

-----  
**Jake's Gift**  
by Bud Sparhawk  
-----

Science Fiction

---

A DF Books NERDs Release

Copyright ©1993 by Bud Sparhawk

First published in Analog, September 1993

---

The crisp fall wind blew the tops of the pampas grass to and fro, scattering the seed that hung heavy in their tassels. This late in the year every stand of grass was adorned with their pink plumes, ringing the marsh and hiding the brackish black waters of the enclosed pond from the nearby creek. Between the grasses and the water were cattails, displaying their own abundance of seed like fat brown sausages on a skewer. Nestled among both were the other flora of the Bay, eel grass, sonnet weed, and a broad expanse of reed, all tough grasses that could survive in the porous sand and resist the incursions of brackish water that bathed their feet at high tide.

Jake's shack was built on the edge of a small feeder stream between the pond at the center of the marsh to the beginnings of the black organic muck that was the floor of the marsh, which was home for the endless variety of frogs and turtles and breeding ground to the twenty varieties of fish that inhabited the greater Bay beyond the creek. The shack was nondescript, typical of many that sprouted up around the Bay, its siding turned a uniform gray by the combination of sun and weather. It stood on an assortment of crazily tilted stilts that lifted the shack's floor above the high tide. Over the years Jake had to add more supports to prevent subsidence; even buried ten feet into the bottom the poles still did not touch solid ground. Jake liked to imagine that the black goo beneath him went all the way to the bottom of the world.

A rambling walkway ran from the one and only door atop a series of floating fifty-five gallon drums to a small side extension where Jake docked his big boat and, in the other direction, marched on poles and patches of solid ground to the rutted road that led from the main road to the edge of the marsh. The walkway was a motley assortment of driftwood planks, rough cut to size and attached to the stringers with whatever fasteners Jake found at hand; wire, nails, screws, and even worn manila rope dotted the rail-less walk. Gaps over a foot wide showed in places, since the boards were set to the length of his

stride. It was a daily labor to replace those pieces that both weather and tides carried away. Many was the night when he'd stumbled, trying to step on a missing board.

Close by the shack were his collection of small boats, for the most part flotsam brought to his little world by the storms and misfortune of others; damaged rowboats with broken thwarts, canoes with stove ribs and the like. Where and how he could, he returned them to their owners, the rest he repaired with whatever odds and ends were to hand and added them to his own little fleet. *Mariah*, the small blackened rowboat whose sides were so badly burned that he simply cut them away, leaving a scant six inches of freeboard above the gently curving bottom. One decent wave would swamp her, so she was useless for any work outside the marsh. On the other hand her shallow draft and light weight made her a responsive and agile vessel for his quiet forays around the marsh. *Mariah* could glide along with no more than three inches of water beneath her hull, propelled by Jake near the stern, push pole in hand.

The other boats he'd named *Simplicity*, *Handsome*, and *Gull*, who was a wesort-rigged rowboat that he used as a day sailer. He had gotten the used sails from a loft across the Bay, near Annapolis, and had fashioned the mast himself. Her lines were odds and ends of manila and poly and cotton, depending on their use. *Simplicity* was the runabout he used to get some fresh fish for his own table and had a nice little 3-horse outboard fastened to her stern. *Handsome* was a green sponsooned canoe with rich birch ribs and three layers of canvas overlaid with a slathering of fiberglass. He'd gone the length of the creek and up and down the Bay looking for its owner after the hurricane had blown her into his refuge, but to no avail. Now he used her for his commute to the docks on the far side of the creek when he needed an occasional job helping the crabbers in the summer or oyster tongers in the winter. It was a way of making enough to buy his few necessities.

He met Mary on a crisp fall morning when there was a gentle breeze blowing out of the southeast. Chessie, his dark brown part-bay retriever had awakened him from a sound sleep with a slobbery lick of his huge tongue. Jake kicked off the covers and scattered the assortment of cats that had chosen to share the warmth of his bed from the frosty night before. Throughout the summer they stayed on his big boat, probably thinking that they owned the smelly tub, but more likely trying to figure out with their tiny cat brains where all the fish were that made the boat smell so good. Since the boat was over thirty years old, and a fisher for the last twenty, it was no wonder that it had absorbed a certain atmosphere. "OK, OK, boy. I know its time to get up," he grouched and scratched his head, part of the morning ritual, just as throwing the door open to air out the place and release Chessie and the cats into the marsh, heating coffee on the small propane stove, fixing a small breakfast for himself, and taking a dippy bath with a small bowl and washcloth were a never changing routine.

He took his coffee out the front door and gazed over the marsh. Pretty soon the ducks would be flying down from the North, and a little later the Canadian geese would follow. The flocks loved the marsh where there was protected cover and lots of food, bottom grasses, tasty frogs, and minnows. Chessie would be crazy for weeks when they started arriving, but she was too old for hunting, too old and too fat, but then, aren't we all, he thought and patted the small pot that spilled over the tops of his jeans.

“Now where could that damn dog have gone?” he mused. Usually Chessie made a mad dash down the walkway, jumped onto the sand spit, raced along the stream to the edge of the creek, turned left and chased waves for a while and then followed the rutted path that passed for a road back to the walkway. It usually took him about a half hour to make his circuit, until this morning that is. He sipped on the hot coffee and waited a while longer, planning his day.

He needed to get over to the store for some more ice, some fruit, and vegetables to stock up for the next week. Then he could see what he had snagged on the trot line he'd put out the previous evening. Maybe he'd have a nice Rock or yellow Perch for dinner, if luck was with him. Otherwise it was fried whatever and crab soup. Chessie's barking roused him from his reverie. It sounded like it was coming from the far side, opposite from the road. Sounded like he'd caught a muskrat, or maybe treed a coon. Well, he'd better go rescue the poor thing. He stepped onto *Mariah*, picked up the pole, and shoved off across the pond.

Chessie's barks sounded more distressed as the boat slid into the high marsh grasses and along a small channel carved by the freshwater spring farther up, near the tree line. The boat moved quickly along the channel since the meander was slight and the curves adequate for the length of the boat. Soon he was within sight of the dog, who was standing on a huge driftwood shoring beam that had wedged itself into the marsh during some unknown storm years past, before his time even. As soon as he came into sight Chessie stopped barking and plunged forward, tail wagging furiously. Just like that damn dog, Jake thought, expecting his backup human to pull him out if it was more than he could handle. He moved to the stern to raise the bow and gave one final push of the pole to ground *Mariah*. Carefully placing the pole on the deck he stepped onto the beam and peered into the break in the grass where Chessie had disappeared.

\* \* \* \*

Mary Hellorin Kelly had grown up in the north end of Baltimore in a staid businessman's home with a mother more interested in doing good in the community than in pursuing her teaching career. As a consequence of her parent's desire for the ideal daughter, Mary had been sent to the “right” schools (where she terrorized her friends and teachers with an assortment of frogs, turtles, and insects that she collected), introduced in the “right” social circles (where she had a reputation for arranging canoe and raft trips, camping out, and skin diving), and had been taught all of the “right” arts and graces for a girl of her social status, age, and community (and which she totally ignored when out of sight of her mother).

For twenty years she had tried to appear to be a dutiful and obedient daughter, the pride of her parent's eyes. And when her uncle had died, leaving her with a trust fund sufficient to maintain her independence, she had a fierce argument with the both of them, left her father's dear alma mater, abandoned the pursuit of the Urban Studies major her mother had selected, and started over again in a biology major at the state university's main campus, living in the dormitories with a more diverse array of people that she had ever imagined existed. She loved it.

Seven years later, Masters in hand, she worked with the Smithsonian Institute at their Rhode River facility where she learned of the rich diversity of the tidal ecological niche. What the job lacked financially it more than made up for in the time and hard work demanded. Usually she was up before dawn, out in the wetlands up to her ass in mud and chill water, aswarm with bloodsucking mosquitoes, gnats, black flies, and a dozen other denizens of the ecology. The soprano peeping of the tiny frogs would give counterpoint to the bass croaking of the larger ones. Small birds usually chirped and twittered in the steel gray pre dawn light, when the insects would began their strident rattles, rasping, squeals, and screams. Sometimes she would hear a fish splash in its leap for one of the many insects that dared the surface of the water. Net in hand she would sweep the air, counting the population of the smaller insects who were individually predator and prey in the rich soup of life. Using the shorthand she had devised she recorded each sector as she worked her way to the wetland's interface with the tidal river, moved two meters over and worked her way back. And that was one of the more glamorous jobs—It sure beat analyzing goose turds, which had been her first assignment.

But her real passion was the wetland flora; the grasses, flowers, shrubs, and bushes that tolerated the alternating fresh and brackish tidal waters that bathed their roots and managed to wrest nurture from the sand and clinging muck. Here was adaptation to a harsh environment in its finest form. Every season presented its own challenges, its own selection process. A pond was populated by the early arrivals, the cattails and the bottom grasses. Later, as their roots grew and the detritus of previous generations overlaid one another the water became shallower, eventually forming humps that were dry at least some of the time. The resulting marsh would later be colonized by the taller grasses, which would add their own measure of organic detritus to the layers. Finally, the bushes and shrubs would make their presence known, capturing dirt and mulch in their root structures until the marsh would become a swamp, and shortly thereafter, dry forest land.

And during all of this process the population of fauna changed continually, meeting the changing conditions, finding and exploiting new niches, and developing a rich variety of solutions to the problems that any life on the water's edge presented. It was fascinating. Few of the ponds and marshes that lined the shores ever made the complete transformation; strong storms and wind driven tides destroyed much of the build up, tore away much of the growth, and set the transformation back to the beginning.

Eventually her studies led her to a grant of her own: She was to determine the degree to which trace metals were filtered from the water by various species of wetland plants. This was an outgrowth of Jim Shepherd's, her mentor, studies on the effectiveness of the Bay's indigenous life in filtering pollutants, such as the rich, algae feeding phosphates, from the water.

Jim's studies were critical to understanding how the tidal wetlands in the Chesapeake Bay could be managed to keep it alive and productive. Phosphates entered the Bay from the rivers leading from not only Maryland, but farms, municipal water treatment plants, and industrial developments in surrounding states. The watershed that produced pollutants was hundreds of times the size of the Bay itself, and every bit of algae producing phosphorous in that area found its way into the ecosystem.

The growing industrial base within the watershed also produced an assortment of poisons that could combine to reduce the oxygen levels of the bay, adversely affect the development of insect life who fed the fish, affect the spawning of fishes, and produce infertile eggs in the waterfowl that ate both fish and insects, and sometimes (horrible cases) kill by direct contact. Her grant would be a small step in helping them evaluate how much the ecology could help itself.

\* \* \* \*

Which was why she was again ass deep in the oozing, sticky, and, at this time of year, chilly, black muck trying to find her boot that the ooze had snatched from her foot. On a nearby log were the scattered remains of her labors and the tools she had used, all scattered in her panic to remain upright as her foot had slipped when that stupid brown mutt had rushed out of the bushes and startled her. Now the dog's barking near her back drowned out the normally happy sounds of early marsh morning.

“Need some help,” the grizzled old waterman in the worn black sweater, torn jeans, and knee high rubber boots asked her as he grabbed the dog's collar and pulled it back.

Mary looked up from the log where she lay with one arm immersed up to the elbow in cold mud. “No, thanks. I just need to find my boot.” There, she could feel the top of it now. “Your dog startled me. I wasn't expecting to see something that size charging out of the reeds at me.” Damn, if her foot hadn't missed the log and plunged into the water she would have been all right. Luckily she had managed to grab a handful of bulrush or she would of toppled into the marsh been soaked all the way through, despite her working clothes. “Got it!” she said as she lifted the filthy, water filled boot into the air, sat up, and, with a flourish, dumped the contents back into the water.

“You don't intend to put our foot back in that thing, do you?” the waterman asked. “I'd wash it out first,”

What did he think she was, some fool tourist? Of course she knew that. Carefully she used the boot to scoop up some clean water and rinsed the inside. She repeated the process until the water poured clean and then shoved her foot into it and stood up.

“Don't get many visitors around here,” the waterman said quietly, looking off across the marsh where a blue heron was stalking prey in the shallows with a slow dignity. She caught the glance he had given to her dissection tools and the samples she had taken. “Collecting roots, I see.”

Mary had enough experience with the people who lived along the Bay to understand that it was a question, not a statement. People here were leery of outsiders, strangers who had unknown reasons and strange viewpoints. “Mary Kelly,” she said, extending her hand. “And no, I just need some samples of cattail roots for my work.”

His grasp was surprisingly gentle, “Jake,” he replied. “Appears I owe you something for what my dog did. Want some coffee?” he asked and turned back the way he had come. Mary followed, perhaps if he

were familiar with this particular patch of wetlands he could be of immense help to her study. “*Mariah's* safe, just don't go movin' around too much,” he said laconically as he picked up his pole and stood aside for her to step on board the frail vessel.

She looked at *Mariah's* scant three inches of freeboard. To her the boat was nothing more than a floating plank: It couldn't possibly bear their weight! Nevertheless it did, and she enjoyed the view it gave her of the marsh, so much better than the expensive little kayak she sometimes used in her own studies.

\* \* \* \*

Coffee at Jake's shack was a revelation. The inside belied the ramshackle appearance of its exterior. Furnishings of the one room were few and spare; a bed, a small table that folded down from the wall, an easy chair woven of ropes and covered with canvas, and two stools that served both as dining chairs and side tables. Cabinets and storage lockers filled every available wall space, each one carefully labeled with contents. The kitchen would have fit into the space occupied by her own refrigerator; a small sink, a two burner propane stove, and a two foot square work area. A hatch in the floor, she learned, was where his cold box was suspended into the chill waters during the winter months, providing natural refrigeration. In the summer he used a super-insulated box he'd built himself from plans he'd found in a copy of *Country Journal* at the library. Jake, it seemed, was an ingenious tinkerer, who made do with whatever fell to hand.

“Spent most of my life on boats,” he remarked at one point as he scratched the neck of a mangy looking gray cat that had climbed onto his lap. “Never felt I needed more than space to do what's necessary. Body's got to make his life fit his needs, not the other way around. Clears the mind for what's important.”

Mary compared the ingenuity and simple elegance of what she was seeing with her parent's opulent house in Govans, crammed with their antiques and furnishings that hardly got a second glance, so familiar were they. She particularly thought of her father's expensive stereo equipment, complete with the latest state of the art components from Japan and Sweden, expensive equipment that he seldom had the time to use. How many other items in their shallow lives were like that? How many items had she in her own life that she could do without? Sadly she could list a dozen without straining.

She explained her grant and why she was conducting the survey of selected wetlands from each shore at various points along the Bay, concentrating especially on places where the tributaries spilled their load into the Bay. She told him about the methods she used to analyze the uptake of the plants, trying to keep it to terms he might understand.

“Trouble is,” she admitted, “We're dealing in boundary layer effects with the wetlands. We only get the part of the effluent stream that washes up to shore, into the marshes and swamps. We usually miss the main flow—that's out in the center of the rivers, and usually down deep.”

“Don't have much growing our there,” he replied. “Most of the sand bars are pretty barren, even the

seaweeds don't grow there.”

Mary reflected, the delta buildups were natural sites for study, but there wasn't any flora there that she could use. Maybe she'd suggest to Shephard that he take bottom samples and compare the accretion levels. Might even tie to another grant, if they were lucky. She recalled that someone had already employed oyster beds as collection sites, since each one filtered nearly fifty gallons of water a day.

Jake rose from his stool and took two steps to the kitchen corner. He pumped a little water from the cistern into a pot, added the rest of the hot water from the coffee and washed their cups. “Reckon we need to get busy. Lots to see in this here marsh.”

Mary spent the rest of the day with Jake, recording the tidal flow patterns, the location of the various species of grasses, the striations of tidal rise, and the amount of spring water flowing into the marsh. “Carry most of my drinking water from the springs,” Jake had remarked as they examined the one nearest his home. “When she's frozen over I use whatever's in the cistern or get some bottled from the marina. Best damn coffee water in the state.” Of that Mary could not object.

\* \* \* \*

Over the next five weeks Jake worked side by side with Mary as she examined every wetland for miles on either side of his part of the eastern shore of the northern Bay. He showed her the gray clay banks where the ropey twisted roots of reeds (“Ammophilia,” she called them) had anchored themselves. He showed her how the overhanging tufts of Sedge grasses along the stream banks protected the tiny shrimp and minnows that hid among their dangling roots. And he showed her the best places to observe the incredible assortment of animals that inhabited this abundant boundary between land and water.

And in return she showed him how to differentiate the varieties of seaweeds and introduced him to a fish and rice stew made with the iodine rich varieties, a Japanese recipe, she said. She carefully walked him through the life cycles of most of the denizens of his marsh, and used her portable microscope to introduce him to ones he hadn't seen with his unaided eye.

And together they showed each other the wonders that made the Bay such a rich environment; a muskrat's long run to its burrow, a pair of egrets dancing in the reeds, a flock of mallards and pintails splashing to a landing/crash in the shallows, and schools of silver fish that darted before their boats as they drifted quietly of an afternoon.

They became friends and gained an understanding of each other. Her opinion changed from pity at his apparent poverty and lack of friends to an understanding of how he had simplified his life so he could observe the simple beauty of the Bay and gain an appreciation of the wondrous bounty of this natural wonder. She found that, unlike her first thoughts, that Jake was no Thoreau, creating a natural philosophy from his experience. No, he was content to experience life as it came, obtaining his satisfaction from the ebb and flow of the seasons and what they brought his way and the company of his

animals. He appeared to lack the drive and purpose that characterized most of the people in her life.

And, thinking about his solitary life here on the marsh, leaving society and all of its demands and responsibilities, she wondered about her rebellion. Had she really turned away from her parent's plans for her life? Or was she carrying on the example of service that she had learned from her mother? She was a dedicated researcher who was prepared to devote her life to her work, and was that so different from the career her father had encouraged her to pursue? Such were the thoughts that wandered in her mind as they stomped through the reeds and grasses.

\* \* \* \*

Jake and Mary were beating *Gull* south on a stiff breeze one lazy afternoon. They had decided to take advantage of the beautiful day and use the small sailboat to visit one or two nearby sites. Out in the channel there was a demarcation line, where the outgoing tidal surge was carrying a load of soil from the north into the lower Bay, the result of heavy rains the week before. The clear waters along the shallower edges showed no discoloration.

“That's what's so frustrating,” Mary remarked and pointed at the stain. “See how most of the effluents are carried right on by the wetlands so they don't have a chance to filter it before it gets further down.

“And as a result it will shut out sunlight, cover the bottom dwellers, and cause a disruption in the ecosystem. Damn, if there were only some way to use the plants to filter it.”

“Build a nice little island out there, maybe?” Jake said as he adjusted the tiller and brought the boat to a slight heel.

Mary sighed; it had been suggested before. “No, I'm afraid the cost of building up the bottom and maintaining it would be prohibitive. Besides, I think the dredging required would do more harm than good.”

Jake looked thoughtful. Maybe there was a way that she hadn't considered, he'd have to think on it when he had time.

\* \* \* \*

Chessie was nowhere to be seen when Jake returned from his hard winter's day of oystering. He'd been up long before dawn to join the rest of the tonging crew as they headed out to the oyster bars. Through the morning hours he had operated the tongs, sprayed the muck off the load with icy cold water and shovelled the oysters onto the conveyer. He could still feel the bone chilling cold that had penetrated the heavy rubber gloves that protected his hands from the sharp edges of the barnacles and oysters. But his day's work was done and he looked forward to a warm dinner and soft bed. Thank heavens he didn't have to do this all the time. So far this year he had earned enough to keep him going until crabbing

season came. He wondered where the dog had gone.

As he tied the canoe fast and climbed up to the walkway he saw that the light was on. Someone was in his house! Carefully he opened the door and peered inside.

Mary Kelly sat on his bed, legs curled beneath her, surrounded by cats, and with Chessie contentedly curled at her feet. On the table sat a roasted chicken, two bowls of steaming vegetables, and a bottle of wine. "About time," she said by way of greeting. "Wash up and sit down before the food gets cold."

"Took a shower over to the docks," he said and dropped the bag of wet work clothing at his feet. Damn if that table didn't look inviting he thought as he sat down and accepted the glass of wine she offered.

"Felt you deserved something special for all the help," she said by way of explanation. "You gave me a lot of your time last autumn."

"Well, a hot meal and good company on a chilly evening are a nice payment, not that you needed to repay me. What you're doing for the Bay would be enough."

Mary laughed at the compliment. "This isn't the payment. The dinner is just a treat I thought I'd give you while I explained the real gift. But that will wait till after dinner. Now let's dig in before it really gets cold."

Jake looked at her quizzically, but followed her orders, after all, he hadn't had an intimate little meal with a woman, or even a friend, for a long time. If it felt this good maybe he would do it more often, although it probably wouldn't be the same with Randy Jim or Hairy Bill, both of whom would be happy with beer and sausages.

Of course talk turned to Mary's work. She had found four species that adsorbed heavy metals, and two that absorbed dissolved silicates and fixed them into their rigid stalks. She told him of how the early statistics showed the absorption varied in proportion to the tidal differences at the various sites.

"But we're just looking at 10% of all the water that flows down the Bay. And most of what we're seeing is just side wash flushing back and forth."

"Still think you need an island," Jake suggested.

"Right, I just wish it were possible."

\* \* \* \*

Mary's surprise turned out to be a box of hose, some polyethylene piping, two gallons of black paint, a

sheet of plastic, and some lumber. “It's to give you some hot water,” she remarked as he helped her carry the load from where her car was parked on the rutted road. “I've got the plans on how to make this stuff into a solar water heater you can install on your roof. Probably won't produce more than luke warm water in the winter, but that's better than you have now.”

The best gift is one that teaches you or gives you tools you can use elsewhere and this was no exception. One glance at the plans she handed him told him that there would be many an enjoyable hour assembling the rig and figuring how to get the most from it. And he could see how the ideas in the plans could be used to improve his cold box. It was a gift from a real friend.

\* \* \* \*

Mary returned to her apartment after a grueling week collecting samples from the western shore of the lower Bay. Spring had been a joy, the wettest in years, bringing the grasses she was studying to a fullness of growth that was astounding. Since the uptake of the growing plants after their winter dormancy was a critical factor in her studies she had to advance her collection schedule by nearly a month, racing to cover ground that she had barely begun to survey.

The rest of the summer had followed the hectic pace set by the early Spring growth. For most of the summer months it had been dawn to dark days, working her two recently assigned graduate students like coolies, forcing the plants to tell their story about the Bay, fulfilling her grant and exceeding her expectations.

September had been a surprise with its early chill and darkening days. For the last two weeks she had been working in water and grim skies, raining half the time. All she wanted now was a hot bath, a soft bed, and two days of uninterrupted sleep.

The mail included something from Jake. “Come visit. Have a surprise for you.” he had scrawled on the back of an old and inappropriate “Ocean City—Vacation Wonderland” picture post card.

\* \* \* \*

“Thought about your problem about putting your plants in the channel flow,” he said as they untied *Handsome*, the canoe, and climbed aboard a few days later. She had altered her schedule to allow herself a day's diversion to Jake's shack, letting her two graduate student to struggle with the Middle Bay collection effort on their own. Do their souls good to do humble, mind-numbing work, after all what else were grad students for?

“My old bait box gave me the idea,” Jake continued as he took his place in the stern and held the canoe steady to the dock while Mary climbed aboard. “Always had a problem with scum and seaweed growing on ‘er, even a stand of grass took root on it in the Spring.

“Anyhow looking at my old bait box gave me the idea for the thing. Figured if I made it bigger she just might do the trick.”

“What are you talking about?” Mary asked. Bait boxes, Spring grass, and her flora uptake problem didn't seem to mesh. What had Jake done? The canoe drifted free as she settled and Jake immediately swung the bow around to head out into the creek.

At first she didn't understand what she was seeing when they approached. It looked like an island had sprung to life a short distance from shore. Had Jake built up a natural uprising and planted grasses? The work involved seemed too much for one old waterman, especially since one good storm would wipe it out.

As they came closer she noticed that the grasses were bobbing with the waves, a steady undulation that didn't jibe with her island idea. She could see the edges of heavy timbers along the edge.

Suddenly her mind made sense of what she was seeing. Jake had used the old aquaculture idea of floating islands and, adapting it to her needs, and planted a collection of marsh plants on the surface.

“Hung a net under the logs and loaded it with straw, moss, and sand,” he said by way of explanation. “Figured the plants needed to have something they could get a grip on.” Yes, now that she was closer she could see that the plants were halfway immersed in the water, not standing above it. But Jake hadn't just built a floating planter, she noted. At both ends he had attached sloping planks to allow birds, crabs and other denizens of the Bay to climb aboard and live among the grasses, just as they would on the beach. Already the barnacles and mussels had colonized the lower reaches. She could even see eel grasses and sea lettuce sprouting.

The canoe bumped up against the thick log. It appeared to be pretty old, and probably already infested with shipworms, the termites of the sea. She leaned forward and placed her nose just inches from the surface of the water. She noted how the little green bull minnows and ale wives darted among the roots of the plants dangling into the water below the raft, feeding on the microscopic life that infested them. She lifted her head and looked closer at the raft. Near the center she saw horsetail and cord grass, both sand binders that would trap silt and form a heavy root mat for smaller plants. He'd put wild rice, water oaks, near the edges where the ducks could feed, and planted twig rush among them.

In her mind's eye Mary could see how this simple idea for a floating marsh would grow. All varieties of aquatic animals and plants would attach themselves to the under surfaces and add their filtration power to that of the raft. Maybe oysters could be induced to grow on a shelf hung lower in the water; somewhere she had seen bags of oysters being used on piers for that purpose. Both oysters and barnacles had the capacity to filter enormous amounts of water—something like fifty gallons a day each, if she remembered correctly.

Yes, and a net halfway between the top and the bottom could provide a nice habitat for sea grasses such

as green-tuft and Enteromorpha. Let's see, she estimated the displacement of the raft and figured it to be capable of holding nearly a quarter ton of burden, more than enough for a good assortment of plants. But what if they used a lightweight material, such as poly pipe? That would hold nearly half a ton, more than enough to form a sustainable colony. Quickly she calculated that the total cost of the final platform she envisioned couldn't cost more than a few hundred dollars, add another five hundred for the mushroom anchors that would hold them in place and she would have the perfect collection system.

No! Collection system be damned. Jake's floatant was more than that. It was a possible answer to a small part of the pollution problem. By anchoring enough of these in the mouths of the tributaries feeding the Bay they would filter the water flowing through. What is more their vegetation would provide an early warning about dangerous pollution: The ecology of the rafts would be the first affected and, by analyzing the roots, they would give the answer to whatever ailed them.

“Thought I'd return the favor of the hot water heater,” he said as he gently guided the canoe around the raft. “Do you like it?”

Like it? Wait until she developed this some more and showed it to Shepherd. “Yes,” she replied simply, he had returned her favor in kind and given her a tool that she could use. It was a more wondrous idea that he'd given her than ever he knew. “Thank you, Jake,” she said.