



JOURNAL OF THE NACAA

ISSN 2158-9429

VOLUME 14, ISSUE 2 - DECEMBER, 2021

Editor: Donald A. Llewellyn

4-H RANGELAND SKILL-A-THON MAKES IMPACT ON YOUTH

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ABSTRACT

Over half of Idaho is classified as rangelands with both private and public land management agencies as stewards. Because of this robust ecosystem that surrounds us, there is a need to educate both youth and adults about the opportunities and challenges on rangelands. As this need became known, 4-H partnered with the Idaho Rangeland Resources Commission plus multiple federal and state agencies to start the Idaho 4-H Rangeland Skill-a-thon in 2015. This program allows youth and adults to gain a better understanding of private and public rangelands and have an opportunity to gain hands-on experiences in the field.

INTRODUCTION

Idaho has a population estimate for 2018 of 1,754,208 people, of those 67.38% are located in urban areas ("Rural Health Information Hub"). With such a large population living in urban areas and over half of Idaho classified as rangelands, there is a need to educate both youth and adults about the opportunities and challenges on rangelands. In an article by Gordon (2007), it was pointed out that many youth do not have the opportunities to be on a farm or ranch. However, when given experiences like the skill-a-thon provides, youth will have a better understanding of rangelands, the opportunities and challenges rangelands face, and how to be good stewards of the land. Offering a hands on contest, educators are providing opportunities for experiential learning, an important aspect for youth to learn and grow (Torock, 2009). As of 2010, according to Allen et al. (2010), only 12 states all located in the western United States have 4-H rangeland programs.

As the need became known, Idaho 4-H, along with multiple agencies, started the Idaho 4-H Rangeland Skill-a-thon in 2015. Idaho's rangelands provide multiple uses that are often controversial such as: grazing, research, wildlife and domestic livestock interactions, plant ecosystems and land management strategies. Wells and Lekies (2006) have shown there is a positive impact of youth in nature, shaping their environmental attitudes and behaviors as adults. With the Rangeland Skill-a-thon we are demonstrating the positive impact on these participants towards stewardship of the land for future generations. It has been shown by Brunson and Steel (1996), efforts such as the skill-a-thon are needed "to let the public know what rangelands are, how they function ecologically and socially, what problems they face as well as the values they support (p. 75)." Foster et al. (2014) also discuss the evaluation of range camps in Nevada and determined a gain in knowledge. To date almost 200 youth and adult participants have attended the rangeland skill-a-thon. Education around these issues is critical to understand the opportunities and challenges in this area. The Idaho 4-H Rangeland Skill-a-thon's purpose is for youth to gain an understanding of Idaho rangelands, building their knowledge and understanding by providing hands on experiences and insight into management of Idaho rangelands.

OUR RESPONSE

Over the past four years, six Extension faculty, four government agencies, and a private research endowment have come together to identify rangeland education priorities, develop appropriate curriculum, and conduct educational activities that serve to educate this growing clientele base interested in learning more about Idaho rangelands. With this support the Rangeland Skill-a-thon has attracted a growing number of participants during the last four years. Prior to the Rangeland Skill-a-thon contest, certified adult volunteers, work to form teams of three to four youth and meet regularly to study rangeland opportunities and challenges about the area identified by the committee for competition that year. For example, in 2016 the skill-a-thon was held in McCall, Idaho where the topic was grazing livestock in close proximity to wolves. Each team identified challenges around this topic, and proposed solutions to this critical issue through an oral presentation and 3-D diorama. Figure 3 shows participants from 2017. In addition, teams also compete in areas of wildlife and plant identification for that area of Idaho as well as soil texturing, and range management. Figure 1 and Figure 2 show examples of the requirements to compete as well as an example

schedule, respectively. While at the competition all youth receive a t-shirt depicting the topic for that year. Awards are also distributed to the top teams with one eligible to advance to the National competition. This year the rangeland skill-a-thon was held at the Alpine 4-H Camp near Alpine, Wyoming. The scenario identified for this year was about elk conservation. Teams enjoy competing at different locations around Idaho, which are near rangelands or on ranches. The planning team is already scheduling the Skill-a-thon for 2020 at a University of Idaho facility.

Due to COVID restrictions the 2020 skill-a-thon was held online using Zoom. Participation did decrease and a 2021 skill-a-thon was not held due to COVID restrictions. However, there are plans to hold another skill-a-thon in 2022. During 2021 the Rangeland Outreach Activities Manuals were published for both the participants and a coaches guide. They can be found at these links below:

Coaches Guide: <http://www.extension.uidaho.edu/publishing/pdf/BUL/BUL1003.pdf>

Participant Activity Guide: <http://www.extension.uidaho.edu/publishing/pdf/BUL/BUL1002.pdf>

Idaho Rangeland Skill-a-thon Event Details

Competition:

During the Rangeland Skill-a-thon, participants will compete as teams and/or individuals by completing a written exam, rotating through skills challenges, and presenting on the special topic for the year. *The exams and challenges will be modified as indicated below for junior teams.*

- **Written Exam:** the exam will be comprised of 5 multiple choice questions from each of the seven sections (total questions = 35). The exam will be specific to team category (junior or senior). Answers will be filled in on a bubble answer sheet. **Time = 60 minutes**
- **Soil Texturing:** Individuals will hand texture 2-3 soil types (a hand-texturing guide will be provided). There will be no modifications based on team category. **Time = 20 minutes**
- **Plant Identification:** Individuals will identify plants from the plant list provided in Section 3 (plant mounts may also be used if live plants are not available). **Time = 20 minutes**
 - Senior teams/individuals will identify 10 plant species by the common name, growth-form, life span, and origin.
 - Junior teams/individuals will identify 7 plant species by the common name, growth-form, and life span.
 - Extra credit will be awarded for identifying plants using the scientific name.
- **Animal Identification:** Individuals will identify animals from the animal list provided in Section 5. Animal identification may be based on sight, pelts/feathers, skulls, scat, tracks, and calls. **Time = 20 minutes**
 - Senior teams/individuals will identify 10 animal species by the common name, habitat, and diet selection.
 - Junior teams/individuals will identify 7 animal species by the common name and diet selection.
 - Extra credit will be awarded for identifying animals using the scientific name.
- **Oral Presentation:** Each team/individual will have 6-8 minutes to present on the special topic for that year using their **3-D diorama** to explain the challenge and solution. Teams/individuals should consider management tools discussed in Section 7.

Figure 1. Event details and competition requirements.

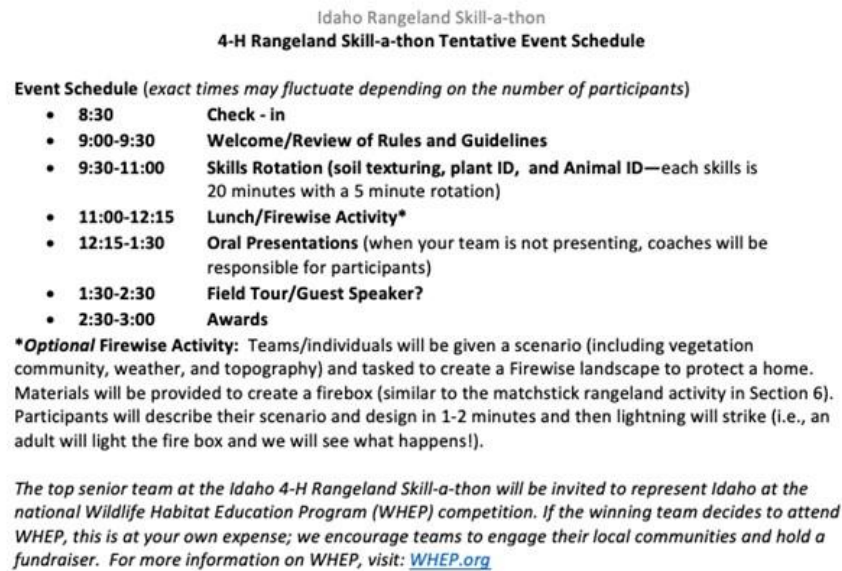


Figure 2. Event schedule.



Figure 3. Idaho 4-H Rangeland Skill-a-thon participants 2017.

PROGRAM OUTCOMES AND IMPACTS

During the 2019 Idaho 4-H Rangeland Skill-a-thon program, participating youth and adults were surveyed to assess their understanding, both qualitative and quantitative data were collected. The skill-a-thon committee has witnessed first-hand that it’s not only the youth participating in the program who are learning, but also family members and volunteers. Youth and adults have become more aware of the issues facing Idaho’s rangelands and have gained new skills that can be applied in many areas of their lives. Using a 5-point Likert-type scale, the first question had participants rank their understanding for various topics before and after of the program (1- Very low, 2- Low, 3- Moderate, 4- High, 5- Very high). The topics of focus included soil, watersheds, plants, animals, and fire. The evaluation includes responses from 27 participants. The results are shown in Table 1, with a paired samples t-test showing a statistically significant change [$t(df=26; \alpha=.05) = 7.87, p=.0001$] in the level of understanding from before to after program participation. Participants gained greater insight and knowledge in the areas of soil, watersheds, plants, animals, and fire.

Table 1. Participant Understanding Before and After the Skill-A-Thon

Topics	Before	After Average:
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	Average: (<i>n</i> = 27)	SD	(<i>n</i> = 27)	SD
Soil	2.65	1.23	3.88	0.81
Watersheds	2.52	1.18	3.22	1.21
Plants	2.96	1.22	4.26	0.98
Animals	3.52	1.18	4.44	0.84
Fire	3.33	1.27	4.00	1.20
Summated Mean Score	3.00	0.91	3.96	0.77

The group was also asked to select statements they felt described how their perception has changed on rangeland conservation since participating in the program. The top three statements chosen were as follows; participants have participated in additional education about Idaho rangeland (*n*=23), were determined to support the livestock industry in Idaho (*n*=22) and were motivated to be a part of the conservation process for Idaho rangeland (*n*=14). Table 2 shows all selected statements.

Table 2. Participants Change in Perception of Rangeland Conservation

Statement	Participants
Motivated to be a part of the conservation process for Idaho rangeland	14
Encouraged to join the advocacy conservation group	4
Participated in additional education about Idaho rangeland	23
Identified nonpoint source pollutants in their area	11
Received cost-share funding for conservation	3
Determined to support the livestock industry in Idaho	22

Statements from youth on what they have learned from this program are as follows; they are more aware of invasive plants and the spread, have a better understanding of plants/animals and an increased ability of working with others. Additionally, youth indicated they learned about wildlife management, soil identification. The rangeland skill-a-thon has a clear impact on the participating youth and adults in Idaho.

RECOMMENDATIONS/CONCLUSIONS

Youth and adults have shown an increase in understanding of rangeland challenges and opportunities through the rangeland skill-a-thon. They have become more aware of the issues facing Idaho's rangelands and have gained new skills that can be applied in multiple areas of their lives. This program gives youth the knowledge to make informed decisions about the rangeland surrounding them in Idaho, as well as the ability to understand how to research public issues and how to become better informed citizens. Further evaluation of this program is warranted, especially now with published curriculum. This program could be replicated in other states in an effort to provide education and awareness of our nation's rangelands to the ever-growing urban population.

ACKNOWLEDGMENTS

We would like to express appreciation for the following contributors to the Idaho 4-H Rangeland Skill-a-thon: Idaho Rangeland Resource Commission; Jackie Ingram, Idaho Rangeland Resource Commission; Josh Uriarte, Terrestrial Species Manager and Policy Advisor, Idaho Governor's Office of Species Conservation; Idaho Soil and Water Conservation; Adams Soil and Water Conservation District; Idaho 4-H Youth Development; David Little Livestock Range Management Endowment.

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