UC San Diego

Capstone Papers

Title

"Treasures of the Island of the Blue Dolphins": Educational Tools and Outreach Techniques to Inspire the Next Generation of Marine Scientists

Permalink

https://escholarship.org/uc/item/20t3n3z3

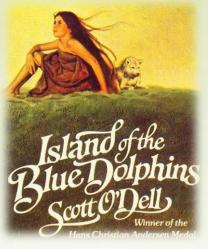
Author Holm, Tom

Publication Date

2015-04-01

eScholarship.org







"Treasures of the *Island of the Blue Dolphins*"



Educational Tools and Outreach Techniques to Inspire the Next Generation of Marine Scientists



Capstone Report by Thomas Adam Holm 6.12.15

<u>Capstone Committee Members:</u> Dr. Richard Norris, Scripps Institution of Oceanography (Chair) Dr. Greg Rouse, Scripps Institution of Oceanography and Gary DuBois, J.D., Pechanga Cultural Resources







Treasures of the Island of the Blue Dolphins -Program Overview (Page 1 of 2)

Scott O'Dell's international best-selling novel *Island of the Blue Dolphins* is required reading for millions of schoolchildren around the world, including many 4th graders in America. It is considered an impactful and inspirational book for pre-teens, especially young girls.

O'Dell's story is a fictional account of an Indian girl who witnesses the decimation of her island-dwelling tribe before being left alone to fend for herself. She has only marine resources to provide for her food, shelter, tools and clothing. At first, she's willing to kill without regard, but later chooses to take only what is needed to survive and seeks alternatives to slaying animals that become her "friends." This is a remarkable lesson in conservation.

As unreal as this story sounds, it is based on the true life of the "Lone Woman of San Nicolas Island," who survived the massacre of most of the "Nicoleño" on their island home, just 65 miles west of Oceanside, California.

In 1835, mission priests ordered the relocation of the few remaining Nicoleño, to San Pedro. However, through a series of unexplained events, the Lone Woman was left behind. She remained in solitude for 18 years on San Nicolas Island. Then, in 1853, she was taken by Captain George Nidever to Santa Barbara, California, where none of the local Indians, or those brought in from as far away as Los Angeles, spoke her language.

She died after only seven weeks away from her island home, without anyone knowing her language, her Indian name, or connecting her to a mainland tribe.

Recently, my research established a cultural connection between the Nicoleño and Pechanga Band of Luiseño Indian Tribes. The Luiseño have become the Lone Woman's family, giving her a voice by confirming her language. They have also given her the name Ahiichumay Tamaawumal, which means orphaned songbird that no one hears.

The fictional account of this story captures the imagination of children through O'Dell's novel. The mysteries and recent discoveries surrounding the true life of the Lone Woman captivates students of all ages.

Treasures of the Island of the Blue Dolphins -Program Overview (Page 2 of 2)

Therefore, I am using the popularity of O'Dell's fictional novel and the truelife accounts of the Lone Woman as the central theme of an educational outreach program comprised of several integrated components. This multiplatform program is designed to inspire students of all ages and backgrounds to pursue educations and careers focused on the preservation of marinebased cultural and natural resources.

An important benefit of this outreach program is that it intentionally and vividly connects mainland Native People to a once-thought extinct islanddwelling tribe that was rich in culture, history and intrigue. Highlighting this connection within this program is designed to motivate Native People to further their studies and efforts to support their tribe's connection to San Nicolas Island and California's other Channel Islands.

This campaign also inspires young women to pursue careers in science, policy, art and more with several intended messages of female empowerment.

The components of this integrated, multi-platform program consist of:

- 1. A Mobile Classroom/Museum,
- 2. An "Eco-Expedition" Truck,
- 3. Educational and Inspirational Posters,
- 4. A Classroom Lesson Plan,
- 5. A Documentary Film "Short,"
- 6. An Interactive Website (Under Construction).

In order to obtain the goods and services used in this Capstone project, strategic alliances were secured with The Pechanga Band of Luiseño Indian Tribes, the U.S. Navy, Ford Motor Company, the National Oceanic and Atmospheric Administration, Making it Happen Productions and others.

As a result of this cooperation, while the value of this project's equipment and services exceeds \$100,000, my out-of-pocket costs remained \$2,000.

- 1. Mobile Classroom/Museum,
- 2. "Eco-Expedition" Truck,
- 3. Educational and Inspirational Posters,
- 4. Classroom Lesson Plan,
- 5. Documentary Film "Short,"
- 6. Interactive Website (under construction).

Mobile Classroom/Museum

Treasures of the Island of the Blue Dolphins -Mobile Classroom/Museum

The Mobile Classroom/Museum and its contents represent a collaboration between Pechanga Cultural Resources and myself. This agreement enabled an outreach program to already begin visiting community events and schools. Although many of the displays target 4th graders who have just finished reading *Island of the Blue Dolphins*, these displays can educate and be enjoyed by all age groups.



Displays Include:

- ♦ A 24-foot Trailer with Vivid External Graphics and Remarkable Internal Displays,
- ◆ A Replica of the Lone Woman's Feather Dress. (Made by my then 14 year-old daughter),
- ♦ A Tule Raft Made From Materials Available on San Nicolas Island,
- ◆ Artifacts Made from Marine Resources that can be Found in Luiseño and Nicoleño Villages,
- ✤ Plant Species Native (or even Endemic) to San Nicolas Island,
- * A Replica of a Granary Found on San Nicolas Island (substitute pictured),
- * A Collection of Relevant Educational and Inspirational Posters (Discussed Later)

"Eco-Expedition" Truck

Treasures of the Island of the Blue Dolphins -"Eco-Expedition" Truck

Since the mobile classroom/museum needs to be towed, we can capture the interests of other potential "gearhead" scientists/ conservationists by exciting them with our "Eco-Expedition" truck.

This truck can be powered by biofuels developed at SIO by our own Greg Mitchell, Mark Hildebrand or others.



Our custom rig can haul displays of ocean exploration gadgets by Jules Jaffe, sea core samples by Dick Norris and samples of seemingly alien creatures discovered by Greg Rouse

Not to exclude upper campus, we can include such displays as surfboards, made from algae, by Steve Mayfield's crew at Food and Fuel for the 21st century.

Treasures of the Island of the Blue Dolphins -"Eco-Expedition" Truck



Sponsored "Eco" Upgrades and Fun Accessories

- ✤ Ford Motors Truck Bodies Made From Recyclable Aluminum / Biofuel-Capable Engines
- SIO Green Crude We Need to Be Promoting Algae-Biofuels!!!!
- BMF Wheels Lightweight Wheels Made From Recycled Aluminum
- BF Goodrich Lightweight, Low Rolling Resistance Tires
- Fusion Bumpers Lightweight Bumpers Made from Recycled Aluminum
- ◆ BedRug Carpeted Truck Bed Cover Made From Recycled Plastic
- Intro Tech Carpets Made From Recycled Plastic
- EcoTrek Headliner Headliner Made From Organic Hemp
- Thule/Yakima Roof Rack Systems Made From Recyclable Aluminum
- AMP Research Running Boards Made From Recyclable Aluminum
- Line-X Coating On Hood and Roof to Increase MPG Mimicking Shark Skin
- ♦ Icon Vehicle Dynamics Suspension Upgrades Made From Recyclable Aluminum
- TransferFlow Fuel Tanks Increased Capacity for Fewer Fuel Stops
- Rigid Industries Low Energy Hi-Performance Offroad Lights
- Highway Products / Lund Lightweight Toolboxes From Recyclable Aluminum
- EcoTrek Seat Covers Made From Recycled Plastic
- Firestone / Airaid Suspension Airbags to Stiffen Ride and Increase MPG
- Camping and Expedition Gear From Numerous Sponsors
- ✤ Etc. Etc.. Etc...

Educational and Inspirational Posters



Black Abalone was nearly extinct, but is now making a comeback on San Nicolas Island

"Kimki portioned work for each one in the tribe, giving Ulape and me the task of gathering abalones. This shellfish grew on the rocks along the shore and was plentiful."

"Karana" in Scott O'Dell's Island of the Blue Dolphins

"As a marine ecologist and conservationist, | develop plans to help threatened and endangered marine species recover.

Some of these species, including abalone, have been used for jewelry, tools and food by the humans that lived on San Nicolas Island for over 10,000 years.

In just a few decades during more recent times, overfishing and disease has brought these important kelp forest snails to the brink of extinction."

> - Melíssa Neuman, Ph.D. NOAA Fisheries

Several of the posters are matched - one showing a species that once flourished on SNI, along with a quote from the *Island of the Blue Dolphins* book. Its match features a person who can be seen as a rolemodel for students seeking careers in marine conservation.

l intentionally included prominent female scientists in several posters in an effort to inspire young women to pursue higher-education and careers in marine-based science and policy.

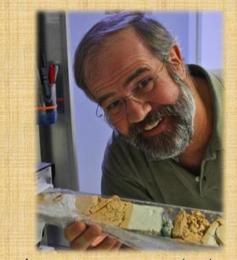


In this picture of San Nicolas Island and the ocean floor around it, the brown part is where dry land is today.

But, 10,000 years ago, when people were already living there, much of the part in light blue was also dry land.

What do you think happened to the villages on San Nicolas Island that were close to the water 10,000 years ago?

The ocean is still rising. What do you think will happen in the future to the houses that are next to the ocean today?



"Just 10,000 years ago, when humans were already living there, San Nicolas Island was three times larger than it is today.

Climate chance has caused ice caps to melt, and the rising seas to swallow many of SNI's villages.

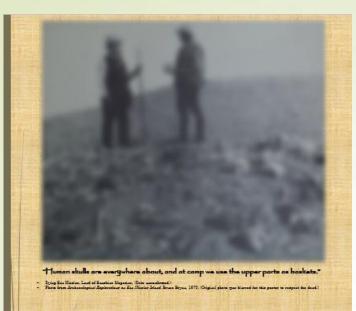
Today, the ocean is rising much faster and will continue to cover SNI and even some modern towns on the mainland.

My job is to understand these changes, plan ways to deal with them and share my knowledge with my students."

> - Dr. Richard Norris, Ph.D. Professor, Scripps Institution of Oceanography at UCSD

> > Cogyright© 2015 EcoTrek Foundation. All rights reserved

Other posters are meant to capture the imagination of students with amazing photos and facts. Such posters are matched with placards that features a role-model in a related field.



"When the fateful day had dawned the tribe numbered forty two men...

When night came and the women had carried back to the village those who had died on the beach of Coral Cove, there remained only 15."

- "Karana" in Scott O'Dell's Island of the Blue Dolphins



"As a Native Archaeologist, l'encourage all people to learn more about their own history and culture.

| further encourage people to respect and accept others' cultural beliefs."

> - Myra Ruth Masiel-Zamora, MA Archaeologist, Pechanga Cultural Resources

Other posters, also containing quotes from O'Dell's book, have companion displays of people like Myra Masiel, who speak of cultural understanding.

Myra is extraordinary because she is a woman, a Luiseño Tribal Member AND an archaeologist. This combination is rare and could inspire other tribal members, including young women, to further their educations and careers in science.

The poster on the left is also meant to convey a cultural message by generating the question, "Why are the bones blurred?" Hopefully, thoughtful discussion will follow.



Archaeologists call this a "tool box." Luiseño Indians believe it is the "Máaşavut" or "secret bundle," of the girl you know as "Karana." They believe it is her private collection of most precious belongings, and that she buried it under a whalebone to keep it secret.

What's inside your Máaşavut?

Are they treasures you want to keep secret, or do you let people look inside?

Copyright© 2015 EcoTrok Poundation. All rights reserve



Ahiichumay -No Longer the "Lone Woman"

"When they took her from her sacred island to a land that was foreign to her, she sang like a bird to everyone that came to her. She told them her true name and the story of her tribe. But, because they were not her people, they didn't understand her language or her song. She died away from her home. Without her people there to sing for her spirit, she could not rejoin her family in Piwiish -- our heaven among the Milky Way.

She was like the orphaned little songbird that is in our mourning prayers. She had a loud voice that no one could understand. Because of this, I call her Ahiichumay Tamáawumal -- the Orphaned Songbird that no one can hear.

When we return to her holy island, we will sing for her, and I will put her away. Then, her spirit will finally be free. She will have a homecoming among her people in heaven."

> - Raymond Basquez-Caparapish, Sr. Luiseño Elder and Traditional Singer (as Recorded by Tom Holm, May 29, 2015)

> > ht2 2015 EcoTrok Foundation. All rights reserved

Some posters provide insight into the Native People that are connected to San Nicolas Island. For instance, the poster on the left gives the Luiseño's perspective regarding displaying artifacts that they feel are sacred.

The poster on the right gives an Indian name to the Lone Woman for the first time in 180 years. The Luiseño now call her Ahiichumay Tamáawumal - Orphaned Songbird that no one can hear.



Protecting "Friends" on SNI

"After that summer...] never killed another otter... Nor did] ever kill another cormorant for its beautiful feathers... Nor did] kill seals for their sinews, using instead kelp to bind the things that needed it... Nor did] try to spear another sea elephant.

... This is the way | felt about the animals who had become my friends and those who were not, but in time could be ... the animals and birds are like people, too, though they do not talk the same or do the same things.

Without them the earth would be an unhappy place."

- "Karana" in Scott O'Dell's Island of the Blue Dalphins



Nick Hummingbird is an expert on knowing the plants of San Nicolas Island and how they have been used as food, medicine and tools.

He spends much of his time removing "invasive" plant species and replacing them with "native" species.

Some of the plants that Nick grows provide homes for endangered birds, lizards and other native species. His work is helping these creatures "recover" on SNI and the other Channel Islands.

Other posters convey messages of conservation, activism, and yes, inspiration.

Again, one poster has a quote from O'Dell's book and is positioned next to another that shows a real person doing preservation work. In this case, Nick Hummingbird, whose ancestors are from the Channel Islands, is planting native vegetation that is helping to re-establish endangered species on San Nicolas Island.



"As an ocean lawyer and former marine biologist, I work to help people make wise choices about the ocean so that our children and our children's children can enjoy it

| also have the opportunity to teach young scientists about ocean conservation and support their efforts to improve ocean health."

Dr. Kathryn Mengerink, Ph.D., J.D.
Environmental Law Institute
Scripps Institution of Oceanography at UCSD



"|sland of the Blue Dolphins" remains one of my favorite books. It describes just how strong, smart and independent woman can be. That is an important message to learn as a girl, and one that I will carry with me for life.

| made this dress, when | was only 14 yearsold, to honor the real-life woman who lived, alone, for 18 years on a challenging, yet beautiful island.

By surviving, she was able to give us clues that will enable the reburial of hundreds of her people. Because of this, and the lessons she has taught millions of young girls, she is the greatest warrior of her tribe.

- Jacqueline Holm

12 2015 EcoTrek Foundation. All rights reserved

Other posters are meant to instill a sense of empowerment and show that people of all ages, genders, backgrounds and interests can become involved in conservation.



Millions of abalone shells lay in the "middens" on San Nicolas Island. Some species of abalone that were once plentiful on SNI are now "endangered," "threatened" or even "extinct."

> "Sometimes in the summers, a long time ago, my people had lived here. They gathered shellfish on the rocks and ate them here, leaving the shells which, after many summers had formed a mound."

> > - "Karana" in Scott O'Dell's Island of the Blue Dolphins

D 2015 EcoTrok Poundation, Al



"Indian Cave" near the shelter (insert) where the "Lone Woman" was with her dogs when she first encountered Carl Dittman in 1853, ending her 18 years of solitude on San Nicolas Island

"There are many sea caves on the Island of the Blue Dolphins and some of them are large and go far back into the cliffs.

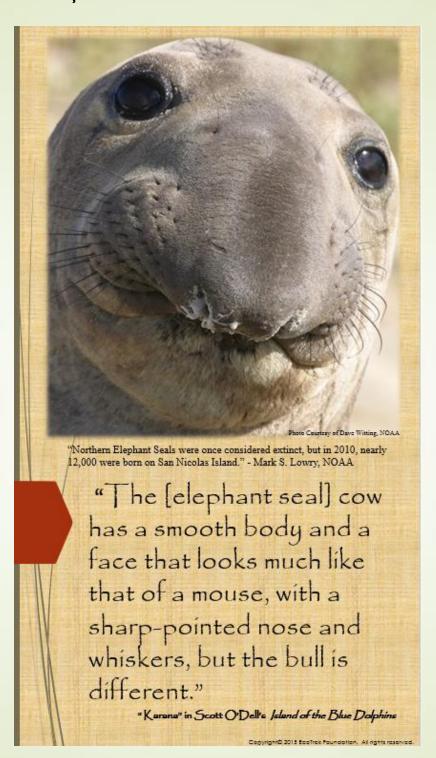
One of these was near the headland where my house stood."

- "Karans" in Scott O'Dell's Island of the Blue Dalphins

Other posters show how amazingly insightful Scott O'Dell was in describing features on San Nicolas Island, despite never being able to visit this place in person.



This poster shows students just how close we may think that San Nicolas Island is to us now, based on modern technology. At the same time, students are meant to ponder how isolated the Lone Woman must have felt in her age of Tule rafts and perilous ocean passages.



Other posters are just plain cute and meant to make kids laugh, while they learn a little something about the remarkable biodiversity of San Nicolas Island.

Classroom Lesson Plan

(By Dr. Melissa Neuman and Dr. Dave Witting, NOAA, with slight revisions by Tom Holm)

Treasures of the Island of the Blue Dolphins -Classroom Lesson Plan

While the mobile classroom/museum and other components to my Capstone will provide an amazing one-day experience for students, [include here something to sustain the students' experience.

Dr. Melissa Neuman, NOAA wrote a lesson plan that includes brilliant photos from her husband, Dr. Dave Witting, NOAA. With very little revision, their lesson plan fits well within my program. I will continue to work with them to periodically revise this classroom lesson plan using the best available science. And, we will continue to work together to supplement each other's programs. This is a terrific example of cooperation to get things done!

Week-Long Lesson Plan For The Island of the Blue Dolphins (4th Graders)

<u>Focus:</u> Native American culture in Southern California, natural resources of Southern California, archeology, coastal island ecology.

Connection to other Subjects: English/Language Arts, Geology, Archeology, Art

<u>Focus Question</u>: What was the Island of the Blue Dolphins really like during the time "Karana" lived there? How has the Island changed? How is it the same? What clues do scientists use to reconstruct what happened in the past?

Learning objectives: The students will gain a good understanding of the difference between fact and fiction. The students should understand how scientists, writers, historians, archeologists, paleontologists, etc. gather information to separate fact from fiction. The students should gain an appreciation for how brave, resourceful, dependent on the natural world, and in touch with the natural world Karana was.

Materials:

Smart board Tool making kits (\$400)

Teaching Time: 1.5-2 hrs./day

Key words:

California Channel Islands Luiseño, Tongva, Gabrieleño, Nicoleño Archeology, Anthropology, Ecology, Paleontology, Indigenous, Fiction vs. Non-fiction

Treasures of the Island of the Blue Dolphins -Classroom Lesson Plan

Background:

The Island of the Blue Dolphins is a rich piece of historical fiction that allows students to step back into Karana's world during the late 1800s. Karana suffered through heartache, learned how to stay alive, and found beauty, peace and companionship in her world of solitude.

She is a great role model for today's girls and boys alike who are inundated with prefabricated goods, pre-prepared foods, and over-scheduled lives and her example teaches the value of independence and self-reliance.

The students will travel to today's Island of the Blue Dolphins (aka San Nicolas Island) with NOAA scientists who study the island's delicate rocky intertidal habitat.

The island has remained largely unchanged since Karana's time and the students will have an opportunity to "see it" through the lens of a camera as portions of the story are read aloud to them.

The students will learn that Scott O'Dell only had a few facts upon which to base his story and be introduced to people who have spent their careers trying to understand the facts surrounding Karana, the Nicoleño culture, and the relationship between the Nicoleño and the natural world.

The disciplines of archeology, anthropology, paleontology, ecology, and history will be introduced.

The students will learn about scientists and writers who have spent their careers striving to find and preserve fragile artifacts and remains of the Nicoleño and their culture; review and translate historical documents to piece together the facts surrounding Karana, her tribe, European settlers to California, and Russian/Native Alaskan sea otter hunters; understand the relationship between the California |sland/Coastal tribes and "wild" dogs; and understand the ecological connections between sea otters, abalone and kelp forest health and resilience.

Students will have an opportunity to write their own piece of fiction and present it to their classmates through illustrations, writing, and acting. The students will have an opportunity to spend an afternoon in the life of Karana by carving and grinding stones into tools, making their own paints and applying the paint to stones or tree bark using natural materials, grinding plant material with a mortar and pestle, and baking a traditional acorn bread.

Treasures of the Island of the Blue Dolphins -

Classroom Lesson Plan

Day 1 Lesson (1.5 hrs.):

- Slideshow presentation: Introduction to today's Island of the Blue Dolphins
- Island geography
- Our research on the Island
- The story retold in pictures
- Question and answer period/Discussion

Day 2 Lesson (1.5 hrs.):

- Slideshow presentation: Fact or Fiction?
- Present the facts known about the Lone Woman
- Summarize some of the topics that archeologists, anthropologists, historians, ecologists and paleontologists studying the Island of the Blue Dolphins are investigating and why?

Aleut massacre of the Nicoleño

Island of the Blue Dolphin Dogs

- The Lone Woman's cave Was it really her home?
- The Lone Woman's tools
- > The relationships between sea otters, abalone and the kelp forest
- Question and answer period/Discussion

Day 3 Lesson (1.5 hrs.):

- Present the students with 4 facts. For example:
 - 1. It was a long, long time ago
 - 2. The clouds were grey
 - 3. The water was filled with large waves
 - 4. Someone discovers a baby animal alone and struggling
- Give the students time to create a fictional story that incorporates the 4 facts listed above. The students may tell their stories in words only, illustrations and captions, or a scripted play and acting. Students can complete their story and illustrations as a homework assignment and prepare to present their story to the class the next day. The students will have the choice to work in groups.

Day 4 Lesson (1.5 hrs.):

Students present their fictional stories to their peers. Presentations delivered orally, in pictures and words, or through a scripted play and acting.

Day 5 Lesson (2 hrs.):

Students will spend a day in the life of Karana by making their own tools/food. Educational kits for grinding stones, grinding nuts/seeds with mortar and pestle, painting using natural dyes and substrates and baking acorn bread will be provided.

Treasures of the Island of the Blue Dolphins -Classroom Lesson Plan



A video made by Dave Witting (photo representation shown) transports students from their own school to the real Island of the Blue Dolphins - San Nicolas Island. This clever method visually conveys the reality and isolation of the home of the Lone Woman.

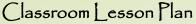
Treasures of the Island of the Blue Dolphins -

Classroom Lesson Plan



Dave Witting's photos accompany Melissa Neuman's content and show the work that they are doing through NOAA to restore the biodiversity of SNI - especially endangered black abalone populations.

Treasures of the Island of the Blue Dolphins -





"Kimki portioned work for each one in the tribe, giving Ulape and me the task of gathering abalones. This shellfish grew on the rocks along the shore and was plentiful." - "Karana" from Scott O'Dell's *Island of the Blue Dolphins*

Dave's pictures are accompanied by readings from Scott O'Dell's novel, *Island of the Blue Dolphins*. Subsequent discussions convey the true condition of the referenced species, and what is being done to aid in their recovery.

Some of the in-classroom displays have also been made into posters discussed earlier.

Documental Film "Short"

Treasures of the Island of the Blue Dolphins -Documentary Film "Short"

Perhaps the most powerful component of this outreach program is the documentary film "short" that | produced with Make |t Happen Productions. This piece chronicles the intense drama that transpired during my search for the dwelling site and descendants of the Lone Woman. After 180 years, | sought to give her the family, voice and authentic Indian name that she deserves. What | didn't expect was the brutal opposition | encountered from researchers unwilling to consider input from Native People.



"Treasures of the Island of the Blue Dolphins"

Movie Weblink: https://ql.mediasilo.com/#ql/556f6985e4b01d4cd79e2518/06f0ed6a-f584-4047-8655-c90954b1ac30

The debate caused by the production of this film remains passionate and divisive. Yet, it has caused an explosion of scientific and philosophical output.

Outreach, through film, yielded an escalation in science, which is advancing our understanding of marine resources and cultural connections that date back over 10,000 years on San Nicolas Island.

My hope to is get a full-length documentary completed in order to intensify scientific research connected to our Channel Islands. This may help re-write the history of mankind on North America and give us clues to better manage cultural and natural marine resources.

- Under Construction -

Treasures of the Island of the Blue Dolphins -Website - Secured Domain Names

An interactive San Nicolas Island website is being constructed that will include research projects, invite (polite) debate, convey fun facts and provide the means to "book" the mobile classroom/museum. It will also make learning and teaching tools accessible to students and teachers. Before launching this site, however, I'm addressing intellectual property rights issues.

In the meantime, the following web domains were obtained. Each of these will "link" to the central San Nicolas Island page.

> SanNicolas|sland.org SanNicolas|sland.net IslandoftheBlueDolphins.net IslandoftheBlueDolphins.org LoneWomanofSanNicolas|sland.com LoneWomanofSNI.com LoneWomanofSNI.net LoneWomanofSNI.net

Next Steps...

Treasures of the Island of the Blue Dolphins -Next Steps

My Capstone project has already captured the interest of several school districts in Southern California. And, my related concepts involving the preservation and surveying of marine-based cultural and natural resources, has revealed additional opportunities.

Therefore, I will establish a non-profit organization to continue this work. This will require taking the following steps (some concurrently):

- 1. Launch the non-profit Center for Marine Archaeological Preservation and Surveying - C-MAPS,
- 2. Establish proper business practices and procedures,
- 3. Complete full-length documentary film(s) and publish mainstream and scientific articles,
- 4. Launch website(s) for outreach programs,
- 5. Secure contracts to conduct outreach programs,
- 6. Investigate the willingness and ability of SIO personnel to work with C-MAPS to provide marine surveys and responsible marine archaeological services for outside entities,
- 7. Secure contracts to perform marine surveys and responsible archaeological services,
- 8. Grow this organization to provide services to clients, as well as educational support (grants and fellowships) to promising students and educational programs.

Treasures of the Island of the Blue Dolphins -Acknowledgements

My thanks to the scores of people and organizations that helped (or otherwise motivated) me to put this program together. Including, but certainly not limited to:

Ahiichumay Tamáawumal (No Longer the "Lone Woman" of San Nicolas Island) Mr. Scott ()'Dell Dr. Richard Norris, Scripps Institution of Oceanography Dr. Greg Rouse, Scripps Institution of Oceanography Mr. Gary DuBois, J.D. Pechanga Band of Luiseño Indian Tribes Ms. Tracy Moriarty (Formerly with the office of the Chief of Naval Operation) Dr. Greg Mitchell, Scripps Institution of Oceanography Dr. Phaedra Doukakis-Leslie, Ph.D., CMBC Ms. Jane Weinzierl, CMBC Ms. Penny Dockry, CMBC Dr. Kathryn Mengerink, Environmental Law Institute, CMBC Ms. Myra Masiel, MS, Pechanga Band of Luíseño Indían Tribes Mr. Raymond Basquez, Sr., Pechanga Band of Luíseño Indían Tríbes Mr. Raymond Basquez, Jr., Pechanga Band of Luíseno Indían Tribes Dr. Lisa Woodward, Pechanga Band of Luiseno Indian Tribes Dr. Eric Elliot, Linguist, Pechanga Band of Luiseno Indians Dr. Debbie Zmarzly, Ph.D., Birch Aquarium, SIO Dr. Melíssa Neuman, NOAA Dr. Dave Witting, NOAA Dr. Tom Levy, UCSD Ms. María Holm Ms. Jacqueline Holm, Dress Maker/Model Mr. Christian Holm Mr. Brandon Holm Mr. Nick Hummingbird, Coastal Chumash Indian Mr. Justin Ward, Mauí X Productions, Inc. Mr. Billy Frank, Making It Happen Productions Mr. David Park, Making It Happen Productions Captain James McHugh, USN (Ret.) Mr. John Lewis Ms. Susan Morris, Ventura, California Mr. Kristian Gustafson, Below the Surface Dr. Pamela Monro, UCLA Dr. René L. Vellanoweth, CSULA Mr. Stephen Schwartz, USN Navy (Ret.) Graduate Students, Archaeology Department, CSULA Mr. Kevin Smith, CSULA Dr. Jon Erlandson, University of Oregon Mr. James D. Olsen, President, JDO Exhibits Ford Motor Company