

**CALIFORNIA MLPA BLUE RIBBON TASK FORCE: STAKEHOLDER PANEL**  
APRIL 11, 2005 MEETING

*Statement by Dan Wolford, Science Director of the Coastside Fishing Club, and supported by RFA So Cal, and United Anglers of Southern California*

I am excited about the prospect of supporting today's discussion focusing on how to satisfy the Network objectives of the MLPA. I am a recreational fisherman, and a retired aerospace systems engineer, and have a Masters Degree in Cybernetic Systems – a fancy way of saying I know something about applying control system engineering principals and concepts to social and governmental systems. I have prepared several charts that address ways to achieve networks within the context of the MLPA. I do not intend to go over the whole package – you can do that later, but I will refer to a couple of key charts.

The concept of a network within the context of the MLPA is troubling to the recreational fishing community. The argument that larval dispersal is central to a networking scheme relies on the most contentious of the scientific issues, and may not be achievable. Although the MLPA requires that we have a network, it provides no definition of what a network is, or how to achieve it. Today I want to focus on a few primary networking concepts that can achieve the MLPA network requirement.

First there are a number of ways of designing and defining a network. On page 2 of the charts there are a few simple diagrams illustrating different looking styles of networks. It is important to note that not only can the network style look different, the interconnections can be different – in some cases physical things move from one block to the next, where they are operated on and passed to the next block. Or rather than moving physical things, information can move from one to the next. Or there can be relational linkages. Or there can be combinations of all three.

Second, the concept of a controlled system, a controlled network, is something that we need incorporate. A controlled system is what is implied by the required MLPA concept of “Adaptive Management”. In order to adapt, we have to know what we want to achieve, and we have to know how well we are achieving those objectives, and then we need to take appropriate action to better achieve our objectives. That is exactly what a controlled system does – and it does it by utilizing a feedback control mechanism. I've got an example diagram of such a network on page 10 of the charts.

Third, we cannot control or adapt, if we do not know how well we are progressing. We must monitor and measure the various elements of our network. The ability to monitor – i.e. observe and measure – is absolutely critical to the concept of a controlled / adaptive system.

And lastly, we need to evaluate our progress towards meeting our objectives within the context of the environment in which the MPA elements operate. By the environment I mean those fishing regulations, closures, seasons, protective areas, etc. implemented by the PFMC, by the State of California, and by the National Marine Sanctuaries. Although these things are outside of the formal MLPA authority, they achieve some of the objectives of the MLPA, and so must be included as part of the network that is achieving the objectives of the MLPA.



# MLPA Networks, a Recreational Fisherman's Perspective

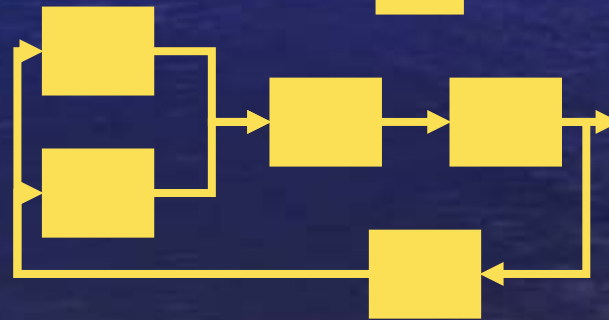
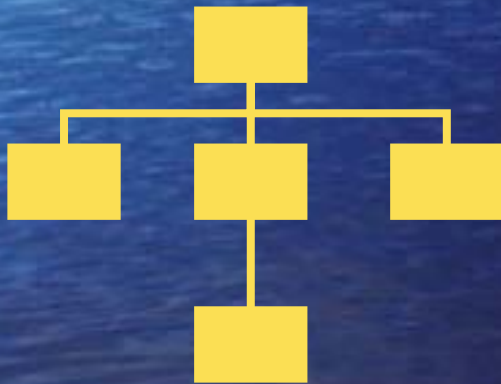
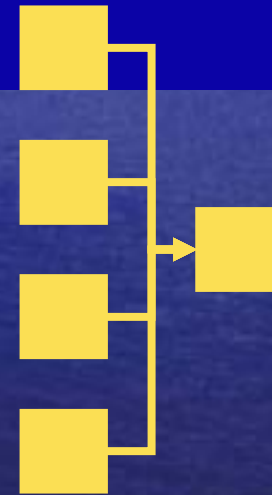
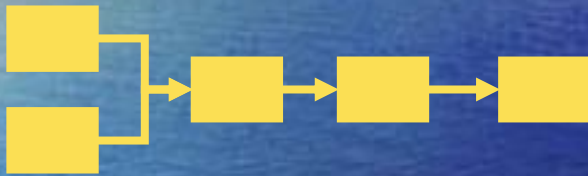
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*In conjunction with United Anglers of Southern CA  
and the Recreational Fishing Alliance*

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# Types of Networks

- Networks are interconnected systems of elements working together to achieve some objective

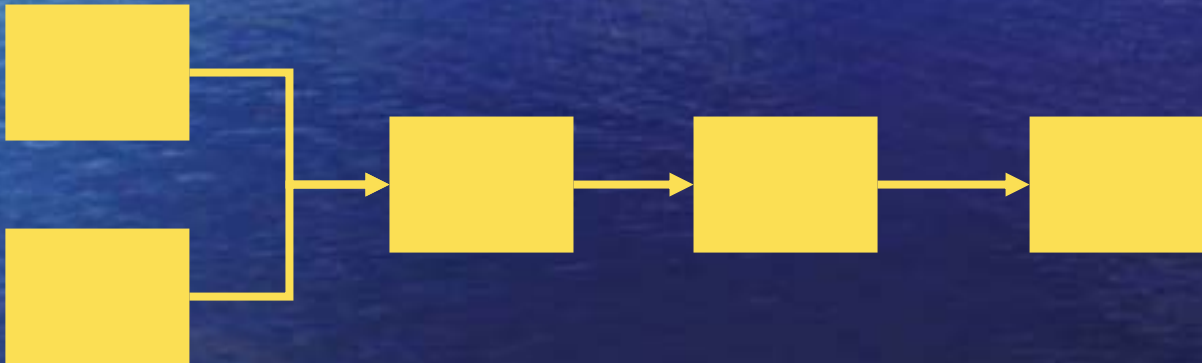


# Attributes of MPA Networks

- Collectively achieve some purpose
  - Conserving biodiversity
  - Conserving and rebuilding marine life populations
  - Improving recreational opportunities
  - Improving educational opportunities
  - Improving study opportunities
  - Protecting representative and unique marine habitats for their intrinsic value
- There are multiple elements
  - Reserves
  - Parks
  - Conservation Areas
  - Federal Rockfish Conservation Areas, Essential Fish Habitat protections, ....
- The elements perform needed operations or functions
- They are connected in some fashion

# Assembly Line Network

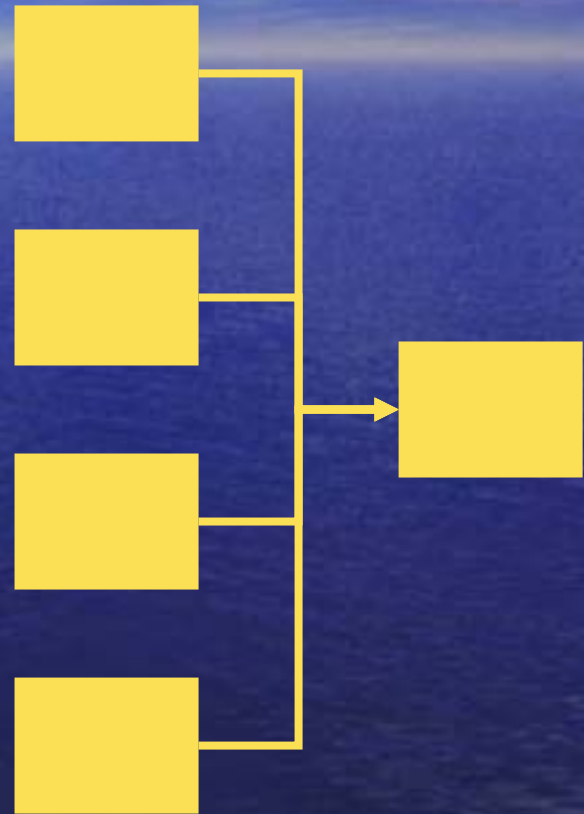
- Probably the concept that first comes to mind
  - Objects are passed from one station to another, where they are operated on, and passed to another station.





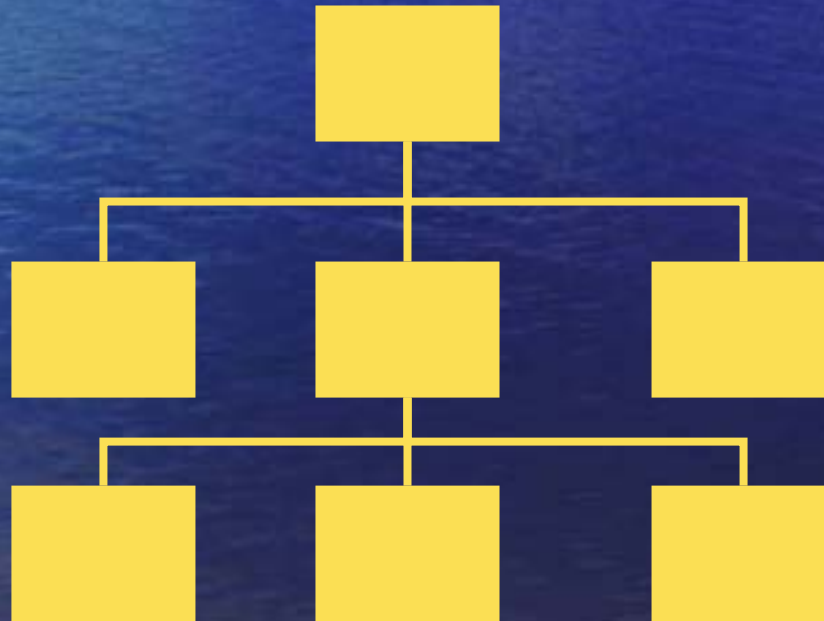
# Supplier Network

- Related, but independent things are brought together to create an outcome



# Organization Network

- Functions are broken into hierarchical relationships
  - The interconnections are delegations of responsibility and authority



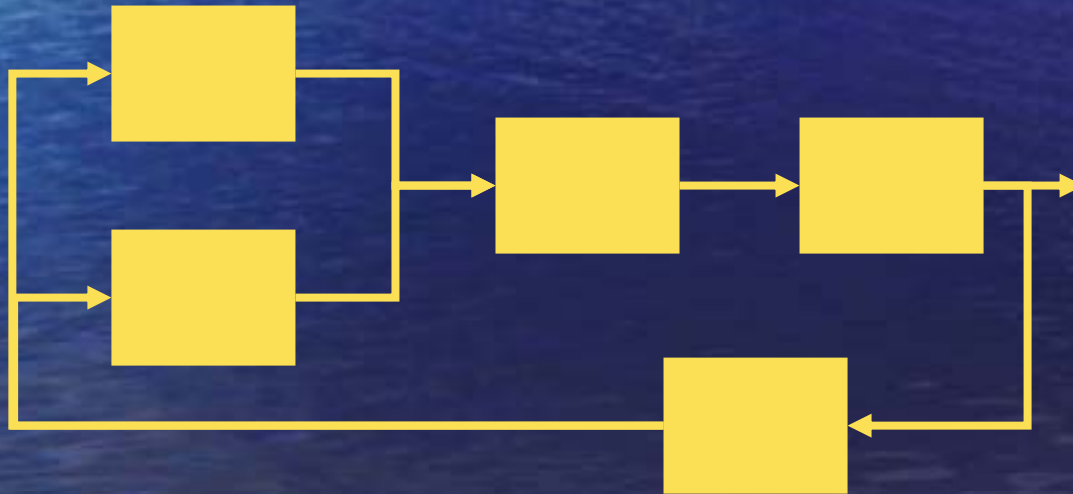
# Information Network

- Works with any of the previous relationship structures, but physical objects do not move from one element to another – information does
- Information can travel over any of several means of interconnection
  - Paper Flow
  - Electronic / Internet
  - Telephonic / FAX
  - .....



# A Controlled Network

- In essence we measure the output, and “feedback” that information to adjust the network in order to more closely achieve the desired output
- Feedback, THE essential attribute of controlled systems
  - Positive Example – that squelching noise produced when an amplifier is driven by picking up the sound coming from the speakers
  - Negative Example – the human adjustment of an amplifier gain and speaker-mic position to achieve a pleasing level of sound

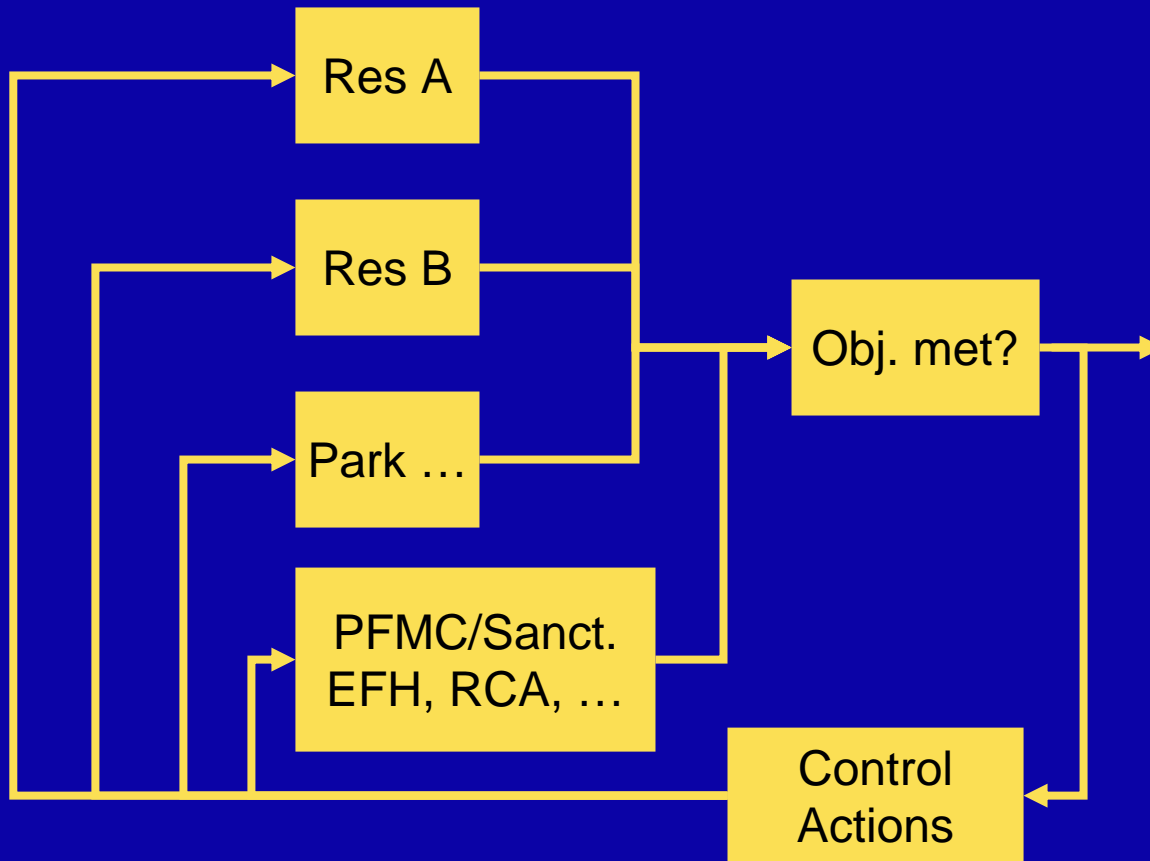


# Attributes of Controlled Networks

- Clearly defined input and outputs
  - Measurable and Observable
- Means of evaluating how well we are achieving the desired output
- Built in means (feedback) to make adjustments based on degree of success or failure
  - Adaptive management

# Application to MLPA

- A controlled supplier-type information network



# MPA Network Control Requirements

- Clearly defined input and output
  - Measurable and Observable
- Means of evaluating how well we are achieving the desired output
  - Are we making progress?
  - Fast enough?
  - Have we overshot?
- Need to feedback evaluations to make adjustments based on degree of success or failure
  - Adjust protected area boundaries up or down
  - Add or remove areas
  - Intervene to remove adverse influences (source of pollution, invasive species control....)

Requires that we monitor, and compare against our objectives



# Measurable and Observable

- “Measurable” means that the attribute can be quantified in some sense
  - “Increase Biodiversity” is not measurable
    - Achieve at least X, Y, and Z metric tons of species A, B, and C is specific enough, but might lead to undesired imbalances
    - Achieve balanced and sustainable levels of X, Y, and Z species in A, and B, and C locations might be credible
- “Observable” implies that the attribute can be measured without destroying the system
  - Achieve less than X mgrams of mercury contamination in all fish, might require collecting and killing all the fish to measure
    - Achieve less than X % of body mass of mercury contamination in any fish sampled, might be credible

# MPA Networks

- Required by statute
  - Undefined in the statute
  - Leaves it up to us to define
- A controlled supplier-style network achieves the objectives of the Act
  - Consistent with the science and oceanography
  - Consistent with the law
  - Should be the basis for a “network of MPAs”