

## **DEGREES**

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### **PhD in Environmental Science and Management** (September 2017 – Current)

*Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)*

Advisors: Dr. Steven Gaines & Dr. Christopher Costello

### **Master of Environmental Science and Management** (June 2017)

#### **Coastal Marine Resources Management Specialization**

*Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)*

Thesis: A general approach and tool to evaluate the effectiveness of no-take marine reserves

Advisor: Dr. Christopher Costello

### **Bachelor of Science in Oceanography, Honors** (March 2015)

*Facultad de Ciencias Marinas – Universidad Autónoma de Baja California (UABC)*

Thesis: Latitudinal differences in size-structure of fish populations along the Pacific coast of Baja California

Advisor: M.Sc. Arturo Ramírez-Valdez

## **FUNDING**

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| 2017 | <b>CONACyT International Student's Doctoral Fellowship (2017 – 2021)</b> (\$146,619 USD)   |
| 2017 | <b>UC Mexus-CONACyT Doctoral Fellowship (2017 – 2022)</b>  |
| 2017 | <b>Latin American Fisheries Fellowship (2017 – 2018).</b> Doctoral Fellowship (\$14,352 USD)   |
| 2017 | <b>PADI Foundation Research Grant.</b> Searching for the king: natural history of the giant sea bass ( <i>Stereolepis gigas</i> ) in Mexican waters. With A. Ramírez-Valdez and P. Sgarlatta. (\$ 6,600 USD)                       |
| 2015 | <b>CONACyT International Student's Masters Fellowship.</b> (\$ 64,946 USD)   |
| 2015 | <b>Latin American Fisheries Fellowship.</b> Masters Fellowship (\$ 42,000 USD)   |
| 2014 | <b>Facultad de Ciencias Marinas, Universidad Autónoma de Baja California.</b> To attend and present at the XIV National Ichthyology Meeting and III Latin-American Ichthyology Symposium, Morelia, Michoacán, Mexico (\$1,000 USD) |
| 2014 | <b>Facultad de Ciencias Marinas, Universidad Autónoma de Baja California.</b> To attend to the XVIII National Oceanography Conference, La Paz, Baja California Sur, Mexico (1,000 USD)   |
| 2013 | <b>Scholarship by Comunidad y Biodiversidad.</b> To attend the Marine Conservation Biology Course, by Comunidad y Biodiversidad, Isla Magdalena, Baja California Sur, Mexico   |

## **FUNDING (Continued)**

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- 2013 **Fellowship by Asociación Nacional de Oceanólogos (ASOCEAN).** To perform a research internship at SQUALUS (NGO), Cali, Colombia (\$ 2,000 USD)
- 2012 **Fellowship by Facultad de Ciencias Marinas, Universidad Autónoma de Baja California.** To attend to the XIII National Ichthyology Meeting, Chiapas, Mexico (\$ 1,000 USD)
- 2011 **Scholarship from The School for Field Studies.** To attend the Coastal Ecology Course, by the School for Field Studies, Puerto San Carlos, Baja California Sur, Mexico

## **PEER-REVIEWED PUBLICATIONS**

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- In prep. **Villaseñor-Derbez, J.C.,** Aceves-Bueno E., Suarez-Castillo, A., Fulton, S., Torre, J. Enabling conditions for effective community based marine reserves in small scale fisheries. *Frontiers in Marine Science*.
- In review Paeke, J., Bogdanoff, A.K., Layman, C.A., Castillo, B., Chapman, J., Dahl, K., Patterson, W., Eddy, C., Ellis, R., Faletti, M., Higgs, N., Johnston, M., Muñoz, R., Sandel, V., **Villaseñor-Derbez, J.C.,** Morris Jr., J.A. (in review). Feeding ecology of invasive lionfish (*Pterois volitans* and *Pterois miles*) in the temperate and tropical western Atlantic. *Biological Invasions*
- R&R **Villaseñor-Derbez, J.C.** (Revise and re-submit). Biometry of the invasive lionfish (*Pterois volitans*) in the Central Mexican Caribbean, and a review of allometric growth parameters across the invasion range. *Pan-American Journal of Aquatic Sciences*.
- 2018 **Villasenor-Derbez, J.C.** Faro, C., Wright, M., Martínez, J., Fitzgerald, S., Fulton, S., Mancha-Cisneros, M.M., McDonald, G., Micheli, F., Suárez, A., Torre, J., Costello, C. (2018). A user-friendly tool to evaluate the effectiveness of no-take marine reserves. *PLoS ONE*. <https://doi.org/10.1371/journal.pone.0191821>
- 2016 Hernández-Velasco, A.J., Fernández-Rivera Melo, F.J., Melo-Merino, S.M., **Villaseñor-Derbez, J.C.** (2016). Occurrence of *Holacanthus clarionensis* (Pomacanthidae), *Stegastes leucorus*, and *S. acapulcoensis* (Pomacentridae) at Isla Magdalena B.C.S., Mexico. *Marine Biodiversity Records*, 9(1). <http://dx.doi.org/10.1186/s41200-016-0062-1>
- 2015 Ramírez-Valdez, A., Dominguez-Guerrero, I., Palacios-Salgado, D.S., Cota-Nieto J.J., Hinojosa-Arango G., Correa-Sandoval, F., Reyes-Bonilla, H., **Villaseñor-Derbez, J.C.,** Hernandez, A., Aburto-Oropeza, O. (2015). The nearshore fishes of the Cedros archipelago and their biogeographic affinities, northeastern Pacific. *CalCOFI Reports*, 56
- 2015 Dreyfus M., Mejía-Trejo A., **Villaseñor-Derbez J.C.** (2015). Analysis of null sets (no catch) made by the Mexican tuna seine fleet (2000-2013). *Ciencias Marinas*, 41(2):85-92. <http://dx.doi.org/10.7773/cm.v41i2.2471>
- 2014 **Villaseñor-Derbez J.C.** & Herrera-Pérez R. (2014). Brief description of prey selectivity and ontogenetic changes in the diet of the invasive lionfish *Pterois volitans* (Actinopterygii, Scorpaenidae) in the Mexican Caribbean. *Pan-American Journal of Aquatic Sciences*, 8(2):131-135

## OUTREACH & SCIENCE COMMUNICATION

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- 2016 Dreyfus, M., Robles, H., **Villaseñor-Derbez, J.C.** (2016). Distribución espacial de tallas del atún aleta amarilla (*Thunnus albacares*) capturado por la flota atunera mexicana durante el 2001 y 2014. *El Vigía*, 20(43), 5:8.
- 2015 **Villaseñor-Derbez J.C.**, Hernández-Velasco, A, Erauskin, M., Fulton, S., Cota-Nieto, J.J., Torre-Cosío, J., Herzka-Llona, S., Aburto-Oropeza, A. (2015). Effects of short-term marine reserves on grouper and bass populations. *DataMares. InteractiveResource*. <http://dx.doi.org/10.13022/M33K52>
- 2015 Hernández-Velasco, A., **Villaseñor-Derbez, J.C.**, Suárez Castillo, A., Torre Cosío, A., Espinoza, A. (2015). Isla Natividad en la Reserva del Vizcaíno. *Espacio Profundo*, 136: 34-40.
- 2015 Robles H., Dreyfus M., **Villaseñor-Derbez J.C.** (2015). Descargas de la flota atunera mexicana en el Pacífico Oriental en 2014 y su comparación con el período 1992-2013. *El Vigía*, 19(42), 3:5.
- 2014 Ramírez Valdez A., Montaña Moctezuma G., Torres Moya G., **Villaseñor Derbez J.C.**, Aburto-Oropeza O. (2014). Counting fish in the Kelp forests of Baja California. *DataMares. InteractiveResource*. <http://dx.doi.org/10.13022/M3BC7X>

## WORK EXPERIENCE

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### **Independent Consultant** – Comunidad y Biodiversidad (COBI) (06/17 – 02/18)

- Prepared a course and materials to teach marine reserve evaluation methods to environmental managers and NGO members.
- Performed a national-level evaluation of marine reserves in Mexico with case studies from the Gulf of California, Pacific and Caribbean.

### **Field Assistant & Data Manager** – Comunidad y Biodiversidad (COBI), La Paz, Mexico (03/15 - 07/15)

- Coordinated fieldwork to evaluate recovery of voluntarily-established marine reserves along the Baja California Peninsula
- Maintained a database with fish, invertebrate, and algae abundances derived from the underwater ecological surveys performed in the marine reserves
- Enabled communication among fishing community leaders, NGOs, and universities
- Wrote a protocol on how to operate oceanographic instruments used by fishers and staff. Produced 3 brochures, 1 interactive visualization and a peer-reviewed article on occurrences of tropical fish in temperate regions

### **Independent Consultant** – Mexican Tuna Purse Seine Fleet Research Trust (02/2015 – 06/2015)

- Managed a database with information on tuna biometrics and landings from by the Mexican tuna fleet between 1992 and 2014.
- Maintained accurate records for reference by decision makers using the data to regulate fishing quotas and inform policy and management decisions.

## **WORK EXPERIENCE (Continued)**

**Research Intern** – Kelp Forest Ecology Research Group, Ensenada, Mexico (12/2011 – 12/2014)

- Performed underwater ecological surveys at kelp forests along the Baja California Peninsula and supervised dive safety
- Created a MATLAB-based software to capture information from the ecological surveys
- Maintained a database with the group's ecological data of fish species, used in different analyses
- Communicated the group's results to audiences of 20-50 people at local, national, and international scientific conferences

## **RESEARCH EXPERIENCE**

**Monitor Diver** - Facultad de Ciencias Marinas, Universidad Autónoma de Baja California (11/11- 3/15)  
*Ecologic characterization of the communities associated to kelp forests (*Macrocystis pyrifera*) off the coasts of Baja California.*

Principal Investigators: Dr. Gabriela Montaña, Dr. Quillermo Torres Moya

- Performed SCUBA dives for *in situ* fish community sampling (richness, abundance, and estimating lengths) and video-transects for in-lab processing.
- Conducted algae sampling to determine habitat complexity and heterogeneity.

**Monitor Diver** - Facultad de Ciencias Marinas, Universidad Autónoma de Baja California (08/14)  
*Feeding ecology of *Phoca vitulina richardsi* off the coasts of Baja California and Baja California Sur*

Principal Investigator: Dr. Yolanda Schramm

- Performed SCUBA dives in seal feeding grounds to identify fish species that could be potential prey.

**Research Intern** - Fundación para el Estudio y Conservación de Condrictios, SQUALUS (06/13 - 08/13)

Supervisors: Dr. Andrés Felipe Navia y Dr. Paola Mejía

- Performed studies on sexual maturity, reproduction, and trophic ecology of six elasmobranch species.

**On-board scientific observer** – CICESE (9/13)

*Biological Monitoring Program for Guadalupe Island: White shark observation*

Principal Investigator: Dr. Oscar Sosa

- Scientific observer on recreational vessels for white shark observation.
- Taking information on efforts of the activity, social perspective, and etology.

**Intern** - Facultad de Ciencias Marinas, Universidad Autónoma de Baja California (08/11 – 07/12)

*Marine pollution by trace metals off the coasts of Baja California, Mexico*

Principal Investigator: Dr. Francisco Delgadillo

- Field work on collecting water samples for Trace metals, Chlorophylls, Dissolved Organic Carbon, Salinity and Oxygen.
- Lab work analyzing water samples with spectrophotometers, oxygen titration (Winkler's Method) and preparing equipment for future sampling campaigns.

**Intern** - Centro de Investigación Científica y Educación Superior de Ensenada (CICESE) (3/12)

*IMECOCAL #53 (1203) Oceanographic Cruise, FU1203-287 Oceanographic Campaign.*

Cruise Boss: Dr. Timothy Baumgarten

- In charge of performing CTD/LADCP casts, and keeping track of navigation logbook.
- Spent 28 days at sea

## **RESEARCH EXPERIENCE (Continued)**

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### **Independent research (05/11 – 08/11)**

*Feeding ecology and biometrics of the invasive lionfish (Pterois volitans) off the coasts of Playa del Carmen, Quintana Roo, Mexico.*

- Sampling organisms to perform visual stomach content identification.
- Statistic analyses to biometric and feeding data.
- Published peer-reviewed article on major findings.

## **ACADEMIC AWARDS**

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- 2014 Pedro Mercado Sánchez **National Oceanography Award**. For the best undergraduate research project presented at the XVIII National Oceanography Conference, La Paz, Baja California Sur, Mexico
- 2014 **2<sup>nd</sup> Place for the best undergraduate presentation**. 2<sup>nd</sup> State Meeting of Young Researchers, Tijuana, Baja California
- 2014 Distinguished Student of the Oceanography program
- 2013 **1<sup>st</sup> Place for the best undergraduate presentation**. 1<sup>st</sup> State Meeting of Young Researchers, Tijuana, Baja California, Mexico
- 2013 **1<sup>st</sup> Place for the best undergraduate presentation**. XXI Student Conference at the Facultad de Ciencias Marinas, Ensenada, Baja California, Mexico
- 2012 **2<sup>nd</sup> Place for the best undergraduate presentation**. XX Student Conference at the Facultad de Ciencias Marinas, Universidad Autónoma de Baja California, Ensenada, Baja California
- 2012 Distinguished Student of the Oceanography program

## **CONFERENCE PRESENTATIONS**

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- 2017 **Juan Carlos Villaseñor-Derbez**, Caio Faro, Melaina Wright, Jael Martínez, Christopher Costello. A general approach and tool to evaluate the effectiveness of no take marine reserves. *28<sup>th</sup> International Congress for Conservation Biology*. July, 2017, Cartagena, Colombia.
- 2015 **Juan Carlos Villaseñor-Derbez**, Arturo Ramírez-Valdez, Gabriela Montaña-Moctezuma, Guillermo Torres-Moye, Octavio Aburto-Oropeza. Does Size Matter? Changes in Size Distributions of Six Kelp Forest Associated Fish Species. *145th Annual Meeting of the American Fisheries Society*. August 2015, Portland, Oregon.
- 2014 **Juan Carlos Villaseñor-Derbez**, Arturo Ramírez-Valdez, Gabriela Montaña-Moctezuma, Guillermo Torres-Moye. Because size matters: Differences in size structure of exploited and unexploited fish populations along the coasts of Baja California, Mexico. *XIV National Ichthyology Meeting and III Latin-American Ichthyology Symposium*. November, 2014, Morelia, Michoacán.

## CONFERENCE PRESENTATIONS (continued)

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- 2014     **Ramírez-Valdez A., Montaña-Moctezuma G., Torres-Moye G., Aburto-Oropeza O., Villaseñor-Derbez JC.** Biogeographic relationships of fish communities associated to Kelp Forests off the coasts of Baja California, Mexico. *XIV National Ichthyology Meeting and III Latin-American Ichthyology Symposium*. November, 2014, Morelia, Michoacán.
- 2014     **Juan Carlos Villaseñor-Derbez,** Arturo Ramírez-Valdez, Gabriela Montaña-Moctezuma, Guillermo Torres-Moye. Effects of recreational fisheries over sizes and biomasses of fish associated to Kelp Forests. *2<sup>nd</sup> State Meeting of Young Researchers*. October, 2014, Tijuana, Baja California. **(Awarded)**.
- 2014     **Juan Carlos Villaseñor-Derbez,** Arturo Ramírez-Valdez, Gabriela Montaña-Moctezuma, Guillermo Torres-Moye. Latitudinal distribution of sizes of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XVIII National Oceanography Conference*. June, 2014, La Paz, Baja California Sur. **(Awarded)**.
- 2014     **Juan Carlos Villaseñor-Derbez,** Arturo Ramírez-Valdez, Gabriela Montaña-Moctezuma, Guillermo Torres-Moye. Latitudinal distribution of sizes of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XXII Student Conference at the Marine Sciences School and 1<sup>st</sup> National Student Conference on Marine and Environmental Sciences*. May, 2014, Ensenada, Baja California, Mexico.
- 2014     **Juan Carlos Villaseñor-Derbez.** Description of feeding habits and ontogenetic changes in the invasive lion fish *Pterois volitans* (Linnaeus, 1758) diet off the coasts of Playa del Carmen, Quintana Roo. *1<sup>st</sup> Student Conference of Biological Sciences*. March, 2014, Ensenada, Baja California, Mexico.
- 2013     **Juan Carlos Villaseñor-Derbez,** Cira Gabriela Montaña-Moctezuma, Guillermo Torres-Moye y Juan Arturo Ramírez-Valdez. Community relationships of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *1<sup>st</sup> State Meeting of Young Researchers*. November, 2013, Tijuana, Baja California, Mexico. **(Awarded)**
- 2013     **Juan Carlos Villaseñor-Derbez,** Cira Gabriela Montaña-Moctezuma, Guillermo Torres-Moye y Juan Arturo Ramírez-Valdez. Community relationships of fish associated to Kelp Forests off the coasts of Baja California, Mexico. *XXI Student Conference at the Marine Sciences School*. May, 2013, Ensenada, Baja California, Mexico. **(Awarded)**
- 2012     **Juan Carlos Villaseñor-Derbez.** Contribution to knowledge of diet and biometrics of the invasive lion fish [*Pterois volitans* (Linnaeus 1758)] off the coasts of Playa del Carmen, Quintana Roo, Mexico. *XIII National Ichthyology Meeting and 1<sup>st</sup> Latin-American Ichthyology Symposium*. October, 2012, San Cristobal de las Casas, Chiapas, Mexico. DOI: 10.13140/2.1.3483.4889
- 2012     **Juan Carlos Villaseñor-Derbez.** Contribution to knowledge of diet and biometrics of the invasive lion fish [*Pterois volitans* (Linnaeus 1758)] off the coasts of Playa del Carmen, Quintana Roo, Mexico. *XX Student Conference at the Marine Sciences School*. May, 2012, Ensenada, Baja California, Mexico. **(Awarded)**.

## **WORKSHOPS AND COURSES TAUGHT**

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### **Introduction to R Markdown** (October 2017)

- Audience of ~35 people
- Part of the Eco-data-science workshops series
- Hour-long workshop on the basics of R Markdown to promote transparent research and generate reproducible reports

### **Evaluation of Marine Reserves in Mexico** (July 2017)

- Participation of 12 members from Mexican NGOs and government agencies
- Taught causal inference methods used to evaluate conservation interventions
- Introduced participants to the use of the Marine Reserve Evaluation Application (MAREA)

### **REEFCheck California monitoring techniques** (July 2015)

- Co-taught with Megan Wehrenberg (REEFCheck California) and Arturo Hernández (COBI)
- Instructed members from two fishing communities on scientific diving techniques and species identification in the Kelp Forests of Baja California
- Evaluated performance of divers on the field

## **ATTENDED COURSES**

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### **BigData** (January 2018)

**Rstudio::conf(2018L)**, San Diego, CA

BigData analysis and workflow in R and RStudio, by Edgar Ruiz

### **Advanced Shiny** (January 2017)

**Rstudio::conf(2017L)**, Orlando, FL

Advanced techniques for the development of Shiny Apps with R and R Studio, by developer Joe Cheng

### **Marine Spatial Planning.** (March 2016)

**Ecosystem-Based Management Tools Training Event by NatureServe**, San Juan, Puerto Rico

Introduction to SeaSketch, a software for collaborative marine spatial planning, by Grace Goldberg

### **Scientific Monitoring of Fishes Associated to Kelp Forests of *Macrocystis pyrifera*** (October 2013)

**Instituto de Investigaciones Oceanológicas (IIO), Facultad de Ciencias Marinas (FCM), Universidad Autónoma de Baja California (UABC)**, Ensenada, Baja California, Mexico

Training on methodology for scientific diving, north oriental Pacific fish species identification, abundance, and length estimations, macroalgae and heterogeneity of substrata. Lecturer: M. Sc. Arturo Ramírez

### **Marine Conservation Biology Course (Scholarship)** (March 2013)

**Comunidad y Biodiversidad**, Isla Magdalena, Baja California Sur, Mexico.

Natural resource management, social research, society-nature interactions. Lecturers: Andrea Sáenz Arroyo, Larry Crowder, Elena Finkbeiner

### **Coastal Ecology Course (Scholarship)** (June 2011)

**School for Field Studies (SFS) and Center for Coastal Studies**

Puerto San Carlos, Baja California Sur, Mexico

Natural resource management, social research, society-nature interactions. Field work on marine ecology projects answering to local issues with different species (e.g. scallop, octopus, sea-lions, sea turtles, mangroves). Director: Dr. Gustavo Hinojosa

## **SKILLS**

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### **Languages**

- **Spanish** (Native)
- **English** (Fully fluent; TOEFL iBT: 102)
- **French** (Semi-fluent; DELF A2)

### **Computing and Software**

- **Microsoft Office:** Word, Excel, PowerPoint, Publisher, Outlook
- **Tableau:** Creation of dashboards for interactive visualizations
- **MATLAB:** 1000+ hours
- **R and RStudio:**
  - 1000+ hours
  - Package development
  - ShinyApp framework
  - R Markdown
  - Machine learning
  - Spatial analyses
- **Git / GitHub:** <https://github.com/jcvday/>

### **SCUBA**

- **PADI** (1500 + Dives):
  - OpenWater Diver
  - Advanced OpenWater Diver
  - Rescue Diver
  - Dive Master
- **TDI:**
  - Sidemount Diver
- **Scientific Diving** (100 + Dives)
  - UABC Scientific Diver
  - Underwater ecological transects and quadrats
  - Identification of fish and invertebrates from the temperate Mexican Pacific and Caribbean