



Research Brief for Resource Managers

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Researchers & Professionals Partnering For Ecosystem Conservation is Essential

Lawson, D.M., K.R. Hall, L. Yung, and C.A.F. Enquist. 2017. Building translational ecology communities of practice: insight from the field. *Frontiers in Ecology and the Environment*. 15(10):569-577. DOI: <https://doi.org/10.1002/fee.1736>

Around the world, influential and knowledgeable people are whole-heartedly working together to save plants, animals, and ecosystems. **Translational Ecology (TE)** is one formal term for this biological conservation process. In this paper, TE is defined as a problem solving effort to build long-term Communities of Practice between two groups: mainly *researchers* and *other professionals* (see Fig.1 Six Core Principals of TE). Together, these seemingly disparate groups are solving complex ecological problems through committed collaboration, engagement in the process, open communication, and by making decisions that are grounded to the needs, values, and timeframes of the local beneficiaries.

While these groups may already share a common purpose like conservation, they are naturally inclined to work, learn, teach, and innovate very differently. Researchers are focused on the creation of new knowledge, but other professionals (e.g., resource managers, sociologists, politicians, educators, etc.) are more focused on people, land

Management Implications

- Solid partnerships are essential for translational ecology (TE) to succeed.
- Complex social and ecological settings benefit the most from TE.
- Long-term commitment to collaboration and trust-building is best for reducing barriers in ecological decision making.
- TE tools are ecosystem, resource and partnership specific.

development, and natural resource management. Because of these differences, these groups must therefore be “fused” via TE. That is, a solid Community of Practice has to be built incrementally. Discussions of successes, struggles, and failures must ensue. Venues for these discussions might include conferences, scientific journals, blogs, and accessible reports. When working together, several key insights should be kept in mind:

- 1) “TE often begins with identifying shared goals.”
- 2) “It is not always possible to use off-the-shelf science”

- 3) “Participating scientists must invest in building relationships and mutual learning”
- 4) “Support is required for those who facilitate connections and catalyze engagement and cooperation”
- 5) “Progress is likely to be incremental and difficult to attribute to a single research project”
- 6) “The translational process needs to explicitly incorporate the long-term nature of problem solving”

- 7) “Social scientists can contribute to knowledge governance and evaluate outcomes”

To better illustrate the TE process, seven case studies are also included within the paper. Two are within aquatic ecosystems, four are in fire management (Fig.1), and one is within the WUI (wildland urban interface) context.



Figure 1. Translational ecology involves the application of the six core principles depicted in this “flower” graphic (from Enquist et al. 2017). We highlight the three most prominent principles for each of the four fire-related projects we examined in this paper, indicated by flower petal color. (a) Strong scientist- manager relationships supported management- relevant questions as well as long- term institutional and individual commitments at local and regional levels, which helped shape national- level fire policy (Case study 3, WebPanel 1). (b) Collaborations between scientists and managers sustained ongoing engagement and knowledge exchange, and ensured fire managers contributed to prescribed fire design and implementation (Case study 2, WebPanel 1). (c) An interdisciplinary, multi- institutional team co- developed restoration plans and implementation of restoration projects at multiple geographic scales (Case study 4, WebPanel 1). (d) A strong collaborative approach supported a transparent participatory process used to bring diverse stakeholders together, enabling complex social and political contexts to be addressed effectively (Case study 5, WebPanel 1).