

BIG DIAMOND

Official Newsletter of the
**Hillsboro
 Lighthouse
 Preservation
 Society**

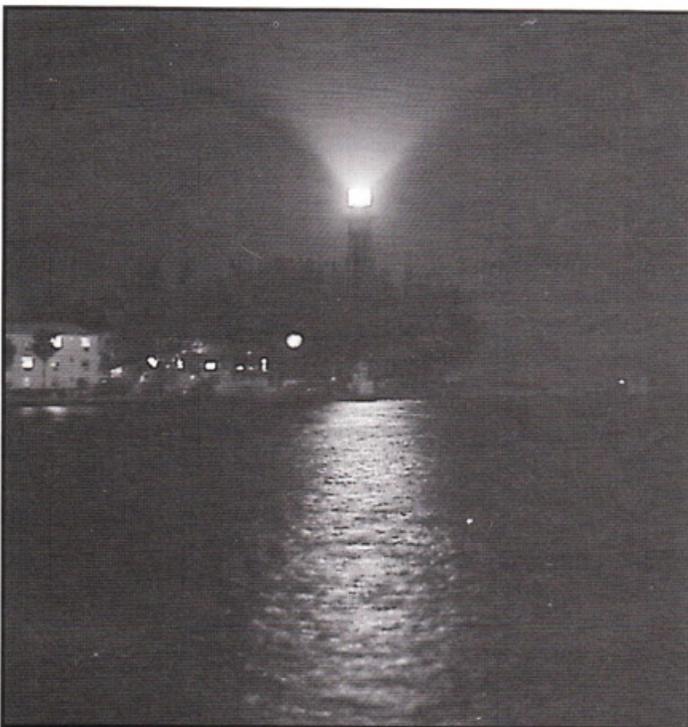


VOLUME TWO

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SPRING 1999

HILLSBORO Shines Again! But Murphy's Law Strikes Back



A MAGICAL EVENING

With hundreds of well wishers, dozens of boats and several VIP's on hand the majestic Hillsboro Lighthouse Fresnel lens came back to life on Thursday, January 28, 1999. With Channel 10's chopper hovering nearby broadcasting live the crowd took up the countdown chant and the beacon was switched on at approximately 6:27 PM. The sundown relighting ceremony capped a massive \$143,000 renovation of the historic Hillsboro lighthouse that started late in 1998 by the United States Coast Guard Seventh District Miami.

The festivities began at 6PM with HLPS President Harry Cushing introducing a variety of VIP's. US congressman Clay Shaw congratulated HLPS on successfully making a difference in getting government to respond to the will of the people. Local mayors on hand providing congratulations

were Larry Fink of Hillsboro Beach, Bill Sullivan of Lighthouse Point and Bill Griffin of Pompano Beach as well as Pompano District 1 commissioner Kay McGinn. Mayor Griffin presented HLPS with a proclamation congratulating it's members for a job well done. Former mayor and commissioner from Pompano Beach, Emma Lou Olsen shared memories of her younger days at the "Big Diamond" a term of endearment that many long time residents use to refer to Hillsboro lighthouse (and the name of our newsletter). Captain Jon Byrd from the Seventh District Miami introduced his team that was responsible for the restoration. Finally, Bill Younger, the President of the Harbour Lights company, the world's leader in the manufacture of fine collectible model lighthouses presented two artist proofs of his Hillsboro lighthouse to the wives of Captain Byrd and Admiral Saunders of the Coast Guard.

THE COUNTDOWN BEGINS

At 6:27 the attention was drawn to the darkened lighthouse setting just across the inlet from where the crowd had gathered. Coordinating with the Coast Guard crew in the lighthouse and with channel 10 reporters on hand and in the helicopter HLPS president Cushing began the countdown. The crowd roared in accompaniment and at the count of "zero" the great 92-year-old beacon burst into a brilliant, prismatic, white glow. The crowd fell silent until the first sweep of the concentrated beam passed over the crowd, then a wild chorus of applause and shouting followed. There were several moist eyes in the crowd. As the metal shields were taken down earlier on the rear side of the lantern room, the great beam arced a full 360 degrees that night.

DARKNESS RETURNS

For the next few weeks, the Hillsboro lighthouse was back in action shinning it's powerful beacon 28 miles out to sea every 20 seconds. Unfortunately, undetected flaws in the ball bearing assembly, that crucial assembly that permitted the beacon to rotate again, were taking their toll. Uneven wear in the bearing began to cause excessive vibration to the lens. In order to avoid any risk to the precious Fresnel prisms, approximately one-month after it was relit, the Hillsboro lighthouse's main beacon was shut down. The lower power temporary light was once again installed on the exterior of lantern room facing the sea.

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Tour the Lighthouse...Coming August 8th, 1999

Summer Program and Annual Meeting of the Hillsboro Lighthouse Society

The program starts at 10 AM August 8, 1999 with a check-in at the Hillsboro Club. Tables will be set up in the Lobby for name tags and registration. Only Society members will be allowed to attend due to space limitations. Tours of the Hillsboro Lighthouse will be done in groups from the Hillsboro Club over to the grounds, where members of the Coast Guard Seventh Auxiliary will give guided tours. For those who do not wish to climb there will be chairs on the Lighthouse grounds to relax and enjoy the scenery. **You must check in at the main lobby of The Hillsboro Club, do not go directly to the lighthouse.**

Slide Shows and Guest Speakers

Slide Shows on the History of the Hillsboro Lighthouse and other subjects will be given in the "Card Room" from 10 AM to 4 PM. Speakers on Lighthouse subjects will give talks during the day in the "Sea Room" at the Hillsboro Club.

Buffet Luncheon

There will be a buffet Luncheon at the Hillsboro Club from 12 noon to 2 PM for those who have purchased tickets.

Annual Meeting

At 2 PM the Annual Meeting of the HLPS will start in the large "Sea Room" of the Hillsboro Club. President Harry Cushing will review the activities and events since the re-lighting ceremony in January, and introduce the special guests.

Financial Report by the Treasurer....Julie Cushing

Membership Report.....Harry Cushing

Status of Lighthouse Repairs.....Dave Butler, and Lighthouse Keeper Arthur Makenian, USCG Reserve

Florida Lighthouse Society Report....Hibbard Casselberry

A Letter from our President



Wow! I hate to start out another letter with that word but I just can't think of another word that describes how I feel about everything that's happened with Hillsboro Lighthouse since our last newsletter. Here's a brief recap:

* September 1998 - Restoration work commences. New electrical wiring, painting, woodwork, windows and a new motor and ball bearing assembly are just some of the \$150,000 overhaul that the Coast Guard undertakes at Hillsboro.

* Nov 15, 1998 - Over 300 of our members and their families toured Hillsboro. A beautiful day was had by all. Local historians and lighthouse experts gave talks and exhibited their wares inside The Hillsboro Club. A delicious barbecue was held at sundown and a salute was given Admiral Saunders and his restoration crew for their work in progress.

* Jan 28, 1999 - The original second order Fresnel lens at Hillsboro Lighthouse is relit for the first time since 1992. In a sundown ceremony held at the Yardarm Park on the south side of the inlet, an estimated crowd of 500 people gathered to witness the event. US Congressman Clay Shaw, local mayors, commissioners, historians and Coast Guard officials joined with HLPS members to mark the event. Channel 10 had a reporter and chopper on hand to broadcast the event live at approximately 6:27 PM and closed out it's nightly newscast.

* Late Feb, 1999 - Bad news! Problems develop with the new ball bearing assembly shut down the restored lens. Murphy's law strikes again. But fear not, repair plans are underway. A retrofit of a mercury bearing with a ball bearing has never been attempted before. Lessons learned with the first attempt will hopefully make the second a success. HLPS vice-president and marine engineer David Butler is assisting the Coast Guard in repair strategy.

So you can see that the word "WOW" is pretty close to describing what HLPS is up to. But we are not resting on our laurels, our next tour for HLPS members will be Sunday August 8, 1999. Once again we will have a fun filled day including a cookout at The Hillsboro Club. The event is free to members, excluding food and beverages. As we get closer to August, we will be sending out a special mailing to all members as a reminder.

See you at Hillsboro Lighthouse on August 8 and thanks again for your continued support.

Save Our Light...Keep It Bright!

Harry P. Cushing
President

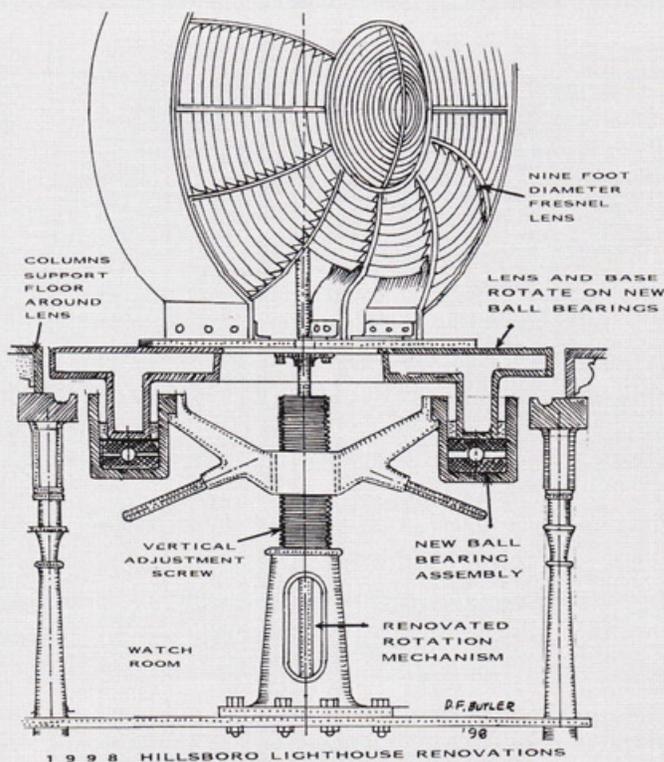
Fresnel Lens Bearing Repair Update

Background

The key component that made it possible for the original 90+ year old, Paris-built, second order Fresnel lens at Hillsboro lighthouse to shine again was the main bearing. In January 1999, a custom-made ball bearing was installed. It replaced 500 lbs. Of liquid mercury which had served as a relatively frictionless bearing since installed in 1907. In 1992, the Coast Guard made a determination that excessively high mercury vapor in the lighthouse was hazardous and had the mercury removed. Without the mercury the 1 1/2-ton beacon cannot move, rendering it useless as an aid to navigation.

First Attempt

Plans for an environmentally friendly ball bearing assembly that could be retrofitted into the original mercury reservoir began taking shape in early 1998. (See figure A) The bearing was included as part of the \$143,000 renovation begun in September of that year. Installation began in December and the original beacon was officially relit and placed back in service on January 28, 1999. Within a month problems developed with the new bearing. Excessive and uneven wear with the racetrack that the ball bearings rotate on caused vibration and the beacon was shut down to prevent any potential damage to the glass prisms of the lens.



Back to the Drawing Board

After careful examination of the worn bearing, a meeting was held in May 1999 at Coast Guard Engineering headquarters in Miami. HLPS Vice-president and marine engineer Dave Butler presented information he had gathered regarding on a commercially made bearing that may possibly fit within the mercury reservoir. The specifications on this off-the-shelf bearing appears to have many times the needed weight bearing capacity of the beacon. The only drawback is that this is a one-piece unit. This would require the removal of the main rotational axle, something that probably has not been done in over 90 years. On the upside, if the axle can be removed and the bearing fits, it would almost guarantee a reliable and cost-effective solution to getting the lens working again.

Progress Report

An update on the bearing solution will be discussed at the August 8, 1999, meeting held at the Hillsboro Club. You will be able to get up "close and personal" with the lens and see what's happening. Be there and find out!



Lighthouse Beginnings

The Hillsboro Lighthouse was built at the Russel Wheel & Foundry Company of Detroit, Michigan. This picture was taken April 14, 1906, as the lighthouse neared completion. It was then disassembled and transported from the foundry to Florida. Photo courtesy of Frank Schwartz, whose grandfather appears in the photo.

Hillsboro Lighthouse



CIRCULAR STAIRS IN THE TOWER

The circular stairs inside the tower go from ground level to the service room at the 100 foot level. The view down the stairs from about 80 feet is shown in the upper photo. A view of the stairs from the service room with Steve DeOlivera, Sun Sentinel Reporter, coming up is shown in the photo on right.



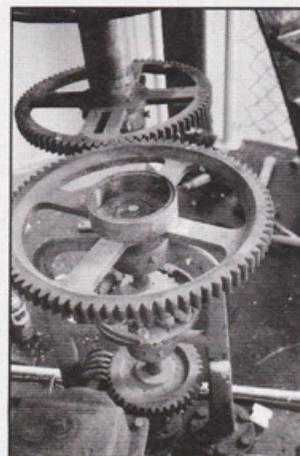
THE SERVICE ROOM

The Service Room is located at the 100 foot level, at the top of the circular staircase in the tower. It is an octagonal room, with four large windows. The renovations started in September 1998 with removal of the old flooring, and cleaning and priming the iron work. By October 14 a plywood sub-floor had been installed, the iron walls primed, and insulation installed. Carpenters were installing wood fuuring strips preparatory to installing plywood pine paneling on the north side. The Sun Sentinel photographer is shown on the right.



PAINTING THE OUTSIDE OF THE TOWER

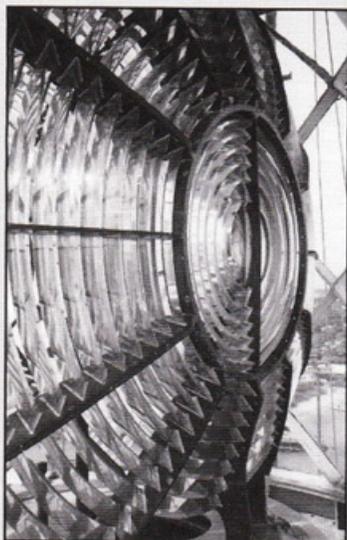
The renovation contract calls for painting the external white sections of the lighthouse. On October 14 painters were working on the lower sections of the central tower.



THE LENS TURNING MECHANISM

The mechanism is being disassembled. Both 1/2 HP motors have been removed, and will be replaced by two 3/4 HP motor. The worm-gear box is shown in the heavy brass base-plate which was installed in 1932.

House Renovations



RENOVATIONS OF THE LENS

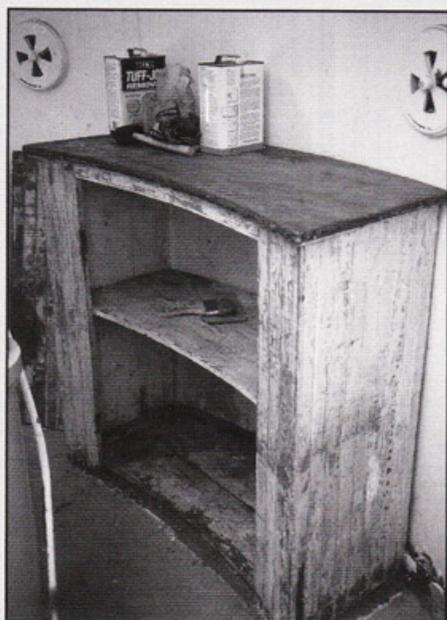
Renovation is proceeding in the upper chamber of the Hillsboro Lighthouse. Four outer glass panels have been removed with difficulty. The old bedding compound was leaking, and is to be replaced. Some is original material and after 90 years it had set up like cement. Three glass panels were broken during removal process, and an alternative re-sealing may have to be found.

HLPS President Harry Cushing is shown on the narrow walkway surrounding the Lens Chamber where the glass panels have been removed. The doorway providing access from the Lantern to the Walkway is shown open.



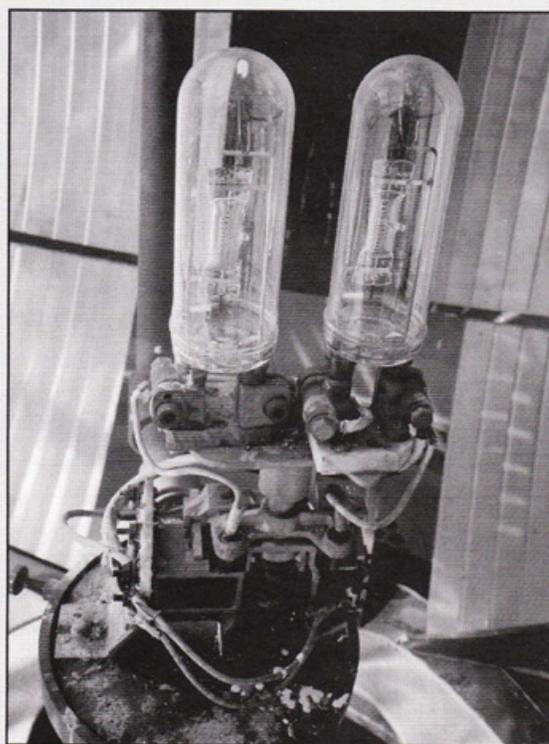
A view of the lens is shown. This was taken through one of the removed panel openings. In the detailed examination it was found that a bullet had punched a hole in the glass on the land side, but not penetrated to the lens.

Light is provided by high pressure xenon bulbs. These have a "bulb within a bulb" design. The tungsten filament is inside a capsule filled with xenon gas. The 120 volt electricity heats the filament which causes the xenon gas to glow brilliantly.



THE WATCH ROOM

The watch room is the space below the lens where all the machinery is located. By October 14 the storage cabinet had been stripped down to bare wood. Air ventilators in the walls are shown behind the cabinet. These allowed a very close control of air-flow up to the vaporized kerosene lantern used for light from 1907 to 1932.



OLD LIGHTING EQUIPMENT

The old lighting equipment with 1,000 watt bulbs is shown inside the lens. This assembly was removed and replaced with an all-new unit with larger bulbs.

HLPS MEMBERSHIP GATHERINGS



November Meeting at the Lighthouse

The H.L.P.S meeting planned for November 15th was held at the Hillsboro Lighthouse and the Hillsboro Club. Registration was at the Club, with groups of 20 going over to climb the Lighthouse. The day was beautiful with clear skies, and a nice breeze. About 300 people attended the party, and many stayed over by the cottages after climbing. The Coast Guard had an Aids To Navigation Boat on display, and thirty seven from U.S.C.G. Seventh District Miami, and the U.S.C.G. Reserve attended. Coast Guard men attending included Admiral Saunders (Commandant 7th District), Cdr Dale Walker (Commandant Civil Engineering and Speaker), Lt. Scott Wager (Project Manager Renovations and Speaker), Chief Petty Officer Dennis Dever (Officer in Charge of Hillsboro) and Chief Warrant Officer Joe Cocking (Lighthouse Expert and Speaker). A group of Coast Guard men are shown by the displays.

continued from page 1

BACK TO THE DRAWING BOARD

Immediately repair efforts began to take shape. An analysis was made of the failed bearing, identifying the flaws. A meeting was held in Miami Coast Guard Engineering and suggestions were put forth as to which was the best way to correct the problem. HLPS Vice-president David Butler was on hand to present information on a commercially made bearing that he had located (see page 3 for more details). Another design of a custom made bearing was also presented. The Coast Guard will study all suggestions and will then select the best solution.

Meanwhile, time is not going to waste at the lighthouse. While repair plans are analyzed and finalized, more restoration work is being done to the Fresnel lens base, removing years of built up paint and polishing the beautiful bronze framework. An informative plaque has been erected at the base of the tower reminding visitors of restrictions and safety measures for those wishing to take the climb to the top.

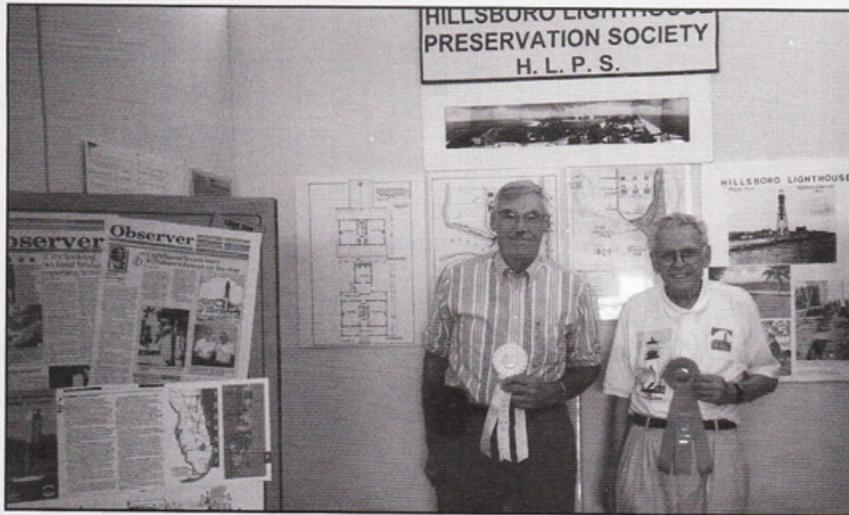
A big "Thank You" goes out to Art Makenian of the US Coast Guard Auxiliary and the newly designated "Official Hillsboro Lighthouse Keeper." Art has overseen much of the restoration work and has personally devoted his time and efforts to bring Hillsboro to life once again.

We hope to have some news to update you on the repair status by the time of the HLPS member's visit the lighthouse on August 8. A presentation will be made that day as to where things stand. We hope you can make it.

Pioneer Days

Pioneer Days 1998

The Hillsboro Preservation Society had a booth at the 26th Annual Broward County Pioneer Days celebration due to the hard work of Hibbard and Martha Casselberry. The Exhibition was at Ann Kolb Nature Center in a beautiful natural setting on Sheridan Street in Hollywood just east of the Intracoastal Waterway.



The Society was awarded a plaque for the work on Historical Preservation, and a ribbon for our exhibit. Dave Butler worked with Hib in developing the exhibits, and Dr. Ray McAllister manned the booth for much of Sunday. The plaque reads:

The Broward County Historical Commission
Presents to
The Hillsboro Lighthouse Preservation Society
an appreciation for the preservation of Broward
County History
Pioneer Days 1998

Pompano Fishing Rodeo

The Rodeo presented a check for \$500 to help the work along. Also presented was a big cartoon of the President hugging the Lighthouse. Appreciation for Rodeo support was unanimous. We wish to express our thanks to Patty Carr and staff.



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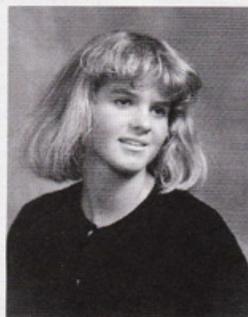
Recognition

Benefactor Miriam Hood



After a long career teaching foreign languages in Indiana and Washington DC schools, Miriam and her husband Dick Hood retired to Florida. Both became very active in the Pompano Beach Historical Society, and both served as president. During the 1980's they were active in saving the 1926 Pompano Fire Truck. After Dick Hood's death Miriam continued active historical work with a major towards construction of the Pompano Beach Historical Society headquarters which was named the Dick and Miriam Hood Center in their honor. Miriam provided a \$5,000 gift to help the Lighthouse Society start operations, and she serves on the Board of Directors of both organizations.

Lynn Loesel Memorial



Mr. and Mrs. Thomas Loesel have made a generous gift to the Lighthouse Society in memory of their daughter Lynn. Lynn lived all her life in this area attending local schools. She graduated from Flagler College in St. Augustine. She enjoyed visiting the Hillsboro Inlet and Lighthouse. Lynn was a very active girl and enjoyed sports, and died tragically during the summer of 1996.

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Photo courtesy of Mr. Lausten - Terrace Plaza and Seabana Resorts