

# Chapter 5.4

# Wildlife Value Orientations

Dr. Carsten Riepe

Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB)

Dept. 4: Fish Biology, Fisheries and Aquaculture

Integrative Recreational Fisheries Management

Research group of Prof. Dr. Robert Arlinghaus

and

RCBS Europe ([www.rcbs-europe.eu](http://www.rcbs-europe.eu))



# Short biography

- Psychologist (University of Hamburg, Germany)
- 20 years in social science
  - mostly socio-ecological research into human dimensions of aquatic ecology / wildlife
  - most of that time in recreational fisheries (Robert Arlinghaus' research group, IGB, Berlin, Germany)
- over 15 years in commercial market research
- 7 years lecturer (University of Hamburg, Institute of Psychology)

Contact:

riepe\_carsten@web.de

[www.rcbs-europe.eu](http://www.rcbs-europe.eu)



# Overview

1. **Wildlife and values**
2. **Wildlife Value Orientations (WVO)**
3. **Human Dimensions of Wildlife (HDW)**
4. **Dimensionality and measurement of WVO**
5. **Summary**
6. **Exam questions (examples)**
7. **Bibliography**



# 1. Wildlife and values



# 1. Wildlife and values (1)

- **Wildlife**
  - “living things and especially mammals, birds, and fishes that are neither human nor domesticated”<sup>1</sup>
- **Values**<sup>2,3</sup> (social sciences / psychology)
  - most fundamental beliefs held (1) by individuals and (2) collectively in a country / culture
  - ideas of what is good and desirable in life (e.g., honesty, freedom, equality, self-expression, ...)
  - sense-making systems: define how we want the world to be
  - serve as guiding principles in life, direct our behavior, justify it as legitimate
  - adopted early in socialization; applicable across contexts; relatively stable over time
  - shifts possible due to major life events (parenthood, migration); shift between generations
  - few in numbers; relative importance differs between persons (individual hierarchy)
- **Example:** universalism<sup>2,4</sup>
  - includes **biospheric values** reflecting concern with quality of nature / environment for its own sake (e.g., protecting the environment, respecting the earth)



<sup>1</sup><https://www.merriam-webster.com/dictionary/wildlife>

# 1. Wildlife and values (2)

- **Value system 1** (Shalom H. Schwartz)<sup>1</sup>
  - **Cultural-level values:**
    - autonomy (e.g., broadmindedness, curiosity, pleasure, exciting life) vs.
    - embeddedness (e.g., social order, obedience, respect for tradition, national security)
  - **Individual-level values:**
    - self-transcendence values (e.g., concern for the welfare / interests of other people and nature; includes universalism with preservation of the natural environment, aka **biospheric values**) vs.
    - self-enhancement values (e.g., concern for one's own interests, achievement, success, power, control / dominance over people and resources)

- **Value system 2** (Ronald F. Inglehart)<sup>2</sup>
  - **Cultural-level values:**
    - self expression (e.g., subjective well-being, tolerance, participation, environmental protection) vs.
    - survival (e.g., economic / physical security, conformity to group norms, intolerance)

- **Conceptual overlap of both systems**<sup>3</sup>
  - bipolar dimensions with similar meanings



## 2. Wildlife Value Orientations (WVO)



## 2. Wildlife Value Orientations (WVO) (1)

- **However, values give only very general and unspecific behavioral guidance.**
  - same values can lead to different behaviors, e.g.,
    - protecting the environment: lethal control of wildlife (hunting) vs. leave wildlife alone to organize itself
  - values predict behavior only indirectly
- **Cognitions<sup>1</sup>**
  - mediate the gap between values and behavior toward biotic environments
  - transform values into behavior
  - components and processes within an individual's mind, e.g.,
    - perceptions, attitudes, beliefs, knowledge, recognitions, intentions, thoughts, plans ...
- **Wildlife value orientations (WVO)<sup>1,2</sup>**
  - represent an ideal view on the world regarding (treatment of) wildlife
  - provide context, direction, stability, consistency, and organization among the broad spectrum of basic beliefs, attitudes, and behaviors regarding wildlife
  - transform biospheric values into behaviors related to wildlife



## 2. Wildlife Value Orientations (WVO) (2)

- **Shifting values**<sup>1,2,3</sup>
  - modernization in developed countries: absence of war, economic growth, increase in prosperity and wealth, in education and urbanization
  - drive shifts in human needs from security / survival / subsistence to social affiliation, belongingness, independence of thought and action, harmony, pleasure, egalitarianism, environmental protection
  - lead to shifts in values:
    - survival => self-expression values<sup>1</sup>
    - embeddedness => autonomy<sup>3</sup>
    - self-enhancement => self-transcendence, including **biospheric values**<sup>3</sup>
- **Corresponding shift in WVO**<sup>4</sup>
  - modernization altered cognitive processes related to the use and conservation of wildlife
    - urbanization => social isolation and less direct experience with / reliance on wildlife
    - media-related learning about wildlife was substituted for learning through direct encounter
    - need for social affiliation => companionship / sense of community
    - connectedness to wildlife as fellow life forms / companions / conspecifics
  - result: shift from domination (utilitarian) views on wildlife to mutualistic views



## 2. Wildlife Value Orientations (WVO) (3)

- **Domination (utilitarian) WVO<sup>1</sup>** supports a view that wildlife
  - are subordinate to humans
  - should be managed and used to benefit humans (e.g., hunting, angling, producing food)
  - may be eliminated if they are life- / property-threatening

=> view of human mastery over wildlife

- **Mutualism WVO<sup>1</sup>** views wildlife as
  - part of one's own social community / extended family
  - capable of living in relationships of trust with humans
  - deserving of caring and compassion
  - having rights like humans

=> view wildlife in human terms with personalities / human characteristics



## 2. Wildlife Value Orientations (WVO) (4)

- **Empirical indication of a shift in WVO<sup>1</sup>**
  - design: cross-sectional, representative, mail-back surveys (2004, 2018)
  - population / region: residents of all U.S. states, varying in affluence, education, urbanization
  - results:
    - more rural, lower income, lower education => higher percentage of people with utilitarian views
    - more urban, higher income, higher education => higher percentage of people with mutualistic views
- **Angling-related consequences<sup>1</sup>**
  - strong domination (utilitarian) WVO => acceptance of / engagement in hunting / angling
  - strong mutualist WVO => rejection of hunting / angling
- **Tendencies over time<sup>2</sup>**
  - modernization-driven increase in mutualistic views and decrease in utilitarian views leading to, e.g.,
    - preference of environmental protection over economic growth
    - less agreement on lethal control of wildlife
    - interest in future hunting / fishing lower than rates of past participation
    - interest in future wildlife viewing higher than rates of past participation



### **3. Human dimensions of wildlife (HDW)**



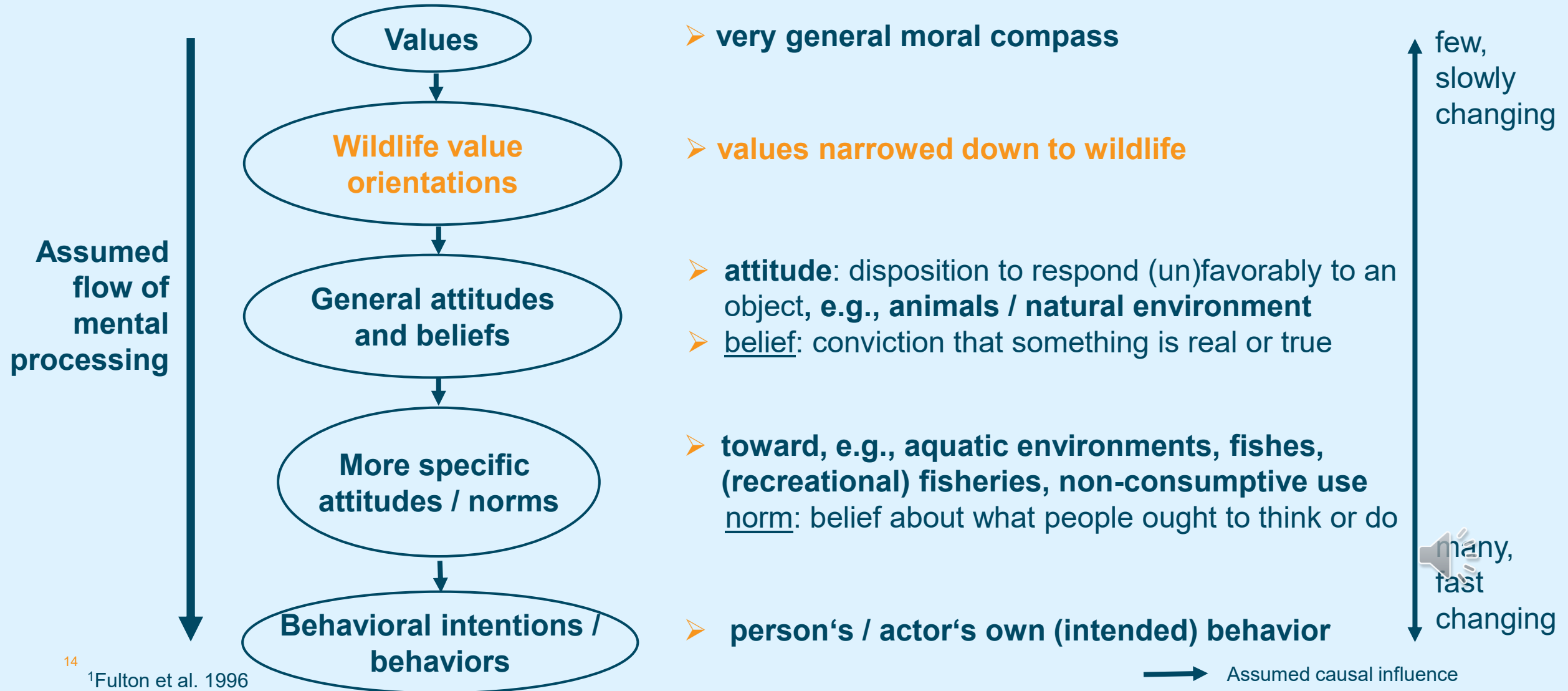
# 3. Human dimensions of wildlife (HDW) (1)

- **How can WVO explain differences in attitudes / behaviors toward (use of) biotic environments?**
  - part of “human dimensions of wildlife” (HDW)<sup>1</sup> as a framework to understand human-wildlife relationships
    - societal / cultural (macro) level (e.g., shift in values and WVO)
    - individual (micro) level (e.g., transformation of values / WVO into behavior)
- **Micro level of individual thought processes: cognitive hierarchy (CH)<sup>1</sup>**
  - bridging the gap between values and behavior => models that connect cognitions
  - CH models describe the assumed thought processes (i.e., flow of thoughts)
    - cognitions mediate the impact of values on behavior within an individual’s mind in a hierarchical way
- **Hierarchically organized cognitive models**
  - value-attitude-behavior hierarchy (VAB model)<sup>2</sup>
  - cognitive hierarchy model of human behavior (**CH model**)<sup>3</sup>
  - value-belief-norm theory / model of environmentalism (VBN model)<sup>4</sup>



# 3. Human dimensions of wildlife (HDW) (2)

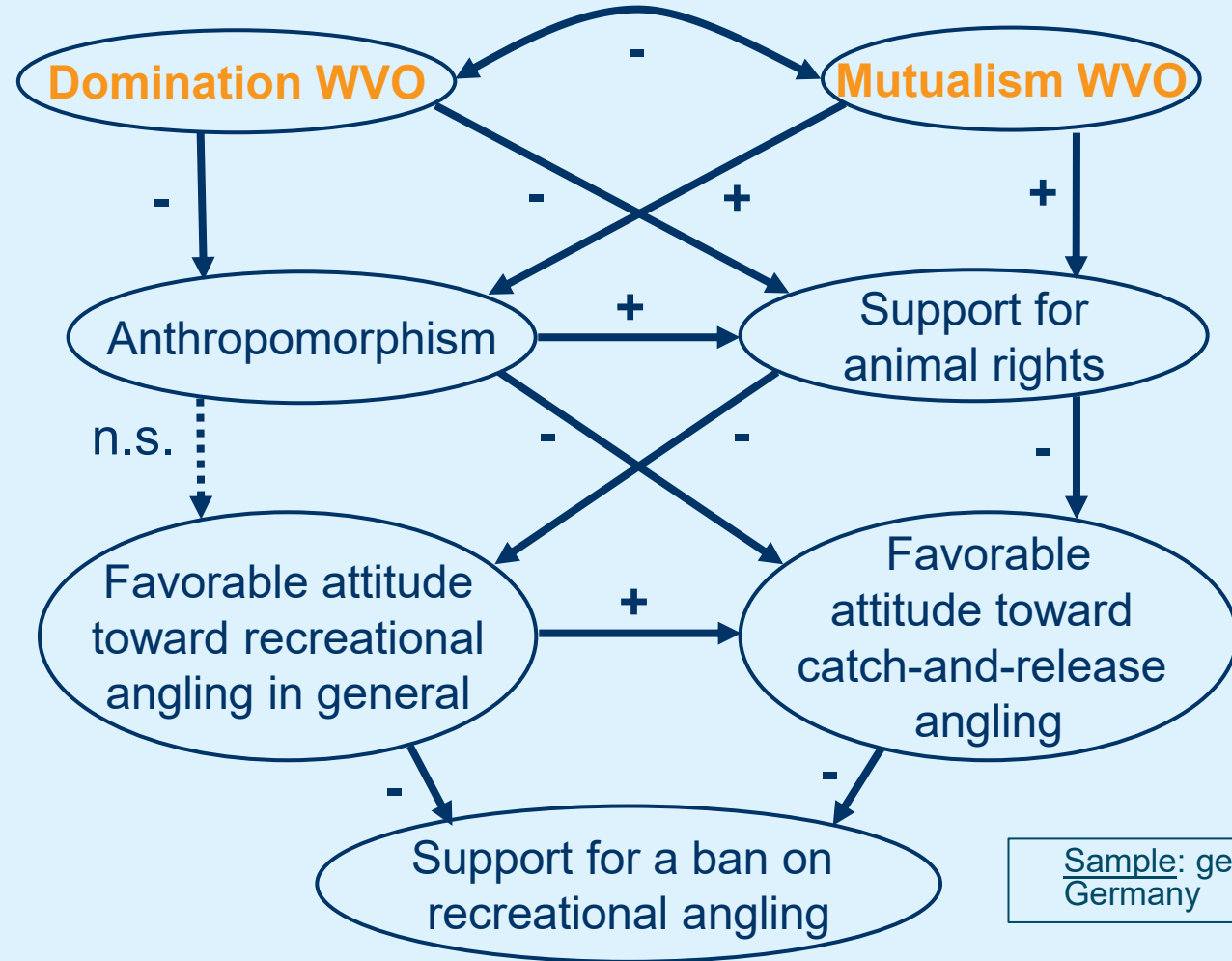
- Cognitive Hierarchy (CH) model<sup>1</sup>



# 3. Human dimensions of wildlife (HDW) (3)

- Cognitive Hierarchy (CH) model<sup>1</sup>

Assumed  
flow of  
mental  
processing



Sample: general population, Germany

## 4. Dimensionality and measurement of WVO



# 4. Dimensionality and measurement of WVO (1)

- **How can WVO be measured?**
  - recall that we are talking about:
    - the micro level of individual thought processes (i.e., interrelated cognitions within an individual's mind)
    - that are assumed to represent individuals' thoughts preceding, and leading to, their actual behavior
    - that can be described in hierarchically organized models of decision-making
- **Cognitions as constructs**
  - constructs are latent, unobservable (psychological / societal) entities that are “constructed” by scientists (and by people in general)
  - constructs need to be made measurable => indicators are needed (i.e., operationalization of a construct)
  - indicators are manifest, observable, tangible characteristics of a construct which can be ascertained
    - mostly questions and statements with propositions about the construct (“items”) are used
    - administered to persons from the target group (e.g., recreational fishers)
    - combined with a response format (e.g., rating scale)
    - by means of a questionnaire
    - responses are recorded and stored as variables of a data set



## 4. Dimensionality and measurement of WVO (2)

- Snippet from a questionnaire measuring Domination WVO and Mutualism WVO
  - hypothetical stereotypical response pattern of a recreational fisher:

Please indicate how strongly you agree or disagree with each of these statements.					
	strongly disagree	slightly disagree	neither/nor	slightly agree	strongly agree
I view all living things as part of one big family.	①	2	3	4	5
Fish and wildlife are on earth primarily for people to use.	1	2	3	④	5
I feel a strong emotional bond with animals.	1	2	③	4	5
...	1	2	3	4	5

Item measuring

➔ Mutualism WVO

➔ Domination WVO

➔ Mutualism WVO

...

- **Item scores** for a scale are summated to indicate where a person stands on each of the 2 WVO dimensions
- **Typical response scales:** 5- or 7-point rating scales *strongly disagree* (1) vs. *strongly agree* (5) or (7)



# 4. Dimensionality and measurement of WVO (3)

- Measurement of Domination WVO and Mutualism WVO, each with two sub-dimensions<sup>1</sup>

- **Domination** (Utilitarian)

- Appropriate use beliefs (6 items), e.g.:
  - The needs of humans should take priority over fish and wildlife protection.
  - **Fish and wildlife are on earth primarily for people to use.**
  - ...
- Hunting beliefs (4 items), e.g.:
  - We should strive for a world where there's an abundance of fish and wildlife for hunting and fishing.
  - People who want to hunt should be provided the opportunity to do so.
  - ...

- **Mutualism**

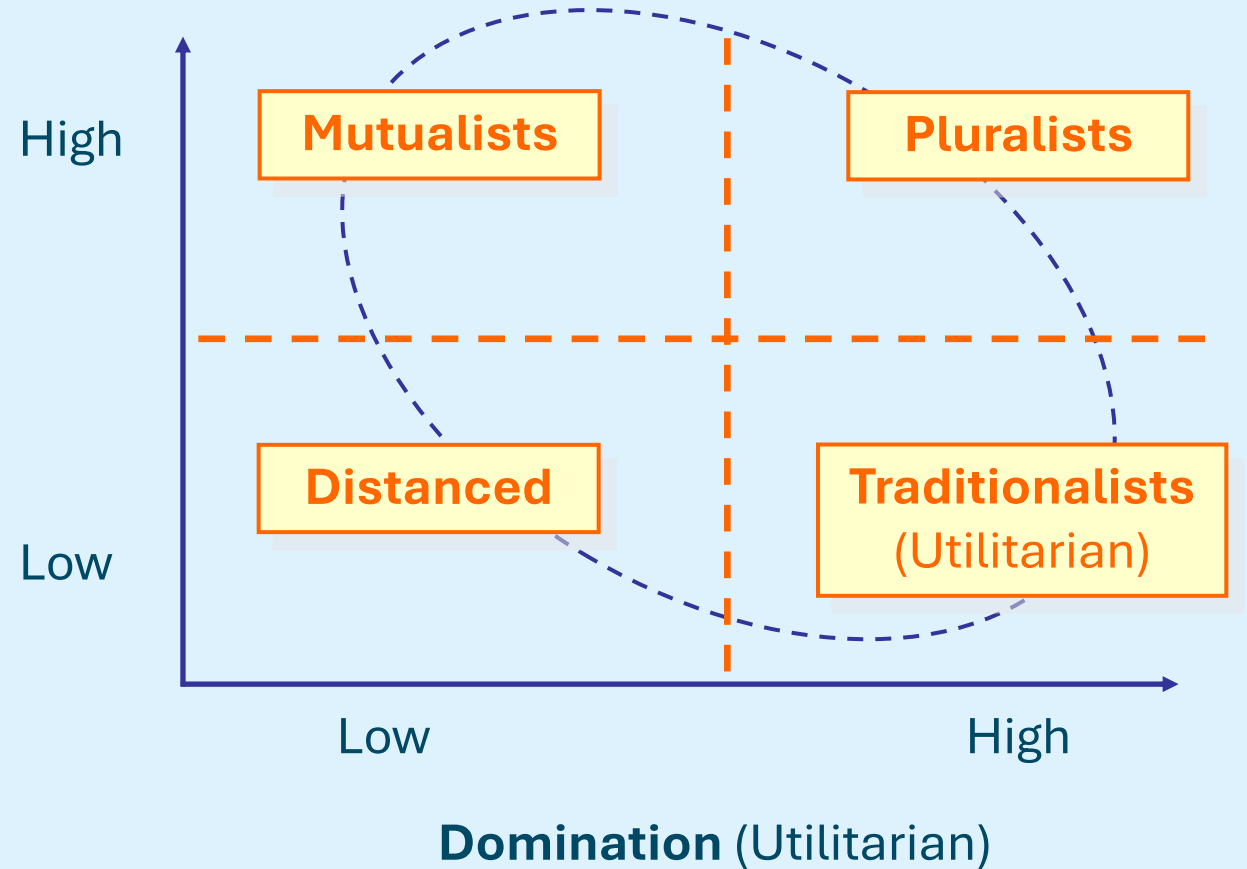
- Social affiliation beliefs (4 items), e.g.:
  - **I view all living things as part of one big family.**
  - Wildlife are like my family and I want to protect them.
  - ...
- Caring beliefs (5 items), e.g.:
  - **I feel a strong emotional bond with animals.**
  - It would be more rewarding for me to help animals rather than other people.
  - ...



# 4. Dimensionality and measurement of WVO (4)

- Four WVO types<sup>1</sup>

Mutualism



Do not confuse these 4 WVO types with the 4 sub-dimensions from the previous slide!

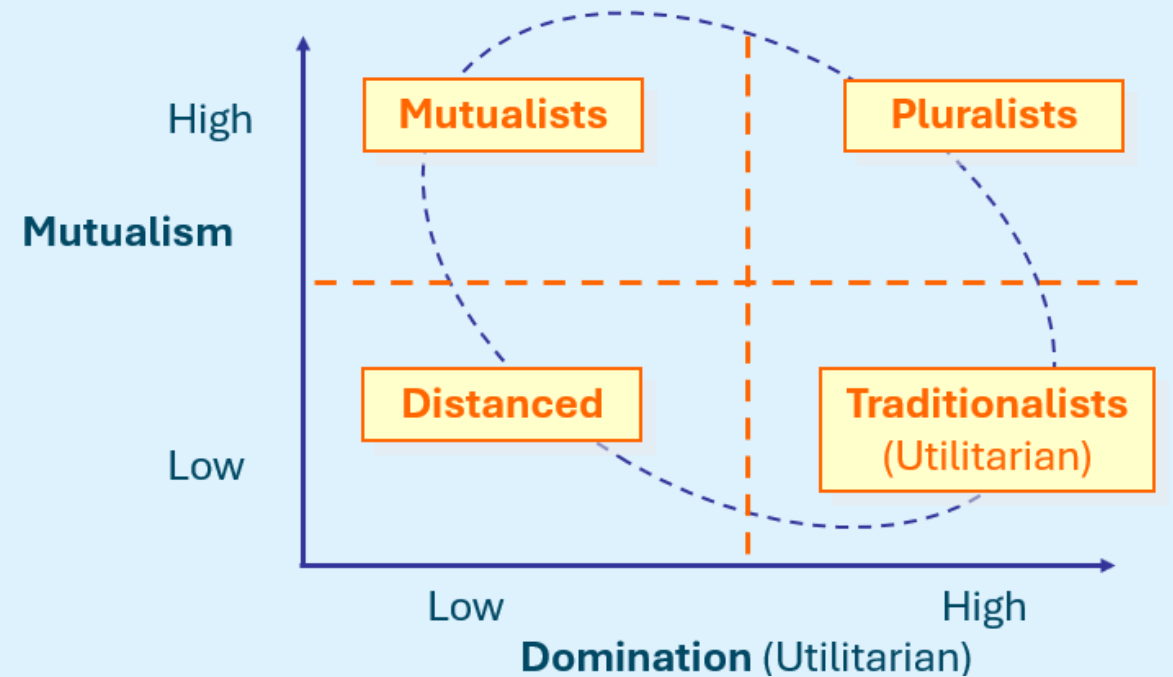
In this figure, both Mutualism and Domination scores are based on all items of their sub-dimensions.



# 4. Dimensionality and measurement of WVO (5)

- **WVO Types**: some results

- **Assessment of consequences of outdoor recreation activities on nature and wildlife<sup>1</sup>**
  - sample: mountain hikers, Norway
  - results: Mutualists / Pluralists tended to be more concerned about disturbance of wildlife than Traditionalists / Distanced
- **Moral acceptability of recreational angling and hunting<sup>2</sup>**
  - sample: general population, Germany
  - results: Mutualists / Distanced assessed both activities as morally less acceptable than Traditionalists / Pluralists



# 5. Summary



# 5. Summary

- **Values** are fundamental beliefs held by individual persons about what is good and desirable in life. Values guide our behaviors, but only in a very general and unspecific way.
  - **Wildlife value orientations** (WVO) represent our ideal view on wildlife, they transform our values into wildlife-related behaviors.
  - Over the last decades, values have been **shifting** from survival / self-enhancement values to self-expression / self-transcendence values, including **biopheric values**.
  - Simultaneously, WVO **shifted** from domination (utilitarian) views to **mutualistic** views on wildlife.
  - Both WVO consist of **two sub-dimensions**: Domination (appropriate use beliefs and hunting beliefs), Mutualism (social affiliation beliefs and caring beliefs).
  - **Four WVO types** have been identified: Mutualists, Traditionalists, Distanced, Pluralists.
- **WVO are essential for understanding human attitudes and behaviors towards wildlife (incl. fishes) and their stakeholders (e.g., recreational anglers).**



## 6. Exam questions (examples)



## 6. Exam questions (examples)

- **Question 1: Which of these statements is NOT correct?**

- (1) If we know what values a person has, we can quite clearly predict their attitudes and behaviors toward wildlife.
- (2) Strong evidence suggests that there has been a shift in values as well as in value orientations during the second half of the 20th century.
- (3) Values typically do not shift strongly across a person's lifespan, they typically shift intergenerationally (from one generation to the next).

- **Question 2: Two sub-dimensions of mutualism wildlife value orientation have been identified. Which are they?**

- (1) Caring beliefs and appropriate use beliefs
- (2) Caring beliefs and social affiliation beliefs
- (3) Social affiliation beliefs and biospheric values



# 7. Bibliography



# 7. Bibliography (1)

- Fulton, D. C., Manfredo, M. J., & Lipscomb, J. (1996). Wildlife value orientations: A conceptual and measurement approach. *Human Dimensions of Wildlife*, 1(2), 24–47. <https://doi.org/10.1080/10871209609359060>
- Homer, P. M., & Kahle, L. R. (1988). A structural equation test of the value-attitude-behavior hierarchy. *Personality Processes and Individual Differences*, 54(4), 638–646.
- Inglehart, R. F. (2018). *Cultural evolution*. Cambridge University Press.
- Jacobs, M. H., Vaske, J. J., Teel, T. L., & Manfredo, M. J. (2019). Human dimensions of wildlife. In L. Steg & J. I. M. de Groot (Eds.), *Environmental Psychology* (2nd ed., pp. 85–94). Wiley & Sons.
- Manfredo, M. J. (2008). *Who cares about wildlife?* Springer.
- Manfredo, M. J., Sullivan, L., Don Carlos, A. W., Dietsch, A. M., Teel, T. L., Bright, A. D., & Bruskotter, J. (2018). America's wildlife values: The social context of wildlife management in the U.S. Colorado State University, Department of Human Dimensions of Natural Resources.
- Manfredo, M. J., Teel, T. L., Don Carlos, A. W., Sullivan, L., Bright, A. D., Dietsch, A. M., Bruskotter, J., & Fulton, D. (2020). The changing sociocultural context of wildlife conservation. *Conservation Biology*, 34(6), 1549–1559. <https://doi.org/10.1111/cobi.13493>
- Manfredo, M. J., Teel, T. L., & Henry, K. L. (2009). Linking society and environment: A multilevel model of shifting wildlife value orientations in the Western United States. *Social Science Quarterly*, 90(2), 407–427.
- Riepe, C., & Arlinghaus, R. (2014a). Explaining anti-angling sentiments in the general population of Germany: An application of the cognitive hierarchy model. *Human Dimensions of Wildlife*, 19(4), 371–390. <https://doi.org/10.1080/10871209.2014.918219>
- Riepe, C., & Arlinghaus, R. (2014b). Einstellungen der Bevölkerung in Deutschland zum Tierschutz in der Angelfischerei [Attitudes of the German population toward animal welfare issues related to recreational angling] (Berichte d. IGB).



# 7. Bibliography (2)

- Riepe, C., Liebe, U., Fujitani, M., Kochalski, S., Aas, Ø., & Arlinghaus, R. (2021). Values, beliefs, norms, and conservation-oriented behaviors toward native fish biodiversity in rivers: Evidence from four European countries. *Society and Natural Resources*, 34(6), 701–722. <https://doi.org/10.1080/08941920.2021.1890865>
- Sagiv, L., & Schwartz, S. H. (2022). Personal values across cultures. *Annual Review of Psychology*, 73, 517–546. <https://doi.org/10.1146/annurev-psych-020821-125100>
- Schwartz, S. H. (2011). Values: Cultural and individual. In F. J. R. van de Vijver, A. Chasiotis, & S. M. Breugelmans (Eds.), *Fundamental questions in cross-cultural psychology* (pp. 463–493). Cambridge University Press.
- Schwartz, S. H. (2014). National culture as value orientations: Consequences of value differences and cultural distance. In V. A. Ginsburgh & D. Throsby (Eds.), *Handbook of the Economics of Art and Culture* (Vol. 2, pp. 547–586). Elsevier. <https://doi.org/10.1016/B978-0-444-53776-8.00020-9>
- Steg, L., & de Groot, J. I. M. (2012). Environmental values. In S. D. Clayton (Ed.), *The Oxford Handbook of Environmental and Conservation Psychology* (pp. 81–92). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199733026.013.0005>
- Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407–424.
- Stern, P. C., Dietz, T., & Guagnano, G. A. (1998). A brief inventory of values. *Educational and Psychological Measurement*, 58(6), 984–1001.
- Teel, T. L., Dayer, A. A., Manfredo, M. J., & Bright, A. D. (2005). Regional results from the research project entitled “Wildlife Values in the West.” Colorado State University, Human Dimensions in Natural Resources Unit.
- Zouhar, Y., Aas, Ø., & Dybsand, H. N. H. (2024). Exploring mountain hikers’ wildlife value orientations and disturbance of birds of prey: A case study from Norway. *Birds*, 5, 363–374. <https://doi.org/10.3390/birds5030024>



# Thank you for your attention!

Contact:

[riepe\\_carsten@web.de](mailto:riepe_carsten@web.de)

[www.rcbs-europe.eu](http://www.rcbs-europe.eu)



