May 28, 2020

Some Research Ideas From the MTF Plan That May Be Funded by EVOS

-submitted by M. Stekoll to the MTF

Mariculture Research Center

- Create an MRC under the University of Alaska or Sea Grant

Economics/Marketing

- Development of a web-based break-even analysis planning tool that can be used to explore how the effects of farm scale, production intensity, scope, and location affect financial viability of shellfish mariculture operations.

- Outlook and trends for product prices.

- Research the opportunity, means and methods for self marketing farm shellfish products.

- Research the opportunity and methods to develop a web based marketing program.

- Research on the benefits of cooperative activities in marketing shellfish products.

Environment

- Monitor for occurrence of Vibrio and biotoxins throughout mariculture areas.

- Determine what existing monitoring is occurring and planned for oceanographic data collection

- Institute a permanent water quality monitoring network employing cooperation among the university and the state and federal agencies.

Ocean acidification

- Identify what data is currently being collected

- Identify appropriate monitoring locations to support mariculture activity

Harmful Algal Blooms

- Identify environmental conditions associated with blooms of harmful algal species

- Identify the spatial extent of blooms and oceanographic processes linking blooms in different areas

- Identify linkages between seed beds and blooms

Marine Invertebrates

- Development of an Alaska broodstock for oysters
- Establish a research program for enhancement or farming of sea cucumbers, geoducks, abalone and sea urchins.
- Improve understanding of the dynamics of Paralytic Shellfish Poisoning (PSP) accumulation in geoducks and other bivalve shellfish species
- Research the factors affecting environmental conditions and the occurrence of Vibrio bacteria in bivalves

AKCRRAB

- Outstocking methodology
- Increasing survival at initial outstocking
- Identification of natural genetic structure to help define commercial scale broodstock acquisition

Seaweeds

- Population genetics of sugar kelp, *Alaria*, Bull kelp, *Pyropia* and *Palmaria*
- Mapping natural kelp beds for parent plant seedstock