



Shrimp FMP Amendment 2 Review

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

Shrimp Advisory Committee | Corrin Flora | March 15, 2021



Presentation Outline

- Draft Amendment 2
 - Goal and Objectives
 - Management Strategies and issues
 - Data needs
 - Interconnectivity
 - Advisory Committee Input



Draft Amendment 2: Goal and Objectives

Goal:

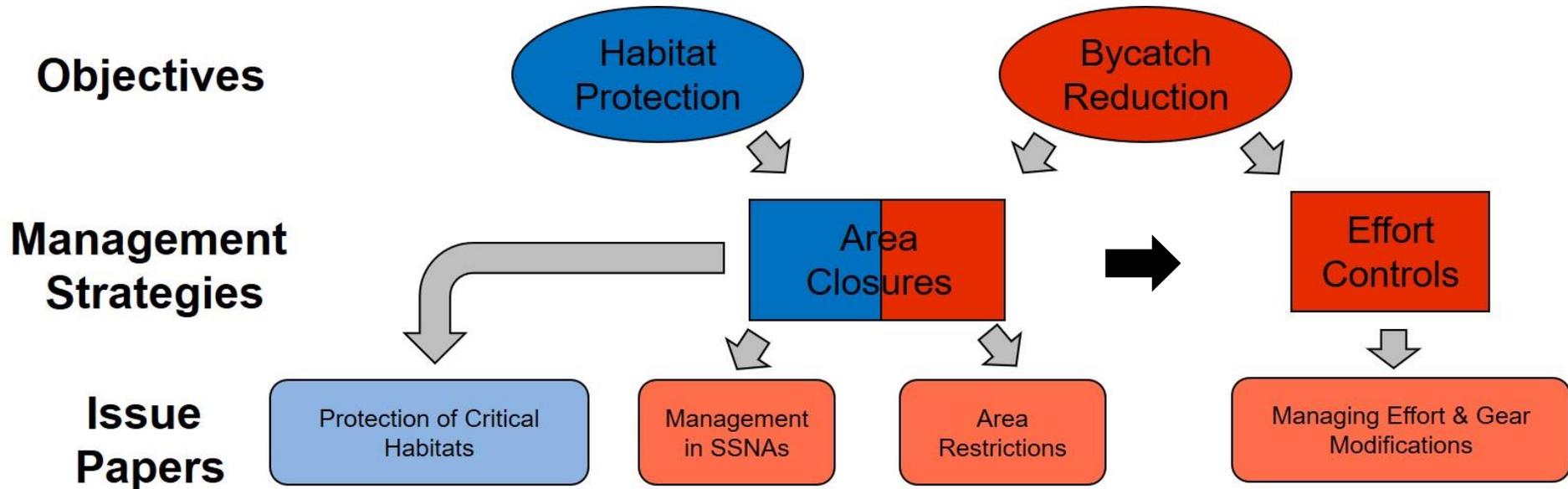
Manage the shrimp fishery to provide adequate resource protection, optimize long-term harvest, and minimize ecosystem impacts.

Objectives:

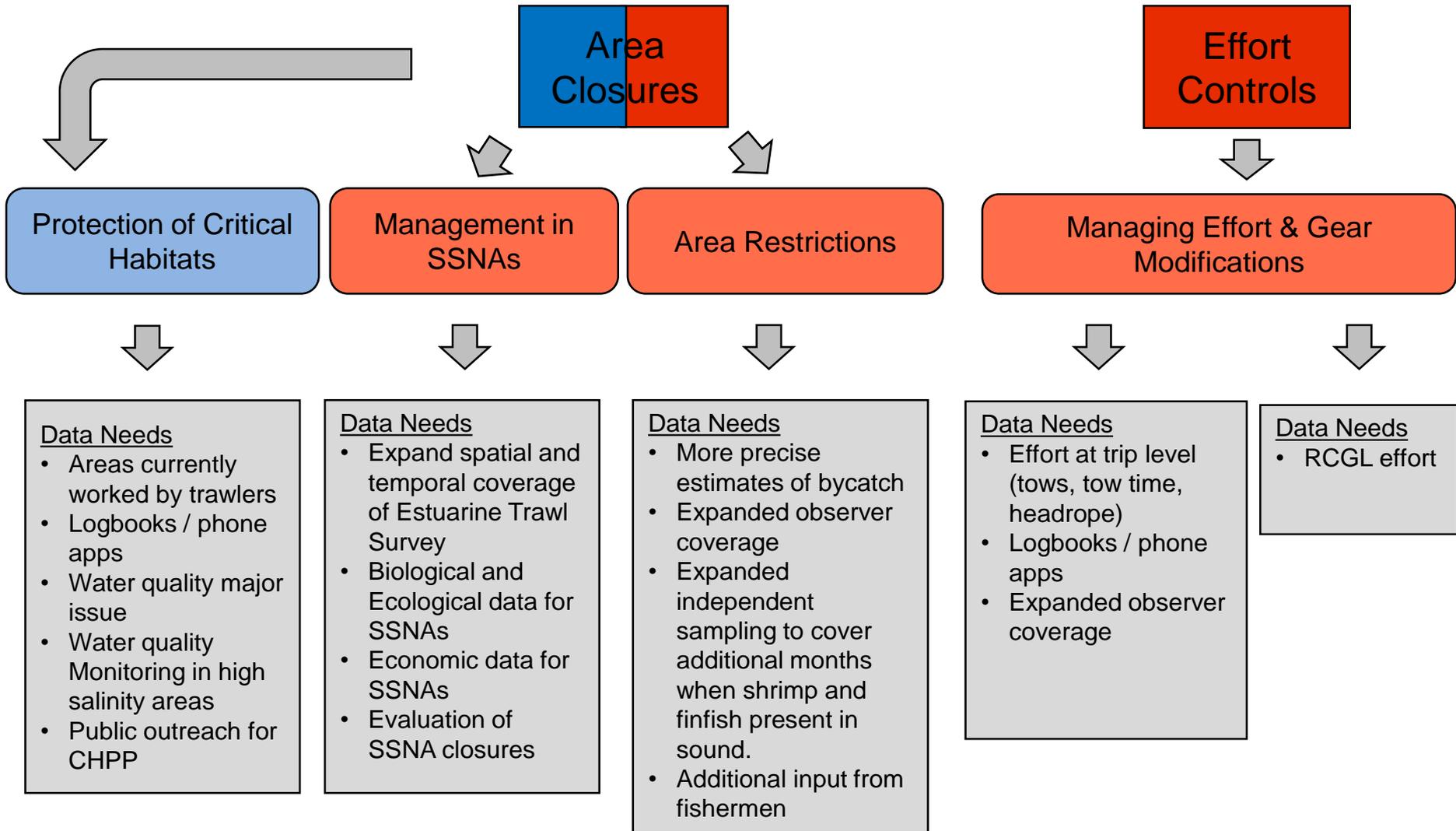
- Reduce bycatch of non-target species of finfish and crustaceans, as well as protected, threatened, and endangered species.
- Promote the restoration, enhancement, and protection of habitat and environmental quality in a manner consistent with the CHPP.
- Develop a strategy through the CHPP to review current nursery areas and to identify and evaluate potential areas suitable for designation.
- Use biological, environmental, habitat, fishery, social, and economic data needed to effectively monitor and manage the shrimp fishery and its ecosystem impacts (i.e., bycatch, habitat degradation).
- Promote implementation of research and education programs designed to improve stakeholder and the general public's understanding of shrimp trawl bycatch impacts on fish population dynamics.

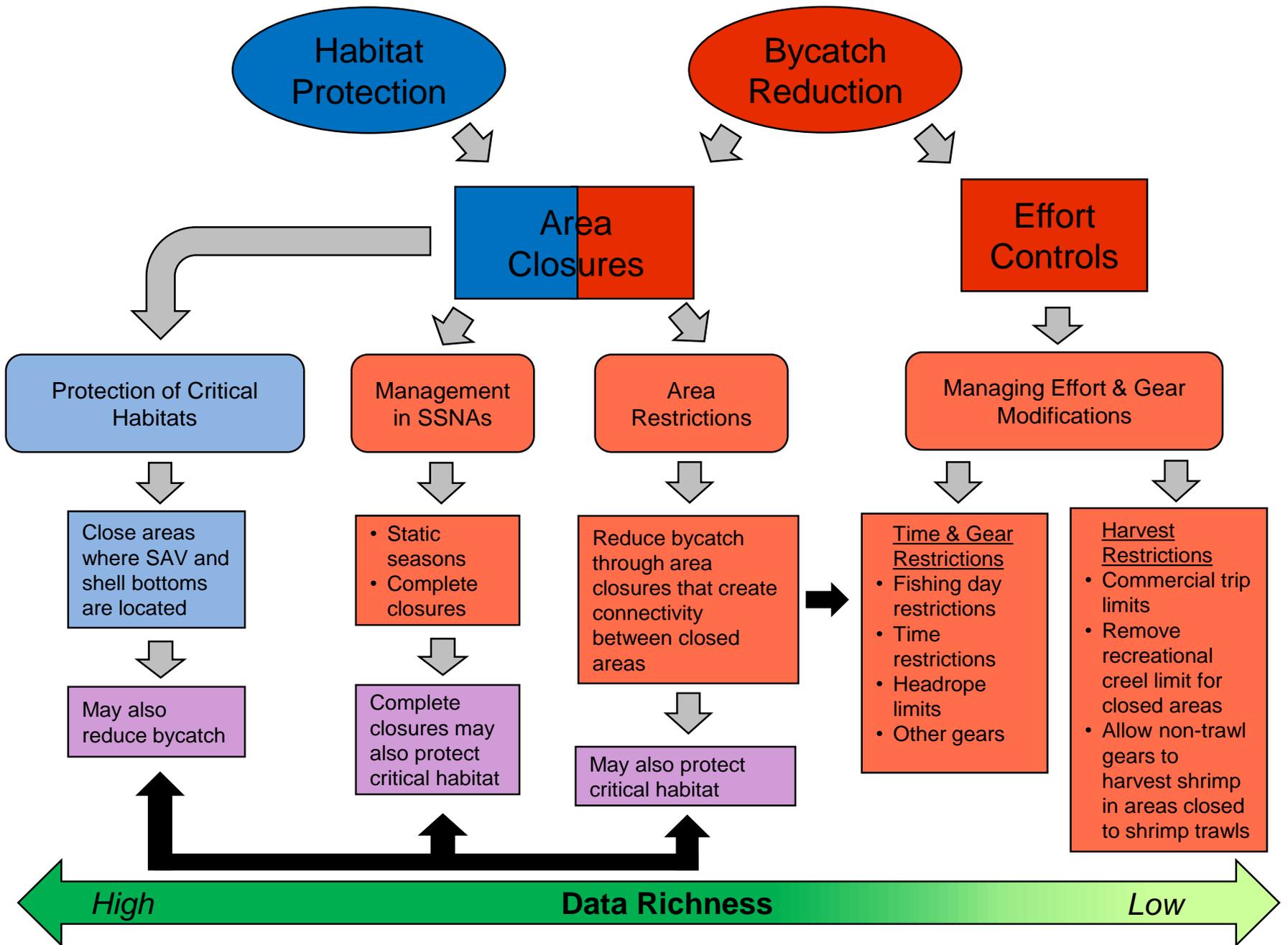


Draft Amendment 2: Management Strategies



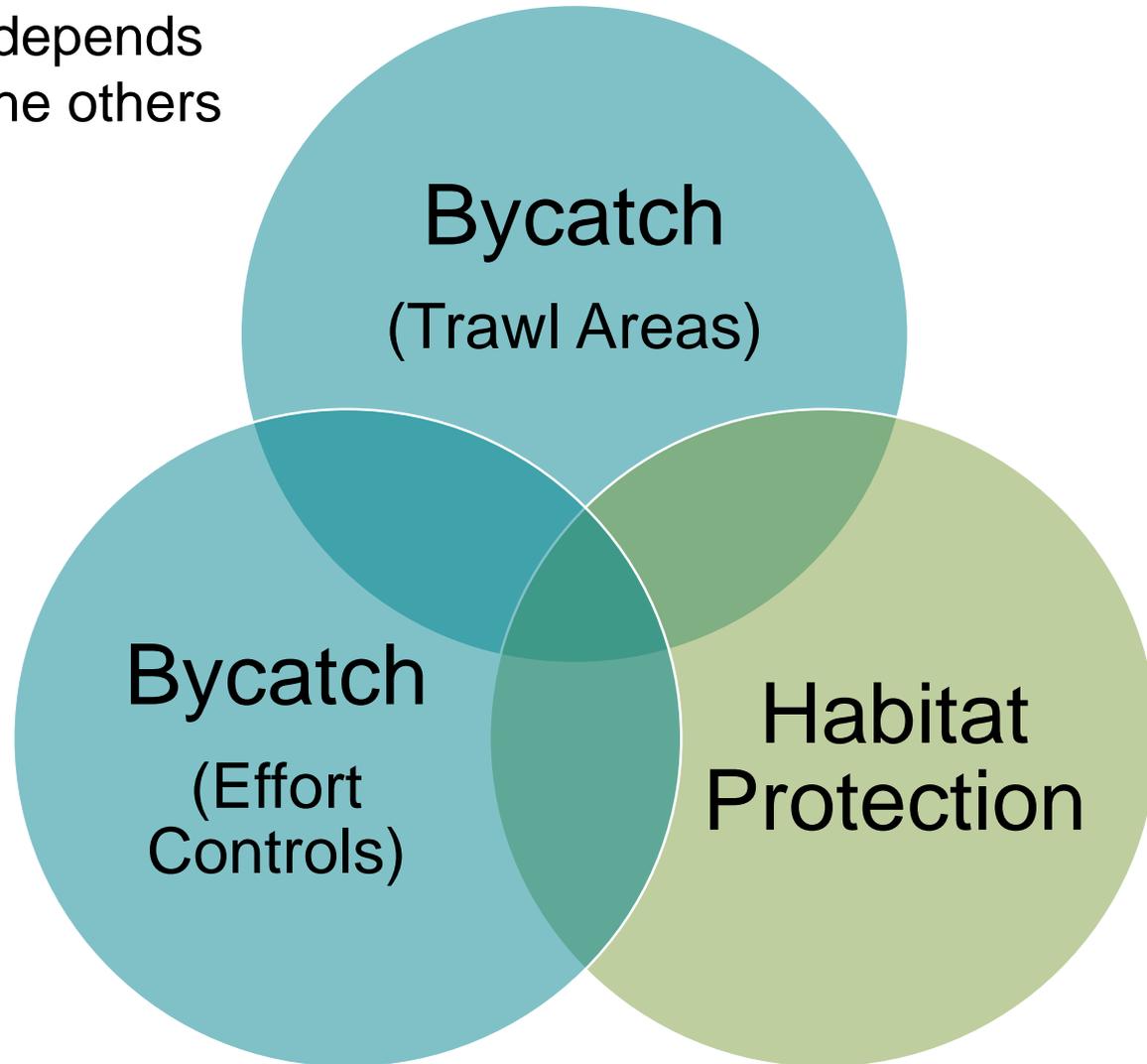
Data Aspects





Interconnectivity of Management Options

Each decision depends
and builds on the others



Draft Amendment 2: Issues



Habitat Protection

Overview:

- ▶ Submerged aquatic vegetation (SAV) and shell bottom habitats are critical habitat for many economically important finfish and invertebrates.

Example Options:

- ▶ Specific trawl closures could be implemented to protect submerged aquatic vegetation (SAV) and shell bottom habitats



SSNAs

Overview:

- ▶ Special secondary nursery areas (SSNAs) provide essential habitat for many developing sub-adult finfish and invertebrates.

Example Options:

- ▶ Change designation of special secondary nursery areas to permanent secondary nursery areas, static seasons, and delayed openings



Area Restrictions

Overview:

- ▶ Connectivity between protected areas and creating migration corridors to better encompass the life cycle and distribution of key finfish species.

Example Options:

- ▶ Area closures in Pamlico Sound and adjacent water bodies



Managing Effort

Overview:

- ▶ Limited data for these measures due to variability in fishing practices, habitat, and environment make bycatch reductions hard to quantify. Management measures may be used to reduce effort and limit conflicts.

Example Options:

- ▶ Gear modification, time limits, harvest limits, and increased access for non-trawl gears



Habitat Discussion Points

Would the provided examples be effective in protecting SAV and shell bottom habitat?

- *Examples generally supported*
- *Some concern about turbidity*
- *Consider buffer areas*

In comparison to the examples provided, should alternative areas open or closed to trawling be considered? We are particularly interested in feedback on protecting SAV habitat in Bogue Sound

- *In Bogue Sound keep IWW and Banks Channel from Wood Island to around Dog Island*
- *In Core Sound keep the marked navigable channel in the Straits open*
- *Consider depth contours*

What approach should be taken in protecting critical habitat in areas like West Bay and Roanoke Sound?

- *Closures of critical habitat supported*
- *Consider depth contours*
- *Need to consider with Area Closure Issue*



SSNA Discussion Points

If static seasons are implemented, should different seasons be established to account for regional differences in the timing of shrimp migration?

- *Regional static seasons supported*
- *Current SSNA openings based on division sampling (count size, abundance of shrimp and bycatch) supported*
- *Target count sizes do not meet the needs of all user groups and market demands*
- *Current SSNAs openings may not optimize the value of shrimp; further consideration is needed for other species*

How would changes in SSNA management affect the shrimp and crab trawl industry?

- *Changing the designation of SSNAs to SNAs would negatively impact shrimp and crab trawling*
- *SSNAs are ecologically similar to PNAs*
- *Changing the designation of SSNAs to SNAs (complete closures) supported*
- *Changing the designation of SSNAs to SNAs that have not opened in many years supported*

How would changes to the current gill net attendance requirements affect gill net fisheries in these areas?

- *Changes to gill net attendance rules would be another financial burden on fishermen*

Area Discussion Points

Would the provided examples be effective in reducing bycatch?

- *Example closure would be extremely detrimental to industry*
- *Would hurt early season brown shrimp fishery*
- *Would hurt small boats and skimmers more than larger boats*
- *Hot spot approach seems reasonable*
- *Could reduce bycatch*

In comparison to the provided examples, are there alternative area closure scenarios that should be considered?

- *Consider incremental approach and gauge results (Example: river mouths and Croatan Sound)*
- *Consider use of alternative gears in closed areas*

Should seasonal closures be considered?

- *Not discussed*



Effort Discussion Points

No Support

If a maximum tow time is implemented, how long should it be? Should it vary regionally, seasonally, or by vessel size?

- *Would be difficult to enforce*
- *Fishermen use try nets and other equipment to inform how long to tow*

If the number of fishing days per week is reduced, how many days a week should be open to harvest with shrimp trawls? Should they be added to the current weekend closure or occur mid-week?

If the fishing day is shortened, when should the daily closure occur, daytime, nighttime, or some other set time?

Effort Discussion Points

Are there alternative measures that should be considered to reduce effort in the shrimp trawl fishery?

- *None provided*

Are there management measures under consideration that would not be effective in reducing effort in the shrimp trawl fishery?

- *How we are fishing is less important than where and when we fish in reducing bycatch*

If the maximum headrope length is reduced, should it be reduced in the 90-ft areas, the 220-ft areas, or both?

- *Fishermen may adjust fishing behavior (like increasing tow speed) to make up for lost efficiency*

Effort Discussion Points

If a commercial trip limit is established, what poundage would be reasonable? Should it vary regionally, seasonally, or by vessel size?

- *Trip limit would be difficult for industry because of variable conditions and shrimp abundance*

Should the lower recreational harvest limit associated with cast nets in closed areas be removed?

- *Some did not support*
- *Some supported if division felt it was needed*

Should more access to non-trawl gears in areas closed to shrimp trawling be considered?

- *Some did not support*
- *Some supported if division felt it was needed*





Habitat Protection

Overview:

- ▶ Submerged aquatic vegetation (SAV) and shell bottom habitats are critical habitat for many economically important finfish and invertebrates.

AC Input:

- ▶ Use contour lines and military zones as buffers
- ▶ Use MCHA lines in Core and Bogue sounds with exceptions for areas with majority of effort occurs where little SAV occurs



SSNAs

Overview:

- ▶ Special secondary nursery areas (SSNAs) provide essential habitat for many developing sub-adult finfish and invertebrates.

AC Input:

- ▶ Support for status quo.
- ▶ Some support all SSNAs redesignating as SNAs
- ▶ Some support to redesignating SSNAs to SNAs that have not opened in many years



Area Restrictions

Overview:

- ▶ Connectivity between protected areas and creating migration corridors to better encompass the life cycle and distribution of key finfish species.

AC Input:

- ▶ Status quo
- ▶ Make Pamlico Sound a Secondary Nursery Area



Managing Effort

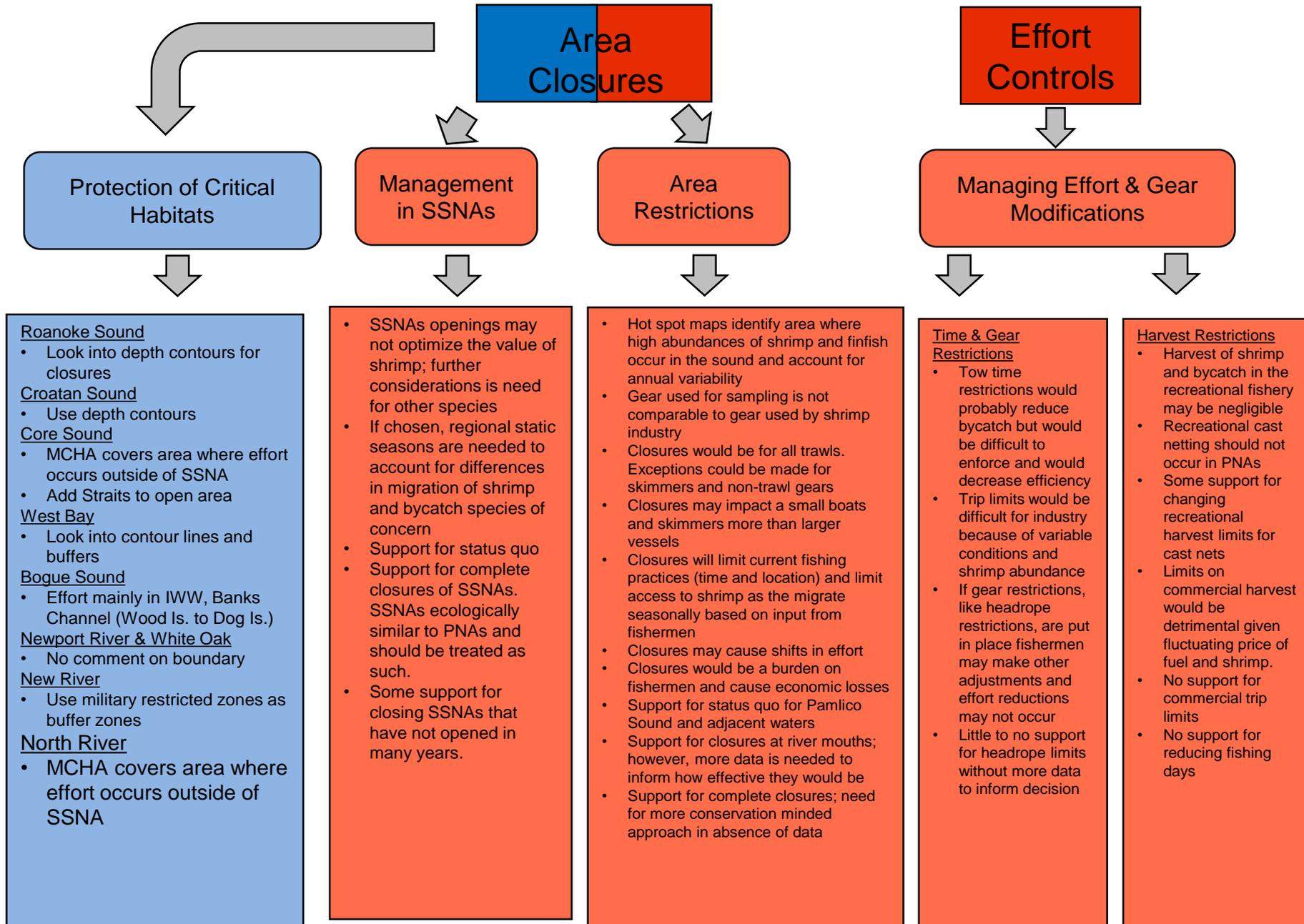
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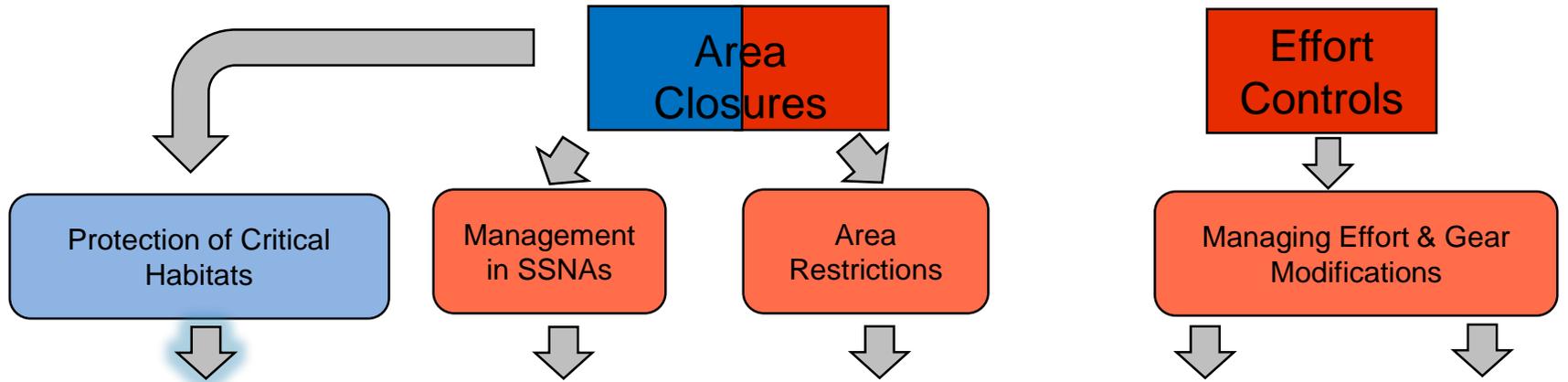
- ▶ Limited data for these measures due to variability in fishing practices, habitat, and environment make bycatch reductions hard to quantify. Management measures may be used to reduce effort and limit conflicts.

Example Options:

- ▶ Status quo for fishing time, day restrictions, & trip limits
- ▶ Little support for headrope limits







Roanoke Sound

- Look into depth contours for closures

Croatan Sound

- Use depth contours

Core Sound

- MCHA covers area where effort occurs outside of SSNA
- Add Straits to open area

West Bay

- Look into contour lines and buffers

Bogue Sound

- Effort mainly in IWW, Banks Channel (Wood Is. to Dog Is.)

Newport River & White Oak

- No comment on boundary

New River

Use military restricted zones as buffer zones

North River

- MCHA covers area where effort occurs outside of SSNA

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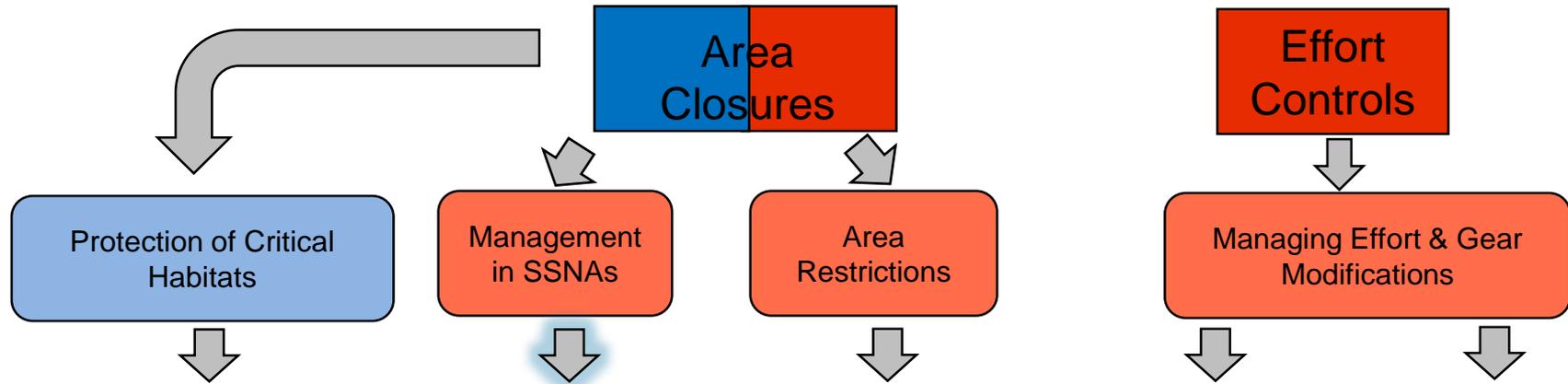
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Time & Gear Restrictions

- Tow time restrictions would probably reduce bycatch but would be difficult to enforce and would decrease efficiency
- Trip limits would be difficult for industry because of variable conditions and shrimp abundance
- If gear restrictions, like headrope restrictions, are put in place fishermen may make other adjustments and effort reductions may not occur
- Little to no support for headrope limits without more data to inform decision

Harvest Restrictions

- Harvest of shrimp and bycatch in the recreational fishery may be negligible
- Recreational cast netting should not occur in PNAs
- Some support for changing recreational harvest limits for cast nets
- Limits on commercial harvest would be detrimental given fluctuating price of fuel and shrimp.
- No support for commercial trip limits
- No support for reducing fishing days



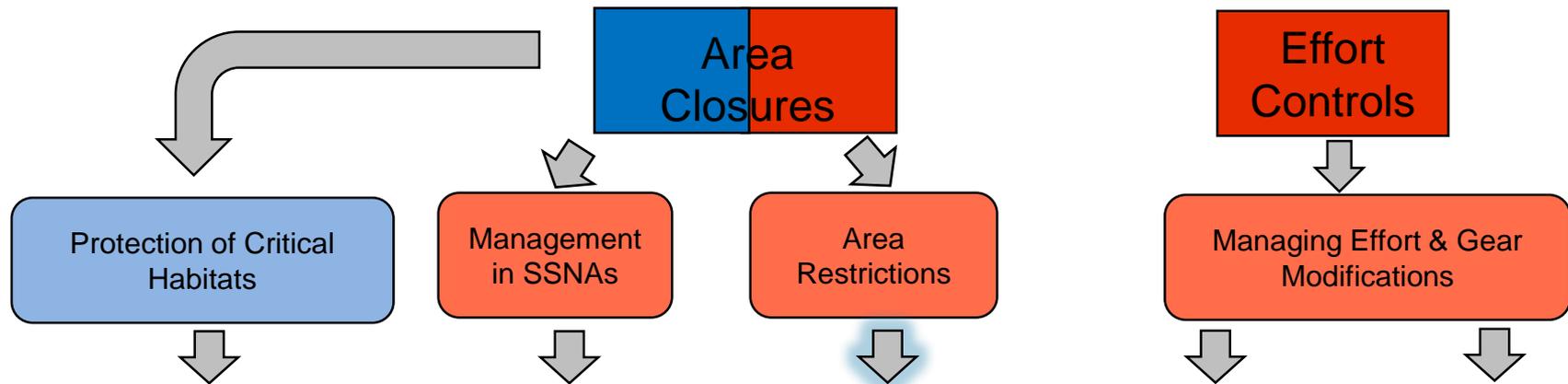
- SSNAs openings may not optimize the value of shrimp; further considerations is need for other species
- If chosen, regional static seasons are needed to account for differences in migration of shrimp and bycatch species of concern
- Support for status quo
- Support for complete closures of SSNAs. SSNAs ecologically similar to PNAs and should be treated as such.
- Some support for closing SSNAs that have not opened in many years.

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Newport River & White Oak

- No comment on boundary

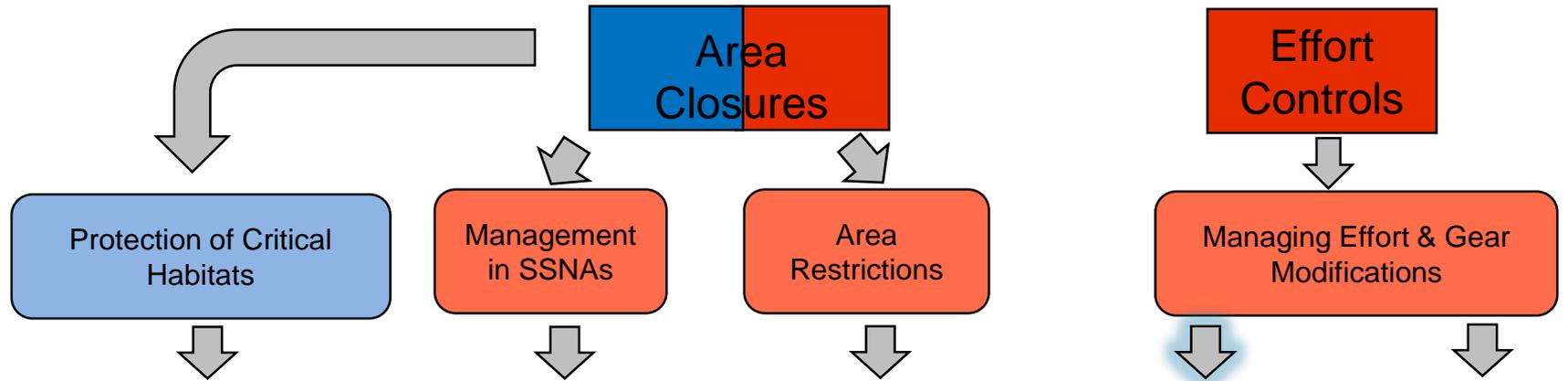
New River

- Use military restricted zones as buffer zones

- Hot spot maps identify area where high abundances of shrimp and finfish occur in the sound and account for annual variability
- Gear used for sampling is not comparable to gear used by shrimp industry
- Closures would be for all trawls. Exceptions could be made for skimmers and non-trawl gears
- Closures may impact a small boats and skimmers more than larger vessels
- Closures will limit current fishing practices (time and location) and limit access to shrimp as the migrate seasonally based on input from fishermen
- Closures may cause shifts in effort
- Closures would be a burden on fishermen and cause economic losses
- Support for status quo for Pamlico Sound and adjacent waters
- Support for closures at river mouths; however, more data is needed to inform how effective they would be
- Support for complete closures; need for more conservation minded approach in absence of data

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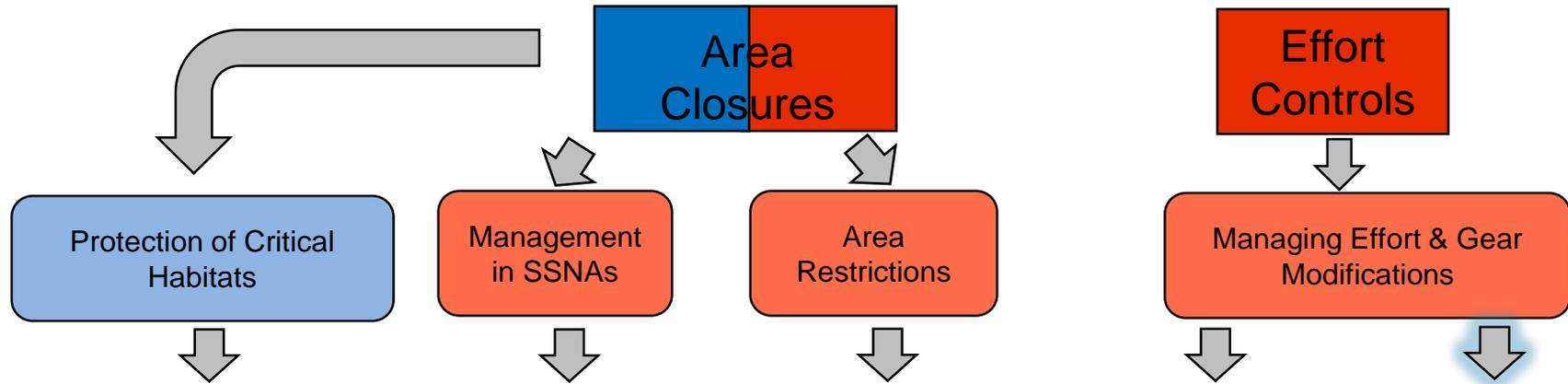
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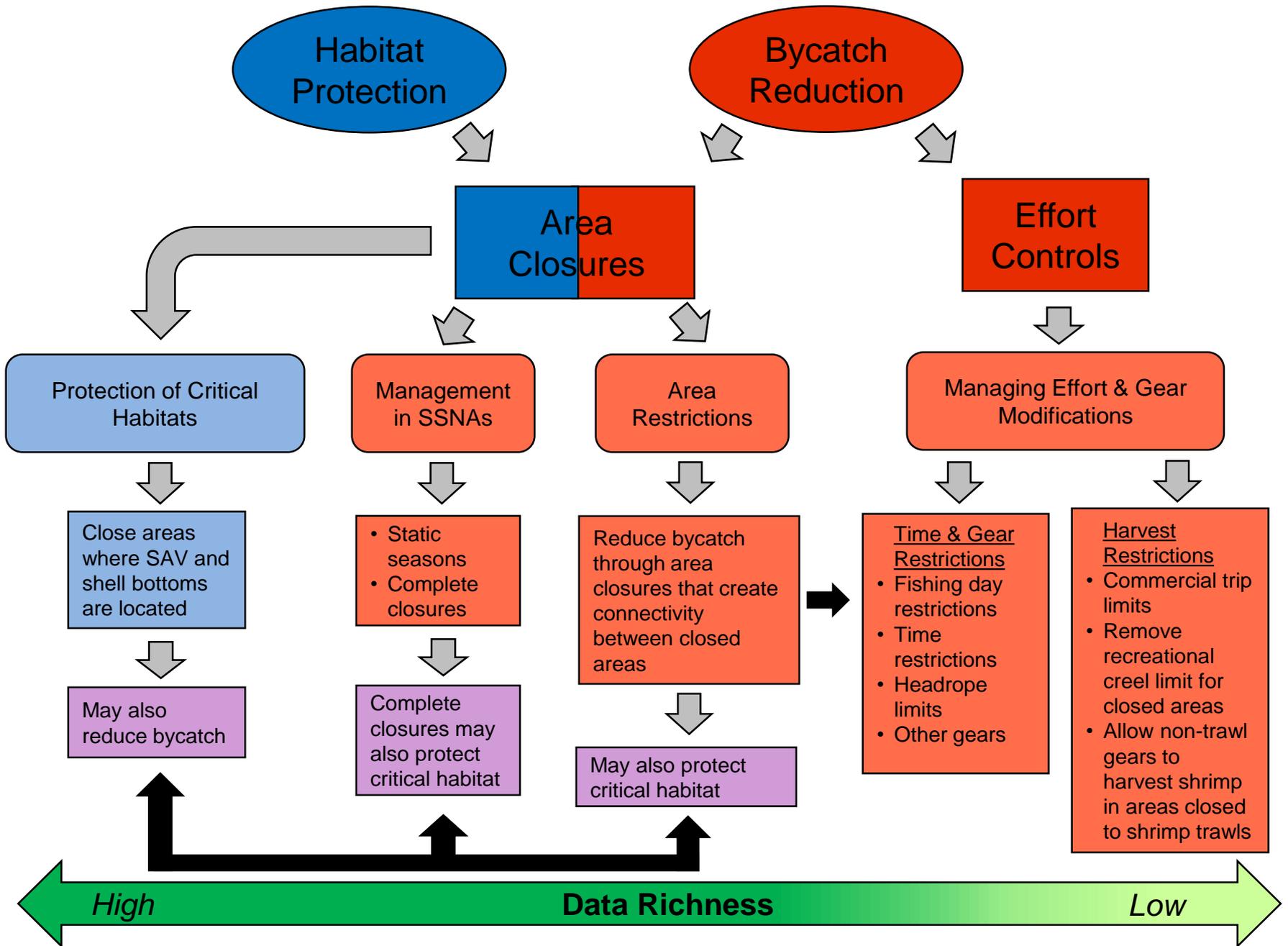
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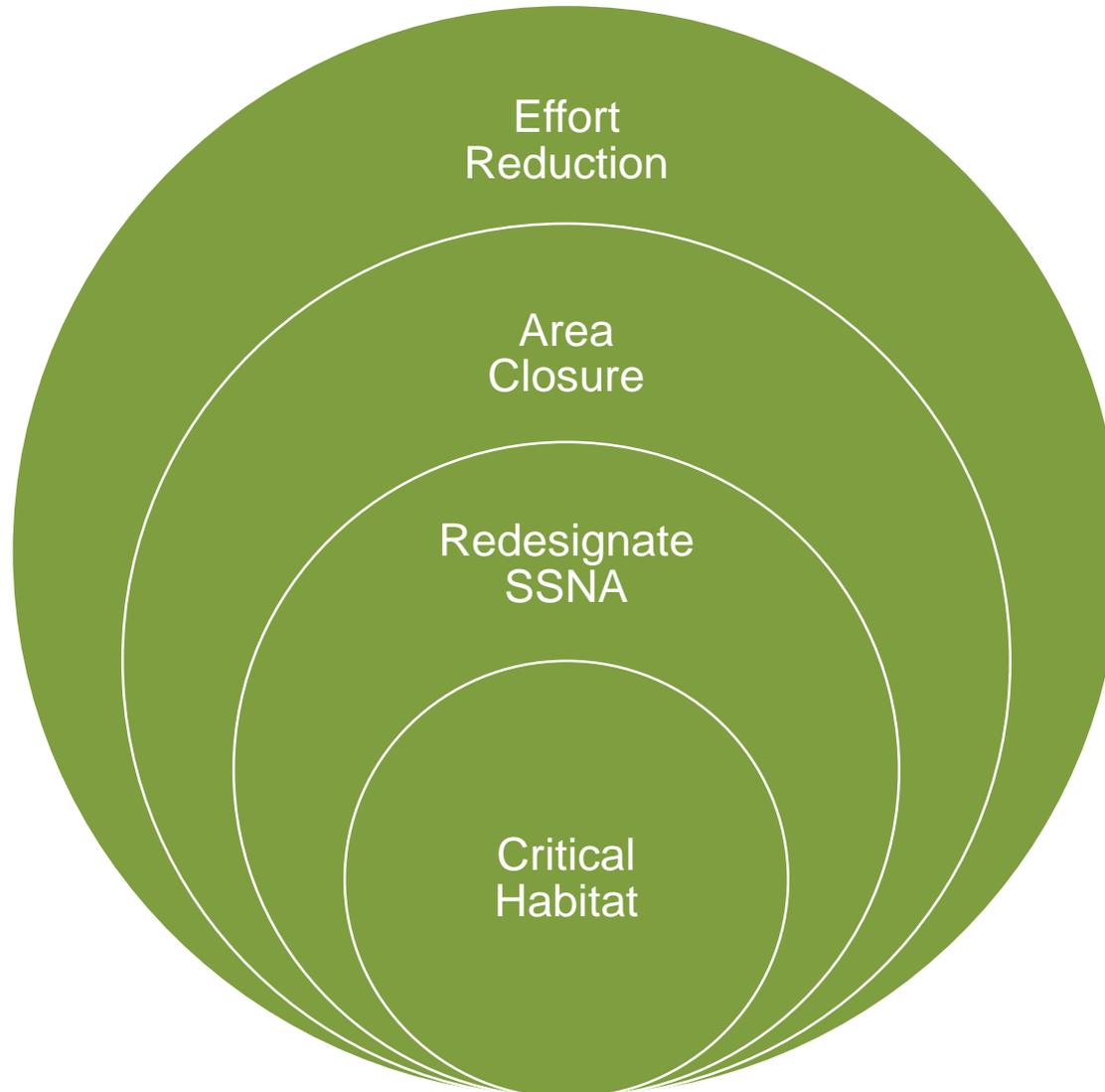
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Issue Paper Interconnectivity



Questions?

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