IN THE OFFICE OF STATE ADMINISTRATIVE HEARINGS
STATE OF GEORGIA

ALTAMAHA RIVERKEEPER/ COASTKEEPER, INC. Petitioner, v. COASTAL MARSHLANDS PROTECTION COMMITTEE, Respondent.	)	DOCKET NO. OSAH-BNR-CM-0812312-98 Walker

STATE OF GEORGIA
COUNTY OF ROCKDALE

AFFIDAVIT OF MARK LARUE

PERSONALLY APPEARED before the undersigned officer duly authorized by law to administer oaths, Mark LaRue, who after first being duly sworn, states as follows:

1.

My name is Mark LaRue. I am a wetlands biologist and consultant with Redwing Environmental, Inc. I have a bachelor's degree in Biology (with a minor in Chemistry) from the University of Texas at Dallas, which I received in May 1987. A current copy of my curriculum vitae is attached hereto as Exhibit 1.

2.

From 1997 to present, I have been employed by my own consulting firm, Redwing Environmental, Inc. ("Redwing"). Redwing specializes in Clean Water Act regulations including wetland and stream delineations, permitting and mitigation projects. Other capabilities include terrestrial and aquatic endangered species surveys, ecosystem management plans, water quality

studies, pond/lake restoration, environmental property audits, erosion and sedimentation inspections, and assessments for Georgia's Environmentally Sensitive Lands program.

3.

From 1991 to 1997, I was employed by the U.S. Environmental Protection Agency (EPA) Region 4 as an Environmental Scientist in its Wetlands Section. In that capacity, I served as the EPA Wetlands representative for the state of Alabama and the Florida panhandle. I evaluated and commented on Clean Water Act Section 404 Dredge and Fill permits issued by the Army Corps of Engineers. I acted as the primary enforcement officer for unauthorized Clean Water Act activities and prepared case files for presentation to legal staff. This position entailed the ability to delineate and assess ecological functions and values of wetlands, streams, and lakes. I designed and constructed stream and wetland mitigation projects and worked extensively with the states of Alabama and Florida to develop wetland mitigation banking policies. I commented on National Environmental Policy Act (NEPA) documents and attended NEPA public meetings. I also assisted the "Superfund" division of EPA in collecting environmental samples to assess impacts to wetlands and streams from hazardous waste releases. In 1995-96, I acted as the primary EPA instructor for the 1987 Delineation Training Course presented to other government agencies. During my EPA tenure, I received two Special Achievement awards for outstanding performance.

4.

While at EPA, I was responsible for oversight of Coastal wetland delineations completed by the U.S Army Corps of Engineers in Florida and Alabama. In particular, I worked with the Mobile Corps District to develop soil analysis guidelines for delineation of coastal relic sand dunes interspersed with tidally influenced depression wetlands.

5.

From 1989 to 1991 I was employed as an Environmental Specialist with Ecology and Environment Inc. In that capacity, I was a member of a Technical Assistance Team contracted to the Emergency Response Branch of EPA. I acted as EPA representative at emergency responses to chemical spills and advised local authorities on appropriate response actions. I assessed hazardous waste damages to natural ecosystems in the vicinity of the release and implemented ecosystem restoration plans. I collected environmental samples from air, soils, and water according to stringent EPA methodologies. I also worked with projects involving bioremediation, air stripping, incineration, and solidification of contaminants to acceptable state and federal standards.

6.

I am familiar with the site known as Village Creek Landing on Harrington Creek. I investigated the site on December 7, 2007 and observed the public boat ramp located to the northwest. I have also observed Harrington Creek to its junction with Village Creek.

7.

I have also worked on projects on Little St. Simons Island including Corps of Engineers and Georgia Coastal Resources Division permitting and enforcement issues. Georgia's barrier islands are part of a system that extends from the middle of the South Carolina coast to the mouth of the St. Johns River in Jacksonville, Florida. The position of the barrier islands relative to the South Atlantic affects Georgia's tides, waves, and incidences with hurricanes. Georgia's barrier islands have four general ecosystems: the ocean beach, salt marsh, maritime forest, and freshwater sloughs. Many of Georgia's barrier islands are among the most pristine anywhere. Geologically these islands are considerably younger than the mainland. Some came into

existence approximately 30,000 years ago while others emerged only within the last 5,000 years. Barrier islands are not merely pieces of the mainland surrounded by water. These landmasses are continually changing as the powerful forces of winds, ocean currents, waves, storms and tides reshape them. Tides have the greatest impact on the evolution of the barrier islands. The eastern coastline of Georgia is the western end of a massive ocean funnel. Thus, tides rise higher (6'-8') and faster in Georgia than anywhere else on the U.S. eastern seaboard.

8.

I am familiar with P&M Cedar Products, Inc.'s proposal to modify its existing dock into a public marina. I am also familiar with Permit No. 556, which would allow those modifications. The Permit authorizes P&M to lengthen and widen the existing dock and to add a fueling station (including a 6,000 gallon underground storage tank). The existing dock consists of a four foot (4') fixed upland dock and one hundred feet (100') of floating dock that is between eight (8) and nine (9) feet wide. Under the Permit, P&M would be allowed to remove part of the existing structure and widen and expand the dock to twelve feet (12') wide and 150 feet (150') long. Overall, according to P&M, the floating dock would extend a total of twenty-six (26) feet into Harrington Creek. Past use of the public boat ramp by just one of the LSSI vessels – the thirty-six foot (36') Captain Doug barge – had caused navigational and public access "issues." On at least one past occasion, as P&M acknowledged in its application, a recreational boater called the police because the barge was blocking navigation along the creek.

9.

I have concerns about the impact of this proposal on navigation of Harrington Creek and on the surrounding marsh environment.

10.

I am aware that consultants retained by P&M contend that Harrington Creek is 80 feet wide at its narrowest point at Mean Low Water (MLW). I am also aware that the Coastal Marshlands Protection Committee relied on this assertion in issuing Permit No. 556 to P&M.

11.

I am familiar with the "one-third" navigation rule that federal and State regulatory agencies in coastal Georgia apply to smaller creeks and tributaries. Under this rule, docks and other structures are not allowed to encroach into a waterway by more than 40 feet or one-third of the channel's width, whichever is less, at MLW. Because this 1/3 rule was inadequate to protect navigation and the environment, the U.S. Army Corps of Engineers and Georgia Coastal Resources Division recently changed the rule to a one-fourth rule – that is, a dock or structure cannot extend more than 40 feet or one quarter of the channel's width, whichever is less, at MLW.

12.

On December 7, 2007, I took measurements of Harrington Creek at the location of the existing dock. I was accompanied by James Holland and Wendy Weiss, whom are employed by the Altamaha River Keeper (ARK). The measurements determined that the channel width on the west side of the dock was 66 feet and the width on the east side was 62 feet during low tide.

13.

I am aware that ARK took measurements on at least three other occasions: December 24, 2007 and March 2 and 5, 2008. I have reviewed the results of those measurements, as well as the NOAA tidal data for the dates and times when they were taken.

14.

My own measurements of Harrington Creek and those taken by ARK demonstrate that Harrington Creek's minimum width at MLW is significantly less than 80 feet. It is apparent that the dock, which P&M's application says will extend approximately 26 feet into Harrington Creek, will significantly exceed the one-third navigation rule, which, as noted, is now a one-fourth rule.

15.

Use of the channel as a public marina for larger vessels poses problems that go beyond navigation concerns. Based on the width and depth measurements taken by ARK, it is clear that unrestricted marina traffic will cause prop dredging and resulting damage to the creek environment.

16.

Prop dredging means the use of a vessel's propulsion wash to dredge or otherwise alter the water bottom. Prop dredging includes, but is not limited to, the deliberate or inadvertent use of propulsion wash deflectors or similar means of dredging or otherwise altering the water bottom. It does not include the minor disturbance to bottom sediments that results from normal vessel propulsion.

17.

Prop scarring means the injury to water bottoms and other immobile organisms attached to the bottom caused by operation of a vessel in a manner that, deliberately or inadvertently, allows its propeller or other running gear, or any part thereof, to cause such injury (*e.g.*, cutting vegetation, creating channels). Prop scarring does not include minor disturbances to bottom sediments or vegetation resulting from normal vessel propulsion.

18.

The proposed marina is located in a very narrow area of Harrington Creek at the junction with a smaller un-named tidally influenced tributary entering from the west. These types of ecosystems are constantly collecting sediment as a result of fast moving small creeks encountering larger slower bodies of water. The smaller tributary enters Harrington Creek immediately west of the proposed facility. At the creek junction there is a sediment settling area that has historically accumulated sediment, which now interferes with the navigability of the public boat ramp. The new dock will extend further into Harrington Creek in an area of shallow water that is inaccessible at low tides. I do not believe it is feasible to get a 36 foot barge or the 40 foot Fredrica III into the channel adjacent to the proposed marina without dredging this area for access. In particular, using the public boat ramp for the barge will be significantly difficult due to shallow depths and accumulated sediment in the vicinity. Barge access to the ramp will only occur during higher tide levels and will interfere with the already limited public access to the ramp during these critical times used by the public.

19.

Prop dredging and the resultant scarring to gain access to the marina and ramp is likely to increase dramatically due to the proposed project. At best, this leaves suspended sediments in the water column that blocks sunlight and smothers bottom-dwelling organisms.

20.

Propellers also often uproot and shred seagrasses and other vegetation, and cut channels in the substrate that oftentimes never grow back.

21.

In addition to the effects of boats and propellers, the impacts from the dock structure itself will adversely affect the marsh ecosystem. The effects of floating docks on aquatic systems have been studied and documented extensively. The data indicate that there is a quantifiable effect on benthic environments as a result of the presence of floating docks. The most direct impact is shading that decreases chlorophyll (chl *a*) production in benthic diatoms and decreased presence of other flora.

22.

Secondary impacts from floating docks include collection of sediment behind boats at rest on the bottom during low tides. That is, as tidal water recedes and encounters obstructions such as a boat, the water slows in speed and drops its sediment load. This collection of sediments results in a different substrate character and causes changes in the marsh bottom profile (bathymetry). As these sediments collect between the floating docks/boats and the shoreline, there will be further loss of aquatic habitat and increased need for dredging maintenance. Docks should be greater than 3 meters in height above the bottom in areas with tidal ranges less than 1 meter to allow enough light to sustain vegetation under the docks. Narrow docks with a north–south orientation have the least shading effects. The proposed dock meets neither of these conditions.

23.

The proposed project will also have a deleterious impact on the Eastern oyster **(***Crassostrea virginica*). I observed oyster reefs immediately adjacent to the existing dock and along the shoreline of Harrington Creek. The application for the dock is blatantly incorrect in stating that oyster reefs are not located in the vicinity. The oyster reefs adjacent to the dock and

within Harrington Creek are readily visible at low tides. By improperly avoiding the issue of nearby oysters on the application, the applicant is either demonstrating an attempt to mis-state facts or is not familiar with the site during low tides. Either of these scenarios, together with the errors in measurements of the creek width, casts significant doubt on the accuracy of other components of the application itself.

24.

Intense boating activity can cause atypical dead margins (mounds of disarticulated shells) to emerge on oyster reefs located adjacent to major boating channels. Dead margins significantly reduce habitat complexity and species diversity on oyster reefs.

25.

Dead margins consist of disarticulated shells mounded up several decimeters above the adjacent living reef. This pattern differs from the well-documented, long-term growth pattern of a dead middle area surrounded by living oysters (the "senescent stage") because the dead zones are along the margins of the reefs. Also, the dead margins consist mainly of well-packed shells instead of a shell/sand/mud mixture as typically found in the dead middle area of senescent reefs.

26.

Dead margins can be caused by several factors associated with boating including water movement (including tidal currents and waves). Waves (and currents) transport sediment to and from the reef and excessive sediment in the water in boating channels is washed onto the oyster reefs with detrimental effects including smothering of oysters and substrate instability caused by excessive sediment transport and inhibited larval settlement caused by sediment movement. Increased suspended sediments can affect filter feeding organisms, such as shellfish, through clogging and damaging feeding and breathing apparatus. Similarly, young fish can be damaged

if suspended sediments become trapped in their gills. Increased fatalities of young fish have been widely documented in heavily turbid water. Adult fish are likely to move away from or avoid areas of high suspended solids.

27.

The project application describes the existing shoreline in the vicinity as "stable with 0 – minor erosion." Erosion of natural water banks by boat-generated waves is an increasingly serious problem in the nation's waterways. Introducing larger and more vessels to Harrington Creek may significantly increase wave-generated erosion. Reducing maximum wave heights by limiting boat speeds, and reducing the frequency of boat passages (the barge), will reduce bank erosion. The applicant should consider a monitoring program to determine if these effects occur as result of the new boat traffic and should take remedial measures if it is determined that erosion in the area is increasing.

Further affiant saieth not.

_____
MARK LARUE

Sworn to and subscribed before me this _____ day of March, 2008.

_____
Notary Public (Seal)

My Commission expires:_____

Further affiant saieth not.