From graduate school to Capitol Hill -- Knauss Fellowship enhances student pathways to workforce development

Shiyu Rachel Wang, 2017 Knauss Fellow, NMFS
Sam Chan, National Extension Program Lead, NSGO
Aging Workforce

Average U.S. aquaculture extension educator is now in her or his 60s and 70s. (Jensen et al. 2005)
Relative number of the responding institutions (n = 79) that had or had not initiated aquaculture-specific undergraduate or graduate education/training programs and the decade of their initiation.

Published in: Gary Jensen; Michael Schwarz; Sandra Shumway; Jesse Trushenski; L. Curry Woods III; Thomas Broyles; Maxwell Mayeaux; *Fisheries* 2016, 41, 467-469.
DOI: 10.1080/03632415.2016.1199830
Copyright © 2016 None
Number of students completing aquaculture-related degree/certification programs in 2000 (completed), 2010 (enrolled), and 2015 (projected). Each person icon represents 100 individuals. International students represent 18%–25% of M.S. students and 35%–47% of Ph.D. students.

Published in: Gary Jensen; Michael Schwarz; Sandra Shumway; Jesse Trushenski; L. Curry Woods III; Thomas Broyles; Maxwell Mayeaux; *Fisheries* 2016, 41, 467-469.
DOI: 10.1080/03632415.2016.1199830
Copyright © 2016 None
An aging workforce + Fewer educational opportunities for younger generation

Extensions Graduates Knauss Fellowship Workforce Development

Graduate Students
Launching illustrious careers, Sea Grant Knauss Fellowships offer direct experience working in the executive and legislative branches on the latest issues in ocean and coastal management, fisheries and aquaculture.
Perks of the Fellowship

62 fellows from 33 state Sea Grant for 2017

50 executive fellows working across NOAA, NSF, USGS, Navy and DOI.

12 legislative fellows working in House and Senate staff and committee offices.

Paid Fellowship
$47,500 – salary.
$9,000 - professional development fund.

Government
Learn how to connect science and policy.
Get exposed to how to run a government.

Network
Fellow cohort support.
Good reputation.
Connections across agencies.
NMFS Aquaculture Office

- Regulatory and policy
- Science for management

We work here.

EPA, USDA, Navy
What do I do as an Aquaculture Fellow?

**NOAA-Funded Aquaculture Project Assessment**

**ArcGIS Online Story Map**

**Engagement Plan**

- Responded to Congress Taskers
- Organized NOAA aquaculture webinars
- Attended Aquaculture America Conference 2017

**Facilitating SG Aquaculture Initiative Review Process**
What am I Learning?

- Great exposure to aquaculture issues on a national and regional level
- Directly involved in using science to inform aquaculture policy making
- Closely worked with aquaculture folks including those with non-science background
Interview Questions

- What is your motivation working in aquaculture?
- Skillset for students to transition from graduate school to the aquaculture workforce?
- Messages to aquaculture extension agencies?
Motivations

I was a wild fishery observer. Ironically, I saw all the problems about wild fishery, then I decide to switch to aquaculture...

One fisherman I interviewed during my research said: take my words and bring them to someone who can do something about it...

I worked as an extension agent as a Peace Corp volunteer in West Africa...

A combination of seminars, classes and field trips.

I am a people person. Always want to find the interface...

I did an undergrad internship with NEFSC... rearing fisher-important marine species...
Messages for extension agencies

• Get students into the field
• Connect students and build cohort support network
• In-reach is as important as outreach
Suggestions for Graduate Students from Previous Fellows

1. Get into the field.
2. Get out of your research bubble.
4. Communication is the barrier and the key.
Acknowledgements

Dr. Kola Garber

David O’Brien

Dr. Gene Kim

Robert Jones

Dr. April Bagwill

Dr. Mick Walsh

Dr. Marie Fujitani

Karen Pianka
Thank you!

Shiyu Rachel Wang
shiyu.wang@noaa.gov
Sam Chan
What do fellows do?

Examples duties:
- Reviewed aquaculture proposals
- Help write and track appropriation
- Develop aquaculture project assessment
- Support US-Japan aquaculture engagement
- Created videos and interactive map for aquaculture outreach
- Facilitated conferences addressing bilateral relations and fisheries management partnerships with Canada and Japan
Understanding of Aquaculture’s Role

Should be a neutral way.

Inevitable.

A Must.

Need to build a robust aquaculture in the US.

We don’t chase animal on the land anymore, there is no need to do that in the ocean.

It’s part of the solution for feeding 9 million people