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INFORMATION AND ANALYSIS IN SUPPORT OF FISHERIES ALLOCATION DECISIONS

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The following slideshow was presented at the Gulf of Mexico Sector Separation Workshop, hosted by the Gulf of Mexico Fishery Management Council and the Fisheries Leadership & Sustainability Forum, November 8-10 in Tampa, FL.

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Information & Analysis in Support of Fisheries Allocation Decisions

The For-Hire and Private Recreational Fishing Sectors

Presentation to:

Gulf of Mexico Fishery Management Council
Sector Separation Workshop

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Some Quotes from US Fishery Management Council Members

1. "The politics of fish are fierce".
2. "Significant change in fisheries – including allocation – only seems to happen in a time of crisis".
3. "Until allocation is settled, nothing much else get done".
4. "Every council decision is an allocation decision".
5. "Allocation is seen as the first step to accountability between sectors".
6. "Allocation is – how large is the pie, who gets to eat and how much?"
7. "The goal of management councils in making allocation decisions is to minimize the whinge".
8. "The key to success in allocation are well-defined goals and proper evaluation".

The Need for Allocation

- Formal allocation
  - need driven by scarcity & conflict
  - reduces business uncertainty
  - can reduce fighting among competing interests
- Formal allocation also can enhance
  - environmental sustainability
  - economic viability
  - social performance
- Allocation closely aligned with economics discipline
  - economics : "the study of the allocation of scarce resources"

The Commercial & Recreational Fisheries Differ

	Commercial Fishery	**Recreational Fishery**
Activity	• Renewable Resource Extraction • Processing • Marketing	Outdoor Recreation
Product	Fish	Angling Experience • Catching Fish • Harvesting Fish • Aesthetics
Output Measure	Tonnes	Angler-days
Producing Sector	• Commercial Fishermen • Processors • Retailers	• Independent Anglers • For-Hire Businesses
Consumers	Seafood Consumers	Anglers

Allocation Parameters

- What are the allocation goals? roles of fairness & equity? constituency of interests?
- What is the allocation currency?
  - catch (does it include discard mortality? no. of fish or weight?)
  - effort
  - space …
- Is transferability allowed?
- What is the licence fee/economic rent policy?
- What are monitoring requirements and who pays for them?

The Need for Information & Analysis to Support Allocation

- Initial allocation decisions
  - who is eligible?
  - how much do they get?
  - implications i.e., who benefits, who loses, …
  - baseline against which to assess future performance
- Monitoring allocation performance
  - tracking transfers & catch
  - assessing environmental, economic & social performance
  - identifying needed program adjustments
  - are goals being achieved?
- Broad interest groups impacted by allocation
  - people
  - business
  - communities

Types of Information Needed

Annual

- participation
  - licenced entities
  - active entities
- catch & effort & revenues
  - by sector, gear type, etc.
  - by individual
- labour
  - jobs/positions
  - duration of jobs
  - wage bill
- segmentation of above
  - by region/community/residence
  - by type of activity

Periodic

- markets & products
- financial performance
  - Income Statements
  - Balance Sheets
  - viability, EBITDA, ROI
  - taxes/royalties
- non-financial parameters
  - consumer/angler surplus
  - opportunity cost : labour
    : capital
  - motivation for fishing

Information Sources*

- Secondary Data
  - administrative data e.g. participation, catch
  - research/reports e.g., benefits transfer, case studies, industry profiles

- Primary Data
  - primary surveys e.g., financial, effort response, contingent valuation
  - other primary research/interviews e.g., fishermen, industry organizations

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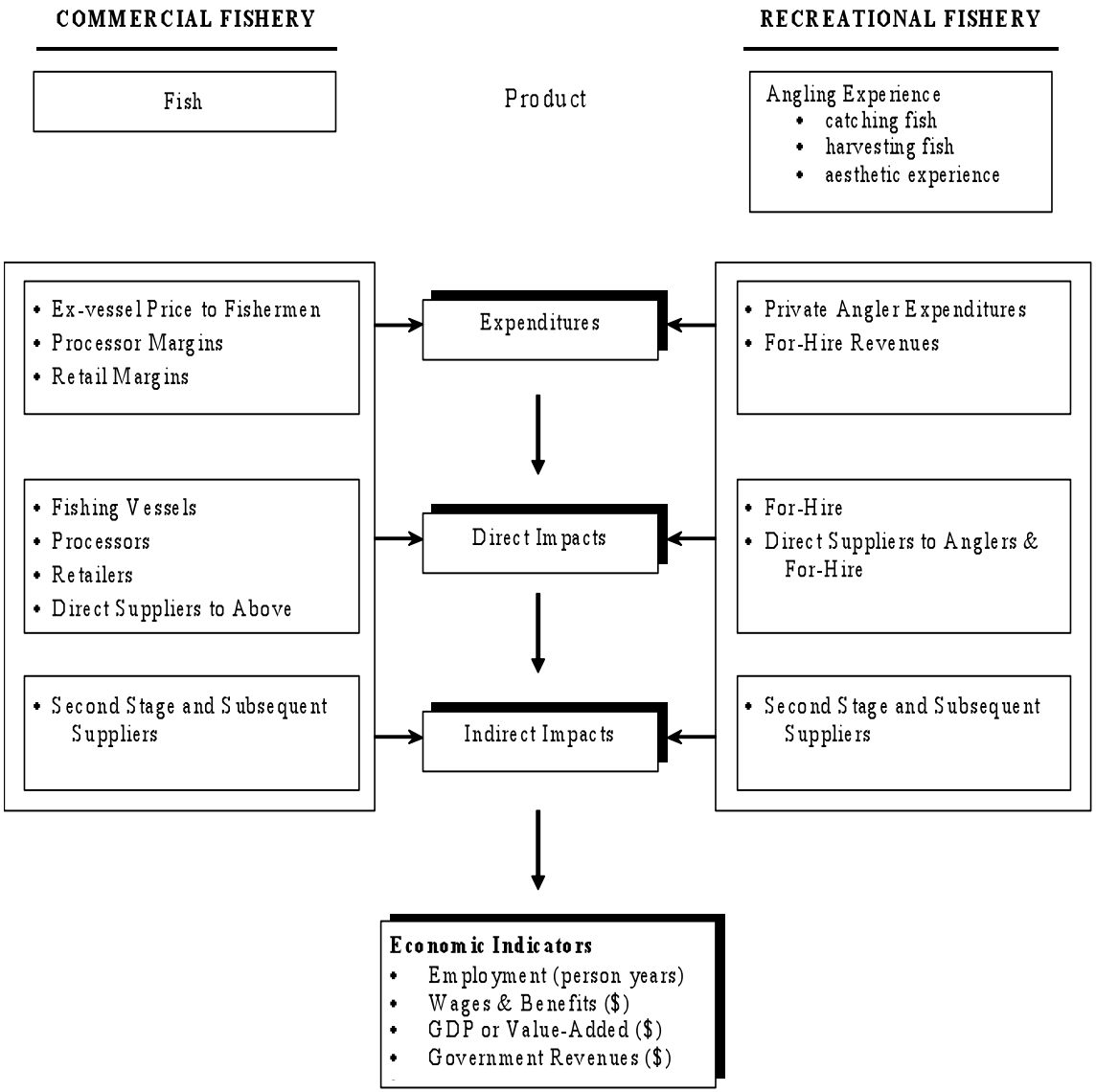
* *Good fisheries policy requires good information which requires good cooperation & input from stakeholders.*

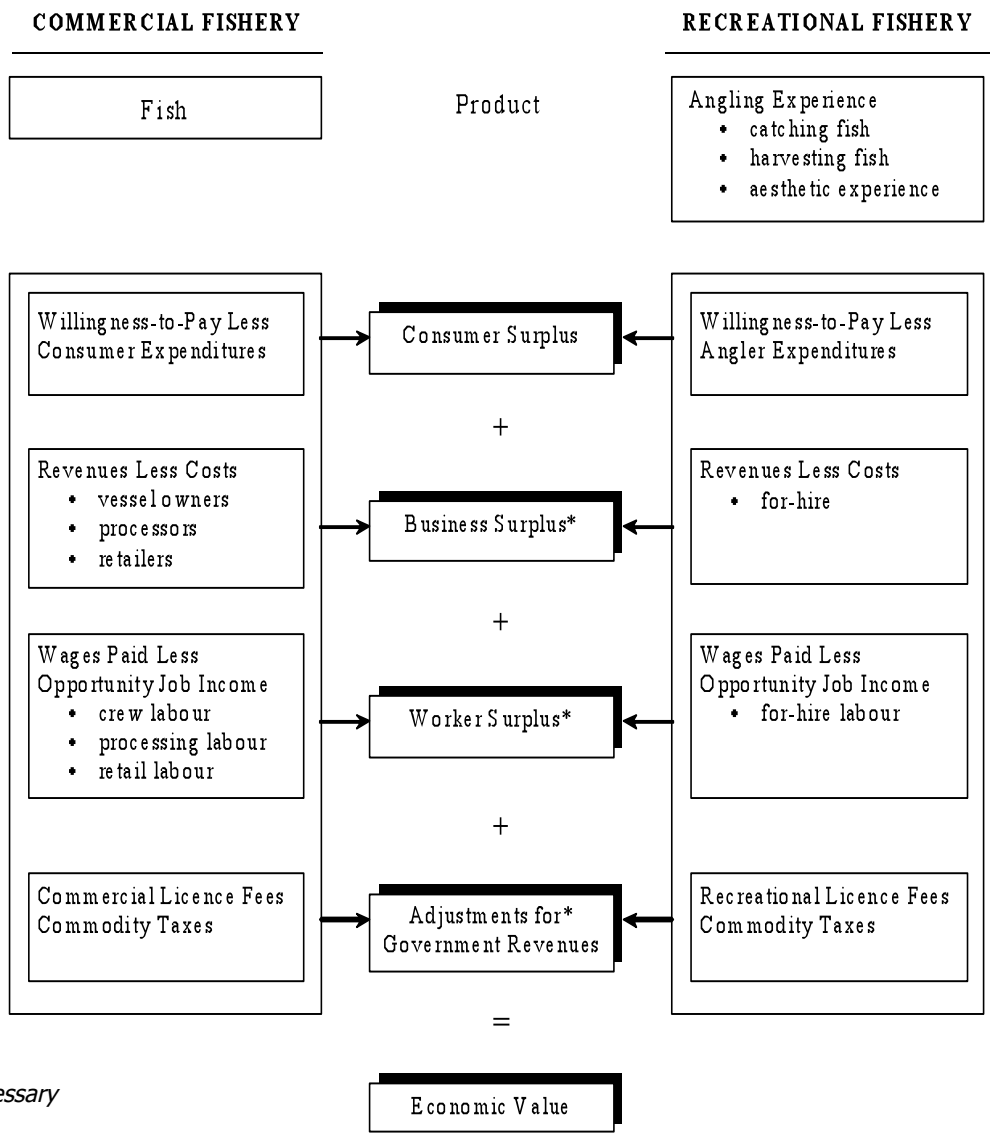
Analysis Tools

- Environmental impact analysis
  - impacts on resource/sustainability
  - ability to adhere to TAC
- Economic impact analysis e.g., input-output analysis
  - traces changes in expenditures through economy
  - GDP, wages, employment
  - no account for alternative uses in economy
- Economic value analysis
  - net benefits i.e., benefits less opportunity costs
  - tangible/financial plus intangible
  - accounts for alternative uses in economy
- Social impact analysis
  - impacts on people & communities, particular subgroups e.g., natives

Economic Impact Framework



Economic Value Framework



** Adjusted for subsidies if necessary*

For-Hire vs Private Recreational Fishing Data Needs

	For-Hire	Private
Base/Current Case		
Activity Measure by Angler Residence*		
- effort	X	X
- species focus	X	X
- catch	X	X
- expenditures	X	X
- angler surplus	X	X
Business Profile		
- Income Statement	X	
- ROI, EBITDA target	X	
- employment & wages	X	
Change in Allocation Case		
Response by Angler Residence*		
- effort elasticity**	X	X
- value elasticity***	X	X

* local, rest of US, outside US
** % change in angler days from % change in fish availability
*** % change in angler surplus from % change in fish availability

BC Saltwater Recreational Fishery 1994 – Base Case Profile

Activity Measure	For-Hire Anglers		Private Anglers	All Anglers
	Lodge	Charter		
A. Day Fished Total '000	200	150	2,350	2,700
for King (chinook) salmon	140	75	940	1,155
for other fish	60	75	1,410	1,545
B. Fish Caught & Kept Total '000	124	108	954	1,186
King salmon	56	42	141	239
Other fish	68	66	813	947
C. CDN Expenditures Total $ million	120	50	441	611
For-hire	94	30	0	124
Other	26	20	441	487
D. CDN Economic Impacts				
GDP $ million	96	41	235	372
Wages $ million	52	26	134	212
Employment person-years	1,760	870	4,620	7,250
E. CDN Net Benefits $ million	28.5	12.9	175.4	216.8
Angler surplus	12.7	8.6	108.8	130.2
Producer surplus - for-hire business	4.5	0	0	4.5
- " workers	0	0	0	0
Gov't revenues	11.3	4.3	66.6	82.2

BC Saltwater Recreational Fishery 1994 – Marginal Analysis

Measure per Extra King Salmon Kept	For-Hire Anglers		Private Anglers
	Lodge[a]	Charter[b]	
A. Expenditures $			
For-hire	476	91	0
Other expenses	132	62	135
	608	153	135
B. Economic Impacts			
GDP $ million	486	125	72
Wages $ million	263	80	41
Employment person-years	.0089	.0027	.0014
C. Net Benefits $			
Angler surplus	32	16	31
Producer surplus - for-hire business	47	0	0
- " workers	0	0	0
Gov't revenues[c]	56	13	20
	135	29	51

[a] Package includes accommodation & meals as well as guide, gear, boat & fuel etc.
[b] Package includes only guide, gear, boat & fuel etc.
[c] Sales taxes, licence fees

Conclusions

1. Need to assess environmental, economic & social repercussions.

2. Need to communicate results in "Plain English".

3. Rigorous & transparent catch monitoring data are needed.

4. Information to support allocation decisions are formidable & often not available. This deficiency is chronic to fisheries policy analysis.

5. Collect information now to support the policy decisions of tomorrow.