Freshwater Science BRIDGES Volume 40 • Issue 1 • Pages 221–251 March 2021 Fact Sheet



Public Engagement with Science

Public engagement with science (PES) is focused on two-way communication for mutual learning between scientists and the public. PES has been proven to benefit all participating parties, yet there continue to be barriers. The four papers in this BRIDGES cluster offer a guide for aquatic scientists to overcome these barriers and elevate their research through PES. Key points include:

- PES can improve research outcomes by strengthening scientific knowledge and projects while inspiring public action and informing policy.
- Barriers identified by SFS members fit within the larger context of challenges that scientists face when doing PES including time, resources, training and support (<u>Golladay et al. 2021</u>, <u>Hopfensperger</u> <u>et al. 2021</u>).
- Researchers can achieve successful PES by creating meaningful interactions while building collaborative networks (<u>Burdett et al. 2021</u>) through the use of trust and responsiveness (<u>Golladay et al. 2021</u>, <u>Hall et al. 2021</u>) to identify target audiences and mobilize quickly (<u>Burdett et</u> <u>al. 2021</u>, <u>Golladay et al. 2021</u>, <u>Hall et al. 2021</u>).
- Structuring activities appropriately by starting small, leveraging existing skills and resources, and including evaluation opportunities to learn from the project leads to success (<u>Burdett et al. 2021</u>).
- PES outcomes can be achieved through facilitating an inclusive public participation (<u>Hall et al. 2021</u>) by connecting with the audience (<u>Burdett et al.</u> <u>2021</u>, <u>Golladay et al. 2021</u>), valuing public contributions (<u>Hall et al. 2021</u>), and designing multiple points of entry (<u>Burdett et al. 2021</u>).



Two models for scientists to interact with the public: the older deficit model on the left and the newer model on the right. (Fig. 1 from <u>Hopfensperger et al. 2021</u>).

ABOUT THE AUTHORS:

Kristine N. Hopfensperger, Northern Kentucky Univ., environmental science; Erin I. Larson, Alaska Pacific Univ., community ecology; Susan E. Washko, Univ. of Arizona, community ecology; Eric K. Moody, Middlebury College, organismal ecology

Ayesha S. Burdett, New Mexico Museum of Natural History & Science, freshwater ecology; Katherine E. O'Reilly, Univ. of Notre Dame, fish ecology; Rebecca J. Bixby, Univ. of New Mexico, community ecology; Selena S. Connealy, New Mexico Established Program to Stimulate Competitive Research, broadening participation, informal education

Stephen W. Golladay, Jones Center at Ichauway, aquatic biology, public engagement; Laura S. Craig, Princeton Hydro, aquatic ecology, environmental consulting; Angela De Palma-Dow, Lake County Water Resources Dept. program coordination, SFS CA Chapter President; S. Gordon Rogers, Flint Riverkeeper[®] Executive Director; Ben Emanuel, American Rivers Clean Water Supply Program Director

Damon M. Hall, Univ. of Missouri, sustainability science; Susan J. Gilbertz, Montana State Univ.-Billings, geography; Matthew B. Anderson, Eastern Washington Univ., geography; Pedro M. Avellaneda, Indiana Univ., hydrology; Darren L. Ficklin, Indiana Univ., hydrology; Jason H. Knouft, Saint Louis Univ., ecohydrology; Christopher S. Lowry, Univ. at Buffalo, hydrologic modeling