td>123</td>
<td>62</td>
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<tr>
<td>Las Vegas Colony</td>
<td>108</td>
<td>37</td>
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<td>Lovelock Colony</td>
<td>103</td>
<td>38</td>
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<td>Yomba Res.</td>
<td>96</td>
<td>36</td>
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<tr>
<td>Winnemucca Colony</td>
<td>62</td>
<td>21</td>
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<tr>
<td>Wells Colony</td>
<td>54</td>
<td>24</td>
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<tr>
<td>Summit Lake Res.</td>
<td>15</td>
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</tbody>
</table>

Domicile VS. “pop”?
Selected Tribes

- Reasonable distance between
- Established partnership
- Pyramid Lake Paiute largest population and land base
- Fort McDermitt Paiute-Shoshone medium population and land base
- Summit Lake Paiute smallest population and medium sized land but special resources
Unique dimensions of NA Collaboration

- Different epistemology
  - Complexity and connectivity versus divide and narrow-down
  - Informed elder wisdom and mythology
  - Informed by systematic experiments

- Mistrust- wariness
  - Long history of conquest, racism, and assimilation policies
  - History of science community abuses

- Sovereignty
  - Tribal nations are sovereign entities
  - Can’t work on land without approval
• Building rapport with tribal leaders
  - Time consuming
  - Data lacking
  - Face-to-face
  - What's in it for the community?

• Recruiting respondents
  - Emails don’t work
  - Mailing survey?
  - Options
    • Community meetings
    • Powwows
    • Focus groups
    • Individual interviews with env. heads
Opportunities

- Tribes have a close connection to land through cultural and religious practices that allow observation of nature.

- Tribes lived in ancestral land for thousands of years and have unique and sustainable relationship with the land.

- Consideration of tribal perspective on climate change will allow tribe inclusion in future climate change planning and research.

- Tribes gain information to leverage scientific research on their land.

- Unique path to research questions – i.e.
Challenges

• Tribal staff understaffed with limited resources.
• Tribes are more vulnerable to impacts to natural resources.
• Financially poor and little economic development.
• No or limited internet access and phone communication.
• Wariness based on history.
• Paucity of technology and data
• No tribal colleges or major system NA programs
Native American Surveys

- Revised to consider Native American culture and demographics.
  - Changed educational and income.
  - How will climate change impact cultural and traditional practices?
  - e.g. Lahontan Cutthroat trout for Summit Lake.

- Modified by Tribal partners.
- Approved by IRB.
- Built Native American contacts.
- Focused on 3 tribes.
Study areas

- Fort McDermitt Paiute / Shoshone NA NV/OR
- Summit Lake Paiute NA
- Pyramid Lake Paiute Tribe NA
Pyramid Lake Paiute Tribe

- Met with tribal Chief on September 11, 2009

- Met with tribal council on December 18, 2009

- Presented cc study to 10 council members and over 30 community members

- Survey Approved

- 614 surveys to be sent households through Housing Dept.
Summit Lake Paiute Tribe

- Visited the reservation and met the Environmental Coordinator on September 13, 2009
- Met with tribal council on December 19, 2009
- Presented Climate Change study to 5 council members
- Survey Approved
- 120 surveys sent to members through tribal council
- 5 return surveys received so far
Nevada
NATIVE FISHES

Illustrations by
JOSEPH R. TOMELLERI

Native fishes of Nevada groupings by family
Class: Actinopterygii
Order: Salmoniformes
Family: Salmonidae
Genus: Oncorhynchus
Species: clarki
Subspecies: henshawi

Length: up to 50 inches
Weight: up to 40 pounds
Lifespan: 5-14 years
Feed: aquatic insects and smaller fish

- Lahontan cutthroat trout are the only trout native to Nevada
- the lake-dwelling form are the biggest cutthroat in the world
- these fish inhabited ancient Lake Lahontan and its tributaries

Photo Credit: U.S. FWS

USFW, 2010
Fort McDermott Tribe

• Visited the reservation and met with the Chief on September 11, 2009.

• Chief has been replaced so more communication is needed for further steps.

• Learned much regarding cosmology.

• Asked to move very slowly.

• May interview leadership.
NV Tribal Environmental Managers

- Coordinating with T. Smith, Tribal-State Environmental Liaison of the Intertribal Council of Nevada.
- Presented Climate Change study to 8 managers for different tribes.
- Survey being brought back to more tribes for consideration.
- Washoe Tribe has been hosting climate change sessions - willing to participate.
Next Steps for Ranchers/Farmers and NA

- Follow up on Surveys
- Invite leaders to join SAC
- Depending on return, may conduct additional survey efforts (i.e. local powwow)
- Collaborative grant writing?
- Alternative strategies
  - Community meetings
  - Focus groups
  - Individual interviews with leaders
Questions?
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