

Faculty Development Plan, 2018

Name

Department of Biology

Self-assessment of my strengths, skills, competencies, interests, opportunities, and areas in which I wish to develop

Strengths:

- Get things done early
- Work hard
- Good organizational skills
- Good writing skills
- Broad background helps me understand diverse perspectives and connections between topics
- Diverse research interests
- Strong interest in helping students develop and succeed
- Good at explaining complex topics to students
- Committed to BYU's mission and aims
- Very happy to finally be here at BYU and love the environment

Skills:

- Strong laboratory experimental skills
- Good data analysis skills
- Have working knowledge of multiple types of mathematical and simulation modeling
- Good at integrating empirical and theoretical approaches to ecology
- Strong writing skills
- Good reviewing skills (ie, quickly catch problems and identify shortcomings)
- Ability to teach on a broad range of ecological topics

Competencies:

- Competent with modeling and data analysis software, including Netlogo and R
- Committed to working with undergraduate and graduate students frequently so they will have rich research experiences
- Committed to engaging with broader research community to advance the field more broadly than just my own research
- Engaged with the research community and thus understand top research priorities
- Experience and knowledge to bridge the related, but separate, fields of ecology, conservation, and resource management

Interests:

- Producing research that improves our understanding of the natural world and our effects on it, and that improves our ability to manage and protect nature
- Collaborating with others outside my own expertise to broaden my reach

- Integrating multiple research approaches (both empirical and theoretical) to address questions that cannot be adequately addressed using individual research tools in isolation
- Helping young students make connections between scientific concepts, their daily lives, the gospel, and the natural world
- Contributing to the success of the mission of BYU

Opportunities:

- Lots of research areas that could benefit from a more integrative research style or approach
- Colleagues, both in and out of BYU, who are interested in collaborating with me because of my research skills and tool set
- Large pool of students that want to participate in conservation-oriented research
- (Unfortunately) lots of ecological problems that need to be addressed

Development areas:

- Strengthen my teaching skills so that I can be a more effective teacher
- Improve my success at getting research funding
- Improve programming skills to make my modeling efforts more efficient
- Continue to broaden my ecological tool set by learning new types of modeling and data analysis
- Develop more collaborations, as I have a tendency to pursue research independently
- Develop knowledge and expertise in areas of new research interests (polar bears, elephant seals)
- Be more outgoing and less introverted

Citizenship goals

- Be contributing member of department and serve effectively in assigned roles
- Reach out to colleagues in my department and college so I can see how my research relates to their research and share teaching ideas with them
 - Leave my office door open for part of the day so others feel open to stop in
 - Schedule lunch once a month with a colleague
- Attend department and college seminars as often as I can, even if the topic doesn't directly align with my research interests
- Contribute more in faculty meetings

Teaching goals

- Make classes more interactive in order to engage students more actively
- Develop new Behavioral Ecology course
- Find ways to involve more undergraduates in meaningful research

- Become integrated into the marine biology instruction here at BYU
 - Help students with marine biology career aspirations to be better prepared for grad school

Scholarship goals

- Develop expertise in dynamic state variable modeling
- Develop methods for integrating individual-based and dynamic state variable modeling approaches
- Develop my ability to mentor undergraduate students through research projects
 - Submit at least one publication per year with an undergraduate as the first author.
 - Have at least two students give presentations each year at conferences
 - Help students take more ownership over research projects
- Submit at least 5 papers per year for publication
 - Be corresponding author or first author on at least 2 of those papers.
- Present my research at 2 conferences per year
- Obtain at least two types of ongoing external grant support
 - Apply for at least 3 external funding opportunities per year
 - North Pacific Research Board
 - NSF: DEB, IOS, Polar Programs
 - Identify new potential funding sources
- Establish collaborations with faculty inside and outside of BYU
 - Continue or extend collaborations with John Whiteman (Univ of New Mexico), April Blakeslee (East Carolina Univ), Mark Bell (BYU)
 - Develop new collaborations
 - Invite one potential collaborator per year to speak in Department seminar series

Relationship between individual goals and department and university aspirations and needs

- The Biology department would like to offer a behavioral ecology course for graduate students and upper level undergrads. My teaching goals will fill this need.
- The Biology department and the Life Sciences in general have several undergraduates with interests in marine biology. I will help to facilitate the educational and research pursuits of this group of students through my research and course offerings.

Resources needed to accomplish these goals

- Undergraduate salary support (provided so far via my startup package)
- Travel money (startup so far)
- Departmental support of marine biology field courses in Spring terms
- Center for Teaching and Learning
- Publication charges covered

So far I have been very pleased with the resources available to me here at BYU. The key is integrating more students into my research program so that I can leverage the resources available to support undergraduate research here at BYU.

My activities and accomplishments so far in achieving these goals

- Teaching: Have prepped lectures for Bio 220 with a focus on actively engaging students
- Teaching: Have prepped Bio 350 course with focus on actively engaging students in each lecture (will teach Spring and Fall 2018)
- Teaching: Have begun working with 15 different undergraduates on various research projects in my lab, including both individual and collaborative projects
- Citizenship (university): Currently serving on Assessment committee, though I have not yet done anything associated with this committee; Currently serving on Scholarships and Awards committee; I also serve as the faculty advisor for the marine biology club (currently being developed); I also served as a reviewer for the graduate mentoring award proposals
- Citizenship (outside): I currently serve as Associate Editor for the Journal of Animal Ecology
- Scholarship: I have established collaborations with established polar bear researchers, and with colleagues here at BYU (Mark Belk) since arriving here
- Scholarship: 2017 was my best year so far, publishing 8 peer reviewed papers. I am optimistic about the prospects for continued success given the research in the pipeline
- Scholarship: I have submitted two external grant proposals since arriving here (NPRB, SeaWorld)