

Status of Human Dimensions Information Collection and Utilization by Fisheries Management Agencies

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Presentation Outline

1. Background

2. Objectives

3. Methods

4. Results and Discussion

WANTED: Angler Surveys

Need:

- Summary of human dimensions surveys

Closest example:

- Wilde et al. 1996

Opportunity:

- Update and broaden research

Status of Human Dimensions Surveys Sponsored by State and Provincial Fisheries Management Agencies in North America

By Gene R. Wilde, Robert B. Dixon, Shepherd R. Grimes, and Robin K. Richers

ABSTRACT

Fisheries managers increasingly are aware of the need to incorporate human dimensions information into decision making. To gather such information, many agencies conduct angler surveys using a variety of approaches. In 1996, we conducted a mail survey to assess the status of human dimensions studies that included, used surveys conducted by state, territorial, and provincial fishery management agencies. Questionnaires were sent to the heads of fishery agencies with the request that they be completed by the agency's human dimensions contact person. Fifty-nine surveys were returned for a response rate of 86%. Most BCFS survey respondents reported their agency had conducted at least 1 previous or an annual survey of anglers, 48% had completed a survey within the past 3 years. Most OFWS agencies used mail surveys. Survey sample sizes ranged from 300 to 20,000 and a mean length of 1,000 to 1,500 words varied widely depending on the type of survey conducted. Eighty percent were paid for by a combination of state or provincial and federal funds. Most respondents (n = 30) indicated that their agencies obtained greatest responses to human dimensions information such as angler support of regulations, angler attitudes and opinions, angler satisfaction, and economic information. Most (n = 10) surveyed public opinion, angler attitudes for fishing, market segmentation, and angler demographics as important. Our results provide a baseline by which future progress in human dimensions research and application can be measured.

Year	Number of Surveys	Number of Agencies
1996	10	10
1995	10	10
1994	10	10
1993	10	10
1992	10	10
1991	10	10
1990	10	10
1989	10	10
1988	10	10
1987	10	10
1986	10	10
1985	10	10
1984	10	10
1983	10	10
1982	10	10
1981	10	10
1980	10	10

Human Dimensions	Very Important	Extremely Important	Number of Surveys
Angler support of regulations	85%	15%	10
Angler attitudes and opinions	80%	20%	10
Angler satisfaction	75%	25%	10
Economic information	70%	30%	10
Public opinion	65%	35%	10
Angler attitudes for fishing	60%	40%	10
Market segmentation	55%	45%	10
Angler demographics	50%	50%	10

HUMAN DIMENSIONS

Human dimensions research is a multidisciplinary approach to the study of human behavior and attitudes. It is a field of research that is concerned with the relationship between human behavior and the environment. Human dimensions research is a multidisciplinary approach to the study of human behavior and attitudes. It is a field of research that is concerned with the relationship between human behavior and the environment.

Evaluating Importance of State-level Human Dimensions Data

- ▶ Bennett et al. (1978)
 - Fisheries manager's current and future goals
- ▶ Mather et al. (1995)
 - Agency management priorities based on time allocation
- ▶ Ross & Loomis (1999)
 - Agency responsibilities, important issues, source and allocation of funding
- ▶ Gabelhouse (2005)
 - Relationship between staffing, spending, funding, and natural resources

Wilde et al. (1996)*

- ▶ Survey Method:
 - Mail questionnaire
- ▶ Population:
 - Fisheries contact for human dimensions
- ▶ Measurement:
 - Respondent's experience
 - Respondent's attitudes toward human dimensions information
 - State-wide survey characteristics: frequency; implementation; analysis; cost; and, funding



*Wilde, G. R., R. B. Ditton, S. R. Grimes, and R. K. Riechers. 1996. Status of Human Dimensions Surveys Sponsored by State and Provincial Fisheries Management Agencies in North America. *Fisheries*. 21(11):12-17.

Research Objectives

- ▶ Quantify the Status of Human Dimensions work by State Fisheries Divisions
- ▶ Characterize Angler Human Dimensions Surveys

Evaluating the Status & Importance of Agency HD Data Collection

- ▶ Survey Method:
 - Telephone interviews
- ▶ Population:
 - Fisheries contact for human dimensions
- ▶ Measurement
 - Respondent's experience
 - Respondent's attitudes and opinions
 - Survey characteristics: frequency; implementation; and, analysis



A photograph of a sunset over a body of water. The sun is in the upper right, creating a bright lens flare and a shimmering reflection on the water's surface. The sky is a clear, pale blue. In the background, a dark silhouette of a forest line is visible against the horizon. The text "Results: Agency Human Dimensions Data Collection" is overlaid in the center in a white, sans-serif font.

Results: Agency Human Dimensions Data Collection

Human Dimensions Data Collection

- ▶ Percent of Agency Data Collection
 - 84% collect Economic Data
 - 97% collect Human Dimensions Data
- ▶ Most Recent Data Collection
 - 0 (median years)
 - 91% collected in previous 5 years

Human Dimensions Data Collection

- ▶ Years of Data Collection
 - 27 (median years)
 - Range: 4 to 76 years

- ▶ Next Planned Data Collection
 - 1 year (median years)
 - 80% plan to collect in 2007 or 2008

A photograph of a sunset over a body of water. The sun is a bright, glowing orb in the upper right quadrant, casting a shimmering path of light across the water's surface. The sky is a clear, pale blue. In the background, a dark silhouette of a forest line stretches across the horizon. The water in the foreground is dark with gentle ripples.

Results: Agency Staffing and Infrastructure

Agency Staffing and Infrastructure

▶ Staff Experience

- 10 (median years)
- Range: 0 to 34 years

▶ National Staffing

- 18 States with Human Dimensions Staff
- 9 States with an Economist on Staff
- 10 States with a HD division, section or department

Agency Staffing & Infrastructure

Staff Experience

- 2007 Findings: 10 years
- Wilde et al. (1996): 8 years

▶ National Staffing

- 2007 Findings: 18 States with HD Staff
- Gabelhouse (2005): 12 States with HD Staff

Results: Respondent Data

- ▶ Respondent Job Titles
- ▶ Respondent Experience
- ▶ Data Quality and Utilization
- ▶ Important Issues Facing Fisheries
- ▶ Importance of Human Dimensions Information

Respondent Titles

Job Classification	#	%
Upper Management (e.g. chief; supervisor; director)	19	33%
Human Dimension Staff	10	17%
Biologist (e.g. fisheries biologist; biology specialist)	28	50%
	N = 57	100%

Respondent Experience

Collection and analysis of human dimensions data w/ agency

All States	Biologists	Human Dimensions	Upper Management
10	7.5	12	15.5

Data Quality Ratings

Quality of human dimensions data (mean)*

All States	Biologists	Human Dimensions	Upper Management
2.9	2.8	3.3	2.8

* [1=Poor; 2=Fair; 3=Good; 4=Excellent]

“...the quality of our human dimensions data has increased dramatically over the last 10 years....excellent.”

“...I am going to say fair, but I think that it is getting better.”

Data Utilization Ratings

Utilization of human dimensions data (mean)*

All States	Biologists	Human Dimensions	Upper Management
2.7	2.7	2.9	2.7

* [1=Poor; 2=Fair; 3=Good; 4=Excellent]

“We just haven’t been as aggressive in applying the knowledge that we gain....We’re hoping to ratchet that up and do more outreach.”

“I think we could do a better job. I think we all recognize that we need more of it but again, we’re on a fixed budget...”

Important Issues Facing Fisheries

	All States	Biologists	Human Dimensions	Upper Management
Habitat Degradation	4.7			
Access and Facilities	4.1			
Declining Angler Participation	4.0			
State Budget Shortfalls	3.8			

[1=Not important; 5=Extremely Important]

Important Issues Facing Fisheries

"Other Issues": Emerging Themes

Extensiveness

Angler experience / quality fishing /
recruitment & retention



7

Staffing shortages / inability to hire staff



7

Fish Disease / disease effects on stocking



6

Water quality / water shortage / habitat
degradation



6

Important Issues Facing Fisheries

“Other Issues”: Emerging Themes

Extensiveness

Staffing shortages / inability to hire staff

7

“Recruitment of qualified personnel.”

“Adequate staffing.because of budget problems within the State itself, we can’t hire people, even though we have the money.”

“.....our agency’s full of baby boomers....and we’re probably not going to have the technical staff to get the job done, and certainly not the institutional knowledge.....that’s something facing all of us and we’re not getting prepared enough for that.”

Importance of human dimensions information to fisheries management decision-making

	1996
Angler support for management regulations	4.2
Angler satisfaction	3.9
Angler attitudes and opinions	4.1
Species-specific market information	3.1
Economics of recreational fishing	3.6
Angler motivations	3.4
Public attitudes and opinions	3.4
Demographic characteristics of anglers	3.1



[1=Not important; 5=Extremely Important]

Importance of human dimensions information to fisheries management decision-making

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Public attitudes and opinions	3.2			
Demographic characteristics of anglers	3.1			

[1=Not important; 5=Extremely Important]

Importance of Angler Support for Management Regulations Information

	All States	Biologists	Human Dimensions	Upper Management
Angler support for management regulations	4.1	4.0	4.2	4.2

[1=Not important; 5=Extremely Important]

“We are putting lots of money and effort into that right now.”

– Respondent, Upper Management

“When a management regulation is being proposed that does not have popular support we often find it mired in debate or even in the courts, I would say for that reason that angler support is very important.”

– Respondent, Upper Management

Importance of Angler Attitudes and Opinions Information

	All States	Biologists	Human Dimensions	Upper Management
Angler attitudes and opinions	3.9	3.8	4.0	3.8

[1=Not important; 5=Extremely Important]

“There is always someone who is not happy so we try to stick with the science.”

–Respondent, Biologist

Importance of Public Attitudes and Opinions Information

	All States	Biologists	Human Dimensions	Upper Management
Public attitudes and opinions	3.2	3.2	3.2	3.3

[1=Not important; 5=Extremely Important]

“...because we actually get a sales tax or part of a sales tax, so we have to pay attention to what the general public think.”

–Respondent, Upper Management

Importance of Economics of Recreational Fishing Information

	All States	Biologists	Human Dimensions	Upper Management
Economics of recreational fishing	3.6	3.6	4.1	3.4

[1=Not important; 5=Extremely Important]

“...we look at recreational costs and benefits, but we really don’t manage by that.” –Respondent, Biologist

“Our agency tends to look at user group information on economics with a suspicious eye.” – Respondent, Biologist

Importance of Species-specific Market Information

	All States	Biologists	Human Dimensions	Upper Management
Species-specific market information	3.7	3.7	3.8	3.6

[1=Not important; 5=Extremely Important]

“We have some hard core loud musky fishermen... You have to listen, but that doesn't mean you have to do anything... ...we've already done a whole lot and they can comprise [a small proportion] of the angler population, so it is almost irrelevant.”

—Respondent, Biologist

Status and Trends

- ▶ Modest increases in staffing and staff experience
- ▶ Widespread use of surveys
- ▶ Variability in attitudes and opinions
 - Data Quality and Utilization
 - State Fishery Issues
 - Human Dimension Information items

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