Session 4: Management Strategies, Policy Development and Governance

E1

A Matter of Scales. The Management of Marine Recreational Fisheries in the EU

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There is growing recognition of the importance of inclusion human dimension in models for the assessment of stocks and the development of fisheries management measures. The sustainable management of these complex socio-ecological systems involves integrating different administrative levels or incorporating bottom-up management approaches. The objective of this paper is to present a critical review of the current management of Marine Recreational Fisheries (MRF) in Europe, in the context of increasing demand for marine ecosystem services that is leading to conflicts between groups of stakeholders. In particular, we analyzed how the European regulations on MRF support the Ecosystem Approach to Fisheries (EAF) in different geographic areas. The European Union (EU), national, and regional legislation were analyzed for four countries (Germany, Portugal, Spain and the UK) chosen to represent the full range of conditions across Europe. An Integrated Policy Legal Index (IPLI) for each of the countries was calculated from 57 criteria including biophysical attributes (geographical, ecological and biological aspects), social drivers across a range of stakeholders, and attributes of the governance systems. The IPLI was used to assess if the different legal frameworks follow the principles considered prerequisites for long-term, sustainable management of community-based common pool resources. Scale and institutional issues impacting on the management of MRF in Europe will be discussed including impacts on targets for ecological and socio-economic sustainability.

E2

Determining the Response of Recreational Seabass (*Dicentrarchus labrax*) Anglers to Recent EU Regulations: Evidence Applicable to the Continued Management of Stocks

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Increasing importance is being placed upon protecting the socioeconomic benefits derived from marine environmental use, particularly within recreational fisheries sectors. Following the decline of seabass (*Dicentrachus labrax*) stocks in northern Europe, a range of regulations were implemented to attempt to reduce pressure on stocks by both commercial and recreational fishermen. Such moves have been met with a variable response from stakeholder groups, with concerns regarding compliance and the effectiveness of regulation. To address this, UK sea anglers were surveyed in order to assess perspectives to the regulations and their behavioural response, along with regional data on catch and effort. 729 sea anglers participated in both online surveys and face-to-face interviews. Anglers were generally against the implementation of the specific regulations, and felt that the regulations would not be effective in addressing the stock decline. However, there was support for the main management strategies, allowing inferences to be made about potential improvements to the regulations to improve stakeholder approval. Anglers were categorised by demographic, geographic and specialisation characteristics to assess the potential to tailor management efforts to individual sub-groups that exist within the seabass angling community. Levels of displacement of effort were also quantified and the impact of changes in effort on both stock and expenditure assessed. A range of potential improvements to current management practices were evaluated, including licenses, catch returns, and catch and release fisheries.

E3

Co-management of Fisheries in Yukon Territory, the Yukon Umbrella Final Agreement and the Yukon Fish and Wildlife Management Board - The Past, Present, and Our Possible Future?

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In 1995, the Yukon Umbrella Final Agreement (UFA) came into effect creating the Yukon Fish and Wildlife Management Board (YFWMB) and bringing First Nations and non-First Nations together to manage Yukon lands and resources. The Board is “the primary instrument of Fish and Wildlife management in the Yukon.”

At the working level, we focus our efforts on territorial policies, legislation, and other measures to help guide management of fish and wildlife conservation, habitat, and the enhancement of the renewable resources economy. The Board influences management decisions through public education and by making recommendations to Territorial and Federal Minister’s, and to First Nations governments and Renewable Resource Councils. Recommendations and positions are based on the best scientific, traditional (Indigenous) and local information available. We utilize processes that provide opportunity for public involvement in the sustainable management and conservation of Yukon’s fish and wildlife, and we have been involved in fisheries management initiatives since our inception. This presentation will outline the Board’s historical and present involvement in fisheries management ranging from educational initiatives on barbless hooks and catch and release, to our involvement in policy and legislative development within the Territory. We will outline the challenges and successes of Yukon’s co-management model as it is employed through fisheries management practices and processes.

E4

The Changing Face of Recreational Fisheries in the Laurentian Great Lakes and its Ecological and Socio-Economic Consequences

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The productivity of the North American Laurentian Great Lakes fisheries has changed dramatically over the past century. The impacts of invasive species and changes in the quantity and quality of habitat has greatly altered our fisheries systems and impacted the coastal communities that rely on these fisheries for social and economic well-being; particularly as related to recreational fishing. Our increased ability to locate, catch, preserve, and transport fish and modify their habitats have resulted, particularly in interjurisdictional fisheries, in the loss of fish populations, which has profoundly impacted the structure, function, productivity and ecosystem services of these systems. Our lack of predictable scientific knowledge of and control over the ecological supply chain needed to produce these fishes, coupled with the failure of our fisheries governance systems, have left our recreational Great Lakes fisheries in disarray. Principal causes for their degradation are loss of genetic diversity due to changing landscape dynamics, increased chemical and biological pollution, climate change, invasive species, and excessive harvest in the fisheries commons. To ensure the integrity of our remaining fisheries we must become better stewards, possessing more credible scientific understanding of our fish and their habitat needs and the ability to communicate the high value of our fisheries resources to society as food, recreation, and generators of economic and social wealth for local and global communities. The fate of the fish, and the quality of life of the people and communities that depend upon them, are inextricably linked and can only be sustained in healthy, well-governed ecosystems.

E5

Re-Engaging South Australia's Recreational Sector - Dragging the Skeletons Out of the Closet

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Recreational fishing is one of the most popular leisure activities in South Australia with over 277, 000 residents participating, representing approximately 18% of the State's population. Most of the fishing effort occurs in marine waters targeting a range of species that are also accessed by the commercial fishing sector. Given the shared resources are community owned, the State Government has a fundamental role in managing them to ensure they are biologically sustainable and provide social and economic benefit the broader community. These obligations have led to the implementation of a range of fisheries management arrangements, such as adjusting boat, bag and size limits for a range of species; and the introduction of spatial closures. Through these processes sections of recreational fishing community have become increasingly interested in issues regarding fishing access; public consultation; fisheries science; data collection; and fisheries management, and have expressed considerable enthusiasm in being involved in the decision-making processes. There are a number of projects that are currently underway that specifically relate to improved data collection, habitat restoration and stock enhancement that are benefiting from on-going engagement with the recreational sector. This presentation will discuss how one of these projects, which focuses on South Australia's most iconic finfish species (King George Whiting), is working with the recreational fishing community to collect biological samples throughout State waters as part of a citizen science 'send us your fish frames' initiative. The biological data along with the spatial catch information obtained from this sector will directly contribute to improving our understanding and subsequent management of this premium resource. Furthermore, it will also gauge the relative appetite of the sector to contribute more broadly to a multi-species catch sampling program in the future.

E6

The Impact of Over-Allocation on Trout Fishing in New Zealand: A Case-Study from the Lindis River

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Balancing irrigation demands and trout fishery flow requirements is becoming an increasingly contentious issue in many rivers in the South Island of New Zealand. Over-allocation exacerbates natural droughts increasing the intensity and duration of low flow events. Rectifying over-allocation is complicated by heavy investment and reliance on irrigation infrastructure making it difficult for water managers to claw back environmental flows. In the Otago region local government has decreed that by 2021 all major rivers subject to abstraction should have minimum flows set. This includes the Lindis River which provides juvenile trout recruitment to nationally important fisheries and some small stream sight fishing opportunities. Currently it is heavily impacted by abstraction resulting in the drying of 10 - 19 km of riverbed most summers. To better understand the effects of low flows on fish mortality a combined mark-recapture and motion activated camera investigation was undertaken. This revealed that approximately 70 % of juvenile trout perished during each abstraction season. The primary cause was high levels of avian predation due to reduced cover. Mass native fish mortality and algal blooms were also documented. Commissioners considered these results and irrigation interests before recommending a minimum flow of approximately half of the natural summer flow. This is a significant compromise from a fishery health perspective but would provide juvenile trout passage and improve adult fishery values.

E7

Alberta Conservation Association: A Case Study of an Alternative Model for Fisheries Conservation and Management Activities

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As a Delegated Administrative Organization under the Alberta Wildlife Act, Alberta Conservation Association (ACA) is in a unique position to function both as an arms-length research organization of provincial government, and a not-for-profit conservation organization. Led by a Governance Board consisting of members of major conservation groups within the province and a single government representative, ACA receives direction from both public stakeholder groups and the provincial government. The governance structure, funding model and mandate of ACA makes it relatively unique in Canada and as such provides an interesting case study on the pros and cons of undertaking fisheries conservation and management activities in close relationship with, but separate from, government biologists and policy makers.

In this presentation we review the history and process from which ACA was formed, the policies under which ACA operates and the procedures used to determine ACA's fisheries activities. As part of this case study we examine the funding model where ACA receives approximately $14.5 million per year from provincial fishing and hunting license sales, and approximately $4.0 million per year in private donations and grants.

In addition, we look at the benefits and challenges of being considered both a government agency and an independent conservation organization and discuss how these impact our activities as they relate to recreational fisheries stocking, lake aeration, fisheries restoration and promotion of recreational fisheries.

E8

What Do Fish Really Eat? Implications for Reservoir Management

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Regionally important recreational fisheries occur in reservoirs throughout the world, and reservoir operations are often managed explicitly to provide environmental benefits such as improved fish production. The Campbell River hydropower system in British Columbia includes three mainstem reservoirs, and nine diversion-affected lakes. Current reservoir operational rules are based in part on assumed relationships of water level fluctuation to littoral production, and water residence time to pelagic productivity. Food web studies using stable isotopes of nitrogen and carbon in fish tissues and diets were conducted over three years to address: 1) the extent to which stabilized reservoir levels benefit fish populations, 2) the relationship between water residence time and lake productivity, and 3) the energy source (carbon) of littoral-dwelling organisms.

This study confirmed that top fish consumers have a reduced littoral contribution to diet in Upper Campbell Reservoir (~11m drawdown) compared to Lower Campbell Reservoir (~4m drawdown). Despite the large pelagic areas of each reservoir, the top fish consumers in both reservoirs are supported by littoral prey to a greater extent than pelagic prey. Nitrogen and carbon stable isotope signatures indicated a consistent food web structure in each waterbody. Shorter water residence time was weakly correlated with decrease in pelagic contribution to fish diets. We observed a strong influence of terrestrial carbon inputs throughout the food web, and a strong inverse relationship between waterbody volume and terrestrial carbon contribution to zooplankton. These foodwebs are highly dependent on terrestrial sources, and reservoir drawdown extent and duration are less important to littoral production than inputs from the adjacent riparian and terrestrial environment.

E9

An Integrated Approach to Define Mediterranean Reservoir Typologies According to Their Suitability for Recreational Fisheries

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Reservoirs are considered the preferred locations for anglers in Mediterranean regions regardless of the number of freshwater ecosystems available for fishing. However, contrarily to what happens in other regions of the world, management programs devoted to the promotion of Mediterranean reservoirs for recreational fisheries are scarce, but of urgent need when main objective is to diminish constraints, increase interest and suitability of these water bodies for anglers and, ultimately, increase economic income for the region. Within the project "GAMEFISH - Management of mediterranean reservoirs for the promotion of recreational fishing activities", our first objective was to define typologies of reservoirs in southern Portugal, a typical mediterranean region, per their suitability for recreational fisheries. This goal was achieved through a novel and integrated approach, based on four complementary and linked methods. First, a GIS analysis of #263 reservoirs from the study area identified five typologies based on their macroscale characteristics. Secondly, sampling on #30 reservoirs, representative of the five typologies, provided information on fish assemblage composition and presence of species of especial interest for anglers. Finally, these analyses were complemented by an Index of Suitability for Recreational Fisheries, evaluating the condition of reservoir and adjacent areas, and by an anglers' survey to characterize their socioeconomy and evaluate interests on this region. Collected data were combined to classify and prioritize reservoirs regarding their suitability for fishing activities, marking the first step of a 3-year project aiming to develop and propose management guidelines for the promotion of recreational fisheries in southern mediterranean regions.

E10

Resurging the Atlantic Salmon Stocks in Denmark Through Adaptive Management

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In the beginning of the 1980'ies the eight indigenous Danish salmon populations were either gone extinct or were close to extinction, primarily due to habitat degradation. However, a variety of conservation efforts carried out in collaboration between anglers, fishery managers and researchers, supported by national and local political administrations, led to a resurge of the populations. Conservation activities primarily comprised fisheries regulations, river restoration aiming at improving habitat and ensuring migration routes and implementation of a supportive breeding program based on native brood-stock. Today annual catches, i.e. harvest and released fish, by anglers of up to around 3500 salmon are therefore allowed and regulated through a quota system were anglers self-report their catches. Salmon fishing in Denmark is very attractive and generates important socio-economic benefits to the local community. This fishery is maintained through an adaptive management approach where the conservation of the salmon populations is in focus alongside with development of a profitable, sustainable recreational fishery. This is facilitated by a high degree of stakeholder awareness-building and engagement. The size of the quotas of each river system are based on bi-annually measures of the spawning run and yearly catch statistics from each river. After years of growth, the population sizes have stagnated, despite that the production potential of the populations is likely to be much higher than current levels. It is unknown whether the stagnation is a response to limiting local factors (e.g. spawning habitat or predation) or it is a correlated response across populations (e.g. to climate change). In order to further increase the populations, there is a need to further our knowledge about key factors that limits population growth.

E11

The National Fish Habitat Partnership Program Celebrates 10 Years of Success

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The National Fish Habitat Partnership was born in the early 2000s when an ad hoc group supported by the U. S. Sport Fishing and Boating Partnership Council explored the notion of developing a partnership effort for fish on the scale of what was done for waterfowl in the 1980s through the North American Waterfowl Management Plan. The waterfowl plan has worked wonders during the past two decades to boost waterfowl populations by forming strong local and regional partnerships to protect key habitats. The mission of the Partnership is to protect, restore and enhance the nation's fish and aquatic communities through regional fish habitat programs that foster fish species conservation and habitat conservation that improve the quality of life for the American people and often provide recreational opportunities. Since the start of the national program in 2006 with five partnerships and $440,000 in funding, the effort has grown to 20 regional partnerships and $7,000,000 annual funding that cover the 50 United States. Over 590 projects have been funded. In the past 10 years conservation project funding has totaled $63M from the US Fish and Wildlife Service leveraged with $102M of state, non-governmental organization and private funding. In the Western U.S. especially, native trout are highly sought after by anglers because of the difficulty in reaching their habitats and their intrinsic beauty.

E12

Evaluating Multisystem Scale Length Limits

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Multisystem length limits are a popular output control, implemented in many jurisdictions and for a variety of gamefishes. Evaluating the direct effects of length limits is a crucial step in selecting a regulation, but to our knowledge, no methodology exists to model length limits beyond a single waterbody. Furthermore, without a formalized process, the complexities associated with a multisystem scale of management can preclude effective communication and interpretation of pertinent information. We identified three limitations that inhibit traditional models from properly evaluating multisystem length limits: incomplete data coverage, inconsistent selection of the best length limit among systems, and the inability for a single-system approach to assess region-wide evaluation criterion. We then addressed these limitations in our development of a quantitative decision model, which uses a consistent approach for comparing length limits applied to multiple systems. Within the model, we built an extension of the Beverton-Holt yield-per-recruit function, coupled with a multiattribute utility function, which compares multisystem length limits with an overall score. We then structured the model into a user-friendly web application, with which the user can tailor the model to simulate a variety of population dynamic indices, incorporate sources of uncertainty, and select criterion with which to evaluate their length limits. This application provides a consistent methodology for evaluating multisystem length limits, and its use as a decision support tool can improve transparency and understanding of the length-limit-selection process.

E13

Why We Do What We Do: Defining Objectives for Recreational Fisheries

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Goals of recreational fisheries are often broad and include concepts such as ‘satisfaction’, ‘conservation’ and ‘expenditures’, yet the quantitative objectives for these fisheries are rarely explicitly defined. Maximum sustainable yield (MSY) has long been recognized as an inappropriate objective for recreational (and other) fisheries; however, this single-attribute yield function is still used as a benchmark for many fisheries. The concept of optimal yield (OY) was first considered in the 1970s and presents a more holistic alternative to MSY that captures a diversity of values. OY allows for a multi-attribute function that includes ecological, economic, social and political sub-objectives. In theory, implementing such an objective would help balance trade-offs among fisheries across species and the landscape. Despite these benefits, implementation of this objective has been slow and sporadic to date. No single technical definition or reference point is associated with OY, and explicitly defining multiple sub-objectives will require more effort to track metrics. Weighting attributes will necessarily affect the overall objective and the trade-offs between fisheries. Regardless, we argue that these problems are not insurmountable and demonstrate this by presenting the use of an OY fisheries objective on a landscape of stocked rainbow trout fisheries in southeastern British Columbia. In doing so, we hope to re-ignite the conversation of how to best define objectives for recreational and other fisheries in the future.

E14

Sport Fishing Management for Environmental Protection and Sustainable Development: An Application to the Middle Rio Negro

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The county of Barcelos in Amazonas, Brazil contains one of the best freshwater fisheries in the world (peacock bass). Currently, fishing services are provided by firms from outside the region, at rates of up to US$5000 for 6 days of fishing. Unfortunately, very little of this money winds up in the communities. This paper develops the theoretical foundation for a larger effort to bring community based sport fishing to the region. The paper begins with an optimal control model the includes the demand for fishing days and the supply of sport fishing boats as a function of price and the size of the stock. Equations are introduced to account for sport fishing catch and release mortality, commercial fishing mortality and subsistence fishing mortality. The optimal control model is solved and then used to evaluate an innovative program of ITQs for sport fishing days (SFD-ITQs). The evaluation takes place with regard to the impacts on stocks and the potential to implement a sustainable development program of community-based sport fishing and ecotourism. Recommendations are made for the most efficient and just ways to distribute the SFD-ITQs.

E15

Lessons in Fisheries Politics

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It is important that advocates of recreational fishing, public servants charged with fisheries management, and scientists and other experts who provide objective advice, all understand the nature and dimensions of fisheries politics. Accusing someone of “playing politics” is usually intended as a criticism, even an insult. But the phrase should be considered from a different perspective. Politics is the social process by which differences are expressed and resolved. If you don’t have differences, then you don’t have politics. A political situation, whether it is in a family, the workplace, government administration or a contest for public office is the process through which differences are discussed and settled. Fisheries politics takes place at a number of different levels. At the domestic level it determines the resources available to manage fisheries and understand their impacts. It defines the relationship between conservation and extraction. It determines the allocation of harvest between competing interests. At the international level it sets the rules between nations for the conservation and sharing of migratory and straddling stocks. Underlying all of these political relationships are rules and norms of political behavior that need to be learned and practiced by those who wish to maximize their influence over how fisheries are managed and practised.

E16

Resource Users' Perspectives on Future Fisheries Management – The Case of Recreational Fisheries for Sea Trout in Sweden

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The sustainability of resource (fish) exploitation is challenged for recreational fisheries in countries like Sweden, with relatively weak regulations concerning licenses, fees, catch restrictions and reporting. Swedish authorities acknowledge the need to strengthen regulations, but this may encounter opposition from recreational fishers. To ensure compliance, there is a need for tailoring the measures to the preferences of user groups. We surveyed sea trout (*Salmo trutta trutta*) recreational fishers (n=471) on the island of Gotland, Sweden, to explore their management preferences. Data was analysed in relation to type of recreational fishery (angling, nets and mixed), proximity to resource (permanent and periodic residents, Swedish and international tourists), membership in environmental organisations, voluntary participation in fisheries management, and consumptive orientation. Key results are that recreational anglers (spin and especially fly fishers) perceived stronger need for conservation and restoration of wild sea trout populations, and were more supportive towards catch and release (C&R), bag and size limits, and introducing fishing license than net fishers. Permanent residents were less supportive to trout protection and fishing regulations than other groups. There was limited support for fish stocking except for respondents who never participated in voluntary management. Members of environmental organisations were more supportive of catch restrictions and protected areas for sea trout then non-members. All user groups acknowledged the need for education and training for C&R. Based on our findings, we outline recommendations for future management with a high degree of acceptance, and potential compliance. We also identify management schemes where user groups have conflicting interests.

E17

Saltwater Fisheries Management in the United States: A Statutory and Regulatory Overview

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The United States' Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) is the primary law governing marine fisheries management in U.S. federal waters. First passed in 1976, the Magnuson-Stevens Act fosters long-term biological and economic sustainability of U.S. marine fisheries out to 200 nautical miles from shore. Under the Magnuson-Stevens Act, U.S. fisheries management is a transparent, science-based process executed in collaboration with fishermen, state governments, and the public. The Magnuson-Stevens Act established eight regional fishery management councils (councils) whose primary responsibility is to develop and recommend fishery management measures for any fishery under their jurisdiction that requires conservation and management. The Councils are made up of federal, state, and territorial fishery management officials, participants in commercial and recreational fisheries, and other individuals with scientific experience or training in fishery conservation and management. Effective conservation and management has largely ended over-fishing and led to the rebuilding of many federally managed stocks. The management strategies detailed in the Magnuson-Stevens Act are providing fishing opportunities and economic benefits for commercial and recreational fishermen and coastal communities around the nation. In this session we present a brief overview of the statutory and regulatory requirements and processes that govern US federal fisheries management with specific focus on Magnuson-Stevens Act objectives, national standards, and the role of the fishery management councils.

E18

Development and Implementation of the United States National Saltwater Recreational Fisheries Policy

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Saltwater recreational fishing is vital to social, cultural, and economic life in coastal communities across the United States. This time-honored activity encourages millions of people to access America's marine and coastal environment each year, while generating billions of dollars in economic activity. In 2015, one year after the non-governmental Commission on Saltwater Recreational Fisheries published a report highlighting concepts to improve stewardship of saltwater recreational fisheries, including formulation of a national policy, the U.S. National Oceanic and Atmospheric Administration's Fisheries Service (NOAA Fisheries) released its National Saltwater Recreational Fisheries Policy. Recreational fishermen's input directly helped to formulate the policy's goals, which include: 1) Supporting and maintaining sustainable saltwater recreational fisheries resources, including marine and estuarine habitats; 2) Promoting saltwater recreational fishing for the social, cultural and economic benefit of the nation; and 3) Enabling enduring participation in, and enjoyment of, saltwater recreational fisheries through science-based conservation and management. The Policy was quickly followed by the release of national and regional level policy Implementation Plans. Together these documents identify goals and guiding principles being integrated into NOAA Fisheries' planning and decision-making activities, as well as tangible implementation strategies and projects supported by NOAA Fisheries. During this session we will provide an in-depth overview focusing on policy development, content, and national and regional implementation strategies. We will conclude with brief highlights of progress to-date.

E19

A Long Term Systematic Approach on Sport Fisheries Enforcement

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Ten years ago, the license system for angling in The Netherlands changed. Before angling in inland waters acquired a State license and a fishing permit. From January the 1th 2007 these documents and the organizations behind it merged. From thereon angling in the inland waters requires a VISpas (permit) and accompanying mandatory documentation (paper or digital) where it is allowed to fish.

In 2006 a systematic approach was started to enhance nationwide information about the fishing documents and the associated enforcement at the waterside. The purpose of this policy is to regulate recreational fisheries and show that the national sport fishing association takes its own responsibility to regulate it.

In ten years a nationwide system was achieved with 125 fishing enforcement officers (was 55 officers in 2007) and 1.305 volunteer inspectors (was 650 volunteers in 2007). From 1995 until 2005 the average of anglers without a valid license varied between 25% en 35%. Since the moment the VISpas was introduced in 2007, and the start of the systematic approach, this percentage gradually lowered to 14%. In 2011 at the WRFC in Berlin the first results of this systematic approach were presented. In this presentation we will show the long term results and discus how they were achieved after 10 years of practice.

E20

Management Scenarios in the Western Baltic Cod Recreational Fishery: Design, Impacts and Efficiency

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The western Baltic cod stock is currently at a record low level with spawning stock biomass below the limit reference point since 2008. Next to the commercial fishery the marine recreational fishery plays an important role concerning the removal of biomass from this stock. German recreational fisheries catch of western Baltic cod represented one quarter of the total catch in 2015. Against the background of the urgent need for reducing overall mortality on the western Baltic cod stock to allow for a recovery, managers decided to include the recreational sector in stock rebuilding efforts. Using marine recreational time series data of German cod catches (2005-2015) we calculated the effect of potential management measures (bag limits, minimum landings size, closed season) for marine recreational fishers. The available time series data allows us to differentiate how many cod are harvested by how many anglers and how high the recreational removals are per individual catch category. The distribution of anglers per catch category and the related distribution of recreational cod harvest per catch category varies considerably between years. In addition, this data enables us to evaluate the proportion of affected marine recreational fishers and the potential reduction of recreational cod harvest by the introduction of the individual management measures. Qualitative data collected during a nationwide telephone-diary survey was used to evaluate the acceptance of management measures by the German recreational fishing community and thus understand potential compliance issues.

E21

Global Review of the Governance Structures for Recreational Fisheries

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Within the context of the Ocean Partnership component of the GEF and FAO Common Oceans Areas Beyond National Jurisdiction Program, Conservation International defined nine activities that would ultimately support the development of business plans for pilot projects in Grenada and the Dominican Republic as part of the Caribbean Billfish Project. One of these activities is a global review of governance structures for recreational fisheries as this sector is often neglected by government agencies responsible for all fishing activities within their EEZ, and in plans for trans-boundary stocks. Effective governance requires policy, institutional frameworks that include rules (laws) and regulations used to achieve policy objectives and management organizations to effectively implement the monitoring, control and surveillance of the rules and regulations. In order to identify key components that determine success or failure of governance under different conditions, a global review of each country's principle fisheries legislation and associated regulations was undertaken. This was followed up by a questionnaire distributed to key stakeholders in selected countries. Eight countries were then selected in order to further refine the analysis of governance structures and efficacy. Here we present some of the interim results. The final product will identify the key components that determine the success or failure of governance under different ecological, social and economic conditions, and will include a comprehensive strategy to improve the governance structure for recreational fisheries in general and those of Grenada and the Dominican Republic in particular.

E22

Recreational Summer Flounder Management in the U.S. Atlantic: Challenges and Opportunities Under Current Management System

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The U.S. Atlantic summer flounder recreational fishery is jointly managed in state and federal waters by the Mid-Atlantic Fishery Management Council and Atlantic States Marine Fisheries Commission. Starting in the early 1990s, the fishery was initially managed under consistent recreational regulations (possession limits, size limits, and seasons), along the entire coast, to constrain harvest to an annual harvest limit. Since that time, management measures have grown increasingly more complex, first with a transition to state-by-state management, and more recently, to adaptive regional management with fine-scale variation in regulations. Revisions to U.S. federal fisheries law in the late 2000s resulted in a mandatory system of annual catch limits and associated accountability measures, providing long-term sustainability benefits to the stock but imposing additional constraints on the modification of recreational management measures. Adding to the complexity of increased management constraints, recent evidence suggests that the stock may have experienced a range expansion and/or a northward shift in the center of biomass, resulting in a push from many stakeholders to reconsider state-specific harvest allocations. In response to increasing stakeholder desire to update current summer flounder management strategies, the Council and Commission have initiated a comprehensive re-evaluation of the Fishery Management Plan, aiming to develop both short- and long-term recreational management strategies to reduce complexity, improve the effectiveness of management measures, incorporate and address recreational management uncertainty, and balance the differing priorities of various stakeholder groups.