



# Santa Rosa Island Research Station California State University Channel Islands 2018-19 Annual Report



## Santa Rosa Island Research Station (SRIRS): 2018-19 Annual Report

### A. SRIRS User Days & Partners

#### 1. 2018-19 User Days

User Group	User Days
CSUCI Students	1,207
CSUCI Faculty/Staff	379
Non-CSUCI Students	758
Outside Researchers	270
Other Partners	343
<b>Total</b>	<b>2,957</b>

2. **CSUCI Academic Programs (23):** Anthropology, Applied Physics, Art, Biology, Chicana/o Studies, Communications, Computer Science, Early Childhood Studies, ESRM, History, Library Sciences, Mathematics, Nursing, Performing Arts, Political Science, Psychology, CSUCI Presidential Scholars, Project OLAS, School of Education, Sociology, Spanish, Student Academic Success & Equity Initiatives, and University Studies. (comprised 54% of all visitors)

#### 3. Outside Organizations:

- a. **Academic (25):** Cabrillo Community College, Cal Poly San Luis Obispo, Cate School, Colorado State University, Cornell University, CSU Monterey Bay, San Diego State University, CSU STAR Program, Los Angeles Unified SD – Reseda High School, Oxnard SD – RJ Frank Middle School, Pepperdine University, Santa Barbara Unified SD, Santa Paula Unified SD – Isbell Middle School, Seattle Central College, Thomas Jefferson University, Westmont College, University of Colorado – School of Medicine, Santa Barbara City College, UC Davis, UCLA, UC San Diego, UC Santa Barbara, University of Michigan, University of Oregon, and Ventura Unified SD - Foothill Technology High School.
- b. **Other (19):** Artist Matt Stanton Beard, Boys and Girls Club of Ventura County, Channel Islands Aviation, Channel Islands National Park, Channel Islands National Marine Sanctuary, Channel Islands Naturalist Corp, Coastal Marine Biolabs, DELL, Geologic Maps Foundation, Growing Solutions, Mountains Restoration Trust, Island Packers Company, The Nature Conservancy, NOAA, Santa Barbara Adventure Company, Santa Barbara Botanic Garden, Southern California Women’s Environmental and Coastal Advocacy Club, Smithsonian Institution, and United States Geological Survey.

### B. SRIRS Student Research

#### 1. Student Capstone/Independent Research Projects

##### a. Anthropology (2 Students)

- **Inclusive Interpretation of SRI Cultural Resources:** Balancing Visibility, Education and Protection: Creating Cultural Resource Educational Tools for the Santa Rosa Island Research Station (*CI Faculty Mentors: Jennie Luna, Jaime Matera, Jennifer Perry; NPS Collaborator: Kristen Hoppa; SRIRS Staff: Russ Bradley, Robyn Shea, Aspen Coty.*)
- **Exploration of Chumash Phenomenology and Ethnobotany:** How the Land, Plants and Animals Teach Humans How to Live in Harmony within the Ecosystem and to Communicate Knowledge (*CI Faculty Mentors: Jaime Matera, Jennifer Perry; NPS Collaborator: Kristen Hoppa; SRIRS Staff: Russ Bradley.*)

##### b. Biology (5 Students)

- **Intertidal Ecology:** Continued long term monitoring of intertidal species and ocean conditions at Becher’s Bay and Skunk Point Sites. This work supplements and expands upon the Channel Islands National Park long-term monitoring program (*CI Faculty Mentor: Geoff Dilly; NPS Collaborator: Steve Whittaker.*)

##### c. ESRM (12 Students)

- **Big Tree Demography (5 Students):** Santa Rosa Island Torrey Pines (*Pinus torreyana*) demography and production following removal of non-native deer and elk. (*Faculty Mentor: Sean Anderson; USGS Collaborator: Kathryn McEachern; SRIRS Staff: Russ Bradley, Robyn Shea.*)
- **Micro-plastics (1 Student):** Micro-plastic Fallout from Air and Rainwater (*CI Faculty Mentor: Clare Steele; SRIRS Staff: Michaela Miller, Russ Bradley, Robyn Shea*)
- **ROV Monitoring (4 Students):** Effectiveness of Marine ROVs to assess Marine Resources (*Faculty Advisor: Sean Anderson; SRIRS Staff: Russ Bradley and Robyn Shea.*)

- **Historic Photo-point Monitoring on Santa Rosa Island (1 Student): Monitoring vegetation change using a citizen science project** (*CI Faculty Mentors: Kiki Patsch, Sean Anderson; SRIRS Staff: Russ Bradley*).
- **Lagoon Monitoring - (1 Student):** Monitoring fluctuations of size and salinity over time of the Santa Rosa Island, East End Lagoons. (*NPS Collaborator: Stephen Whittaker; CI Faculty Advisor: Sean Anderson; SRIRS Staff: Aspen Coty*).
- d. **Art – Ceramic Mural and Kitchenware (3 Students):** Interpretive Representation of Island Landscape and Cultural Resources. (*CI Faculty Mentors: Matthew Furmanski, Marianne McGrath, Jennifer Perry; SRIRS Staff: Russ Bradley, Robyn Shea, Aspen Coty*).
- e. **Computer Science - Research Station Sustainability Platform Upgrades – (2 students):** Tracking research station research use through remote sensors (*CI Faculty Mentor: Greg Wood; SRIRS Staff: Russ Bradley, Robyn Shea, Aspen Coty*).

### C. Faculty Research Projects

#### 1. Biology

- a. **Geoff Dilly:** Investigating the impacts of climate change (i.e. sea level rise, ocean acidification, etc.) on the intertidal and sub-tidal habitats of Santa Rosa Island (*NPS Collaborator: Steve Whittaker*).

#### 2. Anthropology/Sociology

- a. **Jaime Matera:** Community Perceptions, Understandings, and Future Expectations of the Santa Rosa Island Research Station

#### 3. Early Childhood Studies

- a. **Annie White:** Creating and Supporting Reciprocal Family and Community Networks – 4 year study. (*CI Faculty Collaborators: Heather Castillo, Jasmine Delgado, Bonnie Lavin, Marianne McGrath*).

#### 4. Math

- a. **Jason Miller:** Preliminary Acoustic Survey of the Microbats of Santa Rosa Island

### D. Additional Research Supported by SRIRS

1. **Westmont College:** Examining the herpetology ecology & evolution on Santa Rosa Island.
2. **Colorado State University/Cornell/Smithsonian**
  - a. Investigating song-sparrow population structure and adaptive radiations. – *Colorado State University*.
  - b. Avian Genoscapes. - *Colorado State University*.
  - c. Song Sparrow song variation – *Cornell University*.
3. **Santa Barbara Botanical Garden:** Ecological Network Collaboration – Santa Rosa Island; Native plant identification and seed preservation/collection; Terrestrial Invertebrate Survey on San Clemente Island.
4. **USGS:** Big Tree Demography (*Torrey pines*); Developing a restoration monitoring project within an ecological interaction network framework to guide the ecosystem recovery process on Santa Rosa Island (*NPS Collaborator: Ken Convery; USGS Collaborator: Kathryn McEachern; SB Botanical Garden: Denise Knapp*).
5. **USGS and CSU STEM Education Program:** STEM Teacher and Researcher Program (STAR), Summer Research Opportunities for STEM Educators (*USGS Collaborator: Kathryn McEachern*).
6. **Coastal Marine Biolabs:** Obtaining the unique DNA sequences of island arthropods and publishing the results within an international DNA Barcode database. (*Collaborative with Reseda High School and Foothill Technology High School.*)
7. **National Park Service - Inventory & Monitoring Program, Mediterranean Coast Network:** Historic Photo-Point Monitoring; Sandy Beach Monitoring; Vegetation Monitoring; Lagoon Monitoring.
8. **NOAA, Channel Islands National Park, The Nature Conservancy, Island Packers Company, University of California Natural Reserve System:** Cultivating Santa Barbara Channel Stewards – Community-Based Marine Debris Removal.
9. **NOAA:** Crossing the Channel: Natural Systems & Stewardship (BWET Logic Model). – *Santa Paula and Oxnard School Districts*.
10. **UCSD:** Examining the phenotypic and genetic difference of ant species across the California Channel Islands.
11. **University of Colorado:** Wilderness First Responder training for Pre-Med Students.
12. **Islands of the California's Botanical Collaborative Workshop:** Re-introductions and Translocations – Isla Guadalupe, Mexico June 14-18, 2019.