



TORREYANA

THE DOCENT NEWSLETTER FOR
TORREY PINES
STATE NATURAL RESERVE

Issue 430

May 2021

Endangered Kelp Forests

by Jeannie Smith

Kelp forests are important biodiverse communities that provide a variety of habitats for many invertebrate and vertebrate marine animals. At the April 10 Docent Society meeting (via Zoom), Ed Parnell, PhD, an Associate Researcher at the Scripps Institution of Oceanography (SIO), led us on a tour of this fascinating plant community, which is found around the world, as well as in our own local waters. Plants of the kelp forest need nutrient-rich cool water, which confines them to temperate zones, and their need for light keeps them from the very high latitudes.

Kelp forests, which Dr. Parnell says are “well named, because they are much like a terrestrial forest,” are affected by the interaction between physical forces and biological factors.

Physical Forces

The physical forces that affect kelp include:

- Cool temperatures and sufficient light.
- Nutrients: nitrates are essential to kelp.
- Storm waves, which can scour the bottom of the ocean and rip up the plants.
- Climate change. El Niños and Pacific Decadal Oscillations (PDO) can warm the waters, depleting nitrogen and making it difficult for kelp to thrive. Surface warming particularly affects giant kelps, while those in the understory may be less stressed by these temporary events.
- Substrate. Kelp prefer hard bottoms. They cannot grow in sand. Sea level changes and human interventions, such as dredging or beach sand replenishment, can destroy the substrate that kelp need. In the Ice Ages, when the sea level was much lower, there was a hard bottom offshore that afforded an almost continuous substrate for a much more extensive kelp forest. Now most of our local offshore is dominated by sand, with a few rocky outcrops occupied by kelp.

A healthy kelp forest contains various plant species that grow at different heights and in different habitats. *Macrocystis*

Docent General Meeting

Date: Saturday, May 8, 9:00 am

Location: Online via Zoom (link to the meeting will be emailed to all docents)

Speaker: Don Endicott

Topic: The Amazing World of Bats, Nature's Tiny Fighter Jets

Bats! Those strange, mysterious creatures we only catch glimpses of around twilight. Bats are fascinating animals with incredible skills of flight and nighttime navigation. They contribute to our environment, serving as master catchers of insect pests, pollinating wild fruits, and helping reforest disturbed lands. Poorly understood and frequently feared, they are under threat world-wide due to the use of pesticides, loss of habitat, and being killed by humans.

Don Endicott is a retired civilian research engineer and executive in the field of navy communications and network technologies who discovered a second career as a volunteer naturalist. He is a National Association of Interpretation certified interpretive guide and Mission Trails Regional Park trail guide, as well as a public educator for the San Diego Natural History Museum and the San Diego Humane Society's "Bat Team." Don is co-author with the late Jerry Schad of *50 Best Short Hikes: San Diego* (Wilderness Press, 2018).

pyrifera is the tall kelp that predominates in southern California waters.



Giant Kelp Forest, Southern California, Phillip Colla, oceanlight.com

The Torrey Pines Docent Society publishes the *Torreyana* monthly, edited by Joan Simon and Dan Hammer on alternate months, and is formatted and produced by Roger Isaacson. Submissions are due on or about the 20th day of the preceding month and may be emailed to

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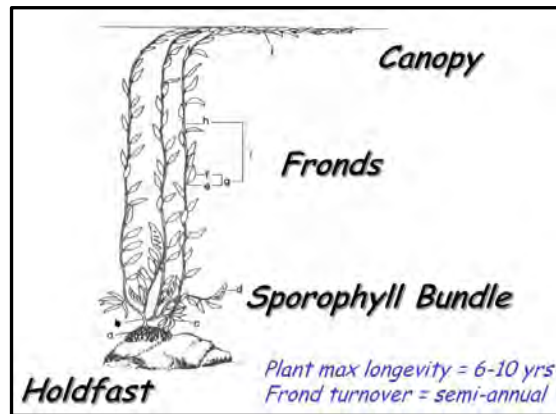
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Its floats allow it to reach the top layers of the ocean and extend its fronds along the water surface by as much as 50% of its height. These giant kelps can be up to 100' long and live for 6 – 10 years.



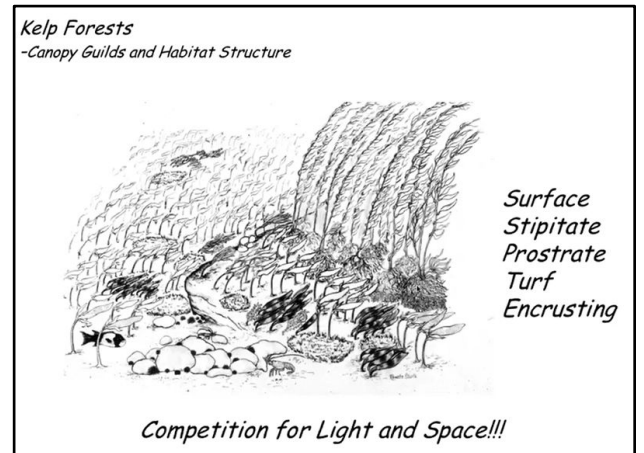
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Kelp fronds will turn over constantly during their lifetime, replenishing themselves semiannually and continually raining down nutrients for creatures like abalone and sea urchins below, which depend on them for food. Even after their life is over, when plants wash up on the beach they continue to provide food and shelter to a variety of invertebrates that are important to shore birds.

The shorter forms of kelp, which grow lower down, may have stipes (like a stalk), or be prostrate, or grow very close to the bottom like turf, or encrust rocks. There is competition between these layers for light and space.

Like terrestrial forests, these communities provide many different habitats and nutrients for animals living at different depths.

The giant kelp grows extremely fast, and a healthy kelp forest can produce per day the biomass of a blue whale! When tall kelp plants get ripped out by storms, the lower-growing species are better able to thrive. Since their bulk is in the upper five meters of water, the large kelp are also vulnerable when nutrients are depleted during warming events.



Biological Interactions

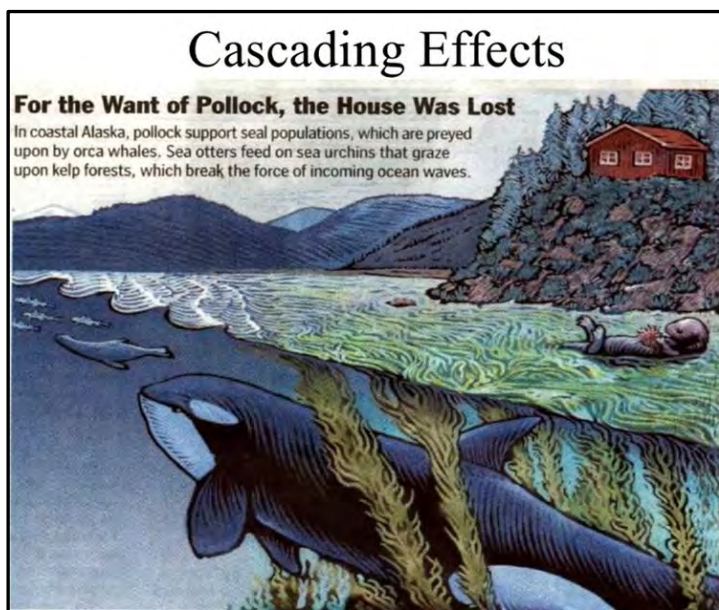
California Sheephead is an important predator fish that preys on species that graze on kelp. Initially, the population is all female. There may be one or two males in the area, but when the dominant male is removed by fishing, a female becomes a male. Sheephead used to be much larger in size, but overfishing has created a smaller size distribution which diminishes their ability to remove kelp grazers.

Primary consumers of kelp are gastropods, crustaceans, and the most voracious of all, sea urchins. In Northern California, sea urchins are a huge problem, destroying much of the kelp forest there. Fish, octopus, and lobster feed on the

sea urchins and other primary consumers. Overfishing of these animals sets up the case for sea urchin proliferation and the creation of “urchin barrens” where there were once kelp forests, but now sea urchins dominate. Once the forest is gone, the starving urchins may succumb to disease; alternatively, a huge wave disturbance might knock out the urchin population. Either event can set the stage for the development of a new kelp forest.

The Trophic Cascade

In coastal Alaska in the ‘80s, pollock were diminished by overfishing and climate change. Orcas, which had preyed on pollock, began to seek out sea otters when their natural source of food declined. Since sea urchins are the main food of otters, the urchins proliferated without their natural enemy, destroying kelp forests. Absent the kelp forests, which diminish the effects of waves on the shore, serious erosion occurred.



In San Diego County, kelp forests off Point Loma and La Jolla are the largest on the West Coast and are very important for commercial and recreational fishing. (In fact the Point Loma kelp forest is the biggest in the world.) Kelp communities in North County are much smaller, growing on rocky outcrops. It is known that a beach sand replenishment project in Solana Beach some years ago covered the existing hard substrate with sand, harming the existing kelp forest. Recently, sand replenishment projects have used more appropriate methods to maintain a kelp-friendly substrate.

Measurements of sea water at the SIO pier show a huge depletion of nitrates since the 1970s. This is because a small temperature change can affect the amount of nitrates in sea water. The famous “blob” of very warm water in 2015 was a dramatic event that negatively impacted kelp off the west coast.

The situation for kelp is worse in Northern California than in our local waters. A persistent influx of warm water there has caused an explosion in sea urchin infestation. Another example of kelp devastation is in Tasmania, where the East Australian current, a warm-water current that has strengthened in recent years, has caused an explosion of sea urchins. This has created “urchin barrens,” nearly eliminating the kelp on the east coast of Tasmania. Dr. Parnell said there is concern that the same thing could happen in our southern California waters.

For more on Dr. Parnell and his work with kelp forests, visit eparnell.scrippsprofiles.ucsd.edu.

General Meeting Minutes

April 10, 2021

The General Meeting was called to order (via Zoom) at 9:05 am by President **Lynne Truong**. The meeting was attended by 105 docents.

Invited Speaker

Dr. Ed Parnell, a research oceanographer specializing in ecological studies of the southern California coastal shelf at Scripps Institution of Oceanography, gave a presentation titled “Kelp Forests of Southern California.”

TPDS Business

President Lynne Truong shared the following business items:

- **Docent of the Month**

Wayne Kornreich (Class of 2009) has been leading the San Diego Science Fair docent group, which selects deserving students to present their project to the TPDS. Wayne has been an enthusiastic and effective mentor for high school students involved in Science Fair projects and spends countless hours supporting these budding scientists. (See pg. 5.)

- **Planning for the end of the California lockdown on June 15**

Lynne shared that board members are working with their respective committee liaisons to develop safe reopening protocols. This includes guidelines for reopening the TIK (**Janice Barnard**) and the Museum Shop (**Nancy Walters**), as well as the reboot of the Nature Discovery Program (**Kathy Dickey**) and the CEED events (**Cres Torres**). All protocols have to be submitted to Supervising Ranger **Dylan Hardenbrook** for final approval.

- **Earth Day**

Earth Day 2021, celebrated on April 22, is an annual event celebrated globally to support environmental protection. Because of California's statewide lockdown, in-person celebrations are not allowed. Lynne encouraged all docents to identify meaningful ways to celebrate and honor the spirit of Earth Day. Lynne identified **Kristine Schindler's** road cleanup event on Sunday April 18 as an excellent example of how to meaningfully commemorate Earth Day. Docents are encouraged to share Earth Day celebration ideas and to promote activities organized by other associations.

- **Beach Stairs Status**

We had been told that the repair of the stairs might be done in about two weeks. [As of April 21, the beach stairs have been recoated and reinstalled.]

- **Razor Point Trail Repair**

Although material for trail repair has been delivered, maintenance work has come to a halt due to the start of the gnatcatcher breeding season. The breeding season ends September 1.

- **New Docent Training**

Although we do not know yet if in-person large gatherings can resume after the end of California's lockdown on June 15, TPDS is cautiously optimistic that the new docent training program will take place in the fall.

- **In-Person General Meetings**

We also do not know when we will be allowed to resume in-person meetings. We hope for physical meetings starting again in late summer or early fall.

- **Bear-in-Mind Training**

Lynne reminded the docents that the Bear-in-Mind training has become a requirement for all CA State Park volunteers. The training needs to be completed no later than June 1, 2021.

The training can be done completely online. Docents need to sign into the Better Impact account, and use their username and password to access their webpage. Clicking on *My Profile* and scrolling down to and clicking on *Training* allows access to the online Bear-in-Mind course.

Treasurer **Janet Ugalde** gave the following update:

Janet reminded the docents that due to the measures imposed in response to the coronavirus pandemic, only membership fees and interest contributed to the TPDS income. Janet assured all docents that TPDS is financially safe and sound.

Recent expenses included:

- **Taxidermy Cleaning Equipment**

TPDS purchased a freezer and a vacuum cleaner (total cost \$2K) to clean the taxidermy mounts in the Lodge. Janet explained that taxidermy animals are cleaned by first placing the specimens for a specific amount of time in the freezer. This eradicates the insects, but not the eggs. Therefore, the stuffed animals are brought back to room temperature, which allows the eggs to hatch. This is followed by a second freezer cycle. The final step is gentle dusting with the vacuum cleaner. Currently park aides are receiving taxidermy cleaning training.

- **Maintenance of Reserve Structures:**

The Seabees received funding to repair the stairs and the deck in the Red Butte area. The Seabees are also painting the TIK and are replacing the Map Board's roof.

Kristine Schindler reported on the following:

- **TP Docent 80 + Project**

Kristine reminded the docents that the goal of this new *Torreyana* feature is to honor TPDS docents who are 80 and older. Docents 80 years and older are invited to be interviewed by a member of the Care Team, who will then summarize the conversation in an article for the *Torreyana*. Kristine asked all docents who are 80 years and older to contact her.

- **Why-I-Became-A-Docent Project**

Kristine invited all docents to share their story of why they became a docent. Members of the Care Team stand ready to help docents write their stories. Kristine is happy to answer any questions docents might have.

The meeting was adjourned at 10:40 am.

Many docents remained on Zoom for an additional 30 plus minutes of informal socializing.

Docent of the Month:

Wayne Kornreich

Photo by Herb Knüfken

I am honored to have been selected Docent of the Month for my work as the coordinator for the Docent Society judging team for the Greater San Diego Science and Engineering Fair. I became a docent in 2009 after my wife, **Suzan Potuznik** (a docent since 2007), inspired me to sign up, and I started training a few months later.



I started hiking the trails at Torrey Pines in 1969 when my family moved to the San Diego area, and I attended San Dieguito High School in Encinitas. The rules for where you were allowed to hike in the Reserve were very different then. I remember hiking through the canyons and Fat Man's Misery, and no one told you to stay on the trails. I am glad new rules now exist, as there are many more people visiting the park today.

In 2014 **Frank Burham** asked me to join the Science Fair judging team. In 2015 **Wes Farmer** and I served as the coordinators for the judging team until Wes moved to Nevada and I served alone. I have been honored to be the coordinator for the judging team ever since.

I very much enjoy being a judge, interacting with the students, and coaching the student award recipients in preparation for their presentations. We have been truly fortunate in that some of the students we have chosen as winners have gone on to the state and national Science Fair competitions.

My favorite activities as a docent are the Science Fair, Lodge hosting, and Roving Interpreter (trail patrol). I very much enjoy interacting with the visitors.

80+ A Conversation with Wes Farmer

Interview by Janet Ugalde

Wesley Farmer, PhD, is the former Curator of Exhibits at the San Diego Natural History Museum. He became a docent in 1991 and, for over 30 years, he has served the Docent Society and the Reserve in many capacities. He was newsletter editor in 1994 and has been a frequent contributor. He has led many docent walks and regularly participated in our Children's Program. Wes is an amazing artist! He has gifted us with numerous displays, including the whale models that have hung in the Lodge for decades.

Please tell us about your childhood.

As a young person, I had a fishing pole and went fishing on Broadway Pier (San Diego). I caught pompano, sharks, stingrays and topsmelt. When I was 10, Grandpa took me down to the 32nd Street Pier and showed me a kelp holdfast. Inside was a blue and gold sea slug. That stuck with me a long time. I went to Roosevelt High School and was president of the Biology Club. I took Latin because the scientific names of animals were very important. I made models of sea slugs in clay and painted them. I had an aquarium in my room. I built it from scratch.

Career highlights

As a junior scientist, I learned how to scuba dive with the chief diver at Scripps Institution of Oceanography. I led nature walks for a couple thousand people on the beach at Bird Rock. When Scripps had a Dahl porpoise wash up on the beach, they wanted a cast of it. We dug a ditch in the sand, poured plaster on one side, then turned it over and poured plaster on the other side before the tide came in.

Why did you become a docent?

I went over to Torrey Pines, and they asked me to give them a talk on intertidal life. After the program, I took the training. I think there were twenty members at that time. We met in front of the fireplace (in the Lodge).

As a docent, what accomplishments are you most proud of?

I found fossils on the beach. I was newsletter editor for a while. I liked walking on the beach with students and sharing their discoveries in nature. My happiness and camaraderie was with the Seabees and Whacky Weeders.

What makes you happy these days?

I'll show you my garden. I really like doing it, and it was from scratch. *Wes leads us outside.* I am growing corn, nasturtiums, red beans, carrot, russet potatoes, sunflowers, and squash. I made this hummingbird feeder. Here is a feeder, using just sticks and a bottle of apple cider vinegar.

Is there a philosophy, or some advice, you'd like to share?

I have a sign here. *Wes points to a wall.* It says, "My age is not who I am." Life is chapters in a book. How many chapters do you want?



Wes at the Lodge teaching young students geology

This interview was conducted via Zoom from Wes' home in Nevada. You can view the full 47 minute interview on our Vimeo site: [Click here.](#)



Science Fair Winners, 2021

by Wayne Kornreich

This year's Docent Society judging team for the Greater San Diego Science and Engineering Fair included **Kathy Dickey**, a new and welcome addition to the team, and returning judges **Karen Lisi**, **Leigh Fenly**, **Lillian Lachicotte**, **Sally Whitlock**, and **Wayne Kornreich**. Judging was done remotely via the Internet. Although we were unable to see the students in person, it was still a very rewarding experience.

About four weeks before the Science Fair, we reviewed the project abstracts (only 280, a smaller number this year) individually online and chose several projects for further review. A week and a half prior to the fair, we were able to go online and look at the students' notebooks and PowerPoint presentations. As a team we narrowed the projects down to four. We were then able to interview the students for 20 minutes each on March 16, the day of the Science Fair. We were extremely impressed with how well-

spoken all the students were, as well as with their science projects.

The judges all met via Zoom after the interviews to discuss the projects and presentations. We decided to award all four projects with various levels of achievement. The students and their projects were awarded as follows:

Daanya Hussain, 9th grade, Bright Horizon Academy, Senior Division: Effect of EMF on Planaria Growth Behavior. Daanya received a TPDS Award Certificate.

Andrew Honaker, 6th grade, City Tree Christian School, Junior Division: The Effect of Ocean Water from Southern California on Phytoplankton. Andrew received a TPDS Award Certificate, plus \$100.

Neha Bhat, 8th grade, Carmel Valley Middle School, Junior Division: Using Google Earth Engine to Identify California Gnatcatcher Habitats. Neha received a TPDS Award Certificate, plus \$250 and an invitation to present at one of our docent meetings.

Bella Rose Schremmer, 10th grade, University City High School, Senior Division: Clean Coastal Energy by a Piston-Buoy Rack and Pinion WEC System. Bella received a TPDS Award Certificate, plus \$250 and an invitation to present at one of our docent meetings.

Torrey Pines Book Club

We will continue to meet via Zoom at our regularly scheduled time. Please notify Ken King if you plan to participate and if you need any extra help getting connected.

When: Tuesday, May 11, 1:00 pm

What: A book of your choosing by Jack London.

Each participant is asked to pick a book by Jack London. We will compare and contrast our choices when we meet. All TPDS docents are welcome. Meetings last about an hour.

June 8: *On Call in the Arctic: A Doctor's Pursuit of Life, Love, and Miracles in the Alaskan Frontier* by Thomas J. Sims

Join us at the May 8 Docent meeting (via Zoom) to celebrate Ed Vodrazka, lifeguard *extraordinaire*, who is retiring after 46 years of service.

Note that Ed has a book available on Amazon.



Bird of the Month: Scaly-breasted Munia

by Jack Friery; photo courtesy of Herb Knüfken

Our star bird this month isn't native to Torrey Pines State Natural Reserve. In fact, it's not even native to North America. But it's here, and we're seeing increasing numbers of this little finch at Torrey Pines. The **Scaly-breasted Munia** (*Lonchura punctulata*), also known as Nutmeg Mannikin, Spice Finch, and Ricebird, is native to tropical Asia. But, it's a popular cage bird, and escapees have firmly established populations in San Diego County and elsewhere in the country. (In birders' terms, it's now a "countable" bird for those who keep bird lists.)

The Scaly-breasted Munia is about 4 ½ inches long, and weighs 12-16 grams. It's a seedeater, and its highly social flocks may number up to 100 birds. They like to roost together, sitting side-by-side in close contact to each other. Birds on the outer edges of the roost often try to jostle to the center.

The etymology of the word *Munia* has been obscured by time. (One of its earlier common names, *Mannikin*, is apparently derived from a Middle Dutch word meaning "little man.") The bird's generic name, *Lonchura*, may be derived from Greek words meaning "spear tail."

Sources: en.wikipedia.org/wiki/Scaly-breasted_munia; audubon.org/field-guide/bird/scaly-breasted-munia; ebird.org/species/nutman; en.wikipedia.org/wiki/Lonchura; en.wiktionary.org/wiki/Lonchura.



Torrey Pines Docent Society Bird Survey: April 2021

Number of species: 91
(+3 other taxa)

Canada Goose 2
Cinnamon Teal 11
Northern Shoveler 2
Gadwall 8
American Wigeon 10
Mallard 12
Green-winged Teal 1
Lesser Scaup 11
Bufflehead 22
Hooded Merganser 1
Ruddy Duck 8
California Quail 6
Pied-billed Grebe 6
Western Grebe 64
Eurasian Collared-Dove 3
Mourning Dove 51
White-throated Swift 4
Anna's Hummingbird 71
Allen's Hummingbird 1
Rufous/Allen's Hummingbird 30
hummingbird sp. 5
American Coot 9
Whimbrel 24

Long-billed Curlew 16
Willet 6
Heermann's Gull 2
Ring-billed Gull 51
Western Gull 81
Glaucous-winged Gull 1
Caspian Tern 16
Royal Tern 10
Brandt's Cormorant 45
Double-crested Cormorant 4
Brown Pelican 44
Great Blue Heron 7
Great Egret 8
Snowy Egret 9
White-faced Ibis 30
Turkey Vulture 1
White-tailed Kite 2
Northern Harrier 1
Cooper's Hawk 2
Red-shouldered Hawk 3
Red-tailed Hawk 12
Belted Kingfisher 1
Nuttall's Woodpecker 12
Northern Flicker 2
American Kestrel 3
Peregrine Falcon 7
Pacific-slope Flycatcher 1
Black Phoebe 11

Say's Phoebe 3
Ash-throated Flycatcher 1
Cassin's Kingbird 15
Hutton's Vireo 3
California Scrub-Jay 21
American Crow 25
Common Raven 55
Northern Rough-winged Swallow 21
Tree Swallow 1
Barn Swallow 5
Cliff Swallow 3
swallow sp. 3
Bushtit 140
Wrentit 111
Ruby-crowned Kinglet 1
Blue-gray Gnatcatcher 2
California Gnatcatcher 10
House Wren 19
Bewick's Wren 38
California Thrasher 21
Northern Mockingbird 15
Western Bluebird 8
Hermit Thrush 1
Scaly-breasted Munia 5
House Sparrow 5
House Finch 102
Lesser Goldfinch 33

Dark-eyed Junco 1
White-crowned Sparrow 53
Golden-crowned Sparrow 9
Savannah Sparrow 2
Song Sparrow 57
Lincoln's Sparrow 1
California Towhee 96
Rufous-crowned Sparrow 1
Spotted Towhee 36
Hooded Oriole 6
Red-winged Blackbird 24
Orange-crowned Warbler 34
Common Yellowthroat 13
Yellow-rumped Warbler 23
Black-throated Gray Warbler 1
Wilson's Warbler 1

Observers: Kathy Dickey, Andy Rathbone, Nancy Richardson, Marty Hales, Bob Glaser, Steve Neal, Mark Embree, David Walker, Anonymous, Tsaiwei Olee, and Patty

View this checklist online at ebird.org/checklist/S85560674

Herb Knüfken's amazing photo gallery, including many birds, may be found here: pbase.com/herb1rm



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