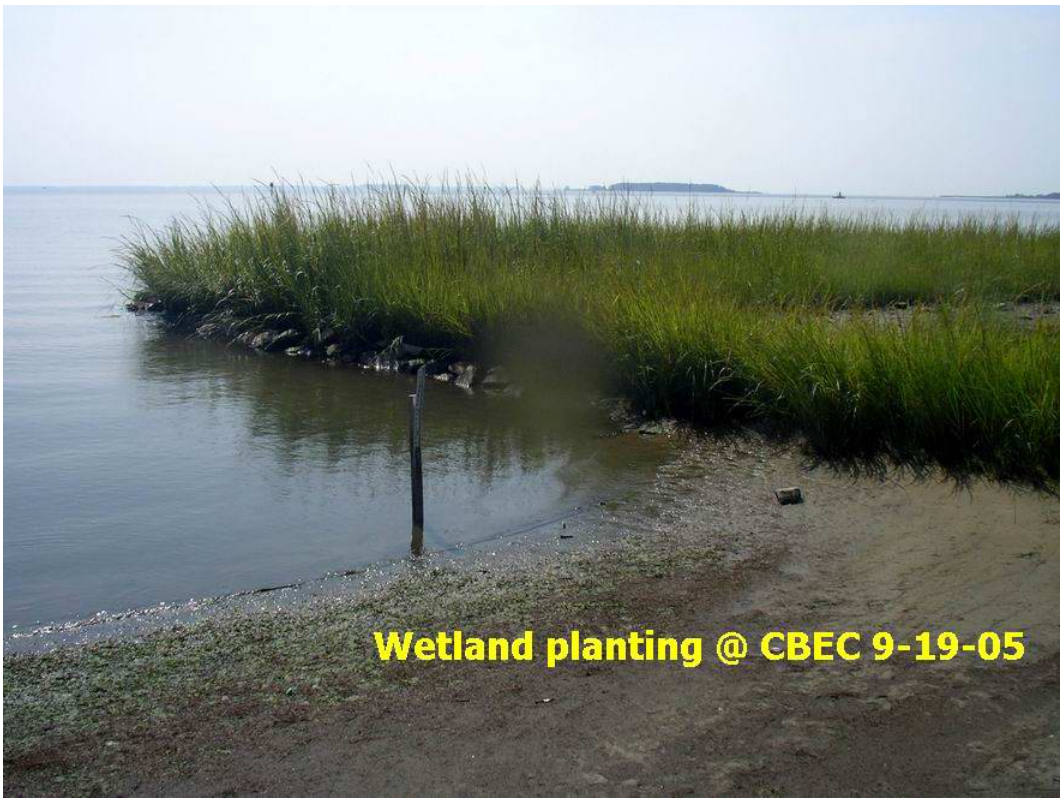
Status of redhead grass & sago pondweed we planted on Restoration Day in 2004 & 2005, by Peter Bergstrom, NOAA Chesapeake Bay Office, 9/20/05

2004 plants, at CBEC, Grasonville

I checked the grasses we planted in 2004 on Monday 9/19/05 with Becky Thur. The water was quite shallow (0.45 m, about knee high) but the Secchi depth was so low (0.4 m) that even when snorkeling along the surface, we could not see the bottom clearly, and had to feel for plants. We felt mostly short, very sparse shoots of widgeongrass, which we did not plant. However we found one shoot of redhead grass (photo below) so we know that at least some of the plants that we planted survived, since we have not found other redhead grass nearby. Others reported seeing fairly dense widgeongrass in this area earlier in the summer, so it appears that it died back as well. There was no trace of the sago pondweed we planted (it had died back by late 2004).

In contrast, the wetland plants that we planted on the same day nearby were doing very well. I pasted below two photos of those, one a bit over a month after planting in 2004 and one on 9/19; note in the latter photo that while most of the plants were much taller and denser, those on the beach in the cove were lost.


Wetland planting @ CBEC 7-27-04


Wetland planting @ CBEC 9-19-05

2005 plants, at Webster Field, St. Inigoes

I checked the grasses we planted in June on 7/29/05 with Chris Tanner. Secchi depth was excellent (1.4 m) and the water was shallow so we could see the bottom clearly when snorkeling. Unfortunately there was no trace of the redhead grass or sago pondweed that we planted in June, just some short shoots of widgeongrass and eelgrass. The eelgrass that was planted in the same cove in 2003 had died back some from what we saw in June, but that is normal for eelgrass, it dies back in the summer and re-grows in the fall. There were large mats of widgeongrass on the shore of the cove and it appeared they had washed in from elsewhere in the creek, and may have smothered what we planted.

Early dieback of redhead grass in other areas in 2005

I also saw an early dieback at several other sites where we planted redhead grass in 2005, and in naturally occurring redhead grass. Usually redhead does not die back until the water cools in October. It appears that the prolonged hot spell, coming fairly soon after planting, took its toll. The lack of rain may have also pushed the salinity into the stressful zone (salinity near the planting site on Prospect Bay on 9/19/05 was 15.7 ppt, at the upper limit for redhead grass). Other sites were we saw partial or complete dieback of redhead grass in 2005 included:

Partial dieback by mid-September:
1. Grachur Club and Sylvan View, Magothy River (redhead planted in 2002 & 2003 at Grachur Club, and 2004 & 2005 at Sylvan View)--all were sparser & shorter in September than they were in July
2. Little Magothy River (redhead planted in 2003, 2004, and 2005)--some was left on 9/8/05 but it was all sparse and short, had been longer and denser in July

Complete dieback by mid-September (in addition to CBEC and Webster Field):
1. Back Creek, Severn River, Annapolis, redhead grass we planted in June was gone by 8/24/05
2. Duvall Creek, South River, Annapolis, redhead grass we planted in June 2004 was present (although reduced in area from what was there in June) on 8/17/05 and gone by 9/14/05; redhead grass we planted there in June 2005 was gone by 8/17/05. South Riverkeeper Drew Koslow said the creek had an algae bloom for much of the summer, and that milfoil beds in the upper part of the creek had also died back by September.
3. Upper Magothy River--numerous small redhead beds (from natural recruitment) that I saw in mid July were almost all gone by late August.

No dieback seen by mid-September

1. Lower Magothy River (from Swan Cove & South Ferry Point downriver to the western shore of Gibson Island; milfoil, widgeongrass, sago pondweed, wild celery, and common waterweed also present)
2. Marshy Creek, CBEC, Grasonville (plants were so dense on 9/19/05 that it was hard to get a kayak through them at low tide; milfoil, widgeongrass, sago pondweed, and common waterweed also present)

3. Lower Breton Bay, off Potomac River in St. Mary's County (I did not visit this in 2005, but redhead grass that we planted there in June 2004 were dense and expanding on 8/30/05, and the aerial photos taken for the VIMS survey 9/2 showed dense beds along both shores of the lower part of the bay, denser than what they saw in June photos. Widgeongrass is also present.)

Why did some redhead grass die back early, and some did not?

The plants with the least amount of dieback were well-established plants in the lower parts of rivers, where water clarity is generally better than upriver. The plants with complete dieback were new in 2005 (either planted or natural recruitment), in creeks with relatively poor water clarity (except for Webster Field, where mats of widgeongrass may have been the culprit). The partial dieback cases were all either planted in previous years so they were more established, or (at Sylvan View and Little Magothy) were at sites where we had planted before with success.