

Monroe County Canal Restoration Demonstration Projects



"Poor" water quality conditions have been noted in the canal between Witters and Baileys Lanes in Doctors Arm in Big Pine Key.



Due to persistent currents and wind direction, a thick weed wrack becomes entrapped in the canal and sinks to the canal bottom where it decays.



(Above) The constant accumulation and decomposition of seaweed significantly impacts the clarity throughout the canals as well as results in the creation of a pungent hydrogen sulfide odor.

(Left) The sediment core collected from Canal 266 illustrates how thick the layer of decaying seaweed becomes over time.

Restoration Technology: Organic Removal

Canal 266 in Doctors Arm between Witters and Baileys Lanes and Canal 290 between Avenues I and J, Big Pine Key

As the seaweed decomposes, oxygen is consumed leaving the canal in an uninhabitable condition for sensitive benthic resources such as sea grasses.

The CMMP recommended the removal of the decaying organic material from the canal bottom at 266 and 290. Future seaweed loading into the restored canals will be prevented through an existing seaweed barrier at Canal 290 and installation of an upgraded weed barrier at the mouth of Canal 266.



Canals 266 and 290 are being offered a canal water quality improvement, funded by the County, which has a combined project value of \$1,840,000.



The utilization of a hydraulic vacuum dredge will result in the collection of a wet slurry from the canal bottom comprised of decaying organic matter and saltwater.



In order to expedite the dewatering of the dredged slurry, polymers will be added to the slurry prior to its temporary storage in a mechanical dewatering press.



The dewatered sediments will be disposed off-site at a facility that meets applicable State disposal criteria.



A 6-inch layer of sand will be placed on the canal bottom to create a more conducive substrate for benthic plant growth and marine life. The seaweed barriers will minimize future seaweed deposition in these two canals.