KIDS IN ACTION INITIATIVE

going wild with science

Introduction

With a focus on inclusive activities that are embedded in state science standards, Kids In Action: Going Wild With Science intends to engage kids and communities with scientists in local and larger regional projects where they interact with insects, plants, native and non-native invasive species, wildlife, and water systems. These symbiotic partnerships allow students of all ages to partner with real scientists in the field, gathering data in personal journals that advances scientific knowledge while gaining a deeper understanding of state science standards. Concepts of service-learning expose students to science methods and new technologies in fun experiential connections with nature.

Rationale

Experiential learning of youth can be a bridge to contextualizing content and instruction in a classroom and in the field. Kids get to work shoulder to shoulder with scientists in authentic roles—investigating and learning about creepy crawlly things like bugs and weeds, waterways and wildlife; finding themselves more engaged in the natural environment through fun and scientifically sound curriculum and supportive activities both in the classroom and in the field. The goal is for involvement in these projects to expose K-12 students to the work of scientists in their communities; and, ultimately, foster community involvement in coordinated public presentations designed to share a participant's insights and interpretations for the broader impact on conservation and sustainability.

Background

Kids In Action emerged from interagency coordinated invasive species outreach and education programs in the Intermountain West between 1996-2011. The curriculum and programs piloted in these partnerships with Federal/State/Tribal and local communities, schools, and special interest groups were consolidated online within The Bugwood Wiki. [https://wiki.bugwood.org/Biocontrol_In_Your_Backyard](https://wiki.bugwood.org/Biocontrol_In_Your_Backyard)

In 2012 subsequent to a series of stakeholder and partner meetings, the first Kids In Action classroom and field events emerged in northern Utah's Division of Wildlife Resources (UDWR), Hardware Ranch Wildlife Management Area. Additional subsequent events emerged in State Parks: Great Salt Lake Antelope Island, and Wasatch Mountains; and, the UDWR, Eccles Wildlife Education Center at Farmington Bay Waterfowl Management Area. New experiential curriculum focused on social connections with nature and the problems of invasive plants. Projects specific to classical biological control of invasive plants were piloted using learning stations in the classroom and with scientists in the field. Rigorous evaluation methods helped us understand results and make critical adjustments.
To watch a 4-minute video produced by West Point Junior High School of Science and Biology Science Honors students during classroom and field days at Antelope Island, Great Salt Lake State Park, click on this YouTube link https://www.youtube.com/watch?v=3fDZeh-y_vg&feature=youtu.be.

To watch a 2-minute YouTube video produced by Utah's KSL TV-5 News at 6 of 4th Grade Students from Edith Bowen Laboratory School (a Charter School on Utah State University campus) at Hardware Ranch Wildlife Management Area, click on this YouTube link https://www.youtube.com/watch?v=TkZaHNTMxOU

This year (2021) in partnership with the State of Montana, Intermedia Productions upgraded our capacity to communicate more effectively in remote settings to deliver curriculum and increase the self-reliant capacity of teachers, team leaders, land management partners, and trainers in the field. With continued support from USDA Forest Service Forest Health Protection Washington DC Office, we have the capacity to enhance our existing programs by establishing a steering committee and technical team to guide how we advance to other regions. We will address underserved communities and non-discrimination in places where we work; and, advance the adaptability of our programs and projects to address our core value of inclusive connections.

**STEERING COMMITTEE** (developing roster updated February 1, 2021)
**Primary Coordination Contact:** Carla Hoopes carlahoopes@gmail.com

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**TECHNICAL TEAM**

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**STEERING COMMITTEE Profiles** (in alphabetical order by last name)
**Primary Coordination Contact:** Carla Hoopes carlahoopes@gmail.com

**Gary D. Adams, PhD** is the Montana State Plant Health Director for USDA Animal and Plant Health Inspection Service (APHIS). He earned his degree in Agronomy, Plant Protection Option at Montana State University. Gary has been involved with biological control of rangeland weeds and insects since 1986 and the USDA, APHIS, Plant
Protection and Quarantine is a partner in funding for the Montana State Wide Biological Control Project (Montana Biological Control Working Group) and Working Group Coordinator position. He is also an advisory member of the Montana Weed Control Association, the Montana Weed Awareness and Education Committee, the Montana Noxious Weed Management Advisory Council, and the Montana Invasive Species Council. Gary served on the steering committee representing APHIS as a funding partner for Carla’s earlier Montana projects that included Tribal outreach and biological control curriculum. Interactive curriculum from those projects is hosted within the Bugwood Wiki (Biocontrol In Your Backyard) by the Center for Invasive Species and Ecosystem Health at the University of Georgia.

**Sandy Frost, PhD** is the Partnership Liaison for the USDA Forest Service Washington Office, Watershed, Fish, Wildlife, Air and Rare Plants program. (more information coming).

**Nicaela Haig** is the Programs Specialist for Utah Division of Wildlife Resources, Eccles Wildlife Education Center. Nicaela’s profile is in the **Technical Team Profiles**.

**Carla Hoopes** serves as project manager and fiscal administrator. She initiates partnerships and facilitates project development, coordinates resources and logistics, and provides oversight to project dynamics and evaluations. Carla holds a Master of Science in Land Resources and Environmental Sciences from Montana State University-Bozeman, and Wildlife Biologist Certificate from The Wildlife Society that requires academic study equivalent to a Master of Science degree plus verifiable work history as a wildlife biologist. She is also a Certified Coach and Trainer for the National Association of Interpretation. Carla has extensive work achievements in conservation education, invasive species, and large landscape outreach and education in the Intermountain West.

**Marni Lee** coordinates conservation education for the Utah Department of Natural Resources Division of Wildlife Resources. She primarily oversees Education and Visitor Services operations at the Eccles Wildlife Education Center (EWEC) at Farmington Bay Waterfowl Management Area and Hardware Ranch Wildlife Management Area (HRWMA). Marni coordinates conservation education activities in support of **Kids in Action: Going Wild With Science** at EWEC and HRWMA. She also coordinates trainer programs on site and staff support for KIA events in other landscapes (e.g., Antelope Island State Park, Syracuse, Utah). She supervises the efforts of the State of Utah’s Project Wild Coordinator as well as coordinates various conservation education field trips in Northern Utah. Marni has extensive work achievements in conservation education that engages youth in high mountain deserts and watersheds (e.g., Mountain Wilds to Wetland Wonders, US Fish and Wildlife Service, Bear River Migratory National Bird Refuge and Hardware Ranch Wildlife Management Area).

**Vanessa Lopez, PhD** is the Invasive Plants and Biological Control National Program Manager for the USDA Forest Service, State and Private Forestry, Forest Health Protection office in Washington, DC. Vanessa earned her PhD in entomology while conducting biological control research on invasive wood borers. In her current position with Forest Health Protection, Vanessa manages several competitive grant and national programs focused on managing invasive species across forest and grassland ecosystems in the U.S.

**Eric Newell, PhD** taught upper elementary and middle school students for 17 years in public schools. During that time, he worked tirelessly to establish curriculum-based outdoor service-learning projects for students in partnership with local, state, and federal organizations such as the City of Logan Parks and Recreation, Utah Division of Wildlife Resources, Forest Service and the U.S. National Wildlife Research Center, and Hardware Ranch Elk Refuge. In 2008 he created Mount Logan Discovery, a 6th grade middle school program that integrated science, social studies, and language arts with meaningful outdoor learning experiences. Since 2014, Eric has worked as the Director of Experiential Learning and Technology (two opposite realms) at Edith Bowen Laboratory School, a K-6 public charter school on Utah State
University campus in Logan, Utah. In the summers, Eric guides week-long whitewater rafting trips on the Salmon River and the Middle Fork of the Salmon river. He is also the author of *Idaho's Salmon River: A River Runner's Guide to the River of No Return*.

**Robert Nowierski, PhD** is the National Program Leader for Biobased Pest Management with the USDA National Institute of Food and Agriculture (formerly CSREES - the Cooperative State Research Education and Extension Service) in Washington D.C., and more recently in Kansas City, MO. He provides national leadership for the overall planning, development, organization, and management of research and extension programs concerning applied ecology, bio-based pest management, and invasive species. Author and co-author of greater than 85 technical publications including 49 refereed journal articles and book chapters, Robert has served in leadership roles on regional, national and international committees, invasive species task forces and committees. Most recently, Robert received a lifetime achievement award from the Federal Interagency Committee for the Management of Noxious and Exotic Weeds, and the Who’s-Who Lifetime Achievement Award in Science and Engineering, as a result of his lifetime achievements in research, teaching, administration, and professional service.

**Garth Paine, PhD** is a co-Director of the Acoustic Ecology Lab at the School of Sustainability at Arizona State University. Garth is a composer, scholar, and acoustic ecologist. He crosses art-science boundaries with his community embedded work on environmental listening and creative place-making in addition to his environmental musical works and performances. Garth’s passion for sound as an exhibitable object is the inspiration for curriculum and the exploration of the senses as our lived context within changing ecological settings. He is affiliate faculty at the Center for Biodiversity Outcomes and a senior sustainability scientist with the Julie Ann Wrigley Global Institute of Sustainability at Arizona State University. Recent interview with Garth Paine illuminating the significance of listening in nature and what it is like to be there (https://soundcloud.com/garthpaine/garth-paine-it-not-cricket-aug18-2020).

**Richard Reardon, PhD** is the Technical Team Lead for the subcommittee of the Steering Committee. Richard's profile is in the **Technical Team Profiles** below.

**Roy Vandriesche, PhD** is joining the Technical Team in support of biological control contacts. Roy's profile is in the **Technical Team Profiles** below.

**Shelly Witt, PhD** is National Forest Service National Continuing Education Coordinator for Natural Resource Professionals (more information coming).

**TECHNICAL TEAM Profiles**

**Subcommittee to support the Steering Committee** (developing roster updated February 1, 2021)

**Primary Coordination Contact:** Carla Hoopes carlahoopes@gmail.com

**Nicaela Haig** coordinates training programs at the Eccles Wildlife Education Center at Farmington Bay. The focus of her work engages the general public in the landscape while protecting the resource. Using interpretive skill sets and fun learning activities, Nicaela works in partnership to develop curriculum for scientific activities that engage students and communities in the landscape. Her process begins with a teacher or team leader training workshop to build capacity of community group leaders to be self-sufficient when they bring their students and members to the landscape. Nicaela's hands-on support since 2011 for **Kids in Action for Biological Control** (e.g., Edith Bowen Laboratory School 4-5th Grade (Utah State University) and Mount Logan Discovery program at Hardware Ranch Wildlife Management Area) facilitates a degree of self-sufficiency; where teachers plan and lead their events with local scientists, check out
curriculum and tools prior to the event, and obtain permission to come and go to conduct their experiential learning events on their own.

Richard Reardon, PhD retired from the USDA Forest Service in 2019 having 53 years of service with the USDA. Richard specialized in the development and use of biological insecticides (e.g., btk, gypchek, disparlure) for gypsy moth management, biological control of invasive arthropods and invasive plants, and produced over 100 outreach publications in the Forest Service FHTET/FHAASST Technical Series to improve communication and information transfer between scientists, land managers, and the public. Richard has a long history with Kids In Action from its inception in 2011. He will be leading the technical subcommittee of the steering committee.

Roy Vandriesche, PhD has worked his career (since 1976) at University of Massachusetts-Amherst, from where he retired in 2015. Roy’s area has been the use of parasitoids for biological control of invasive insects, especially against invasive pests of forests. Since retirement, he has been working with ARS (Jian Duan) on biocontrol of emerald ash borer, continuing work they started in 2007. His knowledge of weed biocontrol is indirect as he rarely worked on weed biocontrol projects. Roy authored two text books on biocontrol and a larger number of Forest Health Assessment and Applied Science Team (FHAASST, formerly FHTET) publications on particular topics related to biocontrol.

DEVELOPING PARTNERSHIPS

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...from January 27, 2021 email.
Thanks so much for reaching out. Kids in Action sounds like an excellent program!! I would love to link to it and otherwise help you get the word out through our NatureWatch networks (mailing list, social media, and website), if that is ok with you.

Unfortunately, I will not be able to serve on the steering committee, however. I think a better fit for this work might be found with one of our Conservation Education staff, who are more closely aligned with your mission and objectives and who would have a much better platform for the networks you hope to reach. I have copied two of my colleagues from CE above, so they might review and consider this offer.

<Rachel.Bayer@usda.gov>,
<Fernandez-DeSimone, Lucila - F3" <Lucila.Fernandez-DeSimone@usda.gov>

...Carla's response to Kim from February 1, 2021 email
"Thank you so much for offering to help with getting our word out through NatureWatch networks (mailing list, social media, and web site). Can you give me an idea of what type of information is appropriate for me to get to you (format, content, timing, etc.) once we have our committee work complete?"

...Rachel Bayer response to Carla from February 1, 2021
"My apologies for our delayed follow-up. We greatly appreciate you thinking of us and the invitation to join the steering committee. We are forwarding this great opportunity to our Conservation Education Regional Coordinators for Regions 1 (ID, MT, ND, and SD) and Region 4 (ID, NV, UT, and WY) for their knowledge and engagement if they are available.” (The names and contacts referenced in this email for regional coordinators are not included in the address send to area other than Shelly and Lucila.)
...from January 14, 2021 email.

"... there may be some linkage to our PlayCleanGo program. We don't currently provide educational materials, but that committee does want to develop educational materials for kids if funding can be provided for our staff time to do so. If you have a specific grant for environmental education in mind for which you'd like us to partner on a proposal, we would be open to discussing that."