WORKSHOP SUMMARY

THE ECOLOGICAL CONSEQUENCES OF DECOMMISSIONING CALIFORNIA'S OFFSHORE OIL PLATFORMS

MAY 3-4, 2001
HUBBS-SEAWORLD RESEARCH INSTITUTE
2595 INGRAHAM STREET
SAN DIEGO, CA

Present:

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Milton Love, Marine Science Institute
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Marina Voskanian, California State Lands Commission, Planning and Development
Carolyn Penny, Workshop Lead Facilitator
Richard Casias, Workshop Facilitator

Meeting Summary Prepared by Carolyn Penny and Richard Casias

Workshop Goals:

- Share research and Gulf Coast experiences to sort through what information already exists on the issue of decommissioning California's offshore oil platforms;
- Identify and prioritize key scientific and resource management questions;
- Identify the information gaps for the key scientific and resource management questions;
- Determine the most effective approaches to fill the information gaps for the key scientific and resource management questions; and
- Conduct the group's work in an atmosphere of collaboration.

Thursday, May 3 Agenda

9:00-9:10	Welcome	Don Kent
9:10-9:25	Agenda Review	Carolyn Penny Richard Casias
9:25-9:45	Introductions	All
9:45-10:10	Larger Context – Mapping the Dynamics Affecting the Issue	All
10:10-10:25	Break	
10:25-11:55	Sharing What is Known	All
10:25-10:55	Presentation: Gulf Experience	Bob Shipp
10:55-11:10	Discussion/Q&A	All
11:10-11:40	Presentation: CA Research Overview	Milton Love
11:40-11:55	Discussion/Q&A	All
11:55-12:00	Overview of Afternoon	Carolyn Penny Richard Casias
12:00-1:00	Lunch	
1:00-1:45	Discussion: Implications of UC Report	All
1:45-2:30	Brainstorm Key Scientific and Resource Management Questions	All
2:30-2:45	Break	
2:45-3:45	Discuss and Refine Key Scientific and Resource Management Questions	All
3:45-4:00	Closure for the Day	Carolyn Penny Richard Casias
6:30-9:30	Dinner Reception at the World of the Sea Aquarium, SeaWorld Adventure Park, hosted by Senator Dede Alpert	

GROUND RULES

The participants agreed to the following ground rules:

(1) Everyone will treat everyone else with respect.
(2) Each person will strive to be complete and concise.
(3) No one or two people will dominate the discussion
(4) We will stick to the topic under discussion.
(5) During brainstorming, ideas will be listed without criticism or evaluation.
(6) Group members will not interrupt each other.
(7) All group members will participate fully in discussion and decision-making.
(8) The facilitators will manage the discussion. As manager of the discussion, the facilitators may intervene to keep the conversation on track and on time.
(9) For this meeting, this group may identify subject areas for further exploration with the following understandings:
   - In order to capture the fall spectrum of discussion, majority as well as minority opinions and viewpoints will be noted.
   - Agencies are not bound by workshop conclusions, recommendations, or proceedings that may be issued.
   - Agencies shall have an opportunity to review any proceedings, recommendations or opinions generated during these workshop discussions.
   - During the "Next Steps" phase of the workshop, group shall revisit the issue of proceedings and how the information will be shared in the future.

INTRODUCTIONS

Everyone in the group introduced herself or himself by name, affiliation, connection to the issues, greatest hope for the workshop and greatest fear for the workshop.

Greatest Hope for the Workshop

- All my research will be funded.
- We will be able to hear everyone's perspective on issues.
- We can get clear direction on research priorities.
- CA builds on the experience of Gulf Coast states…and that I can take home a different perspective on the issues in common with TX.
- Gulf Coast states' experience proves valuable to CA.
- Results will highlight living marine resources and their habitats, and will be used in the decision-making process.
- Outcomes of the workshop will be useful for decision-makers to utilize these artificial reefs.
- We are done with ground rules…and that we come away with a reasonable consensus on the issues of platform decommissioning and logical research agenda.
- We develop a general consensus on leaving or moving platforms in the decommissioning process.

- We build upon ideas presented by other states.
- We are open here and on the outside to the issues of "rigs to reefs."
- Workshop results in identifying adequate research for eventual platform decommissioning.
- Results are acceptable to agencies attending and the groups who are not in attendance.
- We hear from rigs-to-reefs experts, identify the issues, and see how these issues could be considered by the Interagency Decommissioning Work Group.
- We develop a focused research agenda to help the agencies in their decision-making process.
- We hear a variety of points of view on "rigs-to-reefs."
- We identify what can and cannot be done in the "rigs-to-reef" process.
- We start to identify valuable research issues in order to move forward in the process.
- A detailed research agenda is developed to identify potential research gaps.
- We move beyond academic/generalized report/view to identify specifics for use in the decision-making process.

Greatest Fear for the Workshop

- Group will not agree with me. I'll have to live under a bridge.
- Milton will live under a bridge.
- Workshop will last longer than two days.
- Group dissolves into scrambled eggs; loses direction.
- Gulf Coast experiences/information irrelevant to CA.
- Political forces overshadow scientific implications and decisions are made regardless of the science.
- Admitting fears in public.
- We will wind up revisiting issues over and over – "Groundhog Day."
- Long list of research without general consensus.
- We won't succeed at creating a reasonable research agenda; the uncertainty associated with this effort.
- Rigs to reef killed by political process before it gets a chance.
- Perception of endorsement of any decommissioning alternative.
- Workshop proceedings/outcomes rejected by agencies.
- Workshop outcomes not used/misused. Participation criticized.
- 30-year research program and still not have the answers.
- None
- Science irrelevant. Issue is decided politically.
- Workshop product used by others to further own agendas.
- List of research projects – too broad and not specific to decision-making process.
- Being thrown through the window.

LARGER CONTEXT – MAPPING THE DYNAMICS AFFECTING THE ISSUE

Recognizing its focus on the scientific and resource management issues related to decommissioning California's offshore oil platforms, the group first spent several minutes discussing the larger set of dynamics affecting the issue. This map of the dynamics is attached as Appendix A.

SHARING WHAT IS KNOWN

PRESENTATION: GULF EXPERIENCE

After Bob Shipp's presentation, the group discussed the following points:

Q: What is the economic value of the shrimp and snapper industries?

Snapper $2.50/lb
Charter industry - $60-$80 million/year in Orange Beach alone.
Shrimp – dockside $300 million/year
Shrimp industry is blamed for overfishing. Not what evidence shows.

Q: How relevant is production vs. attraction question here?

You can measure species in non-artificial reef areas and see if numbers decrease.
Need to see if species is habitat – limited.
Reefs attract and produce at different times and locations.
Commercial fishing a factor.
It's difficult to fully answer this question.

Q: How did you determine net gain of 4% hard bottom habitat Gulf-wide?

Source: Minerals Management Service

Q: Is re-establishment off FL coast by red snapper juveniles or adults?

Both. Both move. Not a sense of what proportion of juveniles or adults is on the move.

Q: How does nature of reef material matter?

Larger structures are not relocated during storms. Many natural reefs will be lost in future due to storms.

Q: Estimates of % total of fishing from hard bottoms vs. artificial bottoms?

4% increase in hard bottom (natural area), but it's contoured relief (Gulf-wide).

Q: Have there been studies done on toppled reefs, topped reefs, and standing platforms?

Yes, all of those options were studied. The report is being written. (See p. 20 of this workshop summary for the reference.)

Q: Is there data from 1940 about baseline or historical conditions of the fishery stocks in Gulf Coast region?

Always been pockets of fished-out areas.
Re-establishment of stock around FL was from species migration (based on tagged data).

CALIFORNIA RESEARCH OVERVIEW

After Milton Love's presentation, the group discussed the following points:

Comment: There are many people who prefer mud vs. platforms.

Q: What do you see when you compare juvenile fish populations on a platform and a natural reef?

Hidalgo platform (200' depth, juvenile fish), natural reef (50-100' depth, juvenile fish)

Q: Are there quantitative data on fish populations at platforms?

Maybe. Fishing platform data (creel census data) isn't uniformly tracked. For example, MRFSS location data is generally not specific to platforms.

Q: Why don't people fish around platforms?

Oil companies often discourage fishing around platforms in California (safety and security)

Q: To what extent is there a contribution to juvenile fish populations by the platforms?

For some species, platforms are producing.

Q: Do platforms improve the nursery system?

Yes, if hard substrate is desired.

Q: Would topping affect ecological value?

Yes, but the effects would be species dependent depending on how far down the platforms are topped.

Q: Any quantitative data on fishing efforts on platforms?

Yes, more off Long Beach than up north. Party boats have some agreements to fish platforms. But rough waters keep boats further from platforms in the Pacific than in Gulf.

Q: Fish mortality – increase in population over time?

Higher numbers of juveniles around platforms generally. Hard to know to what degree those fish are surviving.

Pilot program – comparing growth rates.

Q: What do we know about the health of fish at the platforms?

Collected data on growth rates is often best way to document health of fish populations.

Q: Moral dilemma revisited: Does this mean "toppling" is an immoral/incorrect practice?

Depends on where toppling occurs. Mussels provide an example of surviving at toppled depth, yet not reproducing.

Whatever will allow the largest number of animals to survive.

IMPLICATIONS OF U.C. REPORT

The group discussed the report and its implications for scientific and resource management issues. Bullet points represent individual comments, not group agreement:

- Interesting, don't disagree with findings, but report moves discussion to a regional basis.
- Concerned about the regionalized focus/emphasis.
- Concerned that 27 platforms don't represent too significant an impact from a regional perspective (vs. local ecological benefits or costs).
- Regional concern vs. local environment effects.
- Incremental standards of damage don't make sense with a regional focus.
- Regional perspective is appropriate. Is impacted area approach an effective way to measure impacts or contributions to fishing populations? UC document suggests only modeling approach.
- "All politics are local." Need to look at incremental local impacts and use that as an indicator of regional trends. Takes time and proving regional impacts on fish stocks is difficult.

- Issue is retaining or altering habitat not creating habitat.
- Regional impacts must be based on local trends. Can't pinpoint definitive actions but trends only. They must be long-term (could be analogs).
- Platforms could mitigate loss of habitat during a natural disaster.
- What does "regional" mean? Santa Barbara Channel? Southern California? Much harder to prove influence there. Important to define these terms.
- Difference in habitat not equal to population. % change in habitat may be small, but impact on species population large.
- Look at local and regional effects.
- Concern that if no positive benefits, no justification is possible. Don't pin positive results on provable regional effects.
- "Long-term" is not defined in UC report. Need careful focus on research agenda and research questions so that useful information can be generated.
- (See p. 36 heading 4 of the UC report) Can't prove regional effects. Gulf experience refutes the statement. Significant exception taken.
- Report contradicts itself on issues to be studied. Should decide what kind of research should be done first.
- West Coast has definitely different situation as there is no hard data.
- Is Platform Gail concentrating bocaccio? Not necessarily, as without Platform Gail, there would be no bocaccio.
- Have not proven that bocaccio have been taken away by Platform Gail.
- Serious question of what happens at platform removal. Fish populations are already low and perhaps platforms do enhance habitat.
- UC report is based on lack of data and trivial amount of data. There is flawed conclusion regarding size of rockfish habitat. "Bassakwards" statement regarding fisheries management. Destructive last statement. Guiding principle usually is – and should be "Do No Damage." Report instead indicates "Unless there is proven benefit, get rid of it."

- Definitions – short-term/long-term, local/regional.
- Make local/regional connections explicit.
- Make underlying concepts explicit.
- Distinguish percentage change in habitat from considerations of impact on species populations.

BRAINSTORM KEY SCIENTIFIC AND RESOURCE MANAGEMENT QUESTIONS

The group brainstormed without evaluation the key scientific and resource management questions for the issue of decommissioning California's offshore oil platforms. The comments were numbered for ease of later reference. The numbers indicate the order in which the comments were generated, not priority.

1. Are these unique habitats?
2. What are the assemblages of organisms at each location?
3. What is the ranked value of habitats?
4. Do you have a resident population?
5. With any question, focus on key species.
6. Evaluate environmental parameters that may affect distribution of species, example tidal.
7. Can these habitats be recreated elsewhere? Can they be enhanced and recreated elsewhere?
8. Estimate of importance of platform to the local region.
   - Proportion of hard structure habitat in the local area
   - Proportion of rockfish population in local area
9. Estimate proportion of animals present for different ages and stages.
10. What is the fishing public's perception of oil platforms for fishing?
11. What would change in the public's perception if platforms were publicized as fishing opportunities?
12. Is there a coupling of shell mounds to platforms in terms of ecological importance? (Maybe an EIR coming out soon. See p. 18 of these meeting summary notes for the reference.)
13. What are the non-fish benefits of platforms - medical, etc?
14. Statistical picture of larval distribution in platform areas.
15. Production and aggregation.
    Tagging young animals
    Examining growth rates
16. Decommissioning options - which ones are most favorable ecologically, economically, and safety-wise?
17. What are the fishing pressures on platforms?
18. What happens to habitat and population when the top 85 feet underwater are removed?
19. Map offshore area for areas to be excluded for future platforms.
20. Can the placement of buoys or other floating structures over platforms attract little rockfish?

21. Are there different answers to these questions for different depths?
22. Establish value relative to depth.
23. What is the longevity of platforms and pipelines as reef structures?
24. What is the contribution to larval production by spawning bocaccio at these locations? Capture adult spawning bocaccio to indicate impact on population locally
25. Map or compile data on natural substrate in basin area
26. Look at genetics of animals to examine movement from one area to another.
27. What is present or released in decomposition of platforms over time?
28. Paying for research.
29. Dispersal patterns of larvae – address natural reefs to understand patterns re: relocation of platforms.
30. Does a single platform contribute significantly to the population of a specific species?
31. What are the consequences of making platforms fishing or non-fishing areas?
32. Creel survey of recreational anglers re: natural and platform reefs.
33. Adult dispersal patterns.
34. Species dispersal/diversity comparison study of platform and other artificial reefs.
35. Computer models - simulations of dispersal patterns, etc.
36. Relocatability of structures – from an engineering perspective.
37. If you can relocate structures, what are the ideal locations and configurations?
38. Computer site and literature survey with compiled information and data.
39. Ways to enhance habitat if platforms remain.

DISCUSS AND REFINE KEY SCIENTIFIC AND RESOURCE MANAGEMENT QUESTIONS

The group discussed the connections among its brainstormed list, above. The numbers after each observation correspond to the numbers in the list above.

RESEARCH THEME	ISSUE(s)
CARE working on a website that links technical research including literature surveys.	38
Research technical issues regarding mapping and subsurface geography.	19, 25, 37
If platforms are removed or remain, what are the ways of modifying, improving or enhancing habitat?	7, 20, 39
Research dispersal patterns and settlement and recruitment behavior of larval and adult stages, at both natural reefs as well as decommissioned platforms.	6, 14, 26, 29, 33, 35
Research the longevity and decomposition aspects of the Rigs-to-Reefs program.	23, 27
Examine and discuss fish ages and populations, and research the tools that are common to both.	4, 15
Research issues related to biological characterizations of organisms on platform structures, including life histories.	2, 4, 9, 15, 21, 30
Need to compare fish populations on platform structures with populations in local regions.	8, 9
Research needs to identify ways to mitigate the loss of 85 ft. of platform, and determine what has been lost.	18, 20
A habitat value ranking needs to be established.	1, 3, 22
Research issues related to characterizing fisheries around platforms, including user groups such as the public.	10, 11, 17, 31, 32
Examine the specifics of the various decommissioning options, including final configuration of platforms, and final locations for the decommissioned structures.	16, 36

Research needs to conduct a comprehensive assessment of the water column, and the coupling of shell mounds with platforms.	12
From a resource management respective, what impacts do platforms have on single species?	5, 30
What is the contribution to larval production by spawning bocaccio species at these platform locations?	24
Examine species aggregation versus production.	15
What is the contribution of a platform to a specific species?	30

The group discussed overall observations on its brainstormed list and ways to move forward:

1. Need to look for ways to connect California efforts with those of the Atlantic and Gulf Coast states.
2. Need to look for answers to these questions as they pertain to natural reefs (recognizing there is already an existing body of knowledge).

Overnight, the facilitators synthesized the group's work so far into the following set of scientific and resource management issues. Again, the numbers reflect the list items from the brainstorming exercise earlier in the day.

Synthesis of Research Areas Proposed 5/3/01

Mapping/geography-based issues

19. Map offshore area for areas to be excluded for future reefed platforms
25. Map natural substrate in basin area or compile data
37. If you can relocate structures, what are the ideal locations and configurations?

Enhancing ecological benefits at current site or with relocation

7. Can these habitats be recreated elsewhere? Can they be enhanced and recreated elsewhere?
20. Can the placement of floating structures or buoys over platforms attract little rockfish?
39. Ways to enhance habitat if platforms remain.

Dispersal patterns, recruitment behavior, settlement behavior of adult and larvae for natural and platform reefs

35. Computer models – simulations of dispersal patterns, etc.

29. Dispersal patterns of larvae – address natural reefs to understand patterns re: relocation of platforms
14. Statistical picture of larval distribution in platform areas
6. Evaluate environmental parameters that may affect distribution of species. Example - tidal.
26. Look at genetics of animals to examine movement from one area to another.
33. Adult dispersal patterns.

Longevity and decomposition aspects of platforms and pipelines

23. What is longevity of pipelines and platforms as reef structures?
27. What is present or released in decomposition of platforms over time?

Aggregation and Production Processes (Are there more fish in the system because the platforms are there? Ask about specific structures in specific locations.)

4. Do you have a resident population?
15. Production and Aggregation
    - Tagging young animals
    - Examining growth rates

Biological characterizations (including life history) of organisms on structures

2. What are the assemblages of organisms at each location?
4. Do you have a resident population?
9. Estimate proportion of animals present for different ages and stages.
15. Production and aggregation.
    - Tagging young animals
    - Examining growth rates
21. Are there different answers to these questions for different depths?
30. Does a single platform contribute significantly to the population of a specific species?

Comparison of organisms on structure to local region

8. Estimate of importance of platform to local region
   Proportion of hard structure habitat in local area
   Proportion of rockfish population in local area
9. Estimate proportion of animals present for different ages and stages

Decommissioning options

18. What happens to habitat and population when top 85 feet underwater are removed?
20 Can the placement of floating structures or buoys over platforms attract little rockfish?
16. Decommissioning options - most favorable ecologically, economically, safety-wise
36. Relocatability of structures – from an engineering perspective

Ranking habitat value

1. Are these unique habitats?
3. What is the ranked value of habitats?
21. Establish value relative to depth

Platforms as fisheries

10. What is the fishing public's perception of oil platforms for fishing?
11. What would change in public perception if platforms were publicized as fishing opportunities?
17. What are the fishing pressures on platforms?
31. What are the consequences of making platforms fishing or non-fishing areas?
32. Creel survey of recreational anglers re: natural and platform reefs

Comprehensive look at the water column

12. Is there a coupling of shell mounds to platform – ecological importance?

Non-fish benefits

13. What are the non-fish benefits of platforms – medical, etc.?

Contribution to larval production

24. What is the contribution to larval production by spawning bocaccio at these platform locations?

Contribution of a platform to a specific species

30. Does a single platform contribute significantly to the population of a specific species?

Other considerations:
Focus on key species.
Need for communication – comprehensive website, communication to the public
Keep in mind research already completed on natural reefs
Look for ways to connect California and Gulf/Atlantic efforts

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Friday, May 4 Agenda

8:00-8:45	Reflections on Thursday's Discussions	All
8:45-9:45	Discussion: Key Questions - What key questions are missing from our discussion? - Priorities	All
9:45-10:00	Break	
10:00-11:00	Discussion: Key Questions - What is already known? - Key information gaps	All
11:00-12:00	Lunch	
12:00-1:15	Discussion: Best Approaches to Address the Information Gaps	All
1:15-1:30	Break	
1:30-2:15	Discussion: Next Steps/Action Plan	All
2:15-2:45	Meeting Wrap-up	All Carolyn Penny Richard Casias
2:45-3:00	Closure	

REFLECTIONS ON THURSDAY'S DISCUSSIONS

Participants reviewed Thursday's work and further discussed implications of the UC Blue Ribbon Panel Report. Comments are individual and do not reflect group agreement.

UC Blue Ribbon Report – concerns re: last sentence

Defining "regional"
- ✓ Area which is likely to be influenced by platform.
- ✓ Look at local scales to make inferences regarding regional consequences.
- ✓ Include a look at regional hydrographic patterns.
- ✓ Any platform's sphere of influence will change depending on season, etc.

Concerns

- Balance of "we don't know if it enhances or reduces." Isn't found at end of report.
  - Panel saying we need to wait until know more; conservative approach.

- Concern – Report language will tip folks away from issue.
  - Not what's intended by committee.
  - Intended to motivate the gathering of more info.

- Default position – take them out.
  Therefore, that's how report is being used.

Another Thought:

- If decommissioning is considered ecologically neutral, look at the social and economic consequences.

- Find a mechanism to update the report to clarify the need for additional research.

DISCUSSION: KEY QUESTIONS – WHAT KEY QUESTIONS ARE MISSING FROM THE DISCUSSION? PRIORITIES.

After reviewing and adding to the synthesized scientific and resource management issues from Thursday, the group used dots to indicate the areas for priority research. Each person had three dots to place on categories or specific numbered items. The italicized underlined number beside the category or specific item indicates the number of dots placed there.

Mapping/geography based issues – *4 dots*
19. Offshore areas
25. Natural substrate
37. Relocate structures

Enhancing ecological benefits at current site or with relocation – *1 dot*
7. Habitats
20. Placements attract
39. Ways to enhance

Dispersal patterns, recruitment behavior, settlement behavior of adult larvae for natural and platform reefs – *8 dots*
35. Computer models
29. Dispersal patterns of larvae – *1 dot*
14. Statistical picture
6. Environmental parameters
26. Genetics evaluation
33. Adult dispersal patterns

Longevity and decomposition aspects of platforms and pipelines – *1 dot*
23. Longevity of pipelines and platforms
27. Present or released in decomposition

Aggregation and production processes – *5 dots*
4. Resident population
15. Production and aggregation

Biological characterizations (comparing natural reefs and platforms) – *14 dots*

2. ID assemblages of organisms
4. Resident population
9. Proportion of animals at different ages and stages – natural reefs and platforms
15. Production and aggregation – *1 dot*
21. Different answers for different depths
39. Population contribution single platform to single species

Comparison of organisms on structure to local region – *2 dots*
8. Importance of platform to local region
9. Proportion of animals for different ages and stages

Decommissioning options – *10 dots*
18. Effects/consequences of top removed.
20. Placement of floating structures to mitigate
16. Decommissioning options – ecology, economy, safety
36. Relocatability of structures (engineering)

Ranking habitat value – *7 dots*
1. Uniqueness of habitats
3. Ranked value of habitats
21. Value relative to depth

Unique ecological contributions not proportionate to area – *4 dots*

Platforms as fisheries
10. Public perception
11. Public perception if publicized
17. Fishing pressures on platforms – management options to address
31. Consequences of fishing/non-fishing designations – *1 dot*
32 Creel survey of recreational anglers

Comprehensive look at water column – *1 dot*
12. Coupling of shell mounds and platforms

Non-fish benefits
13. What are they – medical, etc?

Contribution to larval production – on a regional scale – *2 dots*
24. By spawning bocaccio and other organisms at platforms

Contribution of platform to a specific species – *1 dot*
30. Does a single platform contribute significantly?

ADDRESSING RESEARCH QUESTIONS – APPROACHES AND OBSERVATIONS

Starting with the research areas that were indicated as the highest priorities, the participants addressed research approaches and observations for the different areas.

Biological characterizations of oil platforms and natural reefs

Approach:

- Address standard fisheries scientific parameters including:
  - ✓ species diversity
  - ✓ relative abundance (vertebrates and invertebrates)
  - ✓ spatial distribution
  - ✓ size distribution (including age)
  - ✓ seasonal variations
  - ✓ hydrological parameters (temperature, turbidity, salinity)
  - ✓ site specific growth, fecundity, and mortality
  - ✓ movement, dispersal, and seasonal timing of all life stages

Observations:

- This information is needed to rank habitat value.
- We have limited knowledge of natural reefs over time.
- Need more information on additional sites.
- Examine near-shore reefs' biological characterizations (Gulf States and Orange County, CA)
- Management issue: Liability and economics of rig/platform removal and long-term maintenance costs.
- We need more ongoing studies (invertebrates)
- Address habitat ranking, uniqueness, relationship to natural reefs
- Use key indicator species, ex. bocaccio

Studies to keep in mind:

- Page and Dugan – Describing the biota on shell mounds and analyzing habitat value
- CSA, Inc. – Sampling platforms for invertebrate fauna – Description of specie diversity and growth rates and settling rates
- Page and Dugan – Completed study of the relationship of crabs to oil and gas platforms

Habitat Value

Approach:

- New Data Needed:
  Mapping and Geography Data of the
  1) Physical habitat, including the substrate

2) Oceanographic processes and information
3) Biological information (see Biological Characterization category, above)
4) Socioeconomic information (pipelines, cables, boundaries, etc.)

- Look at what we have and fill in gaps and priority areas.
- Start with exclusion mapping (stakeholder and biological, boating access)
- Include uniqueness as criterion

Observations:

- Include ranking values as appropriate but be careful of subjectivity of the ranking values

Dispersal Patterns/Recruitment behavior/Settlement behavior of adult and larvae

Approach:

- Behavior of larvae with oceanographic parameters. (Where are they in the water column?) (priority research area).
- Settlement behavior and transition from pelagic to benthic environment (priority research area).
- What are possible fates of larvae produced at platform?
- Information needed on current patterns.
- Larger scale distribution dynamics.
- Larval duration.
- Temporal scale of oceanographic parameters

Observations:

- Examine adult behavior under biological characterizations

Decommissioning Options

Approach:

- Infer from biological characterization data.
- Assess based on Japanese and Gulf experiences with artificial reefs.
  - Examine current Gulf research on topped and toppled reefs (3 different approaches including partially removed.)
- Create models/pilots to monitor
  - May be required in order to evaluate effectively.

Observations:

- Look at 3 current reefing options within the research agenda.
- Examine the coupling interactions.
- Pick a conservative site for an evaluation.
- Possible mimic of platform with extensive artificial kelp bed system (or similar structure) like those used in Japan.

- Pilot project using existing standing steel structures
- Examine mid-depth shipwrecks

Studies to keep in mind:

Lukens – Project that compared a liberty ship reef with and without fish attraction devices – related to using similar situation to enhance a topped rig.

Wilson/Pierce/Miller
MMS/LDWF/TPWD – A study off Louisiana and Texas to compare species assemblages between a partial removal (topped), a standing platform, and a toppled platform. Data have been collected and report being written. See Ron Lukens, Rick Kasprzak, or Les Dauterive.

Enhancing Ecological Benefits at Current Site or with Relocation

Approach and Observations:

- Can you simulate or improve on what the shell mounds are doing now?
- Can you simulate or improve on what the platforms are doing now?
- Compare the different enhancement options: reef balls, "grouper ghettos," quarry rock, fish attracting devices (FADs), for example

Longevity and Decomposition Aspects For Platforms & Pipelines

- Many studies have been done. What's needed is to compile what has already been done

Platforms as Fisheries

Approach and Observations:

- Doing creel survey for platforms and reefs. Examine fishing pressure, harvest, amount of man-hours and where taken
- Include commercial fishing data (species taken and amounts taken) in any assessment
- Need to keep in mind the fishing pressure on natural reefs and make these factors explicit in any analysis

Investigate the possibility that some of this data collection could be added to other existing fishery management programs (state and/or federal) so that it does not have to compete with other reef funding priorities, such as biological characterization research. Comprehensive Look @ H20 Column

- Covered under Decommissioning category.

Contribution to Larval Production

- Covered under Dispersal Patterns category.

Non-Fish Benefits

- Research already happening and topic is beyond the scope of this meeting.

Overall Observations/Questions on Research Areas

Timing

- Adaptive management approach so have enough time. 5-10 yrs.
- Start ASAP!

Cost

- How much $ will it take?
- Current work by Milton $350,000-$400,000/yr (verbal guesstimate). Much of work could be done for that; much more $ to do most of the work.
- Possible sources of funding
  - ✓ CARE
  - ✓ Operators
  - ✓ USGS Bio Resources Division (BRD)
  - ✓ MMS
  - ✓ Veneco and other small companies
- Sensitivity of where $ is coming from
  - Independent advisory panel may help address that sensitivity

NEXT STEPS

As agreed to at the start of the meeting, participants reviewed the issue of how to handle any report of its exploration of the issues. As a group, participants created the following list of next step items:

- Draft synopsis back to this group. Chance to suggest changes by a given date. Then final synopsis/summary to this group. Done approximately 4-6 weeks from now.
- CARE determines next steps, if any, to translate material into RFPs.
- Much of this group's work product is technical in nature. The members of the group offer to clarify, review and participate in any additional steps further as seen appropriate by CARE.
- Group requests that CARE distribute participant contact information (names/org/e-mails, etc) to all workshop participants.

MEETING WRAP-UP AND CLOSURE

Participants reflected on the degree to which the meeting goals had been met.

- Certain hopes and fears may take considerable time to emerge
- Certain key elements have not yet been described, but the framework is in place to learn how each researcher will approach the questions
- Completed meeting goals 1, 2, 3, & 5. (Share research and Gulf Coast experiences to sort through what information already exists on the issue of decommissioning California's offshore oil platforms; Identify and prioritize key scientific and resource management questions; Identify the information gaps for the key scientific and resource management questions; Conduct the group's work in an atmosphere of collaboration.)
- Established framework for meeting goal 4. (Determine the most effective approaches to fill the information gaps for the key scientific and resource management questions.) It is appropriate for details on this point to be done by researchers themselves in future
- Rewarding to have comprehensive discussions