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# Girl Scout Firewise Patch and Camps: Youth Working with Communities to Adapt to Wildfire

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## Abstract

Around the world, youth are recognized as playing an important role in reducing the risk of disasters and promoting community resilience. Youth are participating in disaster education programs and carrying home what they learn; their families, in turn, are disseminating knowledge into the community. In addition to making a difference today, youth disaster education programs train the adults of tomorrow to be more prepared citizens. As social scientists and education researchers working in wildfire risk mitigation, we asked: how can wildfire education programs for youth help develop and support fire-adapted human communities? To begin to answer this question, we studied seven wildfire education programs for youth across the U.S. Programs were based in schools, public agencies, and nongovernmental organizations (NGOs). In a series of interviews, we sought information that would enable us to describe and analyze (1) the program's characteristics and the local resources to support it, (2) ways in which the program increased knowledge and awareness of wildfire, promoted more realistic risk perceptions, and improved wildfire preparedness for youth and their families, and (3) ways in which the program contributed to the local community becoming more adapted to fire. We found that the extent to which the programs were integrated into local wildfire planning and management efforts varied, as did their effectiveness in reaching community members and homeowners. In this report we present findings from one case study—the Girl Scouts Firewise Patch and Camps.

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## GIRL SCOUTS FIREWISE PATCH AND CAMPS

Girl Scouts in Florida are wearing a new patch on their uniforms—one earned by learning about wildfire, taking action to protect their homes, and educating others in their community to do the same. The Firewise<sup>1</sup> Patch program is led by the Girl Scouts of Gulfcoast Florida, Inc. council and is available not only to Scouts in the council’s 10-county region, but also to girls throughout the United States. As researchers conducting a national study of wildfire education programs for youth, we talked to individuals involved in the Girl Scout Firewise Patch program to better understand program characteristics and the local resources that support it, and to learn more about the program’s direct and indirect impacts on youth, families, and communities—including how the program is contributing to creating a fire-adapted community<sup>2</sup>. In this research note, we share what we learned from the Girl Scout program that can help other communities involve youth in reducing wildfire risk.

The Girl Scout Firewise Patch resulted from a successful working relationship between the Girl Scouts of Gulfcoast Florida, Inc. council (GSGCF) and the Florida Forest Service (FFS). This partnership began in 2006, when a FFS wildfire mitigation specialist approached council staff to discuss strategies for reducing wildfire risk on GSGCF camp properties, both of which are located in wildland urban interface areas with medium to high fire risk. A small wildfire at Camp Caloosa in Lee County highlighted concerns among local fire department and FFS personnel about access to the property, camper safety, damage to camp structures, and potential for a wildfire to spread and place nearby residents and homes at risk. FFS helped reduce the wildfire risk at Camp Caloosa by widening trails, creating fire lines, reducing hazardous fuels, and creating defensible space around structures. Similar mitigation efforts were carried out by the FFS at Camp Honi Hanta in Manatee County.



The Girl Scouts of Gulfcoast Florida, Inc. council serves a 10-county region in southwest Florida and has two camps located within the region (location noted by stars).

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<sup>1</sup>The Firewise Communities program encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from wildfire risks ([www.firewise.org](http://www.firewise.org)).

<sup>2</sup>U.S. policymakers have identified a national goal for at-risk communities to be adapted to fire. Fire-adapted communities consist of “informed and prepared citizens collaboratively planning and taking action to safely co-exist with wildland fire” (Wildland Fire Leadership Council 2011, p. 33).

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GSGCF staff realized these activities were teachable moments for Scouts and began raising awareness about wildfire and the steps being taken to reduce risk on the camp properties. For example, information kiosks were constructed to display educational materials, and the girls and their parents were given opportunities to help create defensible space around camp buildings. Girl Scout staff are non-formal educators and are always on the lookout for youth education and leadership opportunities, especially those that enable girls to educate others in the community. The Firewise activities at camp were an excellent opportunity:

“Everything you do in Girl Scouts you try to make into some kind of educational piece—those teachable moments. When we started working on making the camp Firewise, the first thing we thought about is, ‘Ok, now how can we teach the girls about this and how can we teach them to teach others?’” (GSGCF interviewee)

In addition, the topic of wildfire risk reduction fits very well with the Girl Scouts’ history of being good stewards of the environment. As one program developer said, “Being stewards of the environment is something that Girl Scouts have been doing since [founder] Juliette Low started girl scouting in 1912, and Firewise goes right along with that.”

Based on the success of the partnership and the enthusiasm of GSGCF staff, a vision for creating a Firewise Patch began to take shape within FFS. By including Girl Scouts in the Firewise effort, FFS staff hope to educate youth so that they will know what to do in the future as adults and that Scouts, in turn, would convey messages to adults at home who are able to reduce their risk today.

“The basic philosophy that I try to work with is that people are the biggest causes of wildfire that we have in Florida. People who live in wildland-urban interface need to take personal responsibility of their choice to live there and need to know what to do to make their homes Firewise, to withstand a wildfire disaster. So my real goal was to use the kids as an in-road to the families, so families would start to think about what they could do around their home to make their home safer from wildfire.” (FFS interviewee)

Together, the partners designed a Girl Scout patch program for Scouts ages 11 years and older. To earn the patch, the Girl Scouts use recommended resources to investigate fire-related topics and complete several tasks. In total, the requirements take from 8 to 10 hours to complete and include:

- conducting research using recommended resources and creating a 5-minute presentation about wildland urban interface
- conducting research using recommended resources and creating a 5-minute presentation about home protection from wildfire

*“I was trying to create that family dynamic where all of a sudden they could start to look at these problems as a family.”*  
(Staff, Florida Forest Service)

- interviewing a structural firefighter or forest firefighter to learn more about wildfire in the local area and how to make neighborhoods safer
- performing risk assessment of their home and five neighboring homes, and making recommendations for how to reduce that risk
- completing a community service project at Girl Scout camp or a local natural area to reduce wildfire risk (e.g., maintain fire trails, educate public about Firewise, help homeowners clean property)
- completing a community awareness project that helps reduce wildfire risk in the community (e.g., design and distribute informational brochure, help create Firewise demonstration site, have a Firewise day at school)



Girl Scouts earn the Firewise Patch (pictured) by researching and making presentations on fire risk and home protection, performing home risk assessments, and completing community awareness and community service fire projects.

Photo by Annie Oxarart, University of Florida.

The patch can be earned individually or as a troop. In either case, the troop leader works with the girls to obtain the patch instructions and resources, complete the requirements, and order the patch. Although no formal training is available to troop leaders, FFS staff are available to assist the Scouts as needed. Most recommended resources are available online, and the GSGCF maintains two resource kits that troop leaders can borrow.

Each partner brings key ingredients to the program. The FFS contributes program content and context by recommending existing state resources to provide information that addresses wildfire risk in Florida ecosystems and interface areas. Among other fire education materials, the resource kit for troop leaders contains curricula developed by the Florida Forest Service, including “Living on the Edge in Florida” and “Fire in Florida’s Ecosystems.” The GSGCF provides program participants and the structure

in which to conduct an educational program. The educational process follows the Girl Scout “Discover, Connect, and Take Action” leadership model for earning patches. A GSGCF employee explained, “Discover is when you learn new skills, new things, and new information; you Connect with others as you learn; and then you Take Action by taking it somewhere else.” Because many Girl Scout patches use this model, the Firewise patch could be adapted for use by other regional councils and troops around the country (modified to take into account local conditions).

This model integrates elements of experiential learning, place-based learning, and service-learning strategies. First, the patch requirements actively engage youth in activities from interviewing local professionals to completing home risk assessments. Because the information, presentations, and projects are nested within their local community and camp, youth are learning about their community’s fire risk, fire behavior, and home protection—a key aspect of place-based education. Finally, the action projects include components of service learning; girls plan and conduct activities that meet an identified community need. As one GSGSF employee said, “The camps have to be maintained, and we had a lot of wildfires in the area. We thought this would be a great service-learning project for the girls to learn to help keep [the camp] Firewise.”

*“Girls, sometimes as community service projects, will come [to the camps] and clear brush back.”*  
(Staff, Girl Scouts of Gulfcoast Florida, Inc.)

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## IMPACTS OF GIRL SCOUT FIREWISE PATCH AND CAMPS PROGRAM

As a result of the partnership with FFS, wildfire risk has been reduced at both Girl Scout camps. Shortly after the mitigation work was completed at Camp Caloosa, a wildfire occurred on camp property and emergency personnel were able to access the property and bring the fire under control without any damage to camp structures or neighboring properties. As the GSGCF hoped, the Firewise activities have also raised wildfire awareness among campers, particularly at Camp Honi Hanta. “At camp, when troops are here, they are very conscious of it. I get phone calls all the time, ‘are we in a fire ban, can we have a campfire?’” This awareness may also be attributed in part to the presence of a well-known bear—Smokey—who clearly calls attention to the level of fire danger near the camp entrance. The Smokey Bear Fire Danger sign was made by two Girl Scouts, who have become Firewise experts through several Girl Scout-related activities. After learning about risk reduction activities at Camp Honi Hanta, the girls earned the Firewise Patch and made a Smokey Bear Fire Danger sign to earn their Silver Award<sup>3</sup> in the Girl Scout program. As part of the sign’s unveiling festivities, the two girls made an oral presentation to campers and their families. At the girls’ invitation, the FFS attended the event, brought firefighting equipment, and helped answer audience questions. The FFS attendees noted that the content delivered was on target and of high quality:

“They knew the 30 foot defensible space, cleaning off your roof and gutters, the difference between flammable and nonflammable plants, the difference between flammable and nonflammable mulch. I’ve said the same thing when I am doing a presentation or in front of the media talking about it. I was extremely impressed with the job that they did. For their age they did a lot of research; they knew their stuff. They had pictures and charts. Extremely impressed... We were like, ‘Oh, my job’s in danger!’”

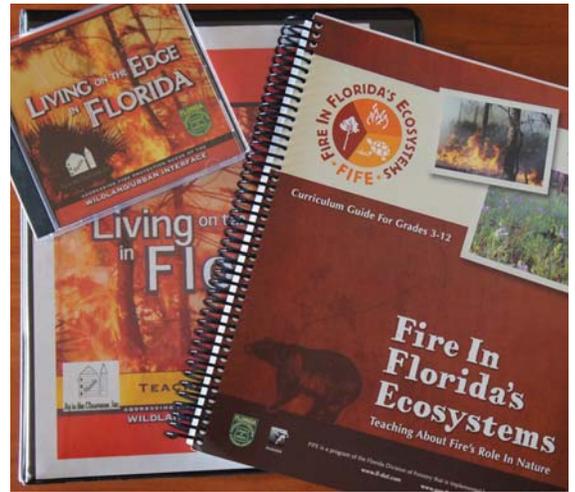
For these two Scouts, the knowledge they gained while completing the patch and presenting information to others was carried beyond the camp—they brought the information home to their parents and to their communities through multiple

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<sup>3</sup>The Girl Scout Silver Award is the highest award a Cadette Girl Scout (grades 6-8) can earn.

*“The fire stopped right where we had the mitigation lines put in. None of the structures were damaged on the camp, and none of the structures on the surrounding properties were damaged in any way. It actually became one of our quickest success stories that we have for our mitigation program.”*

*(Staff, Florida Forest Service)*



Curricula developed by the Florida Forest Service is used in the resource kit that troop leaders can borrow to assist Scouts who are completing the patch.

Photo by Annie Oxarart, University of Florida.



To unveil the new Smokey Bear Fire Danger sign, two Girl Scouts gave a presentation to campers and their families. Photo by Lynn Reid, GSGCF Volunteer.

presentations. One Scout remembered working with her father to determine how far the bushes, limbs, and trees were from the house and said, “I checked to make sure all the bushes are 30 feet away.” In addition, one parent commented the program has impacted her family. They live next to a large state park that manages with prescribed fire. She stated:

“Before involvement with the patch, this was not something I thought about. We’ve lived there for 5 years and were aware of wildfire and prescribed burns, but never thought about how to prepare our property. On a personal level, it is something that we need to be conscious of living out there.”

To raise awareness in their rural neighborhood, the Scouts gave their presentation to about 20 people at a homeowners’ association meeting. They observed that the audience seemed interested, took notes, and asked questions. Some audience members also made comments about intending to take the suggested actions.

In another presentation at the Forever Green Girl Scout event<sup>4</sup>, the Scouts noted that “People learn stuff they didn’t know they need to know. It was nice to see that not only were the kids getting involved. The adults would come over and I saw them listening too.” Being able to teach adults made a significant impact on both Scouts and is the type of learning experience that cannot be replicated in a classroom:

“There is not much you can teach adults because they are older than you and they already know everything it seems. And teaching them without even realizing it, it is

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<sup>4</sup> Girl Scout Forever Green events were held around the globe to celebrate Girl Scouting’s 100th anniversary through service projects to improve the environment and protect natural resources.



Away from the coast, rural neighborhoods border fire-prone landscapes, such as Myakka State Park (pictured). Photo by Martha Monroe, University of Florida.

like ‘Oh my God, I feel so amazing right now.’ And they are looking at you like, ‘Wow, I learned something I didn’t know I could learn. I didn’t know this was there to learn.’”

The success of these two girls in creating awareness at camp, in their households, and within their community is certainly noteworthy. However, during this research, we were not able to locate other examples of Scouts who had completed the patch program or used the topic to receive a Scout award. The program partners hope that the program will continue to grow, and they feel strongly that if that happens, the program will have far-reaching impacts:

“The more people that we can educate about wildfire protection and Firewise, the better off it makes our state. These little girls are wanting to get patches, and this is a great patch. They can go out and do community service and do assessments. It is a partnership with us that we can go out and educate. They are real instrumental in getting the message out because everyone is going to listen to a little girl. It makes it easy to get our message out.” (FFS employee)

*“We all have our own circle of influence. I think the program helps their circles. If they can share with their circle, and their circle shares with [another] circle, [the message] will continue to move out.”  
(Staff, Florida Forest Service)*

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## COMMUNITY CONTRIBUTIONS TO THE GIRL SCOUT FIREWISE PATCH AND CAMPS

Although the FFS provides the bulk of support for the Girl Scouts Firewise Patch, the program is designed so other community organizations or groups can assist Scouts as they complete the patch requirements. For example, depending on the action projects chosen, Scouts may interact with parent volunteers, teachers from school, employees at parks and natural areas, or local emergency personnel. We learned from the Scouts interviewed that FFS employees contributed their time, materials, and expertise by answering questions as needed, providing handouts for use during Scout presentations, and participating in the camp presentation to unveil the Smokey Bear Fire Danger sign. As one Scout stated, “[FFS] has been really supportive with it, answered several questions about stuff, and pointed us in the right direction. He has been very helpful.” In addition, these Scouts received assistance from their troop leader and their fathers, who helped make the Smokey Bear Fire Danger sign.

The effort to reduce fire risk at camp was also spearheaded by the FFS—with key contributions of funding, employee time, equipment, and staff expertise. The FFS mitigation activities at Camp Caloosa alone were estimated to cost \$9,000 and included both district and regional personnel and equipment. FFS contributions at both camps during this time were extensive. As one GSCGF representative said, “God bless them. They were there all the time helping us. They were more than willing to do anything.”

While completing the mitigation work at Camp Honi Hanta, the FFS mitigation specialist strengthened their relationship with the local fire department by taking each shift of firefighters on a tour of the property, which is tucked between a subdivision, buffalo farm, and a river, “...making them aware of the camp, the fire lines, what we



The Florida Forest Service worked to reduce wildfire risk at Camp Caloosa by widening trails, creating fire lines, and reducing hazardous fuels (left: before mitigation activities; above: after mitigation activities). Photos by Florida Forest Service.

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did, where the structures are. We worked with the fire department to bring them in, as a partnership with them.” Both the FFS and fire department now have a remote gate opener to the entrance of the camp, so they can quickly access the property in case of an emergency. Although these initial activities to involve the local fire department were successful at Camp Honi Hanta, the relationships have not developed over time. At Camp Caloosa, however, the local fire department is regularly seen coming through camp on the weekends and helps conduct prescribed burns on the camp property.

Other organizations and volunteers have been involved in the wildfire risk reduction activities at camp, including volunteers from Florida Gulf Coast University and the Walt Disney Company’s community giving program. In both instances, volunteers helped to remove dry, highly flammable vegetation—including melaleuca (*Melaleuca quinquenervia* (Cav.)), an invasive exotic tree.

## NEXT STEPS FOR GIRL SCOUT FIREWISE PATCH AND CAMPS PROGRAM

Program developers, coordinators, partners, and participants view the creation of the Firewise Patch and the mitigation work at the camps as successful. Interviewees also agree that the program is still young and participation in the patch program has been limited: “It needs some motivation to get more girls to participate. I think the girls who have participated have been successful, but there haven’t been huge numbers of them.” Maintaining the initial work that was completed at both camps to reduce fire risk is also a challenge, especially in the current environment of decreasing budgets and increasing workloads. Camps no longer have property maintenance staff, making it more difficult to maintain the Firewise landscape. Interviewees had several recommendations for improving the program in the upcoming years.

- Increase Girl Scout participation in the patch program. The patch could be marketed to Scouts with known interest in natural resource and environmental issues, who may be more likely to participate.
- Increase youth participation statewide. The FFS could play a role in spreading the patch to other Girl Scout Councils and adapting the program for use in Boy Scout programs as well. With mitigation specialists who conduct youth education presentations throughout the state, FFS personnel may already know people who would be interested.
- Develop a Firewise summer camp session. Including Firewise as one of the Girl Scout summer camp themes would allow youth to complete the patch at camp and give the program more exposure. Again, special attention would need to be given to program marketing to make the camp sound as fun as other activities.
- Train the troop leaders and GSGCF staff. A regional training could generate interest among troop leaders and provide them with background information and resources to help their Scouts earn the Firewise patch. Troop leader training

*“We teamed up with the Girl Scouts doing a lot of mitigation work. We have spent a lot of time working at the camp, reducing the fuel load that they had. We have a really good partnership.”*

*(Staff, Florida Forest Service)*

*“[The Firewise Patch] is an awesome program. It has been laid out in just an awesome way. It is so valuable in Florida, especially with the wildfires, for the girls and their families to take back to their neighborhoods and to understand why it is important to become a Firewise community.”*

*(Staff, Girl Scouts of Gulfcoast Florida, Inc.)*

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*“If we can make sure that the troop leaders are educated about the whole Firewise program, the patch and all, then they can encourage and guide the girls.”*

*(Staff, Florida Forest Service)*

would help ensure that the messages spread by the Scouts are accurate and locally relevant.

- Create an alternative Firewise designation for camp settings. Although the GSGCF received an award at the 2008 National Firewise conference for the patch, camps are not eligible for official Firewise Community status because the properties do not have full-time residents. Developing an alternative designation for youth camps at the national level may motivate groups to complete and maintain wildfire risk reduction activities on their properties.
- Nurture the GSGCF and FFS partnership. For program growth and improvement, both partners need staff with dedicated time for ongoing communication and activities.
- Maintain and expand fire risk reduction activities on camp properties. Scouts and volunteers could be encouraged to complete small projects at both camps, such as maintaining defensible space around camp buildings. For larger projects that require extensive work and equipment, GSGCF could investigate grant, cost-share, and contracting opportunities.
- Increase GSGCF camp staff awareness of wildfire risk reduction activities. Information about how to maintain the camp to reduce fire risk should be included in the camp property management books, so that this information is regularly available to new and existing staff.
- Use camp as a Firewise demonstration site. The camps could serve as demonstration areas where parents, visitors, and community members can learn about Firewise landscaping and defensible space.

Researchers also offer the following next steps based on case study analysis:

- Target troops in high fire risk areas. The council covers a large geographic region with varying degrees of wildfire risk. To increase the likelihood that patch activities have an impact, the patch could be marketed to troops living in or near high risk communities or FFS staff could help locate and work in high risk areas. With the support of FFS, the Scouts could be more involved in teaching and training communities at risk to become Firewise.
- Update and expand the recommended resources for completing the patch. The kits available for troop leaders to check out could be updated with revised materials and expanded to include recent fact sheets, videos, engaging educational activities, or other fire outreach materials produced for Florida. In addition, because most materials are available online, troop leaders could be given a descriptive list of resources with Web page links.
- Expand community partners. There are many opportunities to work with state parks, landowners, fire departments, communities, and others across the council to help conduct fire education and outreach and to reduce risk through mitigation activities. As a team, the FFS and troops completing the patch could

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identify potential partners to complete projects with long lasting impacts for both the youth and the wider community.

- Link with existing federal programs and partnerships. A national partnership between the U.S. Forest Service and the Girl Scouts supports the program, “Linking Girls to the Land,” which may be an opportunity to better market the Firewise patch to other regional councils in high wildfire risk areas.

## LESSONS FOR OTHER WILDFIRE EDUCATION PROGRAMS FOR YOUTH

From the information we learned through assessing the Girl Scout Firewise Patch and Camps program, we offer the following advice for educational organizations and fire management agencies interested in youth wildfire education.

- Consider the ability of youth to deliver important messages with unparalleled enthusiasm and energy.
- Combine the expertise of forestry agency staff with non-formal educators interested in youth development to build programs with effective content and educational strategies.
- Build local programs that are flexible enough to be replicated in multiple locations.
- Track and document participant numbers and program outputs, which will help determine program worth and garner support for program continuation. This step is especially important for public agencies that likely have specific reporting procedures to obtain and continue program funding.
- Match youth action projects, both outreach presentations and risk reduction activities, to high risk communities or areas in need.
- Dedicate staff time to working with partners to help ensure that the program continues to grow and meet all partners’ needs.
- Pay attention to potential transitions and changes in program leadership and plan for how to respond to those eventualities by training new leaders.



A Firewise sign located on the welcome kiosk at Camp Caloosa.  
Photo by Victoria Sturtevant.

*“Ultimately, what we really hope is that it is making the [Florida] Forest Service job easier and that people are clearing that defensible space.”*

*(Staff, Girl Scouts of Gulfcoast Florida, Inc.)*

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## **PROGRAM INFORMATION AND CONTACTS**

- Girl Scouts of Gulf Coast Florida, Inc. Web site, [www.gsgcf.org](http://www.gsgcf.org)
- Firewise Communities Web site, [www.firewise.org](http://www.firewise.org)
- Florida Forest Service Web site, [www.floridaforestservice.com](http://www.floridaforestservice.com)

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## **ABOUT THIS SERIES**

This is one in a series of Forest Service publications presenting descriptions of individual case studies included in the National Fire Plan study “Promoting fire adapted human communities through youth wildfire education programs.” Other research notes in the series can be found by searching the title “Youth Working with Communities” at Treesearch, <http://treesearch.fs.fed.us>, or by contacting a member of the research team.

## **METHODS**

This report is part of a larger investigation of how youth wildfire education programs contribute to the development of fire-adapted human communities. The National Cohesive Wildland Fire Management Strategy defines a fire-adapted community as consisting of “informed and prepared citizens collaboratively planning and taking action to safely co-exist with wildland fire” (Wildland Fire Leadership Council 2011, p. 33).

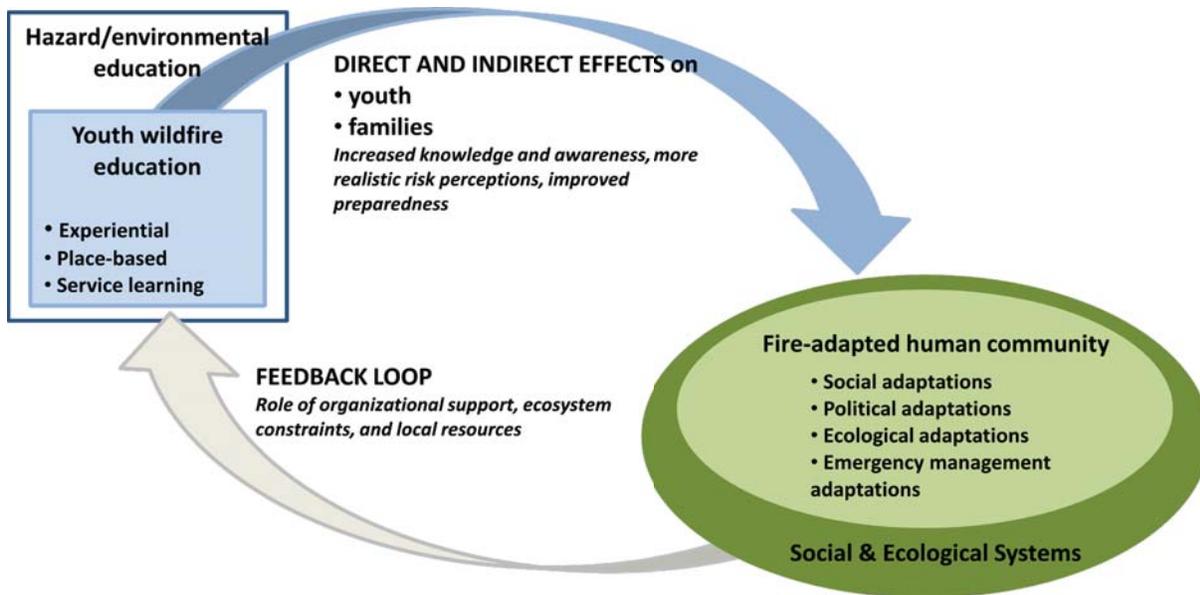


Figure 1.—Research framework for understanding the link between wildfire education programs for youth and fire-adapted human communities, where youth wildfire education programs, using environmental education methods, influence students and families and contribute to communities becoming adapted to fire, with local community resources supporting the wildfire education program.

A working group of the Wildland Urban Interface (WUI) Mitigation Committee of the National Wildfire Coordinating Group<sup>5</sup> has identified four types of adaptations a community must make to become adapted to fire: (1) social adaptations, (2) political adaptations, (3) ecological adaptations, and (4) emergency management adaptations. In studying wildfire education programs for youth, we looked for ways in which the program contributed to adaptations in these four areas.

We explored the environmental education and community wildfire management literature and developed a model to explain how education programs and fire-adapted human communities interact (Fig. 1). The case study reported here is helping us further define and characterize the model. Our first step was to describe the program, focusing on program content and the extent to which the program employed experiential, place-based, and service learning activities (blue box in Fig. 1). Next, we collected data on whether and how the program increased knowledge and awareness of the physical, ecological, and social aspects of wildfire, promoted more realistic risk perceptions, and improved wildfire preparedness for youth and their families (down arrow in Fig. 1). We then looked for ways the program may be contributing to the local community being more adapted to fire (green oval in Fig. 1). Finally, we identified community resources that supported the program (up arrow in Fig 1).

<sup>5</sup>The WUI Mitigation Committee provides coordinated leadership, input, and recommendations to public wildfire management agencies for the achievement of fire-adapted communities in the wildland urban interface. <http://www.nwcc.gov/branches/ppm/wuimc/index.htm>

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The case study approach is a common research method applied when scientists want to study “who, what, how, and why” for a contemporary event within a real-life context (Yin 2003). We selected programs for case studies that would represent (1) programs that are contributing (even in a small way) to the development of a fire-adapted human community or have the potential to do so in the near future, (2) a range of program types (based in schools, clubs or organizations, and NGOs), and (3) different regions of the country. We used purposive sampling to select interviewees (Lindlof and Taylor 2002). This selection process is appropriate when scientists need to identify people who have specialized knowledge about the program being studied. Data were gathered using semi-structured, face-to-face interviews following an analytic induction approach (Glaser and Strauss 1999). Analytic induction is ideally suited for this study because it allows us to identify patterns and themes surrounding concepts that have received little empirical study. For the Girl Scout Firewise Patch and Camps case, we interviewed seven individuals, including staff and volunteers from the Girl Scouts of Gulfcoast Florida, Inc. and the Florida Forest Service, and youth participants. Additional data were collected from secondary sources such as the Girl Scouts of Gulfcoast Florida, Inc. Web site, program handouts and resources, and the Firewise Communities® newsletter.

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