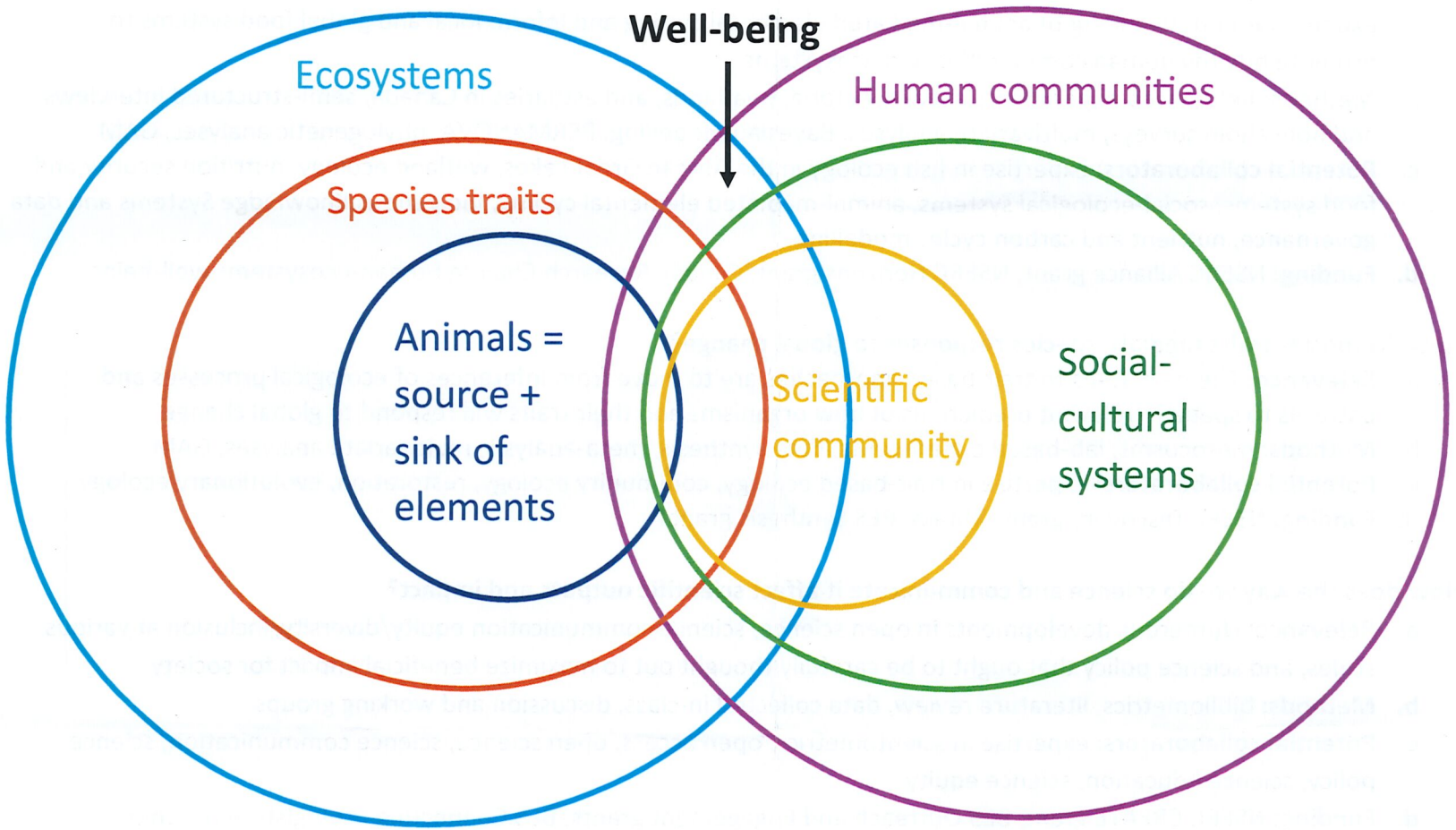
Sandra Klemet-N'Guessan, PhD – Human-ecosystems well-being – Trent University – sandraklemet@trentu.ca



Biogeochemistry – Social-ecological systems – Science Equity

Sandra Klemet-N'Guessan, PhD – Human-ecosystems well-being – Trent University – sandraklemet@trentu.ca

1) **How does the role of aquatic animals as both a source and sink of nutrients, carbon, and contaminants vary with species traits, environmental conditions, and the relationships with human communities?**
    a. **Relevance:** This role is underexplored in tropical regions and in wetlands; understanding it has the potential to expand our understanding of animal-mediated elemental cycling and inform local and global food systems to promote healthy human communities and ecosystems
    b. **Methods**: field-based experiments in Lake Victoria, peatlands, and estuaries in Canada, semi-structured interviews and household surveys, multivariate analyses, Bayesian modelling, PERMANOVA, phylogenetic analyses, GAM
    c. **Potential collaborators:** expertise in fish ecology in the African Great Lakes, wetland ecology, nutrition security and food systems, social-ecological systems, animal-mediated elemental cycling, Indigenous Knowledge Systems and data governance, nutrient and carbon cycles modelling
    d. **Funding:** NSERC Alliance grant, NSERC Horizons grant, Canada Research Chair in human-ecosystems well-being,

2) **How do species traits mediate species responses to global change?**
    a. **Relevance:** The next steps to trait-based approaches are to move from inferences of ecological processes and patterns to spatially-relevant predictions of how organisms and their traits will respond to global change
    b. **Methods:** mesocosms, lab-based experiments, data synthesis, meta-analysis, multivariate analyses, GAM
    c. **Potential collaborators:** expertise in trait-based ecology, community ecology, restoration, evolutionary ecology
    d. **Funding:** NSERC Discovery grant, Mitacs, BES Synthesis grants

3) **How does the way we do science and communicate it affect scientific outputs and impact?**
    a. **Relevance:** Numerous developments in open science, science communication equity/diversity/inclusion at various scales, and science policy that ought to be carefully thought out to maximize beneficial impact for society
    b. **Methods:** bibliometrics, literature review, data collected in-class, discussion and working groups
    c. **Potential collaborators:** expertise in scientometrics, open access, open science, science communication, science policy, science education, science equity
    d. **Funding:** NSERC CREATE grant, BES Outreach and Engagement grants, BES Connecting Ecologists with other Disciplines