

COLUMN

Seasons of the Saltmarsh

The 'Dog Days' of Summer

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Throughout time, cultures around the world have told stories to remind us how to treat each other, to tell us about past events, and even to educate us about the natural world. Words and pictures have been used to remind future generations why they should care enough to turn the stories into actions.

This episode of the story is all about summer in the Georgia saltmarsh. The saltmarsh is one of the dominant landscape features of the coastal zone of Georgia. The 368,000 acres of saltmarsh are bordered on the east by the barrier islands and Atlantic ocean. The western border is commonly an expansive freshwater swamp or one of the five inland rivers bringing required fresh water to the estuary. The open sounds or bays is where freshwater and saltwater mix forming coastal estuaries.

This time of year is jam packed with celestial events that we distill down, misunderstand or take for granted. The dominant driver of the saltmarsh is the ever present ebb and flow of the tides. These tides would not exist if it were not for the push and the pull of the celestial bodies and precise location of the moon and the sun.

We just passed what we call the first day of summer. In coastal Georgia some years it feels like the first day of summer can come in early April.

That first day of summer (June 21) indicates more than just the longest day of the year in the northern hemisphere, but it is a time when the Earth's poles have the maximum tilt towards the sun. This maximum tilt towards the sun means not only long days with daylight well towards 9 p.m., but it also means our warmest of days.

Just after the summer solstice, we move right into what we call the "dog days" of summer. Many people in the south believe that the dog days of summer describe a time when even your old coon dog won't come out from under the shade of the front porch because it is so hot outside. Although a coon dog splayed out on the porch seems quintessentially southern, the truth is "the dog days of summer" has a celestial origin too. The dog days of summer are actually from July 3 to August 11 every year, and it has to do with the time of year when Sirius the "Dog Star" of the constellation Canis Major occupies the same region of the sky with the sun.

These extremely warm days have the saltmarsh maximizing productivity. From primary productivity of green plant growth to the warm waters of the estuary being a perfect home for phytoplankton like dinoflagellates to thrive, summer is a very active time. The saltmarsh is often talked about as being a nursery for many commercially and recreationally important

species. Many of these species are cold blooded animals and experience their fastest growth rates during these extreme warm months.

Keep in mind though that warmer is not always better. One of the main concerns when coastal water temperatures rise is the decrease in oxygen. Warmer water holds less oxygen needed by fish and crustaceans. Oxygen levels can bounce around changing very rapidly making the saltmarsh the harshest of environments from time to time.

WHAT TO SEE

One of the purposes of this series is to encourage the reader to slow down and take a walk by the saltmarsh and look for small changes that are often missed in our fast paced digital world. So what do you see? If we start by the creek bank you will see smooth cordgrass, *Spartina alterniflora*, in all of its glory. By the creek bank, at the lowest elevation, you will see smooth cordgrass represented in its tall form. You will notice the emerald green color and the long stems with alternating (hence *alterniflora*) long leaves reaching for the sun.

These long stems of the tall form of smooth cordgrass is what remains after the dying of winter. These long stems of last year's tall smooth cordgrass often form dense mats of what is commonly referred to as marsh wrack.. Marsh wrack that ends up on

the beach can collect enough wind driven sand to cause dune formation.

As you move up the marsh in elevation you will see the medium and short forms of smooth cordgrass that do not grow as tall because of the elevation change of the marsh soils below. Looking over the marsh while riding up U.S. Hwy. 17, it all looks like it grows to the same height and it does because of the twice daily inundation of saltwater. The varying heights of the plant is dictated by the elevation below.

The last notable thing about the saltmarsh overall this time of year is the color. With the first breath of spring the saltmarsh was still wearing its winter brown. As the weather warmed the base of the smooth cordgrass starts to show signs of green representing rebirth. By mid May, of most years, and into June the saltmarsh is as green as Catherine the Great's famous emerald necklace. Now if you look closely at the saltmarsh you will see hues of green with patches of yellow-golds and orangey-browns. The greens are still there but it is almost as if the saltmarsh is telling us to enjoy the dog days of summer with a foreshadowing of the impending fall and the bleakness of winter.

As always we encourage you to get out there and enjoy our unique coastal environment. Have experiences, make memories and tell stories. ▀