

SAVING FRESHWATER FISHES AND HABITATS

Newsletter of the IUCN SSC/WI Freshwater Fish Specialist Group

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Front cover image:

A local fisherman in the Periyar
Tiger Reserve of Kerala, India.
Photo: Rajeev Raghavan.

Message from the FFSG Global Chair

Dr Richard Sneider



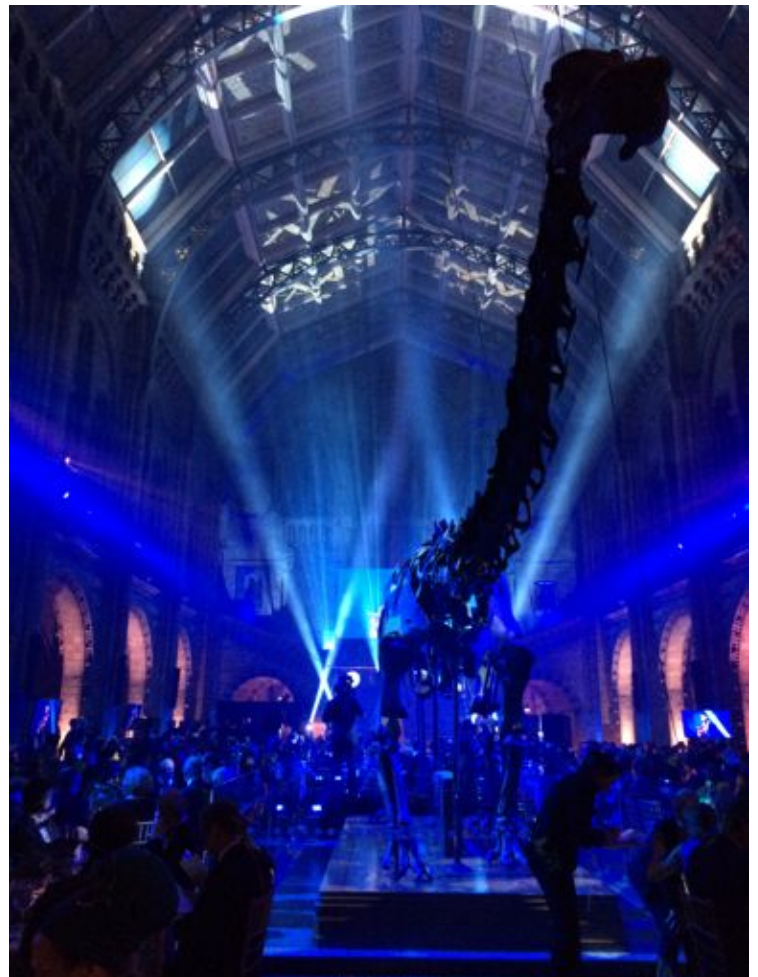
I have completed my first year as the Global Chair of the FFSG and have enjoyed it immensely. We have undergone a year of change in the Secretariat, and we have come through with a strong vision for new goals and projects. We have launched of Global Freshwater Fish BioBlitz, presented Red List Assessments of many species of eels by our Anguillid Species Sub-Group, contributed to the World Fish Migration Platform, initiated the new Home Aquarium Fish Sub-Group, and represented freshwater at the IUCN World Parks Congress in Sydney. And much more – more than I can list here - individually and collectively.

Personally, I have been very pleased to represent our group, the 50th anniversary of the unparalleled work of the IUCN Red List, and the pressing issues of freshwater conservation, at the Annual Beastly Ball of the Los Angeles Zoo in June of this year, and at the Biophilia Ball at the Natural History Museum in London.

I was especially pleased to meet some of you at the FFSG meeting hosted in Cuernavaca, Mexico by our Steering Committee member Topis Contreras Macbeath on December 10 and 11 this year. This was an excellent meeting with much **vision for the future from our Specialist Group**, from the simple but important facts of how we run our Group, to the large issues of what we need to do as priorities to conserve freshwater fishes, and engage the public in the process.

And so, through all of this, I have been reminded of the quote below – attributed to many because it has evolved in many forms, but here I will recognize Australian Minister for the Environment and Conservation Moses Henry Cass, who said 40 years ago **“We have not inherited this earth from our parents to do with it what we will. We have borrowed it from our children and we must be careful to use it in their interests as well as our own.”**

Indeed, Life on Earth, as we know it, is the result of billions of years of evolutionary development. Because of the interdependent and relational nature of species, biodiversity is essential to the health and sustainability of the planet. We, as the “dominant species” on the planet, with all-pervasive creative and destructive capabilities, have the ethical responsibility towards the well-being of the planet, towards humanity, towards life.



*Image from Biophilia Ball at Natural History Museum in London.
Photo: Will Darwall*

Life is cosmic poetry. We have the moral and practical imperative to preserve life for its intrinsic and instrumental value; promoting biodiversity is both, an altruistic and a self-preservation endeavor.

The traditional view of evaluating growth, development and stability, mostly through measurements like GNP or GDP without taking into consideration the toll it takes on earth's resources, is like running a business accounting only for output, without considering the expenses; sooner or later any organization which behaves thus will go broke.

IUCN's Red List of Threatened Species is one such expense column; it is an alarming red flag signaling the huge deficit we are running, and the likely bankruptcy we are facing in the business of life! E.O Wilson said that "...the ideal scientist thinks like a poet and works like a book-keeper." After a year of being a part of FFSG I sincerely believe we meet Wilson's goals – we enjoy the poetry of life in the water below us, around us, and above us. But we know the challenges and reality of conserving and managing our freshwater ecosystems.

I want to express my sincere gratitude to the IUCN scientists who commit wholeheartedly their efforts to preserve the beauty of life's manifestation, and to prevent the disaster we will make by destroying it, and its context. I hope that after 50 years of remarkable development, the Red List and the immense scientific and conservation work that underpins it, will increase global awareness, and be a call to action, to change our nature's balance sheet. It will provide us with the direction to return the Earth to our children as a thriving life manifestation of life, on the ground *and in the water*, rather than the stockpile of trash we have been making out of it.

I want to highlight my appreciation for the support and cooperation FFSG receives from IUCN's Species Survival Commission and its partners in IUCN's Global Species Programme; particularly to Simon Stuart, Rachel Roberts, Jane Smart and Will Darwall, as well as to Ian Harrison, Alex Mauroner. I am grateful to Scott Dowd and the New England Aquarium for their resolve on forming the Home Aquarium Fish Sub-Group, and to Synchronicity for their awesome Biophilia Ball.

Thanks to all of you for being such ambassadors to life!

Best wishes,

A handwritten signature in blue ink, appearing to read 'R. Sneider', with a stylized flourish at the end.

Richard Sneider
FFSG Global Chair

FFSG Welcomes New Sub-Group

Alex Mauroner

FFSG Programme Officer

In October 2014 the FFSG formally announced the formation of a new Home Aquarium Fish Sub-Group (HAFSG). This new component of the FFSG is in large part due to the efforts of Scott Dowd of the New England Aquarium (NEAq), who is now serving as the sub-group's Chair.

The HAFSG was established for a number of reasons. For the last several years the FFSG has had an interest in developing projects on the conservation of freshwater fish species as they relate to the aquarium trade, including their sustainable management and the trade itself. If done properly the aquarium fish trade can support habitat conservation and the livelihoods of local communities involved in the trade.



Scott Dowd, Chair of the new HAFSG and Biologist at the New England Aquarium. Photo: Vincent DiDuca

The sub-group was launched at full speed, with momentum coming from its numerous initial events and projects. It received enthusiastic support from the NEAq, with the aquarium helping to promote the formation and early development of the sub-group.

Early projects included a side event at the IUCN World Parks Congress in Sydney aimed at examining unique approaches for creating protected areas. It was a follow-up on a separate WPC presentation on Creating Protected Areas by Fostering Socioeconomically and Environmentally Beneficial Aquarium Fisheries. In January 2015 Rajeev Raghavan will represent the HAFSG by presenting at The Food and Agriculture Organization of the United Nations' (FAO) Global Conference on Inland Fisheries. He will present a paper related to the year's theme – "Freshwater, Fish, and the Future: Cross-Sectoral Approaches to Sustain Livelihoods, Food Security, and Aquatic Ecosystems." Also in January 2015, Scott Dowd and others from the HAFSG and Project Piaba (another project of Scott's) will lead a group to the fishing grounds in Brazil to examine the condition of fisheries and livelihoods in the area.

HAFSG website: (<http://www.iucnffsg.org/about-ffsg-2/home-aquarium-fish-sub-group/>)

Freshwater Biodiversity Unit's Key Biodiversity Areas Project

Savrina Carrizo

Freshwater Biodiversity Unit Programme Officer

Key Biodiversity Areas (KBAs) are sites that are important for the persistence of biodiversity. Identification of KBAs plays a crucial role within conservation strategies but has lagged for the freshwater realm.

The IUCN Freshwater Biodiversity Unit (FBU) has recently completed a project to develop a website dedicated to Freshwater KBAs (<http://www.birdlife.org/datazone/freshwater>).

Users can look up factsheets on individual freshwater KBAs using either the map view (Figure 1) or a search form.



Figure 1: Map view of the Freshwater Key Biodiversity Area (KBAs) website. The yellow points mark the centre of the stakeholder validated freshwater KBAs. Users can zoom in and click on a given point to view the KBA factsheet.

Freshwater KBAs are identified by analysing the conservation status and distribution data from the IUCN Red List of Threatened Species™ and are identified at the HydroBASINS level 8 resolution (Lehner and Grill, 2013). A crucial follow-up step is to review and validate the KBAs at stakeholder workshops where further information is also collated including threats within the KBA and recommended conservation actions.

KBA factsheets are currently available for Europe, the Mediterranean basin hotspot and Western Ghats. Stakeholder workshops have been held for the Balkans, Turkey and Levant, North Africa and Western Ghats regions. Future projects aim to identify freshwater KBAs in other regions and these will be added to the website in due course.

Freshwater KBA factsheets provide an array of information including HydroBASIN ID(s), central coordinates, area, KBA qualification (e.g. confirmed), a list of the trigger species and which KBA criteria they meet, a summary table of the number of species that meet any of the KBA criteria, and whether or not the KBA has been reviewed and validated at a local stakeholder workshop. Validated KBAs will also have a KBA name, site description and lists of threats, conservation actions, and protected area overlaps.

A report just released by IUCN (Darwall et al., 2014) identifies the freshwater KBAs of the Mediterranean Basin Hotspot. The report suggests that at least 167 sites in the Mediterranean Basin – covering an area of 302,557km² – qualify as freshwater KBAs. Lake Skadar (Figure 2) is one such freshwater KBA identified in the report and comprises 24 trigger species (molluscs, fishes and plants) that are globally threatened and/or restricted range.

Factsheets for all of the above KBAs can be found on the Freshwater KBA website and we hope that both the website and the report are catalysts for improved management and protection of freshwater biodiversity.



Figure 2: An inlet on Lake Skadar, Albania and Montenegro. This large Mediterranean lake and its associated catchment is a freshwater Key Biodiversity Area (KBA) supporting at least 24 species of threatened or restricted range freshwater species.
Copyright: Geert De Knijf.

Acknowledgements

We thank the EC BioFresh project (226874) for the funding to develop the website - an invaluable communication tool for freshwater KBAs. We thank Ian May of Birdlife for overseeing the technical development of the Freshwater KBA website.

References

Lehner, B., Grill G. (2013): Global river hydrography and network routing: baseline data and new approaches to study the world's large river systems. Hydrological Processes, 27(15): 2171–2186. Data is available at www.hydrosheds.org.

Darwall W., Carrizo S., Numa C., Barrios V., Freyhof J. and Smith K. (2014) Freshwater Key Biodiversity Areas in the Mediterranean Basin Hotspot. Informing species conservation and development planning in freshwater ecosystems. IUCN, Cambridge, UK and Malaga, Spain.

KBA report available from www.iucn.org/species/freshwater

FFSG at the World Parks Congress

Ian Harrison

FFSG Technical Officer



Some FFSG members that attended the 2014 World Parks Congress in Sydney. David Cooper (Mahurangi Technical Institute, New Zealand), Scott Dowd (New England Aquarium), Harmony Patricio (FishBio/Australian Rivers Institute). Joerg Freyhof (GEO BON), and Rajeev Raghavan (Conservation Research Group, St. Albert's College, Kochi). Photo: Rajeev Raghavan

The sixth IUCN World Parks Congress (<http://worldparkscongress.org/>) was held from November 12-19, 2014 at Olympic Park, Sydney, Australia. The Parks Congresses are held only once a decade, and therefore are very important events in terms of planning ahead for management and policy associated with protected areas around the world. The Congress brings together a mix of thousands of park managers, scientists, conservation practitioners, policy-makers, politicians, and indigenous people. The Congress in Sydney was no exception, with 6,000 people from 170 countries attending plenary sessions, parallel sessions in eight subject-specific 'Streams', four cross-cutting 'Themes', World leaders Dialogues, Capacity Development Workshops, over 500 electronic posters, and many side events held in the Pavilions, exhibition booths, and meeting rooms at the Congress site, and off-site.

Several of us from FFSG, as well as from the IUCN-WCPA Freshwater Task Force, the IUCN-SSC Freshwater Conservation Subcommittee, and GEO BON's Freshwater Ecosystem Change Working Group have been involved in planning freshwater content for the Congress for a long time. In early 2013 some of us were included in a consortium that made a proposal to coordinate the content of Congress Stream 1, on 'Reaching Conservation Goals.' That proposal, which was led by Stephen Woodley, Marc Hockings (each of IUCN-WCPA), Tom Brooks

(IUCN Science and Knowledge Unit) and Penny Langhammer (IUCN-WCPA and SSC), was accepted by the Parks Congress organizers.

At about the same time, several of us were concerned that, while the four cross-cutting Theme sessions of the Congress included one on marine issues, there was no similar representation in the Themes for freshwater. We requested the inclusion of a freshwater cross-cutting Theme, but were unsuccessful in getting it included in the Congress. Consequently, many of us worked hard to ensure that freshwater content was included in as many of the other seven Congress Stream sessions as possible. Our objective was not only to contribute to the sessions, but also to identify specific outputs that could be produced from these sessions, and to ensure that freshwater issues are well represented in the statements produced from each Stream in support of the official 'Promise of Sydney'.

We were very successful in achieving this, with members of FFSG contributing to the sessions listed below. In addition to this, several of the important freshwater messages that we were discussing with Stream leaders in the lead-up to the Congress were included in preliminary strategy documents. **Most importantly, the reports submitted by the Stream leaders on December 22, 2014 make several recommendations for including freshwater ecosystems as components of future conservation and protected area planning, and water management (see below).**

Stream 1 – Reaching Conservation Goals

A session on ***Identifying and Conserving Important Freshwater Areas*** was planned and co-led by Ian Harrison (Conservation International/The Biodiversity Group) and Harmony Patricio (Australian Rivers Institute/FishBio). This included presentations by FFSG members on:

- *A Global River Gap Analysis: increasing protection of river catchments* by Simon Linke (Australian Rivers Institute) in collaboration with Michele Thieme (WWF-US), Robin Abell (Freelance Conservation Biologist & Science Communications Specialist, Academy of Natural Sciences of Drexel University), and Bernhard Lehner (McGill University, Canada)
- *Freshwater KBAs in Europe and India* by Rajeev Raghavan (Conservation Research Group, St. Albert's College, Kochi, India) and Jörg Freyhof (GEO BON)
- *Environmental DNA for identifying areas of conservation importance* by Harmony Patricio (Australian Rivers Institute)

A session on ***Freshwater Biodiversity Outcomes from Protected Areas*** was planned and co-led by Ian Harrison (Conservation International/The Biodiversity Group), Harmony Patricio (Australian Rivers Institute/FishBio) and Eren Turak (GEO BON & Office of Environment and Heritage, Australia).

There was enthusiastic discussion in this session, **with a call for stronger focus on freshwaters by national and international conservation bodies such as IUCN**, and that special attention should be made to category I and II Protected Areas as being the regions where most conservation efforts are likely to be the most successful. **Several of the recommendations made in these sessions were adopted by the Stream 1 leaders in their final report submitted to plenary (see below).**

Stream 2 –Responding to Climate Change

A session on *Freshwater and Climate Change* was planned and co-led by Ian Harrison (Conservation International/The Biodiversity Group) with Angela Andrade (Conservation International - Colombia), Roel Posthoorn (Natuurmonumenten, Netherlands), Jamie Pittock (Australian National University & IUCN-WCPA Freshwater Task Force), and Max Finlayson (Charles Sturt University, Australia).

Stream 4 – Supporting Human Life

A session on *Freshwater and Climate Change* was planned and co-led by Ian Harrison (Conservation International/The Biodiversity Group) and Tracy Farrell (Conservation International & IUCN-WCPA Freshwater Task Force). This included a presentation by FFSG members on:

- *Eels – A flagship species for freshwater conservation in the Philippines* by Matthew Gollock (ZSL; and Chair of the Anguillid Specialist Sub-Group) and Marlynn M. Mendoza (DENR – Philippines).

In addition, Ian Harrison presented an ePoster on *Catalyzing action towards sustainability of deltaic systems* in collaboration with colleagues in the Belmont Forum DELTAS project.

<http://wpc2014.digitalposter.com.au/posters-search/>

Stream 6 - Enhancing Diversity and Quality of Governance

Ian Harrison assisted WWF –Mexico and CONAGUA is securing a slot to present an ePoster on *National water reserves program: Moving from basin to a national water environmental allocation*.

<http://wpc2014.digitalposter.com.au/posters-search/>

Stream 7 –Respecting indigenous and traditional knowledge and culture

A session on *Traditional knowledge: a voice for freshwater futures, and a voice for adaptation* was planned and co-led by Ian Harrison (Conservation International/The Biodiversity Group) and Danielle Flakelar (Office of Environment & Heritage, Australia). This included presentations by FFSG members on:

- *Inspiring Images and Connected Cultures* prepared by Stephanie Bowman (The Biodiversity Group) and presented by Ian Harrison
- *Amazonian river aquarium fishes – sustainable fishes and sustainable livelihoods* by Scott Dowd (New England Aquarium, and Chair of the Home Aquarium Fish Sub-Group)
- *Biodiversity Restoration in Lake Dianchi, Yunnan, China - Involvement of Buddhist Believers* by Tony Whitten (Fauna and Flora International, and FFSG Special Advisor).
- *Can Gods save Freshwater Fishes? Temple Sanctuaries as an Alternate Approach to Conservation* by Rajeev Raghavan (Conservation Research Group, St. Albert's College, Kochi, India)
- *Climate Change and Indigenous People: Freshwater Resources and the Need for Adaptation*, prepared by Alex Mauroner (FFSG Programme Officer) and discussed by Ian Harrison.

The recommendations from this session were subsequently compiled in collaboration with Will Mooney (Friends of the Earth Melbourne) and David Lucas (Natural Resource Management at Native Title Services Victoria) and submitted to the Stream leaders by David Lucas.

Stream 8: Inspiring a New Generation

Alex Mauroner (FFSG Programme Officer), Ian Harrison (Conservation International/The Biodiversity Group), and Michele Thieme (WWF-US and FFSG Steering Committee) presented an ePoster on the *Global Freshwater Fish BioBlitz*.

<http://wpc2014.digitalposter.com.au/posters-search/>

Several members of FFSG will be collaborating in preparing two papers as outcomes from these sessions, one on 'Measuring Change in Freshwater Biodiversity' and another on 'What does target 11 really mean for freshwater biodiversity'.

In addition to the sessions in the Streams listed above, FFSG contributed to two side-events at the Congress. **Scott Dowd (New England Aquarium) led a side-event profiling the work of the Home Aquarium Fish Sub-Group of the IUCN Freshwater Fish Specialist Group.** The side event discussed projects that will promote the conservation and wise management of wild populations of tropical fishes that are part of the home aquarium trade, as well as promoting conservation of the ecosystems where the fishes are found, and maximizing environmental protectionism and socioeconomic benefits for home aquarium fishing communities, especially those living in regions of biological importance

Ian Harrison co-led a side event with Jamie Pittock (Australian National University) and Becky Flitcroft (US Forest Service) launching the **freshwater chapter in the book on Protected Area Governance and Management** that has been coordinated by WCPA and will be publicly available online (for free) in early 2015. Michele Thieme is also a co-author on this publication:

Pittock, J., Finlayson, M., Arthington, A. H., Roux, D., Matthews, J. H., Biggs, H., Harrison, I., Blom, E., Flitcroft, R., Froend, R., Hermoso, V., Junk, W., Kumar, R., Linke, S., Nel, J., Nunes da Cunha, C., Pattnaik, A., Pollard, S., Rast, W., Thieme, M., Turak, E., Turpie, J., van Niekerk, L., Willems, D. and Viers, J. (2015). 'Managing freshwater, river, wetland and estuarine protected areas', in G. L. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds) Protected Area Governance and Management. ANU Press, Canberra.

The Promise of Sydney: Innovative approaches for change

A summary is given below of most of the comments and recommendations for the conservation and management of freshwater ecosystems, submitted by the Stream leaders on December 22, 2014.

Full versions of the text are available on the World Parks website at

http://worldparkscongress.org/about/promise_of_sydney_innovative_approaches.html

In addition to this there are some statements [in square brackets] from earlier planning documents (submitted on November 11). Although these are no longer posted online, they include some important comments about freshwater management that had been noted by the Stream leaders.

Stream 1 – A strategy of innovative approaches and recommendations to reach conservation goals in the next decade

The current situation: Freshwaters are often only incidentally included as part of protected areas, or as borders to protected areas, without representative support for their management and conservation.

Recommendations for change:

Recommendation 8: Countries, local communities, and the private sector consider prioritizing sites that contribute significantly to the global persistence of biodiversity (including both species and ecosystems, across the terrestrial, **freshwater**, and marine biomes, and recognizing the dependence of biodiversity on geodiversity) when creating or expanding formal protected areas or implementing other area-based conservation measures

Recommendation 10: **Global protected areas should include a specific focus on coverage and management of freshwater ecosystems in their own right rather than as a component of terrestrial systems, and should address downstream watershed protection where threats are greatest, as much as upstream landscape protection.**

Recommendation 20: The total area of protected areas and connectivity lands needs to be far higher than current conceptions and delegates agreed on the importance of setting ambitious targets. Percentage targets are problematic in focusing on area at the expense of biodiversity objectives. Nonetheless, many delegates argued

that these should be around 30% of the planet for no take reserves, 50% overall protection, **and 100% of the land and water managed sustainably.**

Key partnerships needed: Includes the Ramsar Convention, and UN Watercourses Convention.

Stream 2 – A strategy of innovative approaches and recommendations for responding to climate change in the next decade **Responding to climate change**

The current situation: Concepts such as ecosystem connectivity, resilience, adaptation and blue and green carbon, which have the best chance of helping nature and people manage in this new world, are being converted into concrete actions by innovative countries, decision-makers, and climate change communicators in an effort to secure food and water supply.

[Also an Annex to a former draft of the *strategy of innovative approaches and recommendations for responding to climate change*, submitted for consultation on 11 November 2014 and for subsequent revision, included the following recommended target: “By 2015, **given climate change is affecting us first and foremost through water flows and availability**, stakeholders act on a ten-year window of opportunity, in IUCN countries, to plan our protected areas wisely so that: (i) **we conserve areas that are currently important wetland sites for biodiversity or that will become important sites in the future under scenarios of climate-forced landscape change**; (ii) our protected area planning can **do a better job at conserving and managing those regions that can provide critical water needs to people in the future.**”]

Stream 3- A strategy of innovative approaches and recommendations to improve health and well-being in the next decade **Improving Health and Well-being**

The current situation: We must further expand protected areas on land and **inland waters**, and in coastal and marine areas, and integrate nature into our cities

Stream 4 – strategy of innovative approaches and recommendations to support human life in the next decade

A promising future: Protected areas are a key tool for sustainable development, through their role in sustaining ecosystem services - conservation of genetic resources; sustainable production of food and materials; **reliable supply of pure water**; and disaster risk reduction. **They should be routinely integrated into both land, sea and water use plans** and national development plans

The current situation: Well-managed protected areas **sustain water supplies...** Management of protected areas needed to consider agriculture, forestry, fisheries, hunting, poverty reduction **and water** management alongside its more traditional concerns. Since Durban, more attention has been centered on these issues, and some experience gained and lessons learned on how protected areas can and are serving as an accessible and affordable means of food security and subsistence, **fresh water provision**, and disaster risk reduction... We must build on experiences and lessons learned to ensure protected areas effectively contribute to food security, **water and disaster risk reduction.**

General recommendations for change:

Ensure that **costs and benefits from aquatic and terrestrial Pas are distributed fairly**, in the short and long-term with a full understanding of the balance of power among stakeholders.

Governments at all levels should develop cross-sectoral policies and mechanisms for integrating fisheries, forestry, agriculture, livestock and bush meat into **water management policy and water resource development plans.**

Food security recommendations for change:

Strengthen land and water use planning through studies on the role and impact of protected areas in national food security and local livelihoods, including the quantity and quality of food obtained from protected areas, their role in the "in situ" conservation of genetic resources and in the provision of ecosystem services to support sustainable agriculture, forestry and fisheries.

Prioritize areas that are particularly suitable for the in situ conservation of genetic resources for agriculture, forestry and fisheries when identifying and establishing terrestrial **and aquatic PAs**.

Ensure that Ramsar's new strategic programme includes the sustainable use of biodiversity for agriculture, fisheries and forestry as key elements in identifying, **developing and managing wetlands of international importance**.

Support for aquatic and terrestrial PAs should be enhanced through efforts to increase incomes and livelihood opportunities for local people by improving access to markets, value-added processing, certification (including of organics and regional identification labeling), and by better organizing and capacitating local collectors, fishers, farmers and small PA-dependent businesses

Water security recommendations for change:

Identify legal, institutional and social factors that produce a good **synergy between protected area management and water security management**. Choose examples of positive projects across organisations, document these, analyse and communicate lessons—the **WCPA freshwater task force will monitor and actively support progress on these sites over the next decade**. Link this to risk-management and business cases for investing in natural water infrastructure, and restoration initiatives.

Reflect in the water price the benefits from protected areas for water supply, regulation and quality.

Consider natural water infrastructure as a key investment in addressing water risk and a legitimate component in water security strategies.

Strengthen partnerships with a wider group of stakeholders to promote the conservation and management of freshwater ecosystems. Enable civil society to engage effectively in water governance.

Stream 5 – A strategy of innovative approaches and recommendations to reconcile development challenges in the next decade

Recommendations for Change: There is increasing evidence of the ever-stronger role that protected areas play in achieving nations' development goals, including food and **water security**, risk reduction, livelihoods, and poverty reduction.

Recommendation 3: Integrate protected area values into the methodologies and procedures for economic accounting, such as in tourism, forest or **water satellite accounts**, SEEDs and ultimately Standard National Accounts, which measure, account, monitor and report on development and human well-being.

Recommendation 7: maintain permeable landscapes that support protected area systems and sustain ecosystem services that are essential for food and **water security**.

Stream 6 - A strategy of innovative approaches and recommendations to enhance the diversity, quality and vitality of governance in the next decade

A Promising Future: Communities should re-energise as governance actors, **build their food and water sovereignty on a proper care of the natural commons** and nourish their unique local knowledge, institutions and capacities towards the long term vision necessary for sustainable human development.

Recommendations for Change:

Recommendation 4 – Collective rights and responsibilities: All countries, relevant organisations, protected area managers and rightsholders take concrete steps ... to recognise and secure the right of self-determination of indigenous peoples as well as the collective land and resource rights and responsibilities of indigenous peoples and traditional ... fishing communities—both sedentary and mobile— for the billions of hectares of ... **wetlands** they customarily govern and manage on our planet.

Recommendation 5 – Governance overlaps: In situations where the land, **water**, natural resources and coastal and marine areas of indigenous peoples and local communities overlap with established protected areas under any other governance type, all countries and relevant organisations ensure that collective rights and responsibilities to own, govern, manage, and use such land, **water**, natural resources and coastal and marine areas are respected. Further, ... indigenous peoples’ and local communities’ ... livelihoods and food and water sovereignty are appropriately recognized and supported, along with their knowledge, institutions, practices, management strategies and plans related to conservation.

Recommendation 19 – Food and water sovereignty: All countries, relevant organizations, protected area managers and rightsholders take concrete steps to ensure the food and **water sovereignty** of producer communities in protected and conserved areas...

Stream 7 - Annex to a strategy of innovative approaches and recommendations for respecting indigenous and traditional knowledge and culture in the next decade

[The Annex to a former draft of the *strategy of innovative approaches and recommendations*, submitted for consultation on 11 November 2014 and for subsequent revision, included the following statement as part of the Interim specific targets for 2016-2025:

“By 2010: ...building on work undertaken to implement the Voluntary Guidelines for the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security (VGGT), a mechanism similar to UNDRIP has been established for non-indigenous local communities including artisanal fishers, peasant farmers, and others, making linkages with conservation activities across **all land/water uses**.

By 2025 ...Routine and institutionalised incorporation of the interests and skills of Indigenous peoples and local communities into PA models, application of traditional knowledge, and universal recognition of community-based tenure rights of Indigenous Peoples and local communities have lead to responsible and sustainable land/**water management** across the landscape, with rural and urban communities at the centre of decision-making.”]

Capacity development Stream - A strategy of innovative approaches and recommendations to maximize capacity development in the next decade

Recommendations For Change

Recommendation 4: To ensure that capacity development initiatives address the needs of the full diverse range of protected area managers, managing entities, categories and governance systems. In particular: to identify and meet specific capacities and capacity development needs of indigenous and local community PA stewards; to address the needs of co-managers of multifunctional protected areas and other partners new to PA management; and to build the capacities of other sectors to integrate protected areas into their plans and activities (in particular spatial planning, forestry, agriculture, **water management**).



Summary of Annual FFSG Meeting in Mexico

Alex Mauroner

FFSG Programme Officer

The FFSG Annual Meeting took place in Cuernavaca, Mexico from Dec. 10-11, 2014. The two-day meetings were hosted by Topiltzin Contreras MacBeath (FFSG Regional Chair and Chair of the Freshwater Conservation Sub-Committee) at the Hosteria las Quintas. Members of the Steering Committee, Advisors, and Regional Chairs gathered together to discuss the state of the Specialist Group and to devise strategic projects for 2015 and onward.

The meetings were held in conjunction with meetings of IUCN's Freshwater Conservation Sub-Committee, which took place Dec. 8-9 at the same location. Several FFSG members hold positions on this sub-committee and attended all four days of meetings.

In attendance at the FFSG meetings were:

- Richard Sneider (Global Chair)
- Will Darwall (Head of Freshwater Biodiversity Unit, Steering Committee Member)
- Ian Harrison (Technical Officer)
- Topiltzin Contreras MacBeath (Regional Chair for Mesoamerica, Special Advisor for Communication)
- Claudio Baigun (Steering Committee Member, Wetlands International Representative)
- Michele Thieme (Special Advisor, Conservation)
- Roberto Reis (Regional Chair for South America)
- Jos Snoeks (Regional Chair for Central and Eastern Africa)
- Rajeev Raghavan (Regional Co-Chair for Southern Asia)
- Pete Rand (Chair of Salmonid Specialist Group and FFSG Member)
- Scott Dowd (Chair of Home Aquarium Fish Sub-Group and Special Advisor on Ornamental Fisheries)
- Alex Mauroner (Programme Officer)
- *Jörg Freyhof (Regional Chair for Europe)

* = *participated remotely*

The meeting was kept small this year, partly due to budget constraints and partly because the aim was to keep the group small and discussion focused on specific points of action and deliverables for the remainder of IUCN's 2013-2016 quadrennium, and looking forward to 2020. Having a smaller group in attendance allowed for intense discussion in which everyone's voice was heard.

Organizationally, some changes were discussed. Pending consultation with the Secretariat of IUCN-SSC, the FFSG membership process is likely to be amended. Some of the boundaries of the regional coverage of FFSG will be

reshaped to represent biogeographic boundaries as well as reflecting our regional representation and the capacity of individuals to act as expert regional chairs for these regions. The IUCN Union Portal will be utilized more by the group – especially Regional Chairs. Membership numbers may increase in order to broaden our network of expertise in all things freshwater fish. Fundraising – including investigating opportunities to charge a nominal fee for website access/membership – and finding a new host organization were other important topics of discussion and exploration.

Other upcoming projects that were discussed at these meetings include:

- explorations of the FFSG's role within Wetlands International
- recent developments with FishBase
- the role of FFSG in the World Fish Migration Platform (<http://www.fishmigrationplatform.com/>) and our contribution to the Fish Passage Conference in June 2015 (<http://fishpassage.umass.edu/>)
- follow-up to freshwater- specific outputs from the IUCN World Parks Congress and the *Promise of Sydney* statements (see article in this newsletter)
- regional promotion of ongoing Global Freshwater BioBlitz project
- a potential manual or book of guidelines on infrastructure projects' impacts on freshwater fish
- collaboration with the Salmonid SG on its guidelines for recreational fishing
- discussion of other potential major projects for the FFSG, such as a review of the ecosystem impacts of dams; development of the Census of Freshwater Life project
- collaboration with the IUCN Freshwater Conservation Sub-Committee on several projects, and even a potential global creative forum on water in 2016

The full minutes from the two days of meetings will be made available via the FFSG website for those interested.

Overall, the meeting was a great success. Many thanks to Topis and Manuel Rivas for making arrangements for the meeting and hosting it in Mexico, and to Richard Sneider for leading it. The FFSG will be very active in 2015. In order to accomplish many of the goals and specific projects outlined at these meetings, we will need the support of all of our members. Many of you will be called upon over the coming months for your assistance and expertise related to the various initiatives discussed above. Please do your best to assist the FFSG and your Regional Chairs in order to build off the momentum generated by these meetings.

Thank you all for your continued support this year and onward.

Ceremony to Protect El Texcal State Park and Ramsar Wetland

Alex Mauroner

FFSG Programme Officer

The IUCN Freshwater Conservation Sub-Committee meetings, which were held in Cuernavaca, Mexico in conjunction with the FFSG's Annual Meeting, commenced with an illustration of conservation in action.

On Monday, Dec. 8, 2014 the Governor of Morelos, Mexico invited members of the IUCN-SSC Freshwater Conservation Sub-Committee and the FFSG to join him as he signed an agreement to preserve the State Protected Area "El Texcal". This area is home to a Ramsar Site (a wetland of international importance) and vital to the conservation of the Morelos Minnow that calls it home. Half of the area of occupancy for the Morelos Minnow (*Notropis boucardi*) is found within the Ramsar Site, which is also known for its hydrological importance for the region.



FFSG Regional Chair and Minister of Environment for Morelos, Topis Contreras MacBeath helps sign a pact protecting vital freshwater habitat. Photo: Graco Ramírez

Thanks to the Chair of the Sub-Committee (and FFSG Regional Chair), Topis Contreras MacBeath, for making this happen! He has been working for years to protect *N. boucardi* with the involvement of local communities, governmental authorities, and international agencies.



*Approximately half of the territory of the Morelos Minnow (*Notropis boucardi*) is found within El Texcal, an area that recently received more protection from local government.
Photo: Topiltzin Contreras MacBeath.*



FFSG members attending ceremony at El Texcal as part of the FCSC and FFSG meetings in Cuernavaca. Back row from left: John Simaika, Rajeev Raghavan, Will Darwall, and Ian Harrison. Photo: Graco Ramírez

FFSG Members Receive Funding for Project in Western Ghats

Alex Mauroner

FFSG Programme Officer

We have recently been informed that a project being led by FFSG member and Regional Co-Chair Rajeev Raghavan has received a grant for an upcoming project. The Chicago Zoological Society's Chicago Board of Trade (CZS CBOT) Endangered Species Fund has agreed to help fund the project entitled "Conservation of Redline Torpedo Barbs in Western Ghats ensuring a future for an endangered freshwater flagship population."



The grant is designed to support conservation-oriented research. The grant attracts dozens of innovative research projects each quarter, and the most promising of these are awarded funding. We are proud to say that Dr. Raghavan's group was among the few selected from the large pool of applicants. Furthermore, this project received almost the highest level of funding possible, which illustrates the importance and promise of the Western Ghats initiative. Congratulations to Dr. Raghavan and all those involved. We will make sure to keep the FFSG updated as the project progresses.

Brazilian National Red List Assessments

Roberto Reis

FFSG Regional Chair, South America

The Chico Mendes Institute (ICMBio for its acronym in Portuguese) finished the national assessment of extinction risk of Brazilian animals in December 2014. ICMBio had a collaboration agreement with IUCN/CI Biodiversity Assessment Unit (USA) to assess 10,000 species of Brazilian fauna in five years (2010-2014). As of December 2014 ICMBio finished the evaluation and validation of over 12,000 species, 4,509 being fish. Of this total, 3,122 are freshwater fishes, which pretty much include all species described by October 2014.

Of the 3,122 freshwater fish species assessed, 3,105 are actinopterygians and 17 are freshwater stingrays; 1,756 are endemic to Brazil, while 1,366 share their distributions with neighboring countries; 1,707 inhabit the Amazon basin and 982 occur in the Atlantic forest.

Habitat loss and degradation is by far the most important threat freshwater fishes are facing in Brazil. The results revealed that 311 (10%) of the species were assessed as threatened (102 species as Critically Endangered (CR), 110 as Endangered (EN), and 99 as Vulnerable (VU)). In addition to that, 98 ended up as Near Threatened (NT) and 381 were Data Deficient (DD), while 2,316 were regarded as Least Concern (LC). Groups particularly threatened are the annual killifishes (Rivulidae), with 125 Endangered species out of 252, and the 16 species of cave fish, all considered to be Endangered.



Researchers gathered to complete a nation-wide assessment on Brazilian fauna, including over 3000 species of freshwater fishes. Photo credit: Roberto Reis.



Members of the Chico Mendes Institute (ICMBio), the Brazilian Ministry of the Environment's administrative arm. Photo credit: Roberto Reis.

Rediscovery of *Telestes miloradi* from Konavosko polje in southern Croatia after more than 100 years

Zoran Marčić¹, Marko Čaleta², Davor Zanella¹, Ivana Buj¹, Perica Mustafić¹, Tanja Mihinjač & Milorad Mrakovčić¹

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Telestes miloradi is a recently described cyprinid species derived from splitting geographically isolated populations of *T. metohiensis* into three distinct species: *T. metohiensis*, *T. dabar* and *T. miloradi* (Bogutskaya et al., 2012). While *T. metohiensis* and *T. dabar* are endemic to Bosnia-Herzegovina, *T. miloradi* is endemic to Croatia, where it was only found in the Ljuta River, a small coastal drainage in southern Croatia. The species was last reported from Croatia over a century ago (Kottelat & Freyhof, 2007; Kosić, 1903) and hasn't been found since. The main reason for its potential extinction is the intensive introduction of rainbow trouts (Mrakovčić et al., 2006), which might have established a reproducing population in Ljuta River. When Bogutskaya et al. (2012) described the species based on old museum materials, they already discussed that *T. miloradi* might be extinct, but pointed to the possibility that it might have survived in remote places of the Ljuta drainage.

Eight specimens of *T. miloradi* were caught in November of 2014 in a pool of a small creek in Konavosko polje by a group of ichthyologists from Croatian Ichthyological Society while surveying this karstic field for the purpose of a Natura2000 Implementation Project (NIP). Even though extensive sampling was conducted in the field, no *Telestes* were found in the major river courses, but only in one small tributary heavily overgrown with vegetation. Other fish species found during that survey include indigenous *Squalius svallize* and *Anguilla anguilla*, and alien *Cyprinus carpio*, *Ameiurus melas* and *Oncorhynchus mykiss*.

Telestes miloradi was once widespread in the Ljuta drainage and has obviously survived only in a very tiny habitat pocket. It will most likely be assessed by a future version of the IUCN Red List as being Critically Endangered. Already today, the Croatian Ichthyological Society searches actively for funding and engagements to restore the Ljuta drainage in a way that *T. miloradi* can expand its range. While the European Commission as well as the CBD calls for habitat restoration, we urgently need support to be able to fight against alien species in the Ljuta drainage.



Fig. 1: *T. miloradi* from Konavosko polje. Photo credit: Perica Mustafić.



Fig. 2: Only known habitat of *T. miloradi*. Photo credit: Marčić et al.

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The Iranian activities in conservation of subterranean fishes

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Asia is exceptionally rich in subterranean fishes and the first subterranean species ever discovered from Asia was the Persian blind barb *Iranocypris* (now *Garra*) *typhlops*. Two additional blind fishes have been found at the same place since, the loach *Paracobitis smithi*, and a still undescribed second species of *Garra*. They all are found in a well-like opening of a subterranean water layer of unknown size. The two described species are listed as Vulnerable in IUCN Red List of species.



Figure 1: the Iran blind cave barbs *Garra typhlops*

We are a group of freshwater fish enthusiasts working in fish genetics, ecology and conservation. In this context we are also helped by Nabi Allah Ghaed Rahmati (MSc. deputy of the Lorestan Department of Environment) and Eidi Heidari (the local ranger of the subterranean fish locality). We believe that the conservation of biodiversity can be brought about via education to increase the awareness of people and scientific research. Our activities and goals are supported by the Shahr-e-Kord University, the Mohamed Bin Zayed Species Conservation Fund, and the Lorestan Province Department of Environment. Our activities at the subterranean fish locality are divided to three main fields as follows:

1. Provision of general educational sessions for local school kids and their parents to increase their awareness about biodiversity, and the importance of its conservation to their own lives and for the future generations. The courses are aimed at providing local people and students that are the next generation conservationists with viewpoints in which the biodiversity and its conservation can serve as a resource for their livelihood. They are also meant to illustrate that biodiversity is a unique heritage, as all cultural heritages are. As the students are of different age groups, we plan different approaches for their motivation. In addition we introduce the area, its biodiversity and its attractions at national and international levels.
2. Collection of data from the only point where the subterranean water body is accessible. Our measurements include water checking, underwater video recording, and genetic diversity analyses from which some papers have already been published in Persian, English and German.
3. Cooperation with the Department of Environment of the Lorestan Province and the Tourism Board of the province to introduce the potentials of the region for development of Ecotourism and the infrastructures needed for such a development.

Considering these activities, we strongly wish to raise awareness and hope that ecotourism development might contribute to sustainable livelihood for the local people and to conservation of biodiversity. Also, we are able to emphasize the absolute uniqueness of the locality, being inhabited by three subterranean fishes, to official agencies. We wish to be able to help local people to become conservationists awarded a sustainable livelihood, for their awareness and concern about their local biodiversity heritage.



Figure 2: school kids provided with general education on the biodiversity values and conservation of the cave barbs



Figure 3: data collection at the cave opening

The “INTERCONTINENTAL TROUT MASTERCLASS”

Connecting generations, disciplines, and cultures for the sakes of freshwater conservation

René Beaumont

Continental Trout

Last August the “Intercontinental Trout Masterclass” took place in Tolmin, Slovenia. With this event its organizer, Continental Trout Conservation Fund, wanted to offer concerned and dedicated youths an opportunity to take a serious step into the world of freshwater conservation, and to help them extend and innovate the international conservation community. To that end the Masterclass assembled some twenty conservation-oriented youth leaders (aged 18+). The main thrust was to equip and empower them to really become engaged and motivated freshwater stewardship leaders. During one week, widely renowned experts from Europe, the Middle East, and North-America offered them an inspiring, innovative, interactive, and collaborative curriculum. This “backpack of intellectual substance” was meant to stimulate them in their endeavours, facilitate them to make things happen in the field, and build a solid network of a next generation of conservationists.

Many different aspects

The program went into questions such as what conservation is really about, what purpose it serves, what its impact should be, and –most important- how to move forward. Lectures and workshops were given in population dynamics, environmental science, best conservation practices, hands-on field work, law, marketing, communication, coaching, philanthropy, fundraising, etc. In order to avoid “classroom-claustrophobia” or “conference hall fatigue”, locations had been chosen varying from the central hotel facilities to splendid sites in the outdoors, along the banks of the rivers in the area. Also, both youth and lecturers were invited to witness marble trout sampling in small sanctuary streams, and visit the hatchery and the fish farm. And, of course, there was time for leisure and fun, such as fishing the Soča River and its tributaries. Hence a stimulating environment for education and empowerment was created, in a setting that stimulated discussions and the exchange of ideas, as well as promoting personal reflection.

Educational and eventful

The choice for Tolmin was not a random one, since the Soča River basin is one of the best showcases of how a well managed trout conservation project is able to stimulate employment and enhance a local economy. Some twenty years ago Alain Crivelli (scientist and researcher with Tour du Valat; Arles, France) started working here on the much threatened *Salmo marmoratus*. Together with the University of Ljubljana, Balkan Trout Restoration Group and the Tolmin Angling Association, mountains have been moved since. The result of their combined work is a true gem in conservation practices. On top of that it is a brilliant example of how fly-fishing contributed to the prosperity of the rural Tolmin area; the marble trout attract anglers from all over the Europe and beyond. Together they generate an income of several millions of euros annually.

A success?

On the final day of the Masterclass the youth were asked to discuss a case in their respective home countries, using the knowledge acquired during the week. They were especially challenged to balance conservation with social and economic forces. Their presentations struck all present. Thereafter CTCF decided to capitalize the momentum, and offered them the opportunity to become a CT-representative in their home country (a franchise with ownership), which was gladly accepted! During the closing event a “facebook member group” was set up, the members all being participants and –even!- many a senior expert. From then onwards, the cross-generation and cross-cultural connections made in Tolmin have had a huge spin-off, and led to the birth of many a new idea, collaboration, and

joint-project. In brief: CTCF made the freshwater conservation microbe spread in a way that definitely exceeded expectations. Most probably an “ITM-Part II” will be organized at the occasion of the World Trout Congress 2015 in Bozeman (USA).

More information/details

<http://www.continentaltrout.com/projects/masterclass-2014/>
www.continentaltrout.com



Project Piaba Expedition to Fisheries of Brazil



Scott Dowd, Chair of the new HAFSG, has helped organize a trip to the fisheries of the Rio Negro in Brazil through his work with Project Piaba (www.projectpiaba.org).

Project Piaba has room on their 2015 Expedition to the Rio Negro for those interested. This is your opportunity to explore the Rio Negro and observe all aspects of the ornamental fishery!

Dates: January 24 - February 7, 2015

Cost: USD \$2,500

The trip includes:

- 2 weeks on a well appointed live-aboard boat
- Visits to biological hot spots
- Visits to fishing communities
- Participation in the Ornamental Fish Festival of Barcelos
- Visits to ornamental fish export facilities
- All meals, mineral water, juices, and coffee are included
- There is a bar on the boat for beer/alcohol, carbonated beverages, and bottled water. You maintain a tab for this during the trip and pay the bar bill at the end.

Questions? Want to go?

To see a review from one of last year's participants, visit <http://www.reef2rainforest.com/2014/12/16/project-piaba-2015-expedition-trip-of-a-lifetime-for-any-aquarium-hobbyist/>.

Contact Scott Dowd for more information and to reserve your spot!

E-mail: sdowd@projectpiaba.org

Phone: [617-973-5243](tel:617-973-5243)

NEXT ISSUE OF 'SAVING FRESHWATER FISHES AND HABITATS'

Do you want to share news from your freshwater fish conservation project with a global audience? Are you doing fascinating research or organising an exciting event? Well, the FFSG Newsletter could be the perfect way to tell your story!

The deadline for submitting material for the next issue is 1st March 2015.

If you have any questions or if you want to submit material, please email info@iucnffsg.org



Doring River, Western Cape,
South Africa © Bruce Paxton

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