

News Clips for the Channel Islands National Marine Sanctuary Advisory Council¹ March through May, 2014

1. Safe Passage Project Seeks Sustainable Solutions for Maritime Conflicts
 2. Navy Closes San Miguel Island to Look for Old Bombs
 3. Ocean Wildlife Rescue
 4. 19th Century Shipwreck Found off Golden Gate Bridge
 5. Expansion proposed for 2 N. Calif. marine sanctuaries
 6. Study: New way to gauge marine mammal age
 7. What's an Acre of Seagrass Worth? \$80,000 in Fish Alone
 8. NOAA reviews white shark research and tourism in Gulf of the Farallones
 9. Earth Day Inspires Environmental Actions Around the World
-

1. Safe Passage Project Seeks Sustainable Solutions for Maritime Conflicts

<https://www.sbfoundation.org/document.doc?id=483>

Santa Barbara Foundation Magazine

Spring 2014

Nearly 200 blue whales visit the Santa Barbara Channel each summer on their annual pilgrimage up the West Coast – the largest concentration of blue whales anywhere in the world. Meanwhile, thousands of container ships transit the channel's internationally designated shipping lanes each year, elevating the risk of ship strikes on these endangered creatures.

"The Santa Barbara Channel is home to some of the highest diversity of whales anywhere in the world, including blue whales, grays, humpbacks, fins, and orcas," said Kristi Birney, marine conservation analyst for the Environmental Defense Center. "In 2007, four whales were struck and killed by cargo ships in a three-week period. It really raised the profile of ship strikes in the community."

The Environmental Defense Center, the Channel Islands National Marine Sanctuary, and the Santa Barbara County Air Pollution Control District are leading a collaborative effort to address marine shipping conflicts in the Santa Barbara Channel and implement an incentive-based vessel speed reduction pilot program. Recognizing the many interests at stake, the Santa Barbara Foundation recently awarded an Innovation Grant to initiate this Safe Passage Project.

"As a critical first step in this community project, we have pulled together a new working group under the marine sanctuary's federal advisory council to discuss strategies for creating more sustainable shipping, decreasing air pollution, reducing the risk of ship strikes, reducing interference with naval testing operations, and enhancing navigational safety," said Kristi. "In a parallel but separate effort, we will pilot a program this summer to financially incentivize a small number of ships to reduce speeds while transiting the channel."

¹ *Articles shared specifically mention the sanctuary and/or are related to issues of known interest to the sanctuary advisory council. Any external opinions expressed within these articles do not reflect the views of sanctuary staff or NOAA, and sharing these stories does not indicate staff endorsement of views contained therein.*

Protecting the Whales

It is believed that the historic population of blue whales was at one time over a quarter of a million animals worldwide. Commercial whale hunting, which was banned in the late 1960s, slashed the blue whale population to approximately 10,000 animals, with an estimated 2,000 residing in the Eastern Pacific.

“One of the largest threats to whales right now is ship strikes,” said Sean Hastings, resource protection coordinator for the Channel Islands National Marine Sanctuary. “The slower ships go, the better chance whales have of surviving strikes, and presumably they also have more time to get out of the way.”

Every year, Eastern Pacific whales migrate from as far south as Central America to as far north as the Gulf of Alaska. Because the warm and cold currents that converge along the Central Coast create a highly productive ocean environment, the Santa Barbara Channel serves as a critical feeding ground for whales. Diving 200 meters beneath the surface to feed on tiny crustaceans called krill, these 80- to 100-foot whales are easily overpowered by the 800-foot ships that share their waters.

“What makes blue whales excellent divers is that they are negatively buoyant, meaning a whale on the surface naturally sinks rather than floats,” said Sean. “Based on natural history, biology, and the physiology of the animal, it is very likely that more whales are being struck by ships and sinking out of sight than those that float and end up on shorelines. Whale researchers think the number of animals being hit could be upward of five to 10 times more than we are aware of.”

The International Maritime Organization recently ruled in favor of shifting the shipping lanes that run through the Santa Barbara Channel away from the feeding grounds of whales, but geographic constraints within the channel mean that whales are still at risk of being struck.

Improving Air Quality

In addition to endangering whales, marine shipping is responsible for emissions of several air and climate pollutants, including greenhouse gases and black carbon. Shipping accounts for more than 50 percent of Santa Barbara County’s emissions of nitrogen oxides (NO_x), a precursor to the formation of ozone. The county is currently not in compliance with the state standard for ozone, which at ground level can cause significant respiratory health impacts.

“We have been concerned for a long time about the air pollution from large ships going through the channel, and in particular about the NO_x emissions they produce,” said Mary Byrd, public information officer for the Santa Barbara County Air Pollution Control District. “A University of California, Riverside study indicates that by reducing vessel speed to 12 knots, ships become more efficient, burn less fuel, and create less pollution.”

If the county cannot reduce pollution from marine shipping, local businesses may continue to take on the burden of rigorous air regulations.

“Over the years, businesses have been producing less pollution with cleaner technologies and stricter regulations. Car pollution has also decreased because of the state’s cleaner fuels rules and smog checks,” said Mary. “Shipping continues to produce the greatest amount of NO_x emissions. If we can

reduce NOx emissions to meet the state standard for ozone by slowing ships down, it will be better for our economic health as well as our public health.”

A Pilot Program

Vessel speed reduction to minimize air quality impacts and protect whales is not a new concept. For the past four years, the National Oceanic and Atmospheric Administration has tried asking ships to voluntarily reduce their speeds in the Santa Barbara Channel during whale season from June to November. With no incentives or regulations, less than 1 percent of ships complied.

The pilot program will explore the feasibility of adding a financial incentive for companies to reduce their ship speeds, modeled after a program implemented by the Ports of Los Angeles and Long Beach with over 90 percent participation.

“The financial incentive is a token amount,” said Sean. “We believe the real incentive is to provide them with the public attention and recognition they deserve for demonstrating a sustainable corporate attitude.”

While the shipping industry maintains concerns about the vessel speed reduction program, representatives have pledged to take part in the working group.

“We do not aspire to regulate the shipping industry. We want to facilitate vibrant maritime commerce, just in a more sustainable way,” said Sean, noting that the Channel Islands National Marine Sanctuary’s governing entity, NOAA, is housed under the United States Department of Commerce. “So far the shipping industry is supportive of the project because they understand that we can come up with better solutions by working together, rather than fighting through regulations and lawsuits.”

Ensuring Navigational Safety

Recent changes in fuel regulations have prompted some ships to reroute to the backside of the islands, where the ship strike problem is even more difficult to quantify and where there currently are no shipping lanes.

“We do not want ships going anywhere and everywhere. Ships in shipping lanes are paramount to keeping the ocean safe,” said Sean. “A worst case scenario for our entire county, for whales and every other living thing, is two ships colliding and the resulting oil spill that would happen.”

Unorganized ship traffic and congestion also poses concerns for the United States Navy, which conducts missile testing and training south of the Channel Islands. Naval representatives will join the working group to discuss possibilities for ship relocation and improved scheduling.

“Many of us in Santa Barbara may not realize the Navy is operating the world’s largest test range behind the Channel Islands,” said Sean. “Having thousands of ships pass through their testing range each year disrupts operations and training, and their readiness for responding to threats around the world.”

To help facilitate these deeper discussions, the working group plans to use a web-based ocean planning tool called SeaSketch. Developed by the University of California, Santa Barbara’s McClintock Lab, SeaSketch allows stakeholders to explore marine management solutions through real-time spatial planning and graphic visualizations.

“The ocean is busy and it is getting busier,” said Kristi. “SeaSketch is a powerful communication and data analysis tool that will allow us to input data, share ideas, and have honest conversations about conflicts within the channel.”

A Game Changer

The Safe Passage Project, along with an increasing number of environmental and conservation efforts, is gaining momentum through its unique public-private partnership.

“It is exciting that the Santa Barbara Foundation recognized the visionary aspect of this project,” said Owen Bailey, executive director of the Environmental Defense Center. “This is an attempt to bring everybody to the table and to really find that win-win. Any solution that has everybody contributing to it is going to be a better, longer lasting solution.”

The vision for this project is to transition from a pilot to a long-term program. State cap-and-trade funding – revenue generated from charging companies for exceeding a set level of greenhouse gas emissions – is one option to support a full-scale vessel speed reduction program in the Santa Barbara Channel.

“We hope a successful pilot program here can scale up to other areas in California and beyond,” said Sean. “Rerouting and slowing ships has the potential to be a game changer in terms of climate issues, endangered species protection, and 16 human health beyond Santa Barbara County.”

2. Navy Closes San Miguel Island to Look for Old Bombs

<http://www.independent.com/news/2014/apr/21/navy-closes-san-miguel-island-look-old-bombs/>

Santa Barbara Independent

Monday, April 21, 2014

By Tyler Hayden

Before hikers and campers can explore more of San Miguel Island — a windswept and craggy but picturesque strip of land off Santa Barbara’s coastline that was used as a bombing test range as recently as the 1970s — the U.S. Navy has closed it for the next year or so as it scours the terrain for any leftover weaponry.

The closure was prompted by a recent National Park Service proposal that the public be granted greater access to the 14-square-mile archipelago, the westernmost of California’s Channel Islands celebrated for its roosting seabirds, gathering pinnipeds, and alien landscape of caliche forest. Approximately 1,000 people visit San Miguel every year, with around 200 of them camping overnight, typically during the summer months.

The announcement was made last week and over the coming months, the Navy — which owns the island but leaves its management to the Park Service — will perform “risk assessment” to determine what areas pose a potential risk to wandering visitors. No unexploded bombs have been found on San

Miguel since the 1980s, but suspicious pieces of metal have turned up, like when a Park Service employee spotted some this January and reported it to the military. The discovery turned out to be a false alarm.

As part of the assessment — it will require new funding and the hiring of an outside contractor, said Kimberly Gearhart out of Naval Base Ventura County — historic photographs and records will be examined to pinpoint where the bombing was concentrated, what kind of ordnance was used, and which type of clean-up strategies may work best. National Park service employees are being trained this week on what to look for as they walk existing trails, Gearhart explained, but an overall closure timeline hasn't been determined.

Gearhart said San Miguel was peppered with ballistic bombs and missiles during and after WWII — no nuclear tests were conducted, she noted — and that while the Navy organized a cursory sweep in 1965 for any potentially dangerous debris, the site continued to be used and a comprehensive clean-up hasn't taken place. San Miguel is part of the Ventura Navy Base's 36,000-square-mile, offshore test range, which also includes San Nicholas Island and its operational "impact site" for non-explosive tests.

Explaining that the Navy is completely on board with the Park Service's plan for expanded public access on San Miguel, Gearhart said the only way to make sure the moves happen safely and responsibly is to "go out there and see what's going on. ... This is the right thing to do." Depending on what they find, Gearhart went on, the clean-ups may occur in phases or in specific areas, or both. Terrain will play a large factor in how things proceed, so crews will survey the scene by foot and from the air.

Right now, the majority of people visit San Miguel Island via approved charter boats that anchor at Cuylers Harbor. (Private boaters have to register with the Park Service.) Visitors are allowed to freely explore the mile-long beach at Cuylers and to hike up to the nearby ranger station and campground, but they must be escorted for the eight-mile trek to Point Bennet on the opposite side of the island. Under the Park Service's proposal — introduced late last year as part of a larger plan to encourage public use of the Channel Islands, one of the country's least-visited national parks — a spike camp would be established in a dry lake bed near Point Bennet, and visitors would be able to fly onto San Miguel's small landing strip.

Admitting the Navy's decision to close the island has been met with some serious grumblings, Gearhart assured that the move will prove worthwhile in the years to come. "There are some unhappy campers out there, but the key reason we did this is to keep people safe." Yvonne Menard, spokesperson for the Channel Islands National Park, agreed with the call. "At the National Park Service we support the Navy in its quest to ensure public safety."

3. Ocean Wildlife Rescue

<http://www.oceandefenders.org/>

Ocean Defenders Alliance website

April 16, 2014

By Kurt Lieber

As you may recall, last month we were alerted to an unattached net within the Channel Islands National Marine Sanctuary, just off the coast of Anacapa Island near a site called Frenchy's Cove. We removed about 600 pounds of squid net on March 30th, but we ran out of air and couldn't get it all. This time, we were going back to the site with re-breather (RB) divers who can stay down for over three hours if necessary. And I thought we'd need them since we didn't know how much more net was left to remove.

On Saturday, April 12th, we went out with our RB team, led by Mike Wynd, who is THE man we turn to when we need divers who can stay underwater for extended periods. Mike enlisted two of his RB friends: John Ochs and Mitch P. In addition we had Jeff Larson along to do some underwater filming and act as a safety diver. The deck crew consisted of Paul Beechen and me.

The day started out with minor one- to two-foot swells and hardly any wind. A good omen, and as we approached the island it got even better. Nice flat seas and no current!

Soon we had four divers in the water and within minutes lift bags were floating to the surface. Mike, John, and Mitch were obviously busy cutting nets. While they were working, and because the visibility got too bad for filming, Jeff used his underwater scooter and went scouting for more nets and traps. He found five abandoned lobster traps within a 200-foot radius of the boat.

As those lift bags broke the surface, Paul hopped into the Zodiac, paddled over to them, and attached a line to them. He then brought me the other end of the line so I could pull the bags and nets back over to our boat the *Clearwater*. We soon had lots of bundles of nets on the deck.

After about two hours, all the divers got back on the boat and there was a lively discussion about how the net was now completely removed from this area. YEAH TEAM!

After a quick lunch (and with the hordes of flies fighting us for their fair share of our sandwiches you can bet it was quick) the guys jumped back in the water and went looking for the traps that Jeff had found.

Sure enough, they found three of them about 150 feet away from the boat in 30 feet of water, and proceeded to remove the animals that were caught in them. Unfortunately, the U/W camera stopped working, so we don't have any images to show you. But there were about 20 lobsters in one huge trap (all now free!), and four more in another. Because the boat decks were full of net, I asked the guys to only bring up two traps. That they did, and one of them still had six sheep crabs and five more lobsters. As soon as we got the traps safely onboard we got to see these animals up close, and before long they were being released back overboard into their ocean homes.

It was a thrilling day. We removed about 300 lbs of net, two lobster traps, and freed 16 sheep crabs and about 28 lobsters! I can't tell you what an elated feeling it was. We were smiling the whole ride home.

Thanks to Mike, John, Mitch, Jeff, and Paul for spending their precious time doing right for our oceans. We couldn't do what we do without all these GREAT volunteers and supporters. As long as the weather is on our side, we'll be back out there again next weekend.

4. 19th Century Shipwreck Found off Golden Gate Bridge

The Maritime Executive

April 23, 2014

NOAA announced it has found the underwater wreck of the passenger steamer *City of Chester*, which sank in 1888 in a collision in dense fog near where the Golden Gate Bridge stands today. The announcement was made during a press event at Gulf of Farallones National Marine Sanctuary's San Francisco headquarters at Crissy Field.

The story of *City of Chester* will be shared with the public in a future waterfront exhibit NOAA will place at the sanctuary office at Crissy Field. The office is the former U.S. life saving service station built in 1890 in response to the *City of Chester* incident.

The 202-foot long steamship *City of Chester* had just left San Francisco and was headed up the California coast to Eureka with 90 passengers on August 22, 1888, when around 10 a.m. it was struck by the steamer *Oceanic*. Impaled on *Oceanic*, which was arriving from Asia, *City of Chester* remained afloat for six minutes before sinking. Sixteen people died in the accident.

The rediscovery of the wreck restores an important historical link to San Francisco's early Chinese-American community. Reports at the time initially criticized *Oceanic's* Chinese crew in the racially charged atmosphere of the times. Criticisms turned to praise, however, when the bravery of the crew in rescuing many of *City of Chester's* passengers was revealed. The wreck was then largely forgotten.

"Discoveries like this remind us that the waters off our shores are museums that speak to powerful events, in this case not only that tragic wreck, but to a time when racism and anger were set aside by the heroism of a crew who acted in the best traditions of the sea," said James Delgado, director of maritime heritage for NOAA's Office of National Marine Sanctuaries, whose past work has included documenting historic wrecks in California.

In May 2013, NOAA's Office of Coast Survey Navigational Response Team 6 (NRT6), in a 28-foot boat equipped with sonar, rediscovered what they thought was the *City of Chester* while surveying another nearby shipwreck, the freighter *Fernstream*, which sank after a collision in 1952. Delgado asked the NRT6 team to extend their survey to try and find the sunken steamer.

After working with historic data provided by NOAA historians, the Coast Survey team conducted a multi-beam sonar survey and a sonar target the right size and shape was found. The team spent nearly nine months sorting through the data. A follow-up side-scan sonar survey confirmed that the target was *City of Chester*, sitting upright, shrouded in mud, 216 feet deep at the edge of a small undersea shoal. High-resolution sonar imagery clearly defined the hull, rising some 18 feet from the seabed, and the fatal gash on the vessel's port side.

This NOAA team was not the first to find the shipwreck. It was 125 years earlier that the U.S. Coast and Geodetic Survey, NOAA's predecessor agency which was charged with responsibility for charting the nation's coasts and harbors, believed it had located the *City of Chester* in early September 1888 by dragging a wire from the tugboat *Redmond* to snag the hulk.

A veteran salvage diver of the time, Capt. Robert Whitelaw, also claimed to have relocated the wreck, sending a hard-hat diver down more than 200 feet in 1890 to report *City of Chester* nearly cut in two,

with the tide running through the cut “like a millrace.” No attempt was made to raise the wreck then and there are no plans to do so today.

“Connecting to the history of the *Chester* is sad in one way, but we were also connecting to scientific history on a different level,” said NOAA NRT6 team leader Laura Pagano. “Using our high-tech multibeam echo sounder to re-discover a wreck originally found over a century ago – by Coast Surveyors dragging a wire across the seafloor – is immensely fulfilling. We are equally proud to have provided information on an important link to the rich heritage of the San Francisco Chinese American community.”

Today, it is a protected site and a grave belonging to the state of California. “Whether we see them or not, wrecks like *City of Chester* should be remembered today and in future generations,” said NOAA’s Delgado.

5. Expansion proposed for 2 N. Calif. marine sanctuaries

The Associated Press
April 14, 2014

SAN FRANCISCO (AP) - Federal officials are proposing to more than double the size of two marine sanctuaries off the Northern California coast, a move that would restrict the movements of cargo ships, aircraft and jet skis and close the areas to oil and gas exploration.

The plan announced by the National Oceanic and Atmospheric Administration on Monday would expand the boundaries of the Gulf of the Farallones National Marine Sanctuary and Cordell Bank National Marine Sanctuary by 2,771 square miles from Bodega Bay in Sonoma County to a point just north of Point Arena in Mendocino County.

The ocean refuges, designated as marine sanctuaries in 1981 and 1989, currently cover 2,049 square miles.

NOAA officials say the expansion is needed to protect whales, sharks, salmon and seabirds that feed within the two regions.

6. NOAA reviews white shark research and tourism in Gulf of the Farallones

April 2, 2014
Coastsider.com

NOAA is reviewing potential disturbances to white sharks due to research and tourism in Gulf of the Farallones National Marine Sanctuary over the next five years.

This follows the previous draft analysis from 2010 that looked at the effects of a research project which placed small satellite transmitters on white sharks. It also evaluates shark dive tourism operations that use artificial seal decoys to attract sharks.

White sharks depend on the rich waters of the sanctuary. As top predators, they play a key role in maintaining a balanced ecosystem. Each fall, white sharks frequent the waters of the sanctuary. Adult white sharks are seen most frequently in the area between Tomales Point, Año Nuevo Island, and the Farallon Islands, where elephant seals and sea lions are abundant.

The public has an opportunity to review and comment draft proposal that evaluates a range of potential white shark research techniques that might be used in the sanctuary, including the use of tracking devices, decoys, chum and shark cages.

The final programmatic environmental assessment is expected to be completed this summer.

The draft programmatic environmental assessment is available at the sanctuary's website. Comments can be submitted electronically through the Federal eRulemaking portal, or by mail to Gulf of the Farallones National Marine Sanctuary, 991 Marine Drive, The Presidio, San Francisco, CA 94129.

7. Study: New way to gauge marine mammal age

By Mary Ann Bragg
March 30, 2014

PROVINCETOWN — Within a year, researcher Jooke Robbins hopes to identify the oldest humpback off New England.

A new DNA technique, developed using data about the humpback whales off New England and Australia in a study Robbins contributed to, will allow scientists to pinpoint the age of the animals — and many others marine mammals.

A photo-identification catalog and associated data on the subset of humpback whales in the North Atlantic with a primary feeding range from Nantucket to the southern tip of Nova Scotia, Canada. This area is a major feeding ground for this species on the U.S. East Coast.

The new skin-sampling technique and its scientific basis are in a study that has been accepted for publication in the journal *Molecular Ecology Resources*. The research was conducted by the Australian Antarctic Division, in collaboration with Robbins, who leads the humpback whale research at the Provincetown Center for Coastal Studies, and the Australian Genome Research Facility.

Knowing the ages of humpback whales can help scientists determine if their population is rebounding, particularly in areas where decades of intensive commercial whaling has lowered their numbers.

Knowing the ages can also help determine if certain age groups are more or less vulnerable to human activities, and when and if females stop reproducing, said David Wiley, research coordinator at Stellwagen Bank National Marine Sanctuary in Scituate.

Also, scientists will be able to construct family trees for animals known to be related, and determine maximum age and average life span in specific whale populations.

There are an estimated 11,500 humpbacks in the entire North Atlantic region, according to federal sources, dating from population studies done in the early 1990s, but a newer number is to be released in the near future, Robbins said.

Researchers estimate larger numbers of the whales in the Southern Hemisphere and in the North Pacific, although both of the populations are considered on the mend from previous commercial whaling.

For the humpbacks of New England, 30 years worth of photographed tail pigmentation and human observations, stored in the Provincetown center's Gulf of Maine Humpback Whale Catalog, have helped estimate the ages fairly well. But the new test can make it definitive. The DNA technique is accurate to within three years, Robbins said.

"It's one of the most exciting things I've read in a while," Wiley said. "Trying to understand the age of animals you're studying is kind of the Holy Grail."

In U.S. waters, humpback whales are protected under the federal Marine Mammal Act, and listed as endangered under the federal Endangered Species Act. The animals are typically seen off the coast of Cape Cod during the summer feeding season. The whales are often the showmen of the whale-watching business in and near Cape Cod Bay, with aerial maneuvers such as breaching and slapping pectoral fins and tails on the surface of the water.

The close attention paid to New England's humpbacks is rare, compared to the world population. The key value of the new DNA test is its easy application to any humpback in the world, said large whale expert Peter Corkeron of the federal National Fisheries Science Center in Woods Hole.

Scientists typically determine the age of a dead humpback whale by counting an annually produced waxy deposit in a humpback's ear.

Apart from the photo-ID tracking in New England, the alternative to setting the age of live humpback whales is limited to an analysis of fatty acids in tissue that has to be adjusted based on regional diet or another DNA analysis that measures biological aging rather than chronological age, Robbins said.

Experts say humpbacks can live to 90 years old and older.

Live adult humpbacks don't have observable physical characteristics that would give researchers a firm idea of their age, Robbins said.

"Off the east coast of Australia, there are 10,000 to 15,000 humpback whales, and there is nowhere near as many people looking at them," Corkeron said, in comparison to New England. "It's a different sort of problem, and the population off Australia is more like what happens in the rest of the world. This is a tool that lots of people will be able to use."

The Provincetown Center for Coastal Studies intends to use the new test on all the skin samples in the Gulf of Maine catalog.

Of the more than 2,500 whales in the database, the center has skin samples for about 80 percent of the ones known to be alive, Robbins said. "There's just so many questions that we can answer," Robbins said.

In the study for the new DNA test, in addition to the Gulf of Maine humpbacks, whales also were sampled from off Evans Head in the eastern part of Australia and off Exmouth in Western Australia.

The cost of the DNA test is very likely to be cheaper than the manual tracking of the whales over 30 years, Robbins said.

"It's new, so labs have to be set up to do it," Robbins said. "I don't know yet what the cost structure will be. But really I think it's all in the positive area. The cost of the sample versus the cost of sampling a population for 30 years. There's definitely going to be an efficiency to it."

8. What's an Acre of Seagrass Worth? \$80,000 in Fish Alone

Posted by The Nature Conservancy in Ocean Views on March 31, 2014

By Philine zu Ermgassen

For decades, dire tales of collapsing fish stocks were told, only to fall on deaf ears.

Then, in a 2008 report, "Sunken Billions," the World Bank and the FAO began to couch the problem in entirely new terms – financial terms. They estimated that \$50 billion was lost each year due to poor fisheries management. That staggering figure caught the eye of finance ministers, development agencies, and economists around the globe.

At last, the conservation community discovered how to get attention, but it raised a new question: what to do about it? To truly turn the tide, they knew, meant not only taking fewer fish, but also producing more. That's where seagrass, mangroves, and other habitat come in. These habitats are nurseries to new generations of commercially valuable fish and it is time we recognize the value of those important ocean services on Earth's balance sheet.

Juvenile fish have it hard from day one. They are at the mercy of the elements and voracious predators. The odds of a microscopic fish larva making it to adulthood are one-in-a-million. Seagrasses represent the rare safe haven, providing much needed food and shelter. And yet, like the fish, seagrass beds have also been disappearing. Some say the world loses a soccer field worth of seagrass every half-hour, further contributing to the decline in fish.

New fisheries management has to consider the whole life cycle of the fish—where they are born, where they spend their lives, as well as how they die.

In places where habitat loss harms fish, protection and restoration are a very real opportunity. A new study, supported by The Nature Conservancy, tells us just how real. The report tells us that each square meter of seagrass habitat we save in southern Australia could add nearly one kilogram of fish each year. Said in a different way, every acre of seagrass could add US\$80,000 of commercially important fish to the oceans every year.

No one is blind to the fact that seagrass restoration is both technically challenging and financially expensive, but these figures show that the benefits far outweigh the costs. Some restoration efforts could pay for themselves in just five years. In these terms, seagrass restoration is a no brainer.

A volunteer examines a clam during a massive seagrass restoration effort at The Nature Conservancy's Virginia Coast Reserve, where volunteers gather reproductive shoots containing ripe seeds from the underwater plants. Mark Godfrey, Nature Conservancy

And yet, as with so many projects where the costs are large and the benefits are shared, money can impede getting seeds in the ground. If such benefits went on the balance sheet of a company, a champion would certainly appear, but these benefits go to many—to commercial and recreational fishermen, to local economies, and to seafood fans—and thus no champion is forthcoming.

On an encouraging note, however, the story of the financial impact of a small patch of seagrass in a small part of the world is but one among the many that our ocean has to tell. Valuing ocean wealth stands to change everything. It represents a fundamentally new model for the global conservation conversation. It has been reviewed and tested by the scientific community.

We can use it to build a complete accounting of coastal wealth that includes jobs, food security, and tourism income into an honest and compelling bottom line figure. Suddenly, that little patch of seagrass in South Australia is no longer “dead space” able to be snuffed out by a change in shipping lanes, run-off or pollution, but rather a storehouse of wealth.

Humans crave quantification. Numbers turn heads. Numbers change policies. Numbers are compelling. But, we must act fast. Seagrasses are being lost every minute we wait. And, it’s costing us untold billions.

We can start by mapping our ocean wealth, like a pirate would plot his hidden treasure. We can start understanding things like how valuable mangroves are at filtering out pollution, or coral reefs in generating tourism, or oyster beds are at protecting coastal erosion. We must build these systems into our economic models in the realest, most compelling financial, engineering, and policy terms we can find. Tabulating the value of services is essential if we are ever to truly comprehend the vast wealth of the ocean and maximize investment and development dollars.

9. Earth Day Inspires Environmental Actions Around the World

<http://ens-newswire.com/2014/04/22/earth-day-inspires-environmental-actions-around-the-world/>
Environment News Service
April 22, 2014

Thousands of Earth Day actions today brought people together to plant trees and preserve forests, create cleaner, greener cities and safeguard wildlife.

A life-sized 90-foot-long inflatable blue whale named Mz. Blue made its appearance in front of the White House today to dramatize ocean advocates’ Earth Day request that President Barack Obama help blue whales off the coast of California.

The officially sanctioned commercial shipping transit lane along the Southern California coast cuts through critical blue whale feeding habitat. Ship strikes, collisions between the whales and the ships, result in many whale deaths.

The Great Whale Conservancy, owner of the inflatable whale, will submit a letter to The White House asking President Obama to direct the U.S. Navy to remove its objection to the use of an alternate shipping lane in California waters to reduce the killing of blue whales from ship strikes. The letter is signed by NGOs from around the world working to protect whales, and carries more than 120,000 signatures gathered from an on-line petition.

Speakers at the event include oceanographer and explorer Dr. Sylvia Earle, founder, Mission Blue/Sylvia Earle Alliance and Ocean Doctor Board Member, along with Dr. David E. Guggenheim, president of Ocean Doctor and board member of the Great Whale Conservancy.

Dr. Earle urges people “to use all means at your disposal – films, expeditions, the web, new submarines – to create a campaign to ignite public support for a global network of marine protected areas; Hope Spots large enough to save and restore the blue heart of the planet.”

Today, the Cowboy Indian Alliance, a group of ranchers, farmers and tribal communities from along the Keystone XL tar sands pipeline route, rode into Washington, DC and set up camp on the National Mall near the White House to tell President Obama to reject the pipeline.

On April 26, thousands of people will join them to stand together to communicate their message that the Keystone XL pipeline and the tar sands must be rejected to protect this, and future generations.

These demonstrations are just two of thousands of events in which over one billion people in 192 countries will participate, according to the Earth Day Network.

Green Cities is the Earth Day Network theme this year and through Earth Day 2015.

Earth Day Network launched the Green Cities campaign in the fall of 2013 to help cities everywhere become more sustainable and reduce their carbon footprint through three key elements – buildings, energy, and transportation.

Earth Day spokesman Alex Standen blogs about one initiative intended to move the Green Cities campaign forward – Uber, a company that connects riders to drivers in more than 70 cities through its apps.

“This Earth Day and throughout the year, Earth Day Network partner Uber is working to encourage eco-friendly transportation and ride-sharing. Tomorrow – Earth Day – for every customer who uses the Uber app’s fair split ride-sharing feature, Uber will donate \$1 to our Canopy Project, allowing us to plant one tree. Share a ride. Get access to tons of eco-friendly ride options, and donate \$1 to plant a tree. What could be more environmentally-friendly than that?”

Other Earth Day Network events around the world include B the Hope for Haiti, a group teaching primary school students about recycling, composting, the importance of proper waste management and tree planting.

The University of Fiji will host its first Earth Day event, a clean-up to improve waste management on campus and help students learn about environmental responsibility.

In Riga, Latvia, Homo Ecos is hosting an Urban Gardening Workshop for Earth Day with eco-friendly composting, making planters out of recyclables, and caring for an urban garden.

Earth Day Network Philippines is staging its first Pro-Earth Run 2014, an advocacy campaign to encourage people in the sensible and sustainable care of Mother Earth.

In Uganda, the 4-H Million Trees Project is creating tree nursery projects at schools and helping students begin planting 50,000 trees.

Students at GUtech in Oman are hosting their annual Earth Day Event at Al Sahwa Park, promoting “green life” by selling fresh local produce and encouraging people to plant trees.

Many Earth Day events throughout the world are focused on trees and forests.

In Western Canada, conservationists are calling on the British Columbia government to expand protection around MacMillan Provincial Park to fully encompass the forests above and adjacent to the world-famous Cathedral Grove.

Cathedral Grove is Canada’s most popular old-growth forest on Vancouver Island, visited by millions of tourists each year, but the company Island Timberlands has built a road through old-growth forests on Mt. Horne, the mountainside above Cathedral Grove, and could potentially begin logging of a new cutblock that could come as close as 300 meters from the park boundary.

“After the redwoods of California, Cathedral Grove is the best known old-growth forest on Earth,” said Ken Wu, Ancient Forest Alliance executive director. “It should be a first rate priority for the BC

government to stop any logging plans that threaten the park's ecological integrity and ancient forest that millions of people visit."

"The BC government deregulated the environmental protections on this land in 2004 and failed to follow-through on an agreement that was supposed to protect the old-growth forests on those lands. They broke it, now they have a responsibility to fix it," said Wu. "The expansion of protected areas around Cathedral Grove, the scenic highway, Cameron Lake, and the Cathedral Grove Canyon will make this a world-class protected area, both ecologically and for tourism."

In New York City, the Wildlife Conservation Society's 96 Elephants campaign today released exactly 96 seconds of video footage of playful baby elephants to celebrate Earth Day – and to draw attention to the fact that 96 elephants are killed every day in Africa by poachers.

The footage includes five orphaned elephants mugging for the camera in the David Sheldrick Wildlife Trust Elephant & Rhino Orphanage in Nairobi. These elephant's parents were shot by ivory poachers. Other footage shows wild elephants at the Mpala Research Centre in Kenya.

"This footage is bittersweet; on one hand it shows baby elephants as they should be – care-free and playing. But it is heartbreaking to know that some of these elephant's parents were slaughtered for the ivory trade," said John Calvelli, WCS Executive Vice President for Public Affairs and Director of WCS's 96 Elephants campaign. "We are hoping this footage will help raise awareness about the real toll of elephant poaching."

Today, 84 companies worldwide were recognized for creating the most positive environmental impact by the nonprofit B Lab with the release of the third annual "B Corp Best for the Environment" list.

The "B Corp Best for the Environment" list honors micro, small and mid-sized businesses that earned an environmental impact score in the top 10 percent of all Certified B Corporations on the B Impact Assessment, a look at a company's impact on its workers, community and the environment.

Honored companies range across many industry sectors. They include outdoor retailers Patagonia and GoLite; home and personal care companies Method and Seventh Generation; the employee-owned, craft brewery New Belgium Brewery; the 20-year-old waste reduction and management company WasteZero; West Paw Design, a U.S. manufacturer of eco-friendly products for dogs and cats; and Hawaiian Legacy Hardwoods, which plants rare high-value endemic koa trees on Hawaii Island.

On Earth Day and every day, U.S. Peace Corps volunteers lead grassroots efforts to protect and preserve the environment in the countries where they serve. Volunteers promote reforestation, build fuel-efficient cook stoves, enhance food security and institute environmental education programs.

In Cameroon, for instance, Peace Corps volunteer Rachel Warner of Waukesha, Wisconsin, is planting 2,000 trees at a local school to revitalize the land and provide shade for the students, who are often exposed to the sun and heat.

"The soil will be enhanced by the trees and will help in the fight against desertification," Warner said. "Students will also learn about these subjects during our environmental club meetings, which will take place before the planting."

Funds for Warner's project are being raised through the Peace Corps Partnership Program. A local tree nursery will donate 1,000 trees, and community members will help plant the trees and lead a free training session on tree planting.

