

Supplementary Table 2. Expanded Conceptual categories (actions) of transference with supporting data, artifacts and representative quotes.

Conceptual Category Description	Supporting Data and Artifacts Representative Quotes
<p><b>1. Maintain a longterm interest in nature</b></p> <p>Refers to the pre-existing and long-term affinity with nature or science that is an individual's source for joining a citizen science program. All interviewees associated their decision to join a citizen science program with their existing affinity with nature or science, enjoyment in learning about science and utilizing citizen science programs as a means of maintaining this long-term interest.</p>	<p><b>Participant experiences and recollections; participation in citizen science programs; nature journaling, photography and other written records such as maps;</b></p> <p>"I think I have definitely always had an interest [in nature]. I grew up on a ranch. You see the connections of the world around you a lot more when you are just in it all the time."</p> <p>"[Appreciation for nature and science] just comes naturally from when I was young, at least part of it. Over my lifetime, I just was interested in it, so I pursued out of curiosity and fun."</p> <p>"I do ... miss the kind of work I was planning on doing when I was going to school. It just didn't happen... So this does make me feel good ... that I didn't completely waste those years and that interest."</p> <p>"[By participating in citizen science] I am doing something useful. Something I would've never thought to do by myself. Useful for science."</p> <p>"[...] the fact that I am not in graduate work, I'm not working for a doctorate, and yet I can do something to add to our foundation of knowledge. That to me is very exciting, that I can participate and ... observe and send those observations and that they can be used."</p>
<p><b>2. Share science knowledge and experience</b></p> <p>Refers to the internal action of sharing project-related science knowledge and experiences with someone not involved in the project, including family members, neighbors, friends, colleagues at work, even acquaintances and strangers. All research participants described this action.</p>	<p><b>Participant experiences and recollections; corroborating stories of individuals; social media posts; public programs given; classroom curricula and lessons developed</b></p> <p>"I've had a chance visit with people and they'll look at [me] kind of funny...'Why are you in a project like that?' Then they'll spend a half an hour talking to [me] describing it [laughter]. Everybody's interested once they observe what you're doing. And they like to learn more about it."</p> <p>"...I do feel like my knowledge, I need to share it... I want people to know what [bee diversity] we have, and what is disappearing ... Because if we don't [know], then when it disappears no one will ever know. It won't matter!"</p>

“...I think there is a huge application for classroom teachers... [citizen science] has such a huge application for authentic assessments... especially [for] kids in school.”

“I think that the negative attitude towards the bees is going to take a lot to bend ... the education, the opportunity, the information did present itself, but... I think that in order to have a great impact... people have to become more aware as they see it in more spheres. It's got to be on the radio, it's got to be on the TV. It has to be in flyers that go home from school.”

“...I think there is a huge application for classroom teachers... [citizen science] has such a huge application for authentic assessments... especially [for] kids in school.”

“When you get involved in [citizen science] ... you want to do more to help. You learn about what works and what doesn't and maybe what we're doing wrong.”

### **3. Expertise attributed by others**

Refers to the external perceptions of individuals within a citizen scientists' social sphere. This action does not refer to citizen scientists self-identifying as experts. Others around citizen scientists saw them as experts due to their long-term interest in nature, their habit of connecting with people, sharing science knowledge and experiences, their involvement in and connection to current research and certain qualities displayed in their interactions with others.

### **Participant experiences and recollections; speaker invitations, participant statements and perceptions from individuals within research participant social circles (snowball sampling)**

“I would consider her an expert because she knows. She can tell you everything. Compared to anybody else I know.”

“...We've been friends for 35 years and I just know [bumble bees] are his interest and that's why I just go to Carlton; [to] see if he needs some more information or anything for [the University's] studies.”

“The most important thing is truly listening and being very in tune to what the needs are of the population you're serving.”

“[Carolyn] was one of the biggest hits because she could relate to kids. [She] just spoke on their level and explained things to them and let them touch things and ask questions.”

### **4. Acquire the role of expert**

Refers to the phenomenon in which citizen scientists that are viewed as experts to those around them are called upon by their peers to answer questions about science,

### **Participant experiences and recollections; recollections and perceptions from individuals within research participant social circles (snowball sampling), conservation education awards received, and educational programming at public venues**

“I'm considered their entomologist [laughter]...now they'll say, 'Go talk to Carolyn. Go ask her, she'll know.' So they see me as a kind of a bug, a bird expert.”

support learning about science and insects, and handle interactions with living organisms.

"They yelled for me to come and take care of [the snake] [laughter]. I would have never been the one to be called. If insects get into the classrooms through the windows, they're yelling for me to bring a cup [laughter]."

### 5. Influence change in others

Refers to the occurrence of social interactions through which research participants felt they had increased others awareness of interest in and attitudes towards insects, pollinators and data collection for citizen science projects. This action also refers to incidents in which research participants described influencing conservation behaviors in others outside of the citizen science program

### Participant experiences and recollections; recollections and perceptions from individuals within research participant social circles (snowball sampling)

"[Students and teachers] see me doing it and they're doing it."

"... the kids took it more seriously because we were conducting real research. We were getting real data. They were a little bit more careful."

"...[She teaches] it with such enthusiasm...she gets a response from the kids... I know they were interested. She had my attention. She said she always had something new every summer to show, so they said, 'Oh, please come back so we can see what you have next year'."

"[My husband] had put [the domicile] out for me and when I went outside ... there was this big blue block sitting there [laughter] and you couldn't help but see it. And I was so pleased that it was there."

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