AQUARIUM OF THE PACIFIC®
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OFFSHORE OIL PLATFORM DECOMMISSIONING FORUM

12-14 JANUARY 2020

Issued February 2020

Co-Sponsored by:
Aquarium of the Pacific (AoP)
Marine Conservation Research Institute (MCRI)
California Ocean Protection Council (OPC)
California State Lands Commission (CSLC)
Honda Marine Science Foundation (HMSF)
Dr. Allen and Charlotte Ginsburg

In Partnership With:
Bureau of Ocean Energy Management (BOEM)

Acknowledgments

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We thank all the presenters and panelists, and particularly John Smith, Seth Blackmon, Eric Wilkins, Ann Bull, Jeremy Claisse, Nils Cohrs, Jennifer Lucchesi, Joe Nicolette, Dan Millison, Robert Byrd, and Evan Zimmerman who helped with sections of the report.

We thank our rapporteurs: Claire Atkinson, Jennifer Lentz, Fahria Qader, and Kimberly Thompson. We also thank our outstanding AV Team led by Derek Balsillie.

We thank Amber Sparks and Emily Callahan of Blue Latitudes for organizing and curating student posters, and Julie Stuart, artist, who created a running visual account of the Forum.

We are particularly grateful to Linda Brown and to Adina Metz for all their work in organizing the Forum and managing the meeting logistics. Linda Brown also played a key role in preparation of the final report.

We thank Brian Gray for the design and layout of the report.

Forum Steering Committee
Jerry Schubel, Aquarium of the Pacific
Chris Potter, Ocean Protection Council
Marina Voskankian, State Lands Commission
Thomas Liu, Bureau of Ocean Energy Management

Offshore Oil Platform Decommissioning Forum

12-14 January 2020

This is a brief summary of important findings. The full proceedings can be viewed on the Aquarium of the Pacific's Website (**AquariumofPacific.org**).

Edited by
Jerry R. Schubel, PhD
8 February 2020

Goals of the Forum

- To facilitate public awareness of the process to decommission oil and gas platforms and facilities off the coast of California in both state and federal waters.

- To describe decommissioning options, the costs, benefits, and risks of each, and constraints on choice.

- To present an overview of the decommissioning process in state and federal waters.

- To raise awareness about public involvement and opportunities for public engagement during the decision-making process.

- To invite the public to participate in and inform the state and federal decision-making process.

State Controller Betty Yee, chair of the California State Lands Commission gave the opening keynote address. This is a brief summary of her remarks.

She opened by stating how fortunate we are to live in California which is guided by an "Eco-ethos" that is grounded in our unique relationship with our water and our diverse natural resources. She acknowledged that for thousands of years what has become California was inhabited by our indigenous peoples and our native peoples who have maintained a constant presence and remain essential stewardship partners. She gave a special tribute to the Tongva people on whose land we are meeting and who fished these waters for thousands of years. Like our Indigenous communities who cared for the land for generations, Californians are now, more than ever, recognizing the spiritual, cultural, biological, and economic realities of our finite resources.

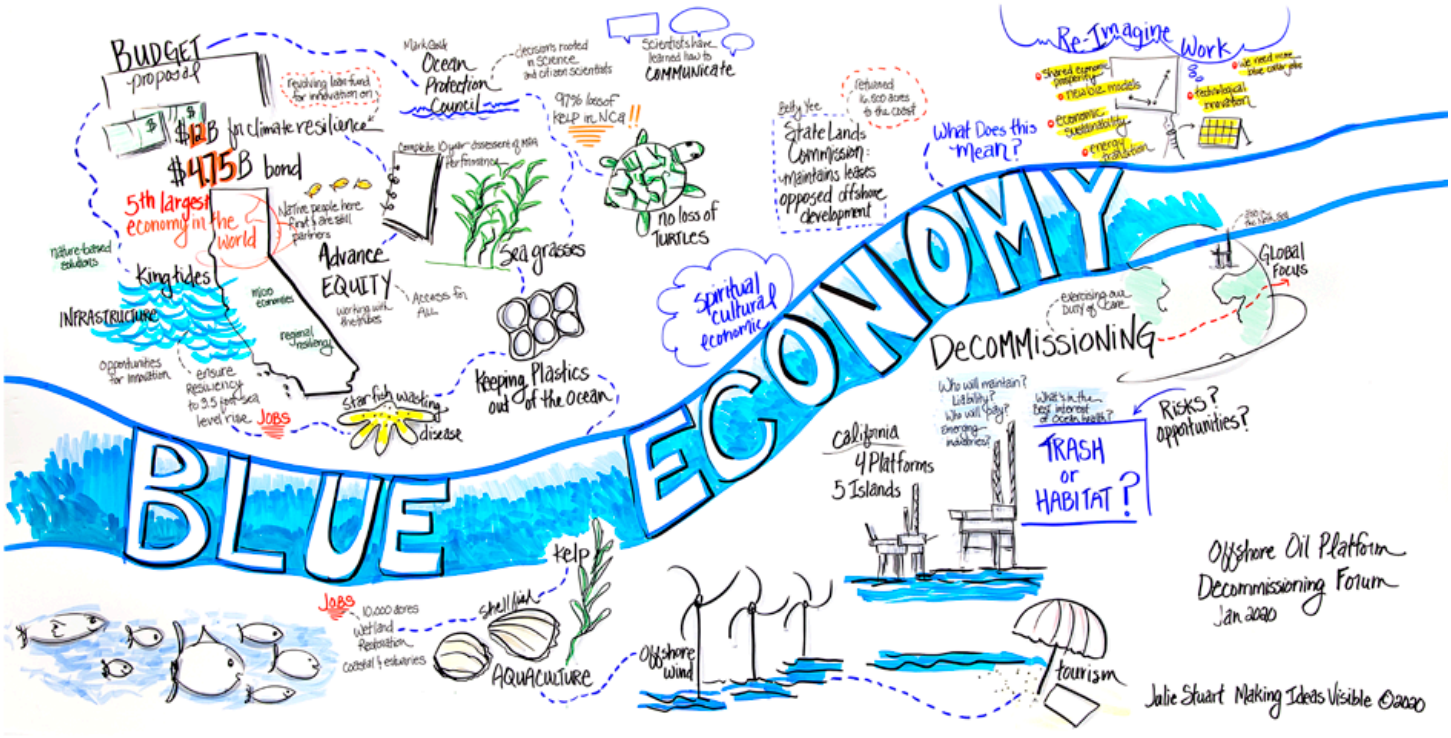
The State Lands Commission, which was established in 1938, manages 4 million acres of public trust lands. It protects and enhances these lands and natural resources by issuing leases for responsible use or development ensuring public access, resolving boundaries between public and private lands, and implementing regulatory programs to protect state waters from oil spills and invasive species. Through all of their actions, the commission safeguards public access rights and conserves irreplaceable natural habitats for wildlife, for vegetation, and for biological communities for current and future generations.

The State Lands Commission is the lead commission for all decommissioning activities, including the State's two nuclear generating facilities. The State's conversation and controversy over oil and gas development date back to 1921 when the first development was permitted. After 1969 when the Santa Barbara oil spill occurred, the Commission put a moratorium on new oil and gas leases in state waters, a moratorium that continues to this day. She acknowledged that the decommissioning process will be long, arduous, and expensive involving various stakeholders at the public, private, legislative, executive, and tribal community levels. The Commission has not taken a formal stand on what should happen to the platforms. She acknowledged that some believe strongly that they be removed entirely and that the oil and gas companies should be responsible for removing all materials and restoring the seafloor to its original condition. She also acknowledged that these structures have become important marine habitat, and that removing them all could cause significant environmental impact.

She stated that every and any decision on the ultimate disposition on a state platform will be made on the best available science and data and after a very robust and comprehensive public engagement process.

Among the questions she stated that would need to be addressed were:

- Who will maintain the platforms?
- Who will assume the liability?
- What will become of the cost savings to the oil and gas companies for not having to fully remove the rigs?
- Who or what will benefit most from the modified platforms?
- What are the viable alternative uses?
- Will tax payers be burdened?
- What will be the benefits or challenges within the local surrounding economies?
- What emerging industries can reefing support?
- How can we ensure that Californians receive the big-



gest net benefit? And, last but most significant…

- What is in the best interest when considering ocean health and is that in the best interest of our ocean species, our ocean water, and agreed upon definition of an ocean ecosystem going forward?

She expressed gratitude that this forum was designed to address many of these questions.

She then moved to put her comments in the context of the emerging "Blue Economy" having recently been appointed by the Governor to the Future of Work Commission. The nature of work is rapidly changing in California, the nation, and around the developed world due in large part to technological innovation. Increasingly, automation and artificial intelligence are driving productivity, but also creating new areas for economic opportunity. In addition to the changing nature of work, climate change is the second "disruptor" facing our economy today. While there is great uncertainty about what the blue economy means to the future of work, Controller Yee urges us all to act as "fiduciaries" of our limited ocean assets. The blue economy must not only provide jobs, but must protect marine ecosystems and provide social stability, and shared prosperity for generations to come.

Controller Yee acknowledged that the ocean will play a larger role in the future, and that California should demonstrate leadership in stewardship of these resources. She pointed out that she sees the blue economy as part of the larger green economy, and expressed pride in what California has accomplished.

"…every and any decision on the ultimate disposition on a state platform will be made on the best available science and data and after a very robust and comprehensive public engagement process."

– State Controller Betty Yee

Brief Summary of Dr. Sylvia Earle's Keynote Address: "If Fish Could Talk." Her full address can be found on the Aquarium's website.

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There is lots of conjecture about what to do with these structures that did not exist when I was a child. Offshore oil and gas discovery is a relatively recent endeavor in the history of humans. We went to space to explore the moon, and discovered the Earth… a fragile blue marble covered mostly by ocean.

In the past half century the ocean has come into its own in terms of importance and vulnerability because of increased human understanding. We no longer believe it is a good repository for our wastes or that it is inexhaustible in terms of marine life. We know we can't continue to put and take as we did in the past. Today we know what we could not have known when a lot of our policies were put in place. We keep learning.

With respect to offshore oil and gas extraction and extraction on land, we know that fossil fuels gave us the prosperity we now enjoy. They made it possible for us to explore the moon and see the Earth from space. But now we know that we have to think differently. We can see new possibilities thanks to the energy we have enjoyed over the past century or so.

These sophisticated offshore platforms that people live on, work on, and do remarkable things are nearing the ends of their useful lives, not as structures, but for the purpose for which they were established… so what do we do with them now? For quite a while the idea has been we need to get them out of the ocean, but as a scientist who has spent thousands of hours under the sea, I have come to think of other options, other ways of thinking about their futures. I see whales swim by with creatures attached to them, barnacles on humpback whales, our beloved grey whales that cruise up and down the coast of California plastered with critters. Many creatures in the sea like to live on something—on a reef, a rock, the roots of a mangrove… on a surface. Once there, other things grow on top of them, joined by still others creating an ecosystem. Things grow on stuff that is put into the sea. The principle is that life aggregates on surfaces. Sometimes ships sink, either accidentally or intentionally, and they become aggregators of life. They become artificial reefs. It just happens. Structures of all kinds in the sea, including oil and gas platforms, become habitats.

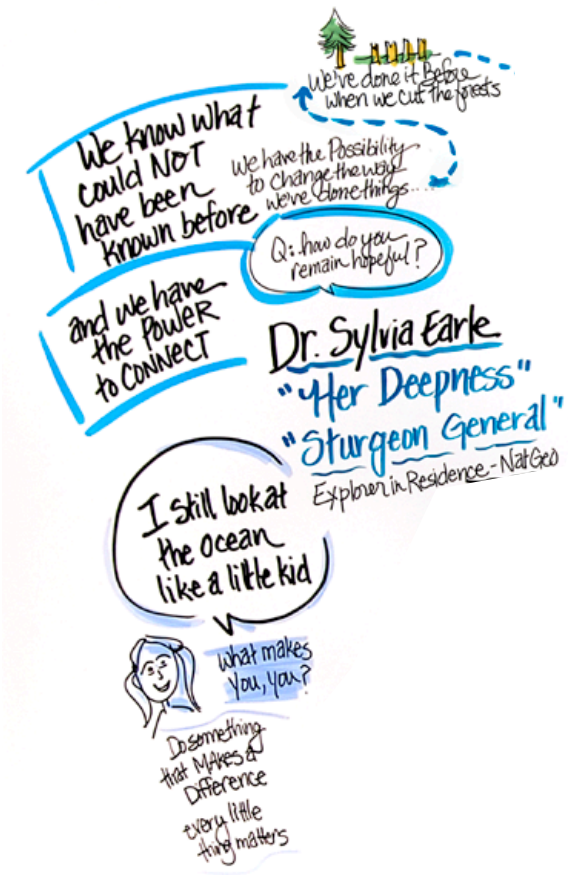
No two oil rigs are alike. They are in various depths ranging from a few hundred feet to more than a thousand feet. As a scientist, I see an opportunity for these structures. They are time capsules. We know when we put them in. We can determine what diversity of life develops over a given period of time. And they are vertical transects extending from the sea surface to the sea floor providing a vertical record of life in the sea.

I, and other scientists, would love to have a laboratory where we could have instruments constantly at sea to monitor conditions. These are pre-existing platforms that could be transformed into a different purpose—laboratories. I understand the issues of cost, liability, and insurance: Who will pay? But these rigs have been here for a long time, they were never intended to be purposeful for science. They were never intended to be habitats for fish and other creatures. Let's just get rid of them. Most of that thinking was before we knew what we now know.

No two rigs are the same. Everyone should be looked at in terms of what it could be in its next life now that it has finished its useful life as an oil and gas platform. Might

"No two rigs are the same. Everyone should be looked at in terms of what it could be in its next life now that it has finished its useful life as an oil and gas platform."

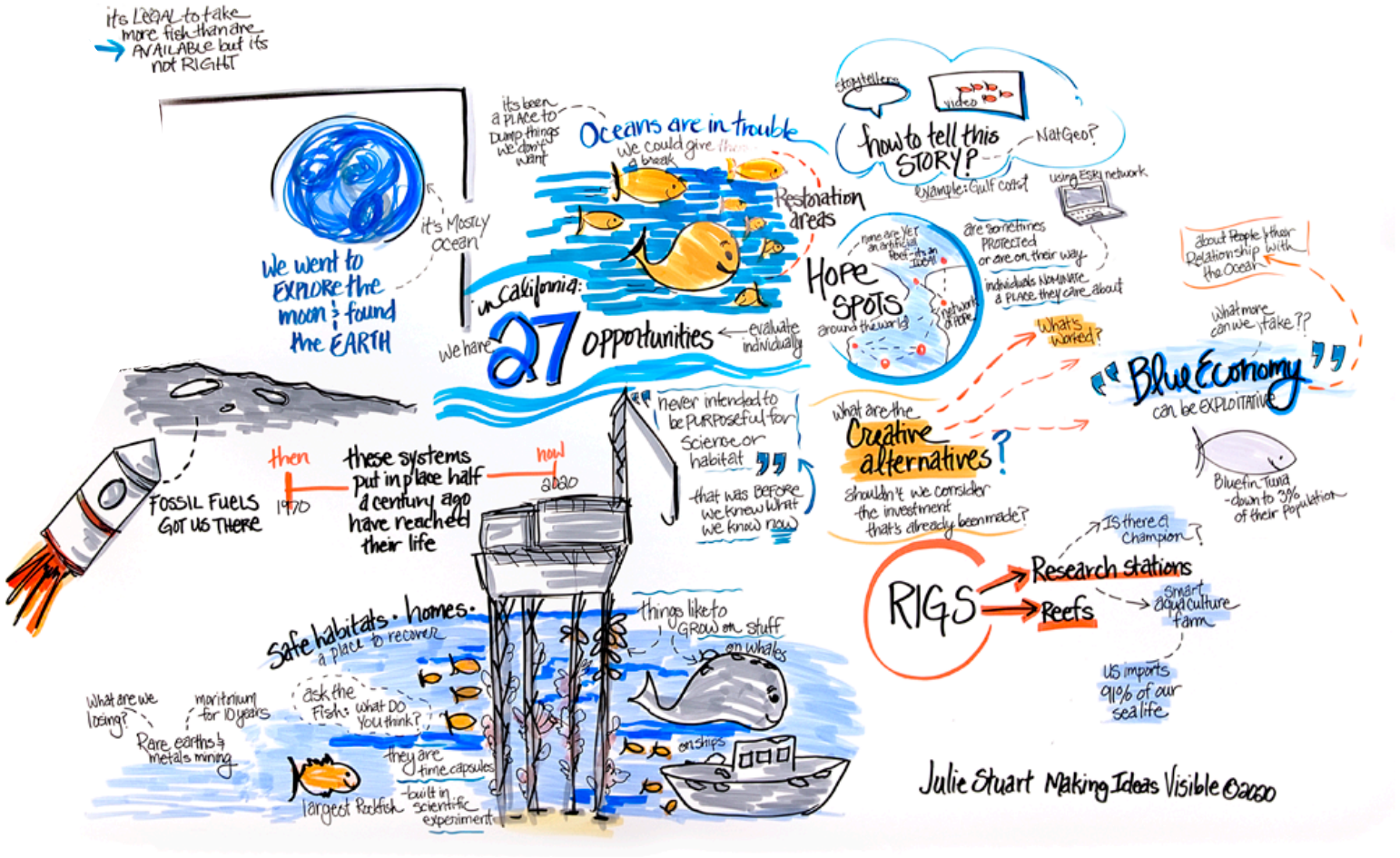
– Dr. Sylvia Earle



there be potential as laboratories, as monitoring sites, as sanctuaries and safe havens for marine life? My colleagues and I explored and studied a rig in the Gulf of Mexico, and were impressed by the diversity and abundance of life that it supported. That rig was taken out following the rules that were made some time ago. That rig was important habitat. Now, it's gone forever.

In our situation here in California, we have 27 platforms, 27 opportunities. Maybe some should be taken out entirely. But, perhaps others could be given another purpose. The time has come to reconsider the opportunities these platforms offer the ocean and society.

Imagine if some rigs might be adopted by champions, perhaps to become the equivalent to "hope spots" in Mission Blue. Maybe in California, a forward-looking state, some creative ideas can be put forward to use these expensive, complicated platforms for potential new lives after their useful lives as oil and gas production come to an end. Perhaps rigs to reef, or to laboratories, or to home bases for research. It has happened elsewhere, not often, but we should look at them for lessons and use the knowledge we have in determining the fates of these 27 platforms.


it's LEGAL to take more fish than are AVAILABLE but it's not RIGHT
it's been a PLACE to Dump things we don't want
it's Mostly ocean
We went to EXPLORE the moon & found the EARTH
Oceans are in trouble
We could give them a break
storytellers
video
how to tell this STORY?
NatGeo?
example: Gulf coast
using ESRI network
Restoration areas
in California:
We have 27 opportunities
evaluate individually
Hope SPOTS around the world
none are YET an artificial reef - it's an IDEA!
network of hope
are sometimes PROTECTED or are on their way
individuals NOMINATE a PLACE they care about
about People & their Relationship with the Ocean
What more can we take??
"Blue Economy" can be EXPLOITATIVE
What's worked?
What are the Creative alternatives?
shouldn't we consider the investment that's already been made?
Bluefin Tuna - down to 3% of their Population
FOSSIL FUELS GOT US THERE
then
1970
these systems put in place half a century ago have reached their life
now
never intended to be PURPOSEful for Science or habitat
that was before we know what we know now
RIGS
Research stations
Reefs
Is there a Champion?
Smart aquaculture farm
US imports 91% of our seafood
Safe habitats · homes · a place to recover
things like to GROW on stuff
on whales
on ships
What are we losing?
moratorium for 10 years
Rare earths & metals mining
ask the Fish: what DO you think?
they are time capsules
built in scientific experiment
largest Rockfish
Julie Stuart Making Ideas Visible ©2020

Regional Context

There are 27 oil and gas platforms off the coast of California, 23 in Federal waters and 4 in State waters (within 3 miles of shore). The 23 platforms in Federal waters range in age from 28-50 years old and are in water depths of 95 to 1,198 feet. Some of these platforms are taller than famous buildings such as the Eiffel Tower and the Empire State Building. Twelve are still producing; 11 are shut-in (ceased producing), and 5 of those (Gail, Grace, Harvest, Hermosa, Hidalgo) are in early stages of decommissioning. Three of the four platforms (Emmy, Eva, Esther) in State waters are still operating and there are currently no plans to decommission them. The fourth platform (Holly) is in the early stages of decommissioning. It is anticipated 10 or more platforms will be decommissioned by 2030 and a majority of the others soon thereafter.

What happens to the platforms once production stops? The potential options range from full removal to partially removing the upper portions of a platform jacket and converting the remaining structure to an artificial reef. The platforms could also be allowed to remain in place and repurposed for other uses such as aquaculture facilities, marine research centers, or renewable energy production facilities. Federal regulations allow OCS platforms to be converted to artificial reefs contingent on the State taking ownership and title to the facility and having a State approved artificial reef program in place. Federal regulations also allow Federal platforms to be repurposed for "alternate uses" such as research facilities.

Although the California Marine Resources Legacy Act was enacted in 2010 to allow federal OCS platform jackets to be converted to artificial reefs, California lags behind other coastal states in having a State approved Artificial Reef Program in place. Absent an approved State program, there is no option under Federal law to convert Federal platforms to artificial reefs in California. For platforms in State waters, the State has the ability to approve reefing or repurposing of platforms based on the results of the CEQA environmental review process and other factors.

Figure 1. Locations of all oil and gas platforms off California in both state and federal waters

COURTESY OF JOHN SMITH

All four of the platforms in California state waters are within the ancestral homelands of non-federally recognized Native American tribes. Descendants of over 40 California Native American tribes reside within California's coastal counties. The State has made a commitment to involve them in the decommissioning process.

Figure 1 on page 8 shows the locations of all oil and gas platforms off California in both state and federal waters. Their ages and projected remaining production lifetimes are summarized in Table 1 below.

Table 1. Federal OCS Platforms Located Offshore California

Platform	Year Installed and Age (years)		Operating Status Sept. 2018	Water Depth (feet)	Total Weight (s. tons)	Wells	OCS Operator
San Pedro Bay – Los Angeles and Orange County							
Eureka	1984	33	Producing	700	33,377	50	BOC
Elly[2]	1980	37	Active	255	9,400	0	BOC
Ellen	1980	37	Producing	265	11,665	63	BOC
Edith	1983	34	Producing	161	8,556	18	DCOR
Eastern Santa Barbara Channel – Ventura and Santa Barbara County							
Hogan	1967	50	Shut-in	154	5,098	39	POO
Houchin	1968	49	Shut-in	163	5,615	35	POO
A	1968	49	Producing	188	4,896	52	DCOR
B	1968	49	Producing	190	4,959	57	DCOR
C	1977	33	Producing	192	5,718	38	DCOR
Henry	1979	38	Producing	173	4,006	23	DCOR
Hillhouse	1969	48	Producing	190	5,834	47	DCOR
Gina	1980	37	Producing	95	1,380	12	DCOR
Gilda	1981	36	Producing	205	11,293	63	DCOR
Habitat[3]	1981	36	Shut-in	290	9,611	20	DCOR
Gail	1987	30	Shut-in	739	37,057	27	BWEG
Grace	1979	38	Shut-in	318	13,074	28	BWEG
Western Santa Barbara Channel – Santa Barbara County							
Hondo[3]	1976	41	Shut-in	842	29,478	28	EMC
Harmony[3]	1989	28	Shut-in	1,198	86,513	34	EMC
Heritage[3]	1989	28	Shut-in	1,075	69,192	48	EMC
Santa Maria Basin – Santa Barbara County							
Harvest[3]	1985	32	Shut-in	675	35,150	19	FMCOG
Hermosa[3]	1985	32	Shut-in	603	30,868	13	FMCOG
Hidalgo[3]	1986	31	Shut-in	430	23,384	14	FMCOG
Irene	1985	32	Producing	242	8,762	26	FMCOG

COURTESY OF JOHN SMITH

California's Opportunity

California has an opportunity to be a global leader in oil platform decommissioning but not as the first state to decommission a platform or as the one to decommission the most. Louisiana and Texas have already decommissioned 500+ platforms in the Gulf of Mexico via rig to reef conversion. If California is to be a leader in this space, it must lead in different ways. This will require a re-designed decommissioning process, one that is more streamlined and uses best available science. A participant from the UK involved with the North Sea stated: "To date, California is replicating the decommissioning process used in the North Sea, a process that is not based on the best science." If California is to be a leader in the decommissioning space it will be by using the best science to integrate the disposition of these structures into the State's efforts to achieve 100% clean energy by 2045 and using them, or at least some of them, as laboratories for marine environmental management and research, and perhaps as platforms for production of sustainable marine energy and/or seafood.

The importance of this opportunity should not be discounted. Creative re-purposing of a few platforms could be the prototype for a much larger global program. Seizing this opportunity will require creative interpretation, or revisions, of the State's laws and policies to allow State agencies to evaluate the full range of options to determine which is best for each platform for the ocean and for society. Current regulatory frameworks do not allow this for platforms in federal waters. The absence of an approved and funded Artificial Reef Program eliminates the possibility for California to accept a rig in federal waters if offered by the operator. The only option is full removal.

From 1987-2016, 11% of offshore decommissioning was through partial removal and conversion to reef. Source: OECD. 2019. Rethinking Innovation for a Sustainable Ocean Economy, OECD Publishing, Paris. https://doi.org/10.1787/9789264311053-en

For example, offshore production of seagrass and shellfish would combat ocean acidification and address food security while also supporting new economic development. Shellfish are a good source of low-carbon protein without using fresh water. Seagrasses (including kelp) can be used for sustainable bio-energy production; some species can be used as a supplemental feed to reduce flatulence in cows.

"Creative re-purposing of a few platforms could be the prototype for a much larger global program."

Looking up at the structure of oil platform Eureka off the coast of Huntington Beach, California.

Decommissioning Platforms in Federal Waters

A platform lease expires one year after production stops, unless a suspension of production or suspension of operations is approved. Decommissioning is to occur within one year after a lease expires. BSEE in coordination with other federal and state agencies review and approve the proposed decommissioning process and option. Federal Law 30 CFR § 250.1730 states that the Bureau of Safety & Environmental Enforcement (BSEE) may grant a departure from the requirement to remove a platform or other facility by approving partial structure removal or topple in place for conversion to an artificial reef if the structure becomes part of a State artificial reef program, and the responsible State agency accepts title and liability for the structure, and if the U.S. Coast Guard navigational requirements are met. Twenty three of the platforms off California are in Federal waters.

It all starts with a request and application from the platform operator to BSEE to decommission a platform. The request may be for full removal, partial removal, reefing, or repurposing a platform after the well is plugged and abandoned. The operator is responsible for full removal and restoration of the sea floor if another option is not requested and approved. The decision not to pursue an option other than full removal is at the discretion of the operator.

Because California does not have an approved Artificial Reef Program, it is not eligible to qualify for any of the significant potential benefits of the 23 platforms in federal waters once decommissioned. And, because of the absence of an approved Artificial Reef Program, the 23 platforms will be totally removed unless California changes its laws. To prevent total removal of these platforms which have been shown to serve as important reefs and could have other beneficial uses to the State, the State would have to move quickly to change the law.

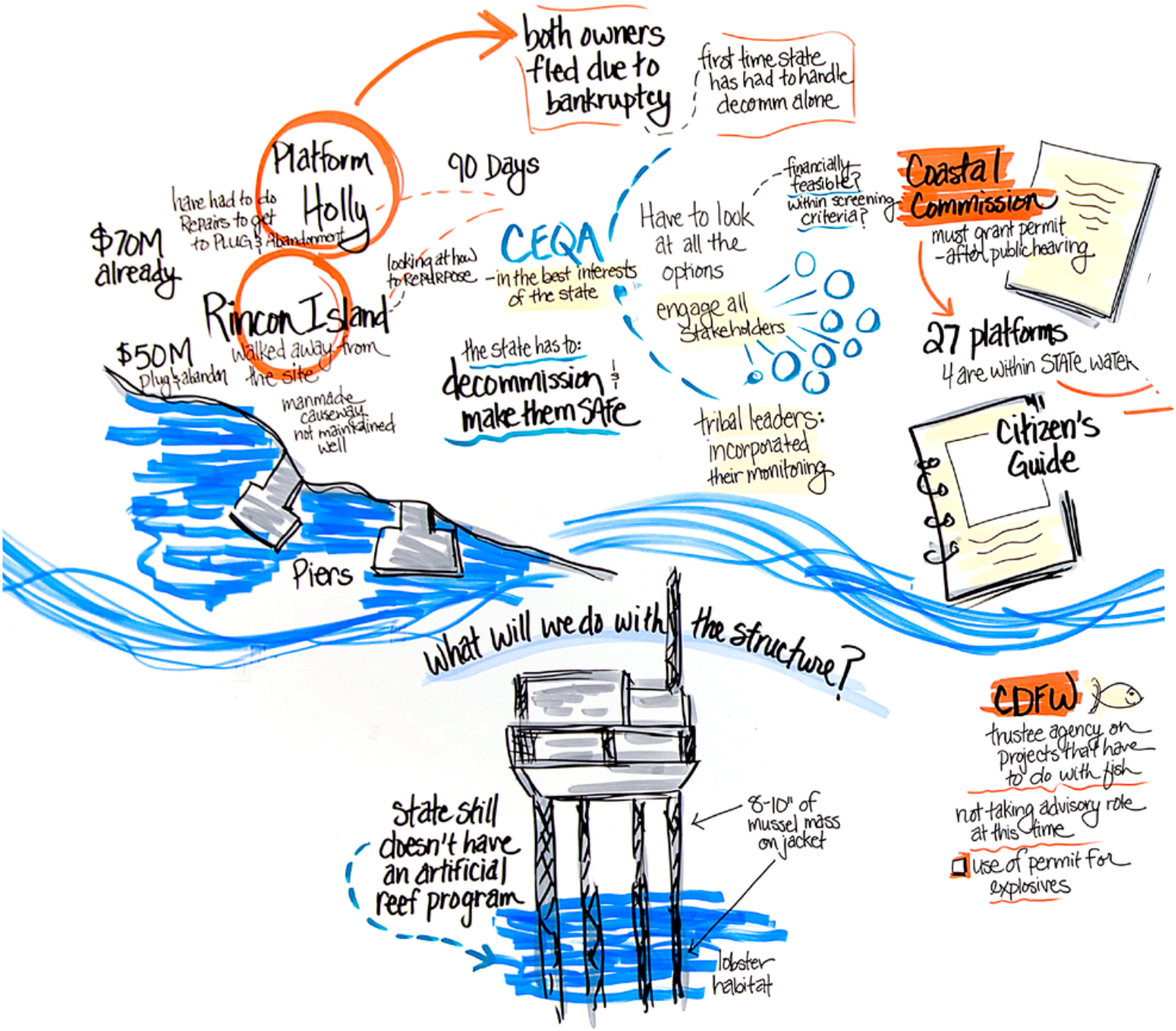
Rigs-to-reef is a process where platform operators choose to donate the platforms to states to serve as artificial reefs as part of the National Artificial Reef Plan. To qualify, states must have an approved Artificial Reef Program and plan. Currently California has neither.

The California Artificial Reef Program (CARP) was originally created in 1985 and has been unfunded since 2001. No defined source of continuous funding for the program has been identified. It was created to investigate enhancement of sport fisheries in California through the use of artificial reefs. The program ran out of funding before an artificial reef plan was ever created and the program as described in Fish and Game Code was not intended to address the numerous artificial reef concepts now being discussed in California, including partial removal of oil platforms. The Marine Life Legacy Act (Legacy Act) was established in 2010 and authorized the concept of partial removal of platforms in California waters. The Legacy Act established key provisions such as a process for partial removal, a requirement for a net environmental benefit analysis, and a cost savings program. The Legacy Act may need better definition of the process, the cost savings program, and liability before an operator decides to apply to the California Department of Fish and Wildlife for partial removal of an oil platform in federal waters.

Reefing is typically done by tipping the platform over once the superstructure is removed, removing the top section of the platform to avoid conflicts with navigation, leaving the platform in place, or towing the structure to an approved site. Platforms left in place may be re-purposed to support a number of activities including: offshore aquaculture, offshore renewable energy, research and monitoring stations.

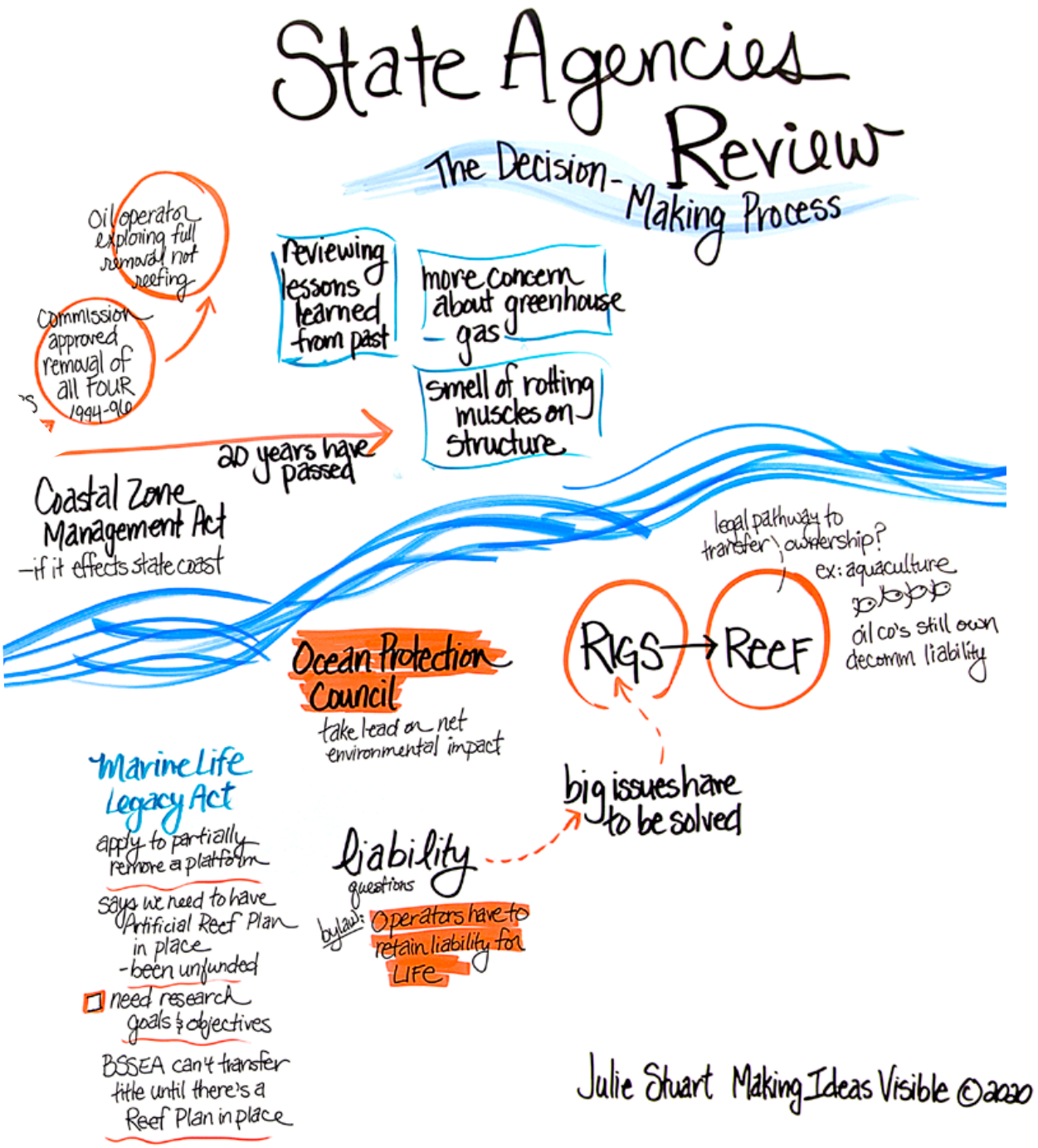
For platforms in federal waters that have pipelines or infrastructure in state and local waters, California requires preparation of a document in accordance with the California Environmental Quality Act. BSEE and California may agree to prepare a joint EIS-EIR to satisfy both federal and state requirements.

Present California laws restrict the State's opportunities to consider any decommissioning options other than full removal of platforms in federal waters.

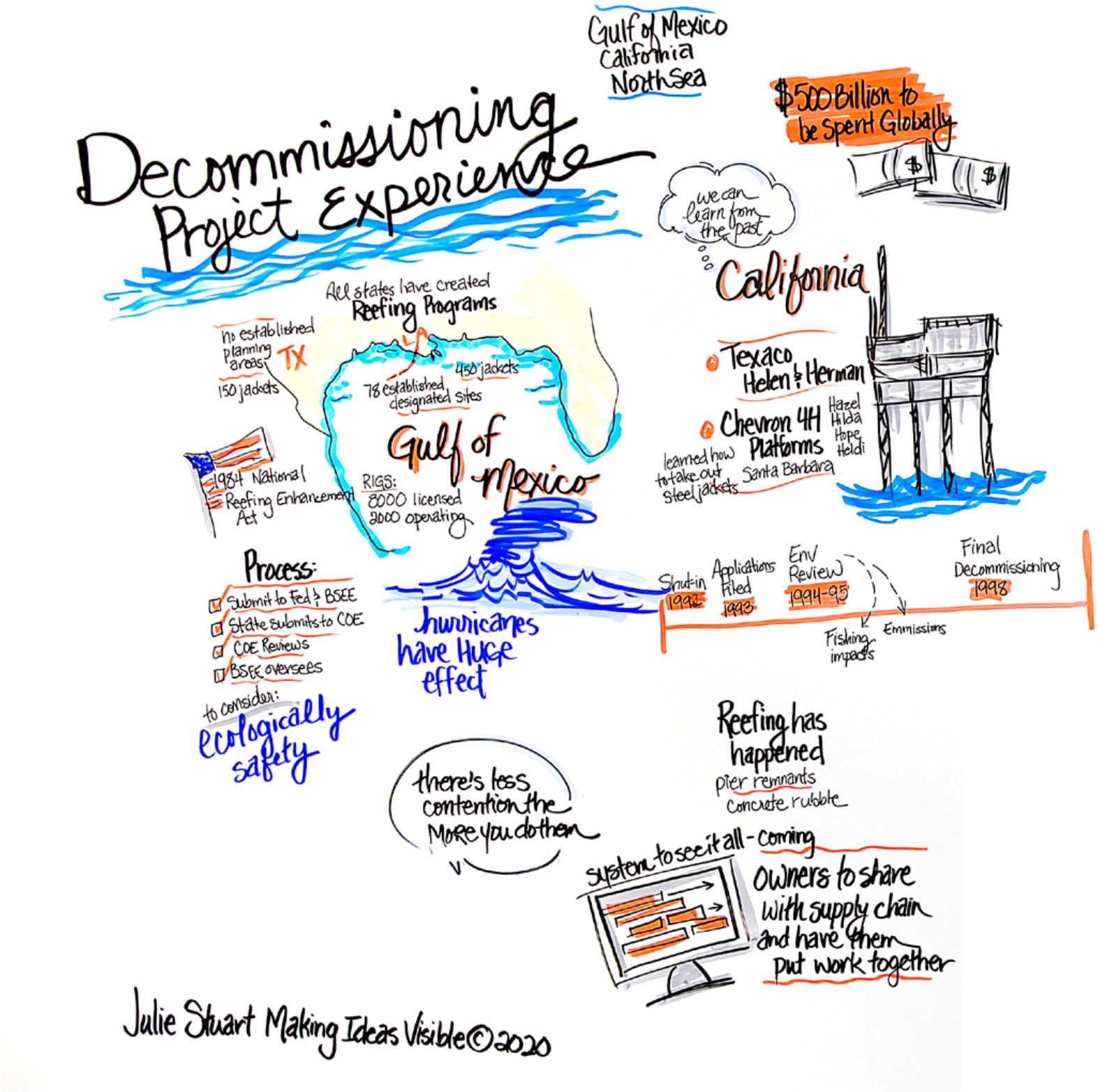


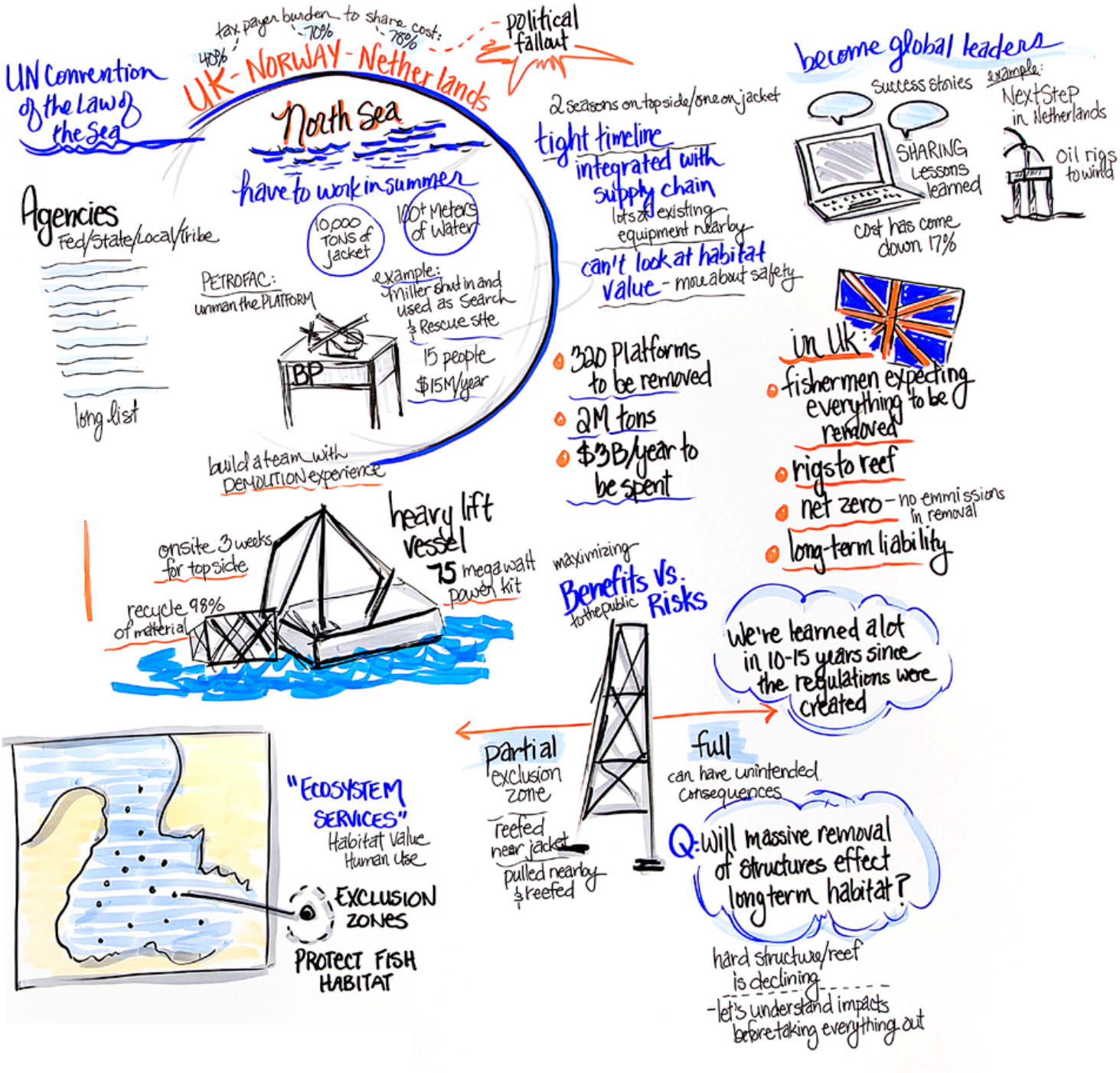
Decommissioning Platforms in State Waters

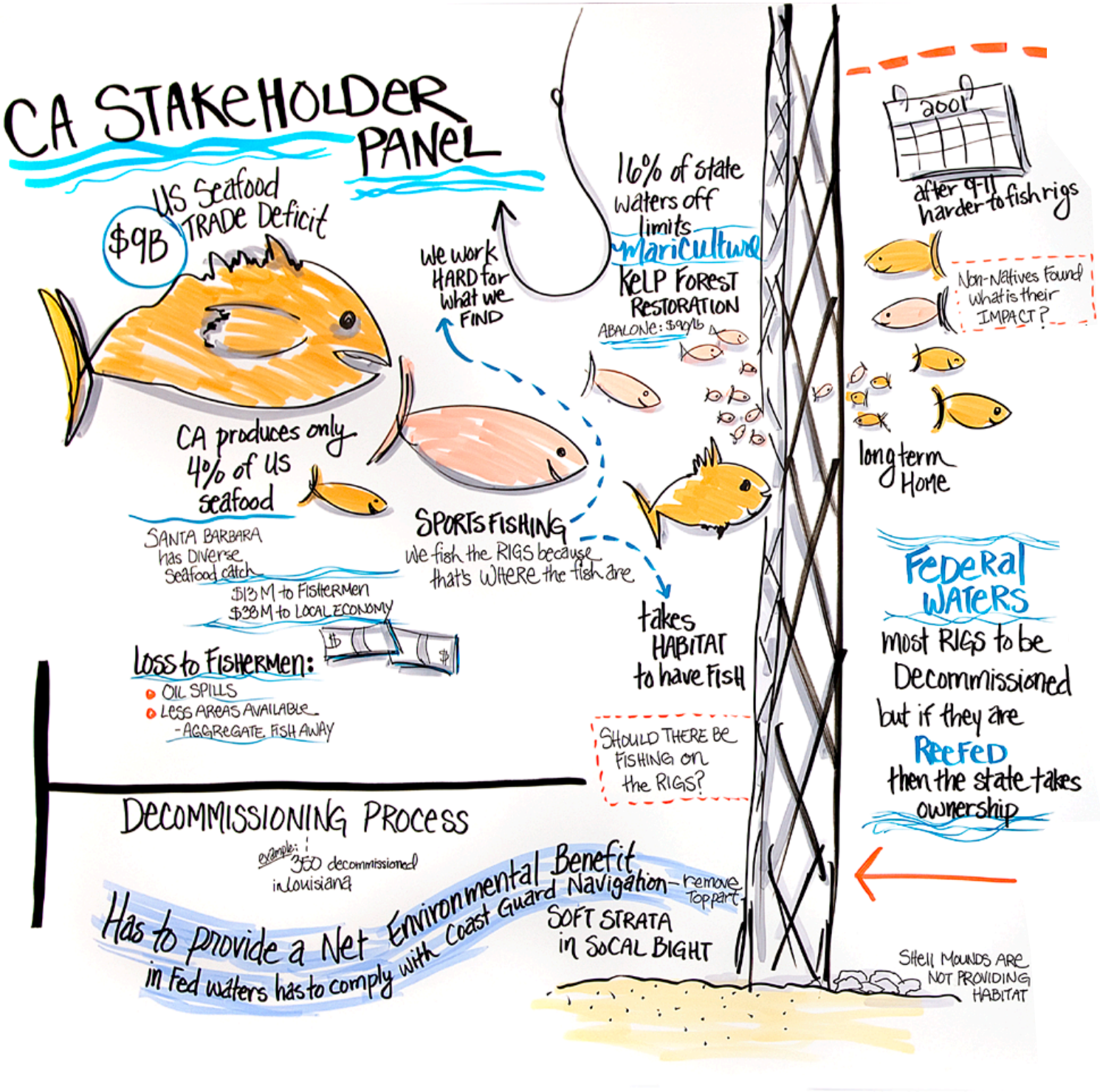
For the four platforms in California State waters—out to 3 miles—the State Lands Commission has the lead role in determining their fates. They must do it in cooperation with other state and local governmental agencies and with tribal groups. The California Environmental Quality Act (CEQA) directs them to evaluate different options, starting with removal, but ultimately any final disposition of the remaining platforms or islands on state land must be in the best interests of the State, as determined by the Commission through its regularly held public meetings. Platform Holly and Rincon Island are special because they are the first offshore oil and gas operations to be decommissioned



in over 20 years and they herald the beginning of potentially many decommissioning projects offshore California, in both state and federal waters. The oil companies who owned Holly and Rincon declared bankruptcy and walked away, leaving the State with a timely opportunity to explore all options ranging from full removal to leaving them intact and repurposing them. To seize this opportunity, scientists and the public need to get involved and get involved quickly.

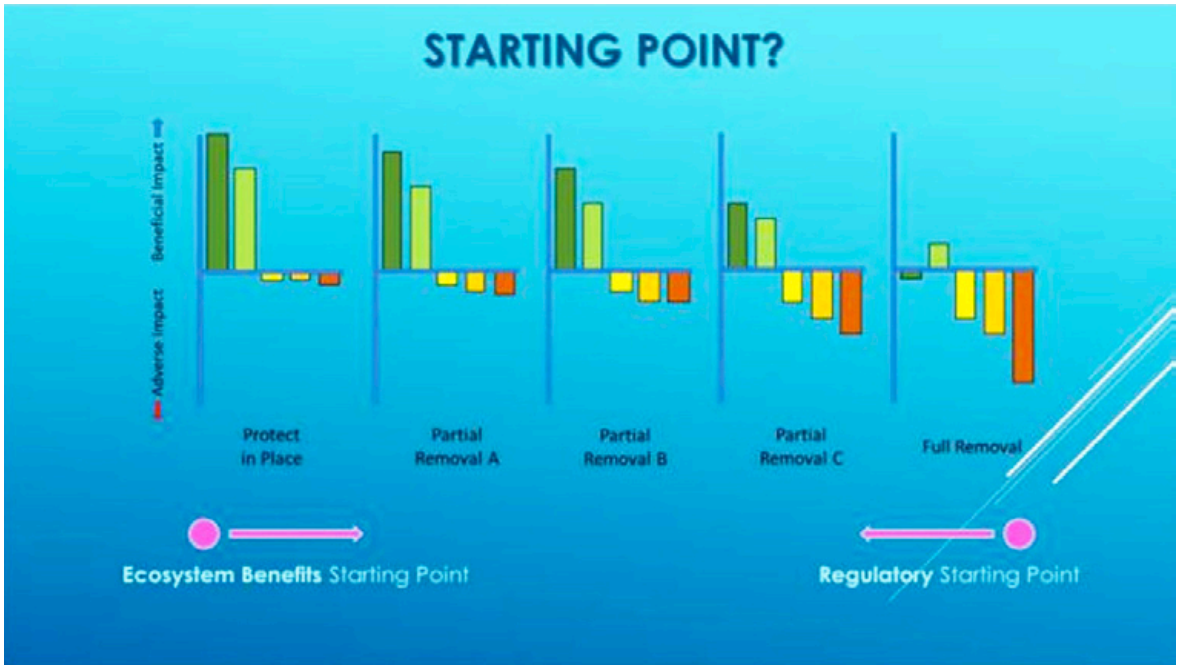

Decommissioning Project Experience
Julie Stuart Making Ideas Visible©2020
Gulf of Mexico
California
North Sea
$500 Billion to be Spent Globally
we can learn from the past
California
Texaco Helen & Herman
Chevron 4H Platforms
Hazel Hilda Hope Heidi
learned how to take out steel jackets
Santa Barbara
All states have created Reefing Programs
No established planning areas
TX
150 jackets
LA
450 jackets
78 established designated sites
Gulf of Mexico
RIGS:
8000 licensed
3000 operating
1984 National Reefing Enhancement Act
Process:
Submit to Fed's BSEE
State submits to COE
COE Reviews
BSEE oversees
to consider:
ecologically safety
hurricanes have Huge effect
Shut-in 1991
Applications Filed 1993
Env Review 1994-95
Final Decommissioning 1998
Fishing impacts
Emmissions
there's less contention the More you do them
Reefing has happened
pier remnants
Concrete rubble
system to see it all - coming
Owners to share with supply chain and have them put work together


UN Convention of the Law of the Sea
UK - NORWAY - Netherlands
tax payer burden to share cost:
40%
70%
78%
political fallout
North Sea
have to work in summer
10,000 TONS of jacket
100+ Meters of Water
2 seasons on topside/one on jacket
tight timeline
integrated with supply chain
lots of existing equipment nearby
can't look at habitat value - more about safety
become global leaders
Success stories
example:
NextStep in Netherlands
SHARING Lessons learned
cost has come down 17%
oil rigs to wind
Agencies
Fed/State/Local/Tribe
long list
PETROFAC: unman the PLATFORM
example: Miller shut in and used as Search & Rescue site
15 people
$15M/year
BP
build a team with DEMOLITION experience
320 Platforms to be removed
2M tons
$3B/year to be spent
in UK:
fishermen expecting everything to be removed
rigs to reef
net zero - no emmissions in removal
long-term liability
heavy lift vessel
onsite 3 weeks for topside
75 mega watt power kit
recycle 98% of material
maximizing
Benefits Vs. Risks
to the public
We've learned alot in 10-15 years since the regulations were created
partial
exclusion zone
reefed near jacket
pulled nearby & reefed
full
can have unintended consequences
Q: Will massive removal of structures effect long term habitat?
hard structure/reef is declining
- let's understand impacts before taking everything out
"ECOSYSTEM SERVICES"
Habitat Value
Human Use
EXCLUSION ZONES
PROTECT FISH HABITAT


CA STAKEHOLDER PANEL
US Seafood TRADE Deficit
$9B
We work HARD for what we FIND
16% of state waters off limits
Mariculture
KELP FOREST RESTORATION
ABALONE: $99/lb
2001
after 9-11 harder to fish rigs
Non-Natives Found what is their IMPACT?
long term Home
CA produces only 4% of US seafood
SANTA BARBARA has DIVERSE Seafood catch
$13M to FISHERMEN
$38M to LOCAL ECONOMY
SPORTS FISHING
We fish the RIGS because that's WHERE the fish are
takes HABITAT to have FISH
Loss to Fishermen:
OIL SPILLS
LESS AREAS AVAILABLE
-AGGREGATE FISH AWAY
SHOULD THERE BE FISHING on the RIGS?
FEDERAL WATERS
most RIGS to be Decommissioned
but if they are REEFED
then the state takes ownership
DECOMMISSIONING PROCESS
example: 350 decommissioned in Louisiana
Has to provide a Net Environmental Benefit
in Fed waters has to comply with Coast Guard Navigation - remove Top part
SOFT STRATA in SoCAL BIGHT
SHELL MOUNDS ARE NOT PROVIDING HABITAT


VIOLENCE on the land and to the PEOPLE
You need INDIGENOUS People to be Leaders
How to ADDRESS this VIOLENCE?
100 Federally Recognized TRIBES – NATIONS with TIES TO COAST are NON-RECOGNIZED – about 40 TRIBES
Origin Stories
TRIBAL MAP
DANA POINT
TOOYAMNYA
ENE
We know how to Live & Thrive
We ARE RESILIENT
embedded in a System that's built on Stolen land
TRIBAL COMMUNITY LEADERS
We Need to be at these TABLES and Be DISRUPTED
CAMINO Real
Map & Trail of Colonization
commercial fisherman
FULL REMOVAL is Perceived as MOST RISK
SUBMERGED RIGS SNAG NETS
currents change
Greater HAZARD
current law
REQUIREMENTS:
ROBUST SCIENCE AROUND REMOVING TOP 85 feet
COST savings shared with state – Endowment
Possible Ideas:
Conservation
Port revitalization
fisheries management
climate change mitigation
Decommissioning PROCESS:
Wells must be PLUGGED
PREDICTABILITY IS KEY
APPROVED WORK PLAN
JACKET Removal limiting ENV. IMPACTS
PLAN:
Specific Tools & Vessels
Contingency plan
Scheduling
Contractors
ARTIFICIAL Reef Guidelines:
must increase fish capacity
mimic reefs in nature
provide habitat
IMPORTANT TO WAIT for the SCIENCE
EDUCATE PUBLIC
We will be Your BEST environmental justice allies
BLUE ECONOMY:
Where are the TRIBES?
FULL REMOVAL:
SITE FULLY RESTORED
need to address:
TOXIC CONTAMINATION
FOUND MANY YEARS LATER
2019-2024
New Leasing PROGRAM
(FEDERAL)
Documents & Maps need to include tribal information
CULTURAL SITES have already been SUBMERGED
laws written were BEFORE CULTURAL PROTECTION LAWS
Julie Stuart Making Ideas Visible ©2020

Evaluating Options - A Quantitative Approach



Decommissioning options often are evaluated through a Comparative Assessment (CA) process that includes surveys, interviews, and other social processes. These processes can provide valuable input, but they often do not adequately consider ecosystem service benefits over time, and often are not well grounded in science. It is important to document the benefits associated with different options along with potential risks before making a selection. The concept of a Net Environmental Benefit Analysis-based Comparative Assessment (NEBA CA) not only considers environmental health and safety, technical, financial and societal factors, but also includes ecosystem service benefits over time. The NEBA CA model incorporates a variety of quantitative ecosystem service benefits and risk metrics to estimate how various decommissioning options may affect human health and the environment to inform decision-making. The NEBA CA model is based upon methods that are quantitative, scientifically defensible, transparent, objective, and litigation tested. The model focuses on a variety of metrics and how these metrics change with different decommissioning options.

It should be noted that the starting point for discussion of decommissioning options is distinctly different when comparing a NEBA-CA and a standard CA, as displayed in the graphic above. In the face of losses of natural hard reef habitat and increased commercial fishing pressures, will removal of subsea infrastructure adversely affect ecosystem service benefits and associated risks for future generations? NEBA-CA helps answer this question.

Lessons From The North Sea

The biggest key to success is the overall decommissioning process: planning, discussion and determination of the desired end state, and identification of opportunities to reduce cost without compromising environmental standards. There might be a significant opportunity in California to consider all 27 platforms (4 in state and 23 in Federal waters) as a unit.

Discussions should be initiated soon with Operators, State Lands Commission and other state agencies, Bureau of Safety and Environmental Enforcement (BSEE), and Bureau of Ocean Energy Management (BOEM) to ensure that the decommissioning of each platform results in the best solution for both the ocean and society.

Key actions to support this include:

1. Development of a long-term plan based on expected dates for cessation of production, to produce a clear roadmap. California is coming late to doing this given the impending decommissioning time horizon.

2. Evaluation of the risks and benefits of all decommissioning options for each platform from full removal to leaving in place, with potential repurposing.

3. Development of a base line cost estimate for all assets. The UK experience in the North Sea is that once you have identified cost-saving opportunities, stakeholders are able to work together more effectively.

4. Involvement of stakeholders early and often to gain and maintain public trust. Report annually on progress. (For the SLC work on Platform Holly this can be done very quickly to prove the potential.)

5. Examine the work in The Netherlands (Nexstep) on how to make potential use of decommissioned platforms and do something similar for California, perhaps with a focus on food, recreational and ecological opportunities, and integration of renewable energy.

6. Although in California there are a lot of agencies involved in the process to get final approval for actual decommissioning, a clear roadmap of what is required should facilitate the process.

7. A clear roadmap would increase efficiency and reduce environmental and safety impacts of vessels working offshore by reducing days at sea. Leaving all or portions of platform jackets would have the same benefits.

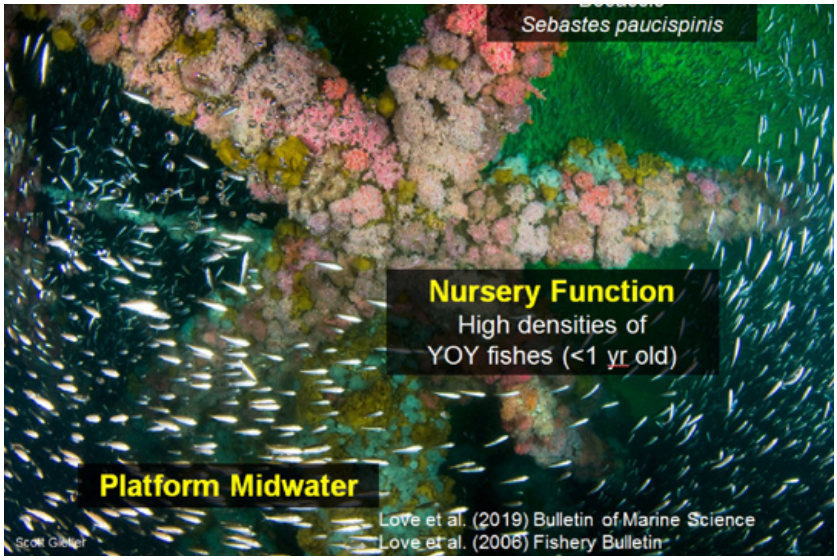
Execution of the above would deliver a clearly defined Offshore California Decommissioning Strategy in support of the Blue Economy for California.

Lessons From the Gulf of Mexico

The Gulf of Mexico has had a total of 7,157 offshore oil platforms installed to date, beginning in the late 1940s. The peak year for installation was 1984 when about 225 platforms were installed. More recently, the number of removals has outnumbered installations. Removals peaked in 2011 at about 290 per year. Almost all the new offshore oil and gas development today is happening in deep water, i.e., water depths greater than 1000 feet (~300 meters). The Gulf experiences hurricanes which can damage and even destroy offshore platforms. Approximately 115 platforms were completely destroyed in hurricanes Katrina and Rita in 2005, while over 3,100 were affected. This resulted in large numbers of platforms being removed in the subsequent years. Today there are approximately 1,870 platforms remaining in the Gulf.

Gulf states have been leaders in converting offshore oil platforms to reefs. Before the 1980s reefing was on an ad hoc basis. In 1983 The Minerals Management Service (MMS) announced its support for the concept. Since then the concept has gained support from the National Fishing Enhancement Act (1984) and the National Artificial Reef Plan in 1985. Louisiana, Texas, and other Gulf states followed with their own programs. Louisiana has the largest program with more than 450 platforms reefed to date. Texas is second with more than 150 platforms reefed. Approximately 10% of all Gulf platforms are reefed, but more than 85% of platforms in depths greater than 200 feet (60 meters) get reefed. Later this year Louisiana is expected to accept the largest and deepest reef to date with ExxonMobil's Lena Guyed Tower in 1000 feet (~300 meters) depth.

Platforms as Habitat



About half of the world's 6000-7000 offshore oil platforms, 2,700, are located in U.S. federal waters and in the Gulf of Mexico, perhaps another 1,000 in U.S. state waters. Extensive studies of the structures off California have been conducted using SCUBA, submersibles, and ROVs by scientists from the University of California at Santa Barbara, Cal State Polytechnic University at Pomona, Cal State University, and others.

The vertical elements of the platforms and their complexity provide a large amount of habitat on small footprints, especially in depths greater than 150 feet. Their open structures provide easy mobility for fish in and around the structures. Ecologically there are four main vertical zones under the platforms: shallow/surface, mid-waters, bases, and shell mounds. The shallow/surface zones of the platforms are covered with millions of sessile and motile invertebrates that decrease in number with depth. In the mid-water zones, smaller adults, older juveniles, and seasonally, hundreds of thousands of young-of-the-year rockfish dominate. Where the base of the platform structures meet the seafloor, larger adult fish species including rockfish, lingcod, sand dabs, and scorpion fishes dominate. Fish assemblages in different depth zones are similar across platforms. Certain species have preferences for depth at different life stages, often moving down the platforms as they age.

Over decades these platforms have accumulated large masses of invertebrates. Because of the heights of the platforms, particularly the taller ones, life is zoned vertically. Over the years, invertebrates have been harvested from platforms for human consumption and for bait.

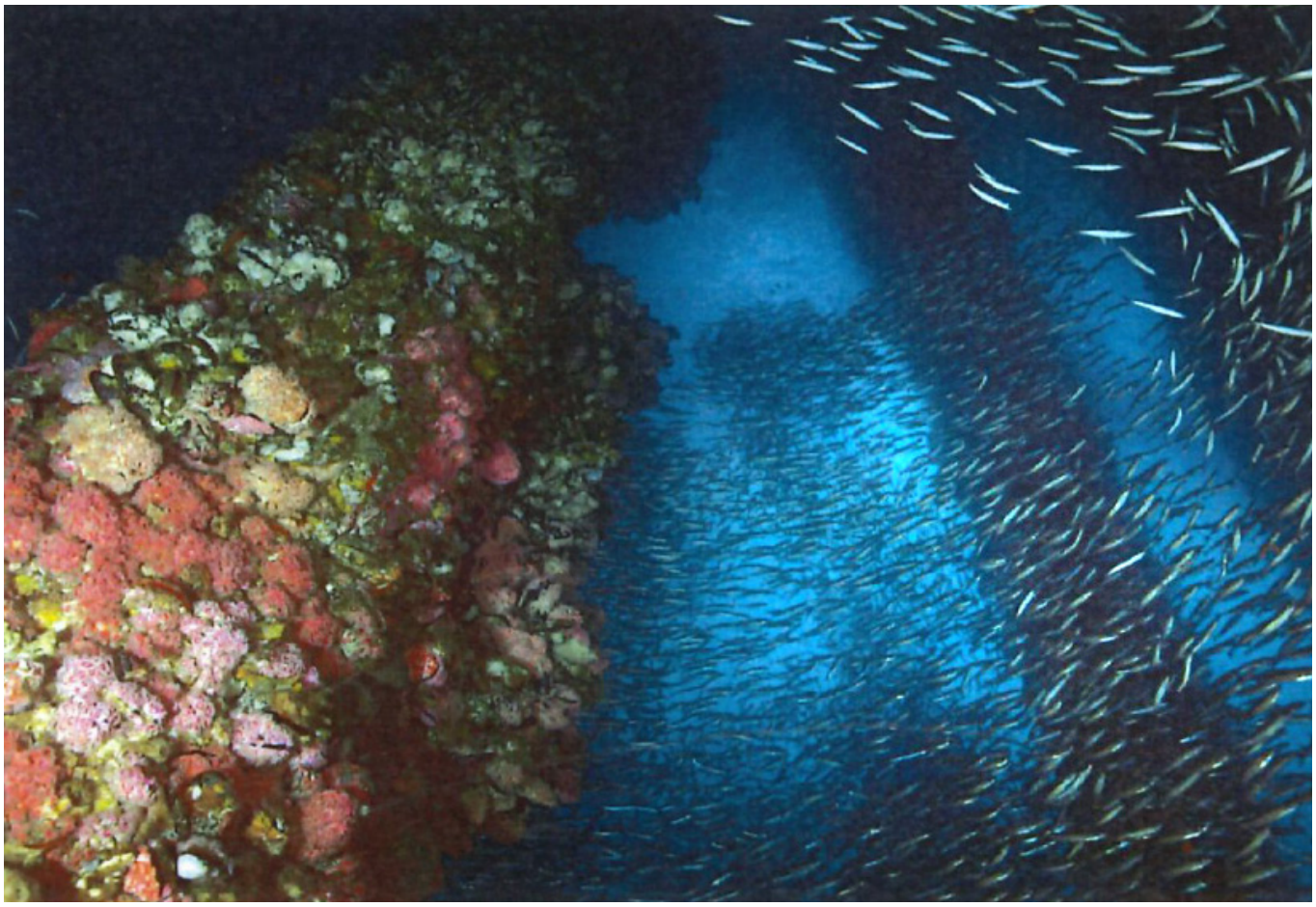
More than 90% of the fish under the platforms are rockfish. The number and size at maturity are greater and larger, respectively, than rockfish of the same age at natural reefs. On average there is 27 times more fish production under platforms than on natural rocky reefs in the region. Fish are most abundant around the bases of the platforms, followed by mid-waters, on shell mounds, and on natural reefs. It is likely that the California platforms play a significant role as nursery grounds for a variety of fish, particularly for rockfish.

In 2006 the Pacific Fishery Management Council recommended that 13 platforms be designated as Habitat Areas of Particular Concern as part of Essential Fish Habitat. Cleaning of the platforms and storms dislodge clumps of bivalves and invertebrates that fall to the seafloor and create mounds that support a diverse community of fishes, sea stars and commercially important shellfish.

Some have expressed concern that fish around the platforms might have elevated levels of contaminants, but studies have shown that contaminant levels are no higher in these fish than in shoreline populations of the same species.

The California platforms are among the most productive ecosystems for fish globally. In some years more than 100,000 young-of-the-year rockfish are found at a single platform and their presence at several platforms can contribute 20% of average yearly abundance of some rockfish species throughout their entire range. Adult rockfish demonstrate strong site fidelity to their "home platform", returning home after being transplanted to other areas.

Studies have shown that removal of only the top portion of platforms would have relatively little impact on rockfish biomass and production since most rockfish live in deeper waters.



"On average there is 27 times more fish production under platforms than on natural rocky reefs in the region."

Perspective of Some Commercial Fishers

Commercial fishers from Santa Barbara recognize the value of platforms as fish aggregators and producers, and also that they represent a loss of fishing grounds for them. The rigs also represent a source of jobs and funding for commercial fishers for safety gear. Because of the uncertainties associated with full removal, they favor leaving the platforms in place. Partial removal is their least favorite option because it snags their nets. Keeping the top decks in place aids in navigation and provides new opportunities for fishing, particularly of shellfish. Their contribution to cleaning the waters is also important.

Perspective of Some Recreational Fishers

There are more than 250,000 recreational fishers in the Southern California Bight. The oil platforms are among their favorite fishing spots because that's where the fish are. They tend to fish in shallower waters around the reefs that have more pelagic, transient species. Rockfish dominate in deeper waters and are inaccessible to most recreational fishers. If the rigs were to be removed, important habitat that attracts and multiplies fish would be lost.

Perspective of Some Environmental Groups

Since 2010, California law allows partial decommissioning of platforms in federal waters if the state accepts title and liability and if U.S. Coast Guard navigational requirements are met – meaning that the platforms must be removed to 85 feet below the surface. Consistent with state law, environmental groups believe that decommissioning decisions must be based on the best available science, and must consider the impacts and benefits of full versus partial removal in terms of protection and productivity of fish and marine life, adverse impacts to biological resources and water quality, and benefits to the marine environment. As part of this analysis, the state should consider (1) how removal of the top of the platform will affect the marine ecosystem; (2) impacts to water quality from debris and toxic chemicals surrounding platforms; (3) presence of non-native species; (4) impacts of allowing fishing at the platforms; and (5) safety and liability concerns.

Perspective of Some Native Americans

Nearly one-third of the Native American Tribes in what is now known as California maintain active ties to ancestral coastal lands and waters. These tribes have been the caretakers of the ocean and land for millennia and continue to advocate on behalf of California's coast today. Offshore and onshore oil and gas extraction have caused substantial harm to the ancestral homelands of coastal tribes. Recent policies have interfered with tribal stewardship and sovereignty and diminished their role as decision-makers regarding what happens in their ancestral lands and waters. The oil platform decommissioning process is an opportunity to uplift tribes' role in ocean stewardship via respectful government-to-government consultation with tribal leaders representing all California Native American Tribes along the coast. Each tribe has their own ideas and philosophies regarding the oil rigs and all of these perspectives must be respected to support and uplift tribal communities as the original caretakers of California's coast.

This Is What I Heard

These are some of the take-away messages from the closing panel and from the audience.

- We know a great deal about the roles these platforms play in supporting ocean life. Each platform is a living reef.
- Abundance of life on and under these platforms is greater than with any natural reef system. They serve both as attractors and as generators.
- Platforms provide unique three-dimensional structures that function as mini-marine protected areas with the 500m radius restricted area around each platform.
- The decommissioning process is deeply rooted in the State's public trust doctrine and the State's responsibility for managing coastal resources for the best interest of the public now and in the future. The pillars of the public trust doctrine are set in laws that have been made over the years, but it is forward looking. Decisions should be made on the best science and current societal values, and those values change over time.
- A recurrent theme was the need for having a well-informed public and having them actively involved in the decommissioning process. This includes engagement of tribal communities.
- The options for decommissioning platforms in federal waters are constrained by existing laws and policies. Present laws prevent anything but full removal of all platforms in federal waters. Laws can be changed, but one should not underestimate the difficulty or the time to do it. Once removed, the benefits of these platforms are gone forever.
- California can choose any decommissioning option for the four platforms in State waters. The choice will depend upon science, societal values, and who shows up at public meetings.
- California's regulatory process is complex, costly, and prolonged.

Appendix A

Offshore Oil Platform
Decommissioning Forum
Aquarium of the Pacific
Ocean Theater
January 12- 14, 2020

Co-Sponsored by:
Aquarium of the Pacific (AoP)
California Ocean Protection Council (OPC)
California State Lands Commission (CSLC)
Honda Marine Science Foundation (HMSF)
Dr. Allen and Charlotte Ginsburg
In Partnership With:
Bureau of Ocean Energy Management (BOEM)

Goals:

- To facilitate public awareness of the process to decommission oil and gas platforms and facilities offshore California
- To provide information about decommissioning options and the environmental review process
- To raise awareness about public involvement and opportunities for public engagement during the decision-making process
- To invite the public to participate in and inform the state and federal decision-making process

Sunday, January 12
Forum Kick-off
6:30 pm - 9:00 pm
Free Evening Event

Student Poster Session Viewing

Welcome, Jerry Schubel
Mark Gold, Ocean Protection Council Program Manager,
Deputy Secretary for Ocean and Coastal Policy California Natural Resources
The Blue Economy's Role in California's Ocean Future

Keynote Addresses
California State Controller, Betty Yee, Commissioner, State Lands Commission
Some Observations on California and the Blue Economy
& Dr. Sylvia Earle, "If Fish Could Talk…"

Monday, January 13, 2020

8:45 Welcoming Remarks. Setting the Stage… Goals of Forum
Jerry Schubel, President and CEO, Aquarium of the Pacific,
Marina Voskanian, Division Chief, Mineral Resources Management Division, California State Lands Commission and Jessalyn Ishigo, Environmental Business Development American Honda Motor Co., Inc.

9:00 The California Situation (Number and locations of platforms; what we know about life on and around them; age and status of platform, etc.): An overview. (90 minutes including Q & A)

- State Offshore Field Abandonments – South Elwood and Rincon Fields
  Steve Curran, Senior Petroleum Drilling, CSLC
- California OCS Platform Decommissioning Outlook and Challenges
  John Smith, OCS Decommissioning Consultant
- Life Beneath California Platforms
  Ann Scarborough Bull, Project Scientist, Marine Science Institute, University of California, Santa Barbara
- California's Offshore Platforms Function as Fish Habitat
  Jeremy Claisse, Associate Professor, California State Polytechnic University, Pomona

10:30 Break

10:45 California Stakeholder Panel 90 min including Q & A

- Platform Decommissioning: Enhancement or Restoration
  Tom Raftican, President, The Sportfishing Conservancy
- Platform Decommissioning: Restoring the Marine Environment
  Linda Krop, Chief Counsel, Environmental Defense Center
- How is the Commercial Fishing Community Affected by Rig Decommissioning?
  Kim Selkoe, Executive Director, Commercial Fishermen of Santa Barbara
- Robust Assessment of Environmental Impacts and Operational Safety Evan Zimmerman, Executive Director, Offshore Operations Committee (OOC)

12:15 Lunch Break
1:50 The US Experience: An Overview 40 minutes including Q & A

- Gulf of Mexico OCS Decommissioning Experiences and Reefing Process
  Robert Byrd, Senior Consultant, TSB Offshore, Inc.
- California Decommissioning Project Experience
  Simon Poulter, founding Principal and Vice President, Padre Associates, Inc.

2:30 The International Experience: An Overview
60 minutes including Q & A

- North Sea Decommissioning Experience (Miller project)
  Win Thornton, VP of Decommissioning, BP Exploration and Production (UK)
- North Sea Perspective
  Nils Cohrs, Former Head of Decommissioning, Oil and Gas Authority, United Kingdom
- Leave or Retrieve, Offshore Platform Steel Jackets and Pipelines?
  Joe Nicolette, expert on Net Environmental Benefits Analysis (NEBA)
  Vice President, Planning and Ecosystem Services, Montrose Environmental Group

3:30 Break

4:00 The State Agencies Review and The Decision Making Process
60 minutes

- The Legal and Policy Challenges of Offshore Decommissioning in State Waters

Seth Blackmon, Senior Staff Counsel, California State Lands Commission

- Coastal Commission Jurisdiction and Review Process
  Cassidy Teufel, Senior Environmental Scientist,
  California Coastal Commission
- The California Department of Fish and Wildlife Role in Platform Decommissioning
  Eric Wilkins, Senior Environmental Scientist Specialist -
  California Department of Fish and Wildlife Marine Region
- California's Rig-to-Reefs Law
  Chris Potter, Environmental Scientist, California Ocean Protection Council

5:00 Q & A with Audience

Tuesday, January 14, 2020

9:30 Observations from Monday, January 13, 2020

10:00 Summary Panel: "This is What I Heard" Moderated by Jerry Schubel and Chris Potter Environmental Scientist, California Ocean Protection Council

- Jennifer Lucchesi, Executive Officer, California State Lands Commission
- Cassidy Teufel, Sr. Environmental Scientist, California Coastal Commission
- John Zorovich, Deputy Director, SBC Energy Division
- Don Kent, President and CEO, Hubbs SeaWorld Research Institute
- Robert Grove, (Retired) Southern California Edison

11:30 Q & A and Concluding Remarks
12:30 Adjourn

Appendix B

Offshore Oil Platform Decommissioning Forum Speakers

Seth Blackmon is a Senior Staff Counsel with the California State Lands Commission, specializing in the Commission's offshore oil and gas leasing operations.

Ann Bull, PhD is a career employee for the U.S. Department of the Interior in environmental research and assessment. She worked for the Bureau of Ocean Energy Management (BOEM), in the Gulf of Mexico Region, 1988-2000, and in the Pacific Region, 2001-2016. She retired at the end of 2016 as the BOEM Chief of Environmental Sciences, Pacific Outer Continental Shelf (OCS) Region.

Robert Byrd is retired a Vice President of TSB Offshore, Inc. (formerly Twachtman Snyder & Byrd, Inc.). He continues to serve as a Senior Consultant to the company. He has over 40 years' experience in the offshore oil & gas industry and since 1993 has focused on offshore oil and gas facility decommissioning.

Jeremy Claisse is an Associate Professor of Quantitative Marine Ecology at Cal Poly Pomona. His research interests include life history and ecology of marine organisms associated with reef ecosystems, including kelp forest systems here in California, coral reef systems in Hawaii, and manmade reef habitats (e.g.,

artificial rocky fishing reefs and breakwaters, submerged structures of oil platforms and offshore renewable energy developments), with a particular emphasis on marine conservation, fisheries management, and marine protected areas.

Nils Cohrs
Nils was the Head of Decommissioning for the Oil and Gas Authority (OGA) in the UK from October 2017 for 2 years. He had an international career of over 30 years (UK, Tunisia, Oman, Syria, Libya, Germany, The Netherlands and Iraq-KRG) in Operations Management for Operators such as Shell, Wintershall, Centrica and TAQA. This included work in the North Sea as OIM on Shell's Brent A platform, for Wintershall as Operations Manager in the Dutch sector and Centrica Storage as Operations Director.

Steve Curran is a Senior Petroleum Drilling Engineer with the State Lands Commission's Minerals and resource Management Division. Steve works in the Engineering section and is responsible for issues and projects involving field development, drilling/redrill applications, remedial well work and field abandonments.

Sylvia A. Earle is Explorer in Residence at the National Geographic Society, Founder of Mission Blue/Sylvia Earle Alliance, Founder of Deep Ocean Exploration and Research (DOER), a Founding Ocean Elder, Chair of the Advisory Council for the Harte Research Institute and former Chief Scientist of NOAA.

Mark Gold was recently appointed by Governor Newsom as Deputy Secretary for Oceans and Coastal Policy and Director of the Ocean Protection Council at the California Natural Resources Agency. He formerly served as President of the environmental group Heal the Bay.

Robert Grove is an Assistant Professor at the ArtCenter College of Design where he has taught Ocean Science for 19 years. He previously held the position of Senior Research Scientist and worked on marine issues for the Southern California Edison Company.

Don Kent is President and CEO of Hubbs-SeaWorld Research Institute. He has led the Institute since 1998. Don was instrumental in initiating the Ocean Resources Enhancement and Hatchery Program (OREHP), a partnership with the recreational and commercial fishing communities and the California Department of Fish and Wildlife created to counteract the depletion of California's coastal marine fisheries through stock replenishment.

Linda Krop is the Chief Counsel at the Environmental Defense Center, a non-profit public interest environmental law firm headquartered in Santa Barbara, California. She represented the conservation community on the Channel Islands National Marine Sanctuary Advisory Council from 1998 – 2013 and teaches Environmental Law at the University of California at Santa Barbara. Linda has worked on platform decommissioning issues since 1996, when EDC represented clients seeking removal of the 4-H platforms offshore Summerland.

Thomas Liu is currently the Deputy Regional Director for the Bureau of Ocean Energy Management's Pacific Region. He has had a variety of experiences in the government and in the private sector. In the government, he has served as a policy analyst for the White House Council on Environmental Quality, as the White House Office of Management & Budget's program examiner for the Department of the Interior's energy programs, and as the Chief of Concessions for Sequoia & Kings Canyon National Park

Jennifer Lucchesi has been the Executive Officer California State Lands

Commission since 2012. Prior to her appointment as Executive Officer, she served as the Commission's Chief Counsel. She began her career at the Commission in 1999, working primarily with ports and harbor districts to facilitate waterfront redevelopment.

Angela Mooney D'Arcy, Acjachemen Nation, Juaneno Band of Mission Indians Founder & Executive Director, Sacred Places Institute for Indigenous Peoples. Angela has been working with Native Nations, Indigenous Peoples, grassroots and nonprofit organizations, artists, educators and institutions on environmental and cultural justice issues for nearly twenty years. She is the Executive Director and Founder of Sacred Places Institute for Indigenous Peoples, an Indigenous-led, grassroots environmental justice organization dedicated to building the capacity of Native Nations and Indigenous Peoples to protect sacred lands, waters, and cultures.

Joe Nicolette is Vice President, Planning and Ecosystem Services, Montrose Environmental Group. He has over 35 years of experience in the environmental field with a focus on net environmental benefit analysis (NEBA) as it pertains to environmental decision-making. Heco-authored the first formalized NEBA framework recognized by the USEPA, the USEPA Science Advisory Board, and NOAA.

Chris Potter is Environmental Scientist with the California Natural Resources Agency/California Ocean Protection Council. He joined the California Natural Resources Agency in 1996 to assist in implementing the state's Wetlands Conservation Policy. His current duties and responsibilities include: coordinator of the California Marine Renewable Energy Work Group, state co-chair of the California Coastal Sediment Management Workgroup, and co-convener of the California Interagency Decommissioning Work Group.

Simon Poulter has over 30 years of experience as a project manager and environmental scientist responsible for the preparation of physical, biological and cultural resource assessments for inland, coastal, and outer continental shelf projects. Mr. Poulter is a founding Principal of Padre Associates, Inc. and currently manages the firm's Environmental Sciences group

Tom Raftican is a lifelong recreational boater, angler and diver. He has been actively involved in the leadership of Sportfishing conservation, education and promotion since the nineteen eighties.

Jerry Schubel has been president and CEO of the Aquarium of the Pacific since 2002. He works at the science-management-policy interfaces on ocean issues. He is widely published and has served on and chaired numerous federal and state advisory panels.

Kim Selkoe is the Executive Director of Commercial Fishermen of Santa Barbara, a non-profit port association focused on enabling California's fishing communities to produce sustainable seafood while adapting to climate change, globalized markets and gentrification of coastlines.

John B. Smith is an OCS Decommissioning Consultant with more than 35 years of experience in administering OCS oil and gas and renewable energy leasing and development programs. Since retiring from federal service with the U.S. Department of the Interior's Bureau of Ocean Energy Management (BOEM) in March 2017, he has been serving as an independent consultant

Cassidy Teufel has worked for the California Coastal Commission since 2004. Prior to his work for the State of California. He reviews and manages projects statewide involving oil and gas development and facility decommissioning, aquaculture, marine protected areas, coastal power plants, federal agency

activities, and marine habitat restoration. Since 2017 Cassidy has represented the Coastal Commission on the Interagency Decommissioning Working Group, a collaboration of local, state, and federal regulatory agency staff.

Win Thornton has over 40 years' experience in offshore construction and decommissioning projects working as an Operator (BP, Chevron, OXY), Contractor (B&R, WorleyParsons) and Entrepreneur (TST, WINMAR). His global experience includes offshore decommissioning and reuse projects in the Gulf of Mexico, North Sea, West Africa, California, Alaska, Southeast Asia and South America. Championed for 30+ years the environmentally sound and cost-effective disposal of obsolete platforms through placement in state sanctioned "Rigs-to-Reefs" programs.

Marina Voskanian for the past 8 years has been Division Chief, Mineral Resources Management CA State Lands Commission. In this role, she manages the State's lands diverse mineral resources and renewable energy potential, while assuring safe and environmentally sound operations for recovering the resources on these lands. Marina has been with State for 33 years, and prior to that, worked 12 years with oil and gas industry. Marina holds graduate degrees in Petroleum Engineering from USC. She is Registered Petroleum Engineer (P.E.) in California and is a Distinguished Member and Distinguished Lecturer for several years within the Society of Petroleum Engineers.

Eric Wilkins is a Senior Environmental Scientist with the California Department of Fish and Wildlife's Marine Region (CDFW). Since 2012, he has worked for CDFW on a wide range of issues including artificial reefs, desalination, power plant once-through cooling, aquaculture, and water quality impacts.

Betty Yee is the State Controller and was elected in November 2014, following two terms of service on the California Board of Equalization. As Controller, she continues to serve the Board as its fifth voting member. Reelected for a second term as Controller in 2018, Ms. Yee is only the tenth woman in California history to be elected to statewide office. As the state's chief fiscal officer, she chairs the Franchise Tax Board and serves as a member of the California Public Employees' Retirement System (CalPERS) and the California State Teachers' Retirement System (CalSTRS) Boards.

Evan Zimmerman has over two decades of experience in offshore related engineering, technology development and risk management. He has held senior technical and management roles in the offshore energy sector in the United States, North Sea and Australia.

John Zorovich has over 25 years of experience with Santa Barbara County's Planning & Development Department. He is currently the Deputy Director of the Energy, Minerals and Compliance Division which is responsible for overseeing the onshore oil and gas facilities that support offshore oil and gas activities, onshore oil and gas development, surface mining and renewable energy projects. He also oversees permit processing for new oil and gas development and facility decommissioning, permit compliance and enforcement, and implementation of mitigation programs.


Platform Harmony Jacket
Man walking