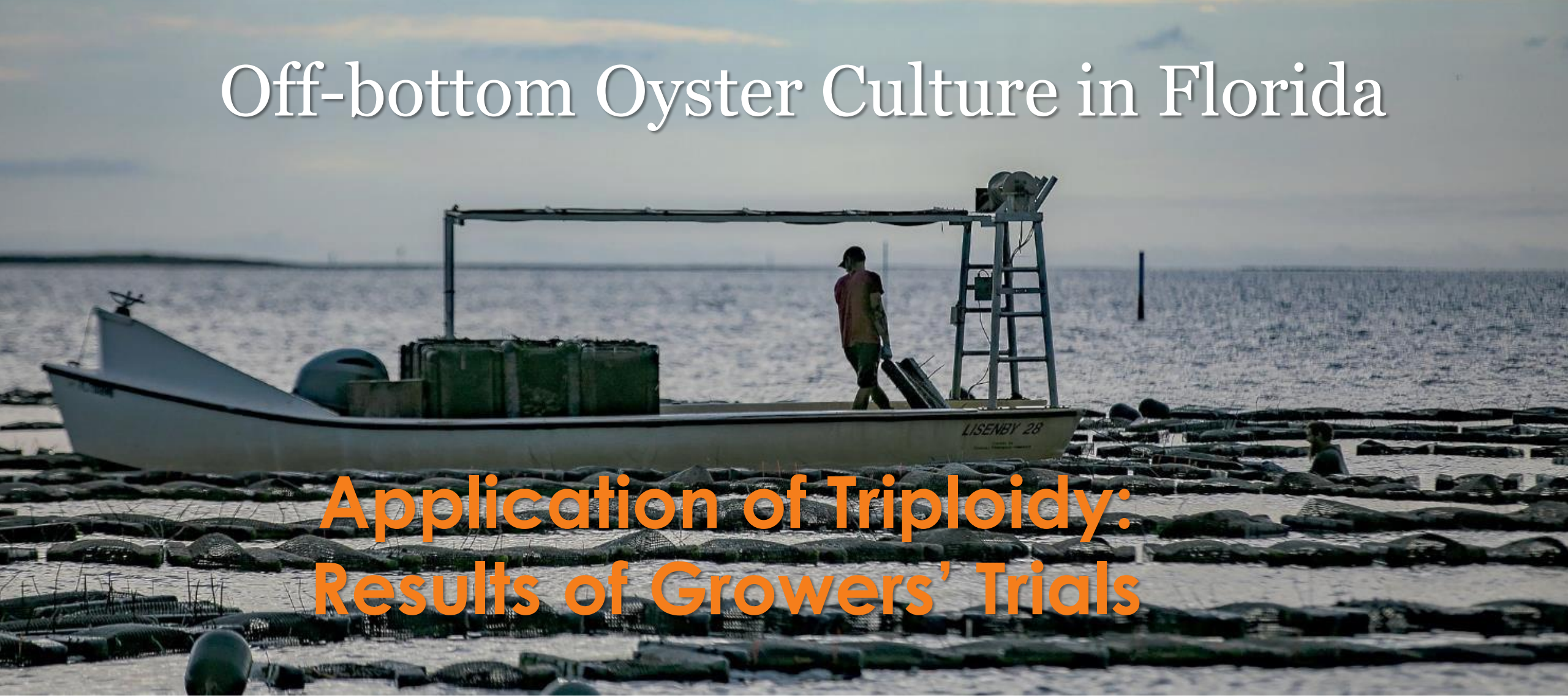
Off-bottom Oyster Culture in Florida



Application of Triploidy: Results of Growers' Trials

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Growers' Trials – FL West Coast

OBJECTIVES:

1) Document production, assess health, and evaluate quality of
   - Diploid (2N) oysters
   - Triploid (3N) oysters

2) Quantify effects of culture methods and seasonal harvests

Funded by: NOAA Sea Grant Florida *2015-17*

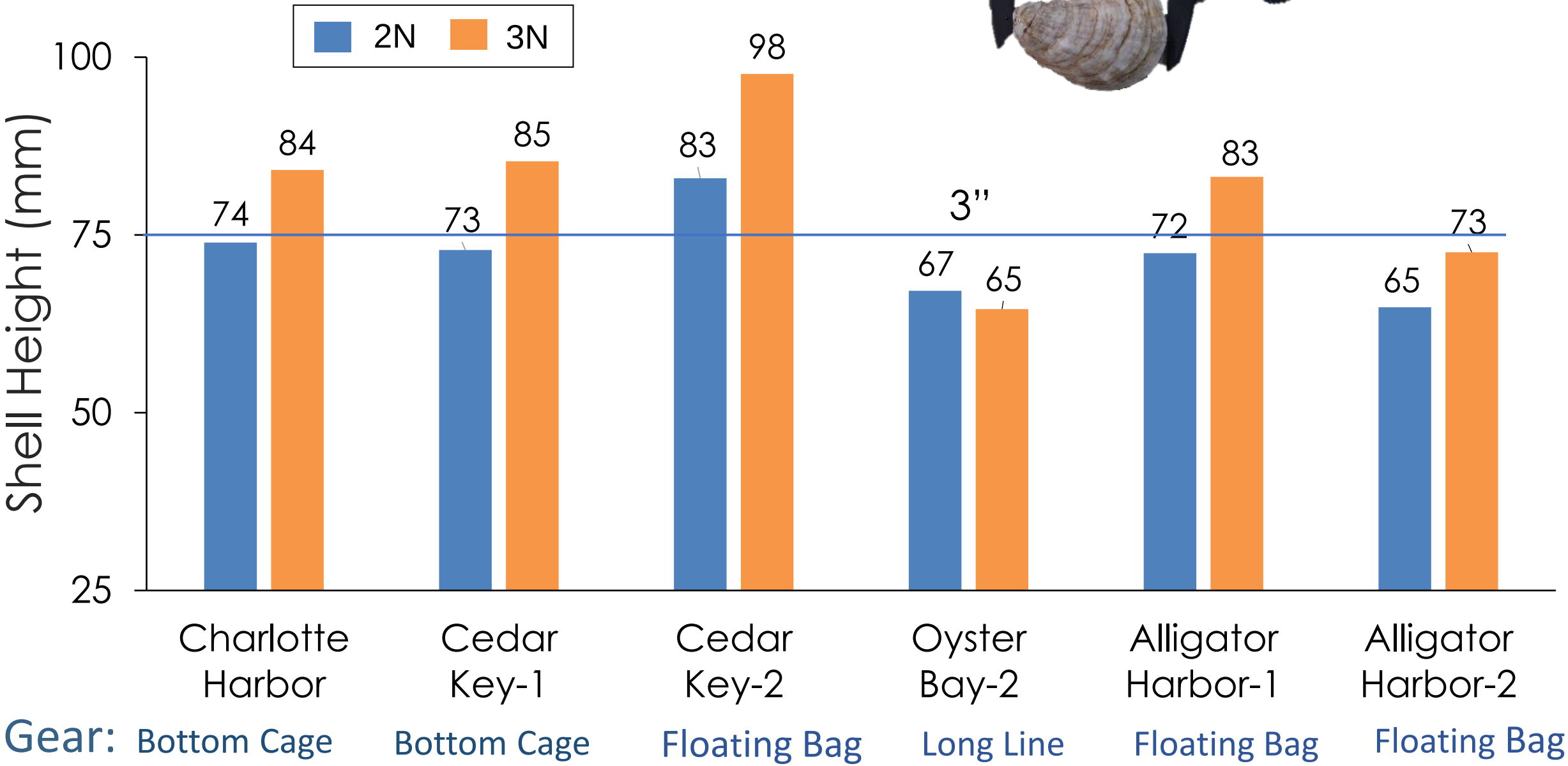
Growers' Trials – Florida West Coast

Grower Trials	Diploid Seed		Triploid Seed		Plant Dates	Harvest Dates	# Months
	#	SH (mm)	#	SH (mm)			
1	2500	24	2500	24	Winter		8
2	2500	21	2500	26	Summer		7-8





TRIAL 1: Growth



TRIAL 1: Survival

Winter: Jul/Aug 2016 – Mar/Apr 2017

Ave water temperatures:
71-81 °F

		Survival (%)	
Location	**Gear**	**Diploid**	**Triploid**
Cedar Key-1	Bottom Cages	91	89
Cedar Key-2	Floating Bags	99	98
Alligator Harbor-1	Floating Bags	99	99
Alligator Harbor-2	Floating Bags	97	98

TRIAL 2: Growth

TRIAL 2: Survival

SUMMER: Mar/Apr 2017 – Oct/Nov 2017

Ave water temperatures:
80-82 °F

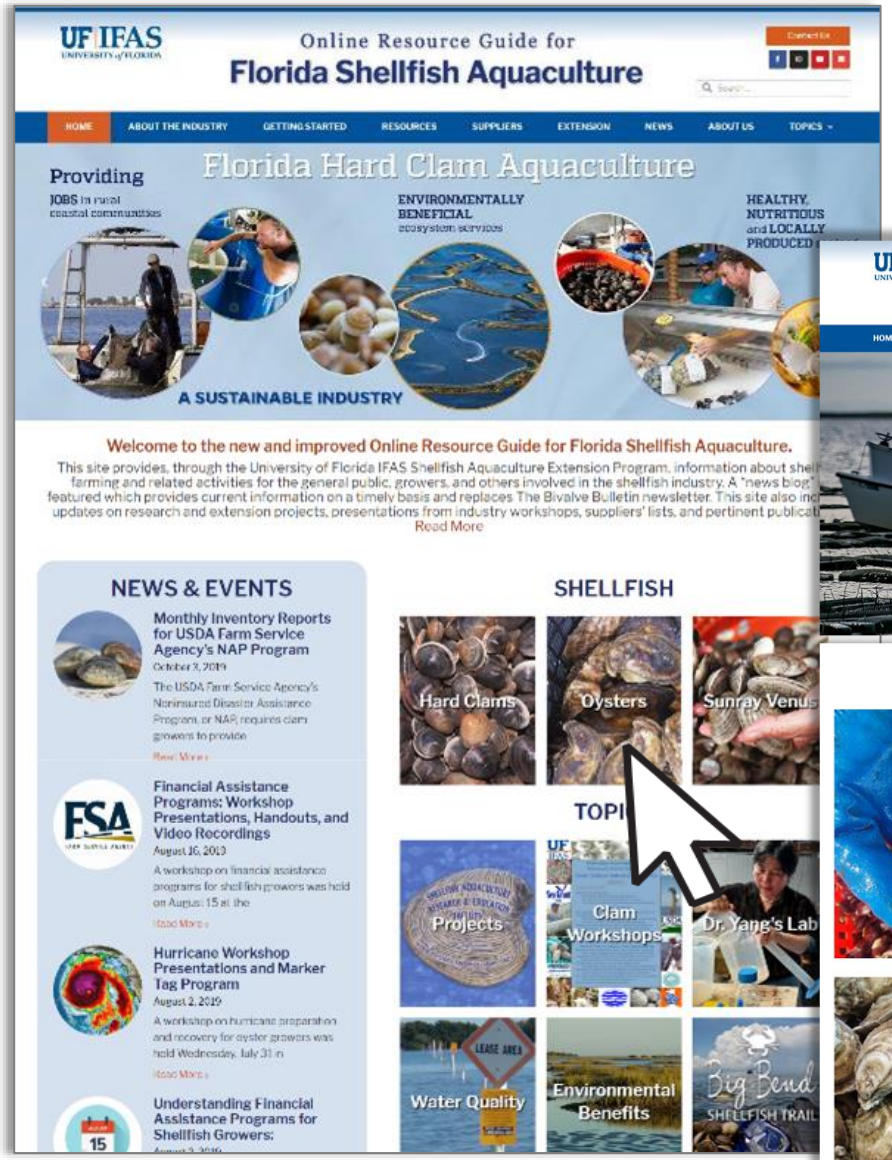
		Survival (%)	
Grower	**Gear**	**Diploid**	**Triploid**
Cedar Key-3	Floating Bags	68	68
Cedar Key-4	Floating Bags	70	57
Oyster Bay-3	Floating Cages	82	85
Alligator Harbor-1	Floating Bags	67	92
Alligator Harbor-2	Floating Bags	0	~20

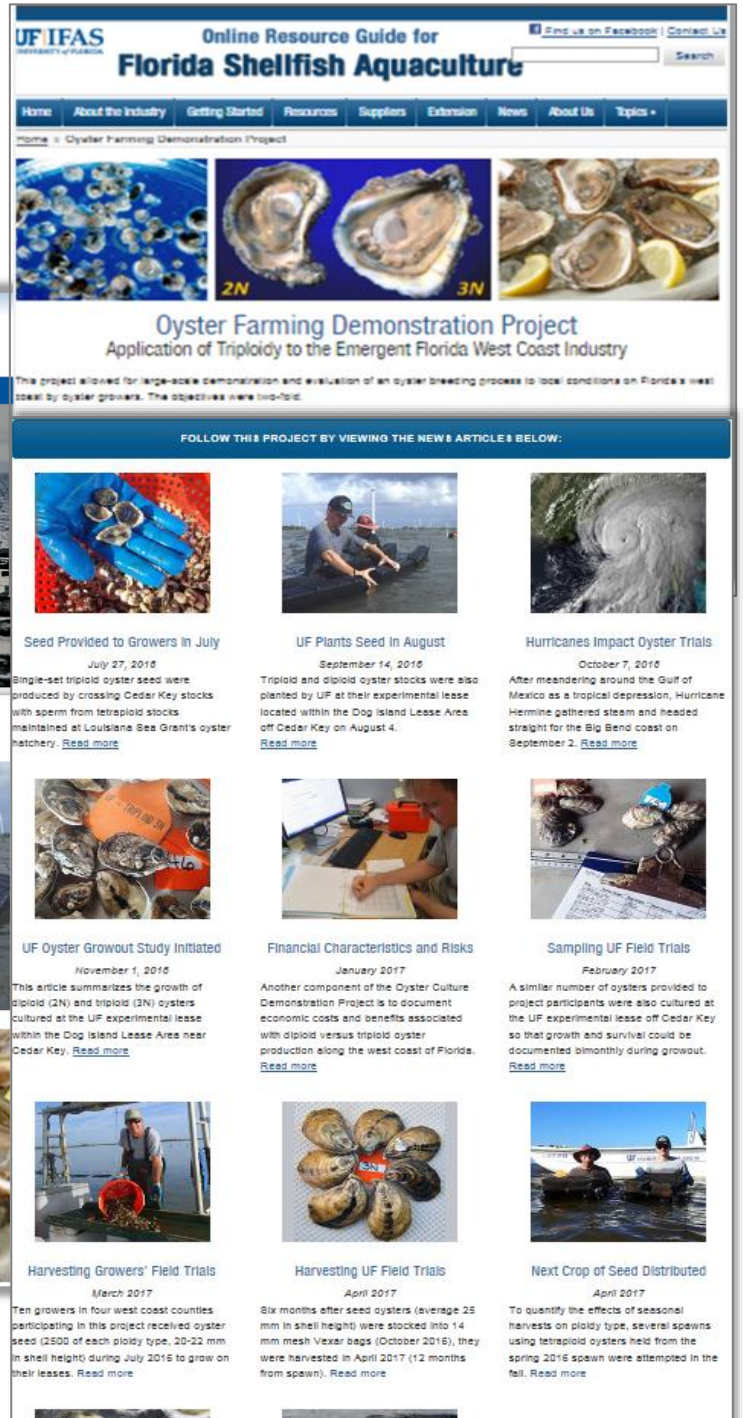
Mortality Events

- Alligator Harbor Lease Area, Florida Panhandle
- Spring-Summer 2017, Spring 2019, Spring 2020
  - Both diploids and triploids
- Pathology reports – Ryan Carnegie, VIMS and Susan Laramore, HBOI-FAU
  - No MSX, Dermo or pathogens of concern
  - Gill and digestive epithelial tissue erosion
  - Increased hemocytes (defense cells)
  - Edema (excessive fluid) of connective tissue
  - Gonadal development, ripe males

Mortality Events

- Oher observations
  - Mantle/gill abnormalities associated with colonization of shell in which oyster is trying to ward off
  - Discoloration of shell caused by extensive deposits of conchiolin (organic protein matrix)
- Coincides with large blooms of amphipods and high siltation
- Fits model for “spring/summer” mortality
  - Environmental stressors intersecting with metabolic or physiological problems linked to oyster genetics or ploidy





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