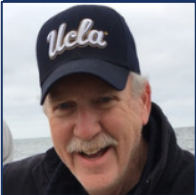
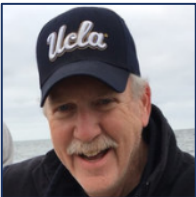

U.S. SOCIOECONOMIC IMPACTS OF HARMFUL ALGAL BLOOMS WORKSHOP: SOCIAL SCIENCE OVERVIEW

MIKE DOWNS, WISLOW RESEARCH, JULY 27, 2020



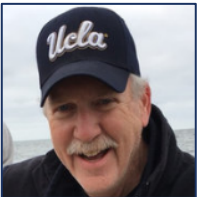
OVERVIEW

- **Objective:** Share HAB challenges and needs from a social scientific perspective
- **Background:**
 - Fisheries social impact assessment perspective
 - Informed by multi-agency coastal community research experience and adverse events experience
- **Disclaimer:**
 - Not a HABs expert



CHALLENGES: COMMUNITIES ARE COMPLEX

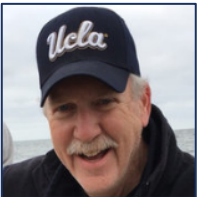
- **MSA and fishing communities** (provide for the sustained participation thereof)
 - Substantial engagement
 - Substantial dependence
- **Identification of pathways is complicated**
 - Commercial fishing
 - Sport charter
 - Subsistence



CHALLENGES: PATHWAY DATA GAPS

- **Commercial/Sport Charter**

- Vessel crew members
- Processing crew members
- Support service businesses
- Coastal tourism
- Markets



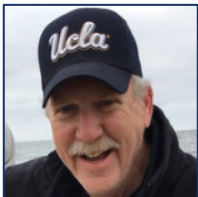
- **Subsistence**

- Retention from commercial catch; use of “joint production platforms”
- Harvesting, sharing, use: sociocultural context and webs of relationships



CHALLENGES: PUTTING PEOPLE IN THE ECOSYSTEM

- **Ecosystems management example from the North Pacific**
 - Bering Sea Fisheries Ecosystem Plan
 - Action modules moving forward toward implementation, including LK/TK/Subsistence
- **Council management still largely focused on Fishery Management Plans**
 - Challenge is figuring out how to incorporate human dimensions at key points in the management decision-making process and build out a data system that:
 - Supports ongoing management decision making
 - Supports the analysis of unforeseen events



Ecosystem Socioeconomic Profile (ESP) SEASAW

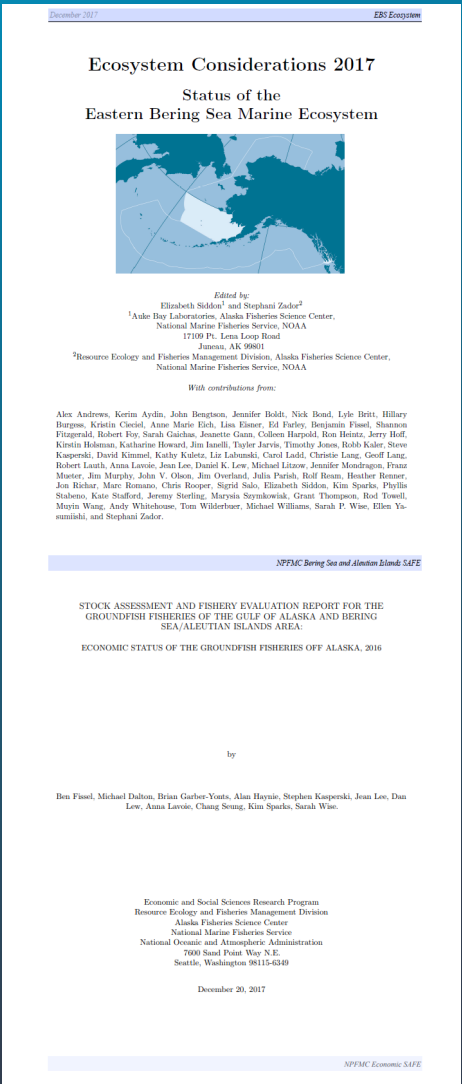
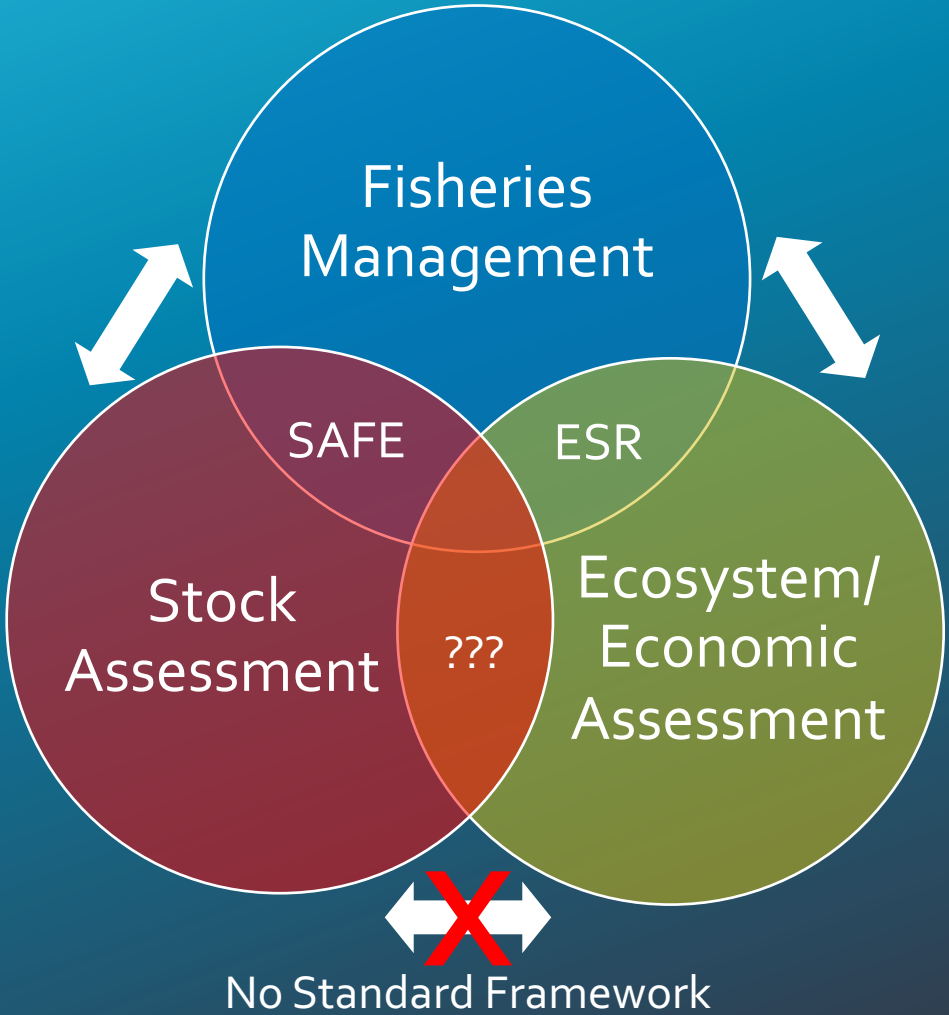
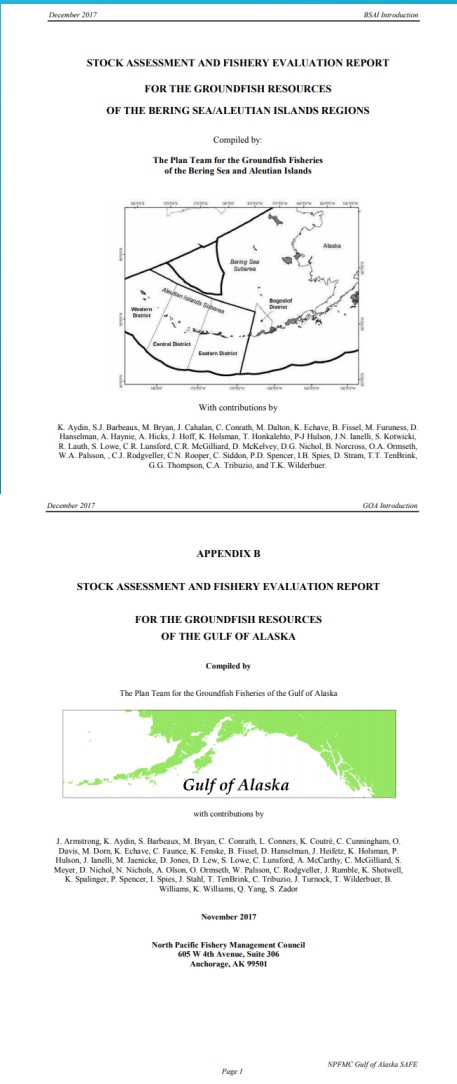
Definition: A standardized framework that facilitates the integration of ecosystem and socioeconomic factors within the stock assessment process and acts as a proving ground for operational use in quota setting.



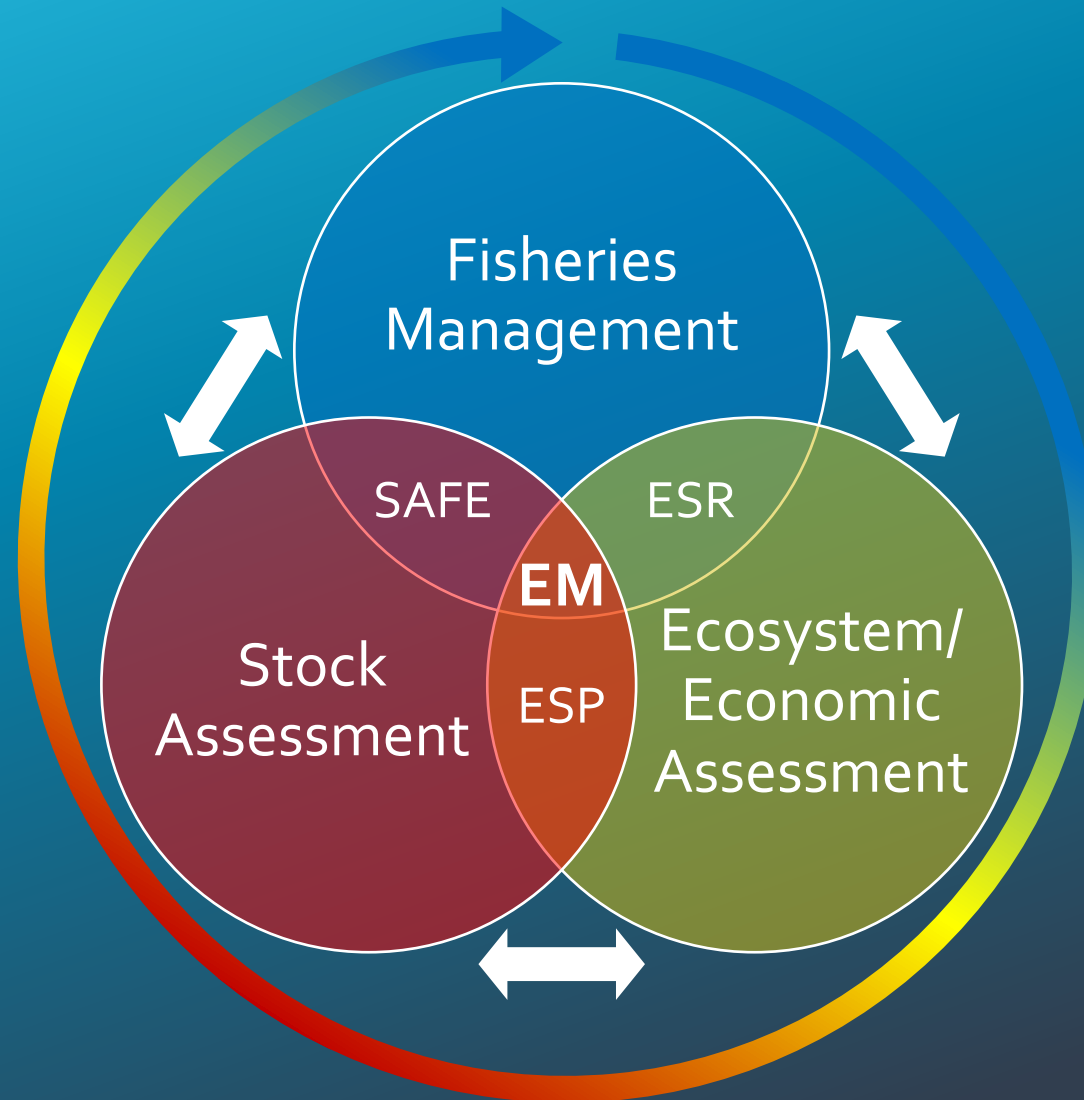
NOAA
FISHERIES

Kalei Shotwell, Ben Fissel, Dana
Hanselman, Brian Garber-Yonts
(Alaska Fisheries Science Center)
Michael Downs
(Wislow Research Associates LLC)

Communication Gap



Communication Loop



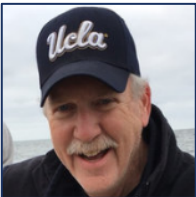
CHALLENGES: ESTABLISHING AND MAINTAINING RELATIONSHIPS

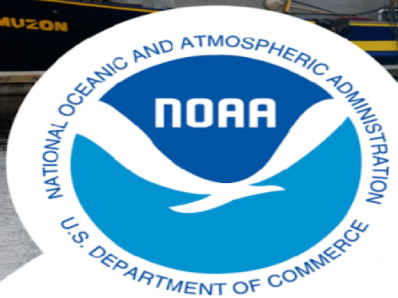
■ **Social science fieldwork**

- Interview/triangulation methodologies, but challenging in terms of cost and staff time
- Two-way flow of information, including LK/TK that can feed back into stock assessment
- Network of potential cooperators: port agents, Sea Grant, extension workers

■ **HABs – can be model for interdisciplinary approach**

- Teaming of natural scientists and social scientists
 - Social scientist lead interview process
 - Natural scientist critical for adequate follow-up
- Teaming of scientists and stakeholders: potential for cost reduction and on-the-water sentinels





**NOAA
FISHERIES**



Addressing red tide harmful algal blooms in the context of ecosystem-based management

John F. Walter, Skyler Sagarese, Matt McPherson,
Suzana Blake, Matt Campbell, Anthony Mastitski,
Brendan Turley, Mandy Karnauskas

Southeast Fisheries Science Center

Chris Kelble, Ian Smith, Maribeth Gidley
Atlantic Oceanographic & Meteorological Laboratory

IWG-HABHRCA Briefing – June 18 2020



NOAA FISHERIES

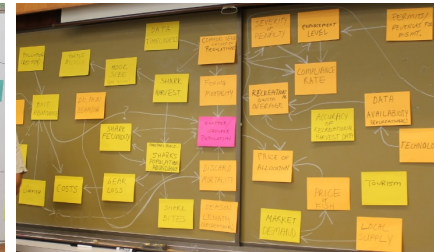
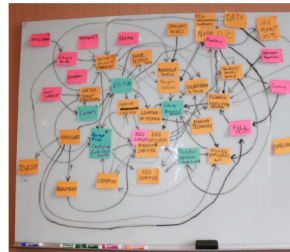


Participatory fisheries system modeling

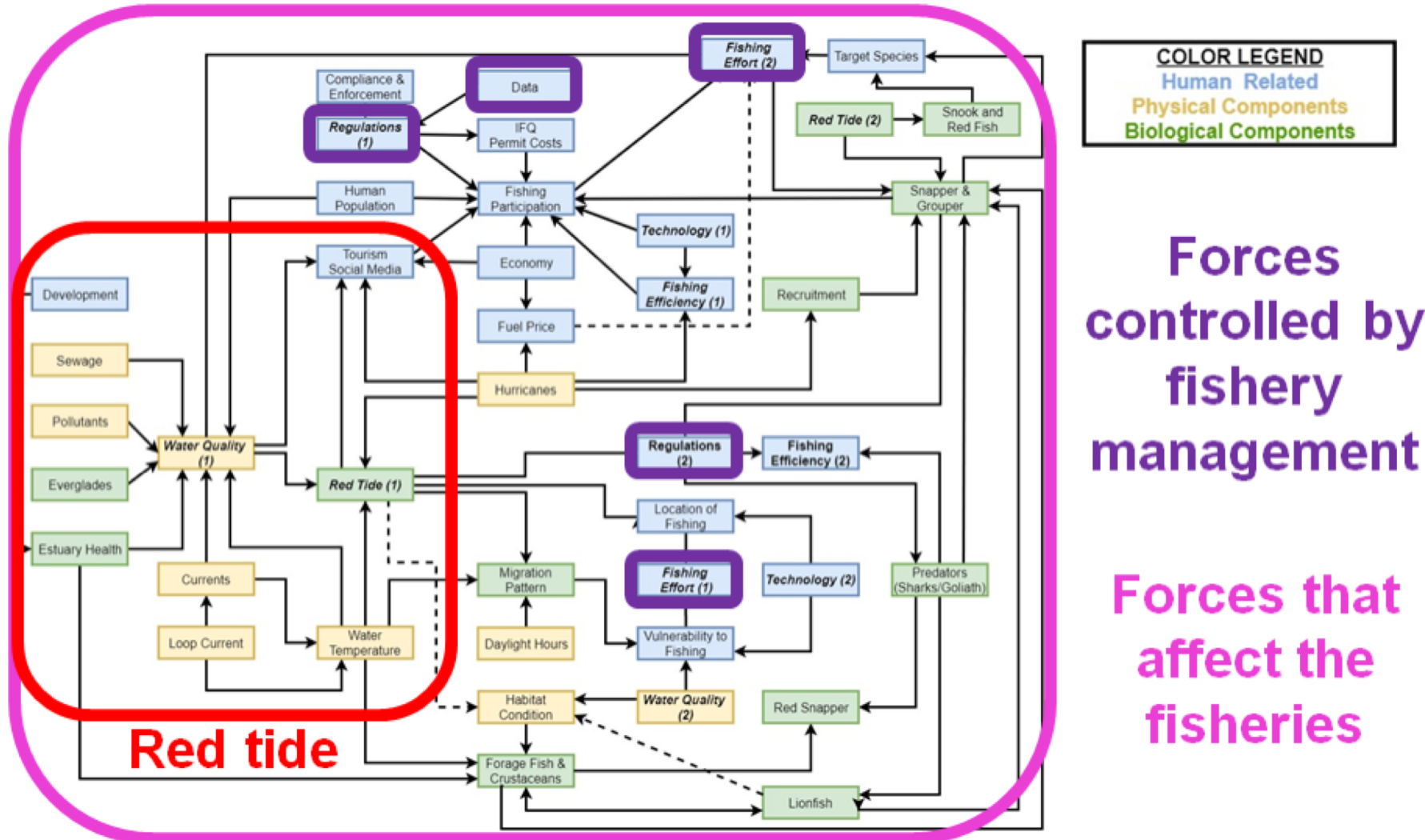
**Ecosystem-based
fisheries management
scoping workshops
(2018 – 2019)**

Goal: To increase
information flow between
scientists, managers, and
stakeholders, in support of
improved stock assessment
and ecosystem assessment
in the Gulf of Mexico

Focus on snapper/
grouper fisheries

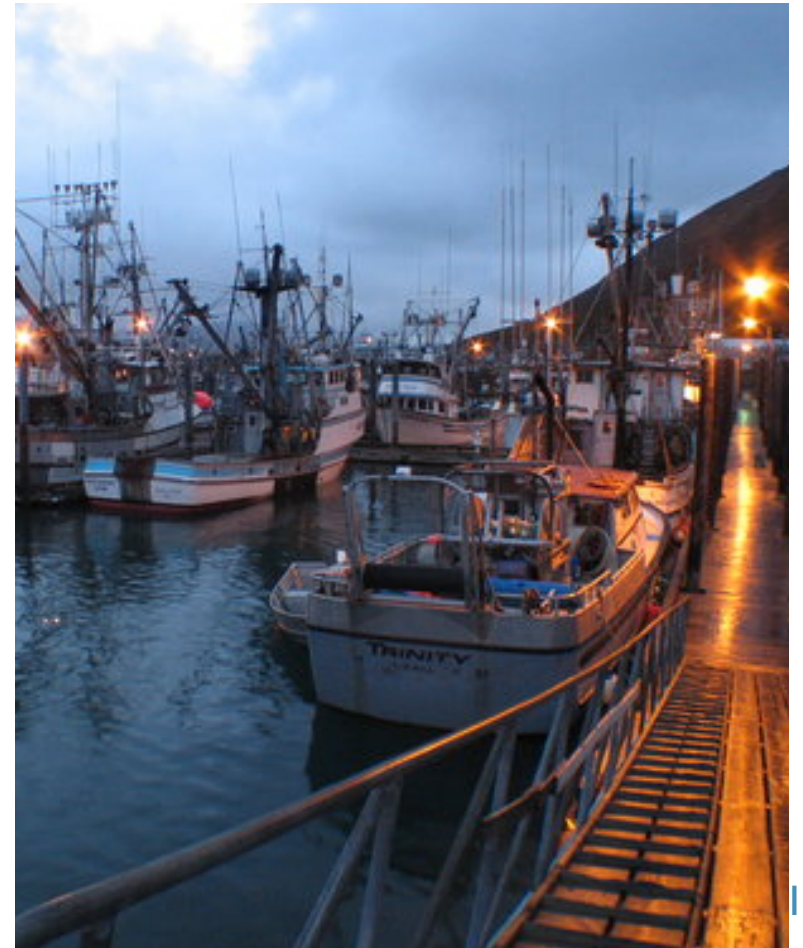
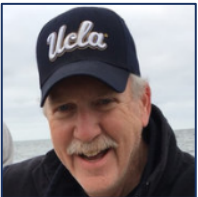


Participatory fisheries system modeling



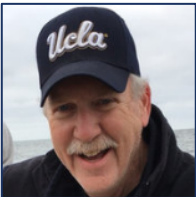
CHALLENGES: UNDERSTANDING VULNERABILITY AND RESILIENCE

- **Community/regional socioeconomic structure**
 - Relationship to dependence
 - Diversification of socioeconomic base
- **Variability over time**
 - Ability to adapt to events
 - Degrees of freedom with regulatory changes
 - Cumulative events
 - Identifying thresholds and differential distribution of impacts



CHALLENGES: DATA TIMELINESS AND ADEQUATE SPECIFICITY

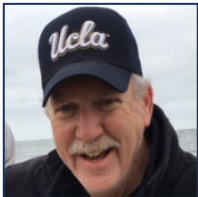
- **Most SIA work has been based on predicting the future from existing trends.**
 - Products with limited shelf life
 - Does not anticipate adaptation/ response with confidence
- **Existing data often not at a granularity needed**



CHALLENGES: UNDERSTANDING WELL-BEING

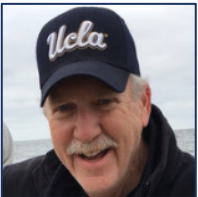


- **Inherently challenging to analyze**
 - Baseline data availability, applicability, and quality
 - Cultural privacy issues
- **Regional differences in adequacy of data sources**



HABS PRESENT AN UNUSUAL OPPORTUNITY

- **Ecosystem level issue by nature**
 - Requires a multidisciplinary approach
 - Benefits of collaborations between natural and social sciences are clear.
- **Opportunities to apply lessons learned to ongoing fishery management functions/responsibilities**



QUESTIONS?

MIKE DOWNS

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