

# IUCN SSC Freshwater Conservation Committee

2019 Report



Topiltzin Contreras MacBeath



Ian Harrison

## Co-Chairs

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## Location/Affiliation

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## Number of members

16

## Social networks

Twitter: @FW\_Conservation



## Mission statement

To raise the profile of freshwater biodiversity through: (1) coordinating freshwater species conservation activities through the SSC, highlighting emerging patterns and ensuring that increasing attention is given to issues concerning freshwater biodiversity conservation; (2) making freshwater recommendations to the SSC based on the work of the Freshwater Conservation Committee, and ensuring that freshwater species conservation issues are well represented within the SSC and the wider IUCN; (3) assisting the SSC by providing authority and credibility in its engagement with policy processes and major freshwater related events.

## Projected impact for the 2017-2020 quadrennium

By 2020, we envision that the Freshwater Conservation Committee (FCC) can provide stronger recommendations for freshwater conservation priorities, in terms of which species and regions require most urgent action, and how to link conservation action between regions through habitat connectivity. We can achieve this through mobilising the newly assimilated Red List assessment data for application to management and policy. Conservation action will be directed at selected, leading threats to freshwater ecosystems, for example, invasive species and fragmentation of habitats by dams. By working with partners such as the IUCN World Commission on Protected Areas (WCPA) Freshwater Specialist Group, we can provide guidance for better conservation of freshwater ecosystems in protected areas. By facilitating communication and collaboration

between SSC Specialist Groups with a freshwater interest, and by linking this to the work of other IUCN Commissions and the Secretariat, as well as contributing to other major freshwater initiatives beyond IUCN, we can ensure that future freshwater conservation planning is more fully integrated across IUCN's programmes. Conservation of freshwater species and habitats will be given a higher profile as a core component in wider landscape management, conservation and policy making. Freshwater conservation initiatives will be better coordinated to complement each other, rather than operating in parallel.

## Targets for the 2017-2020 quadrennium

### Assess

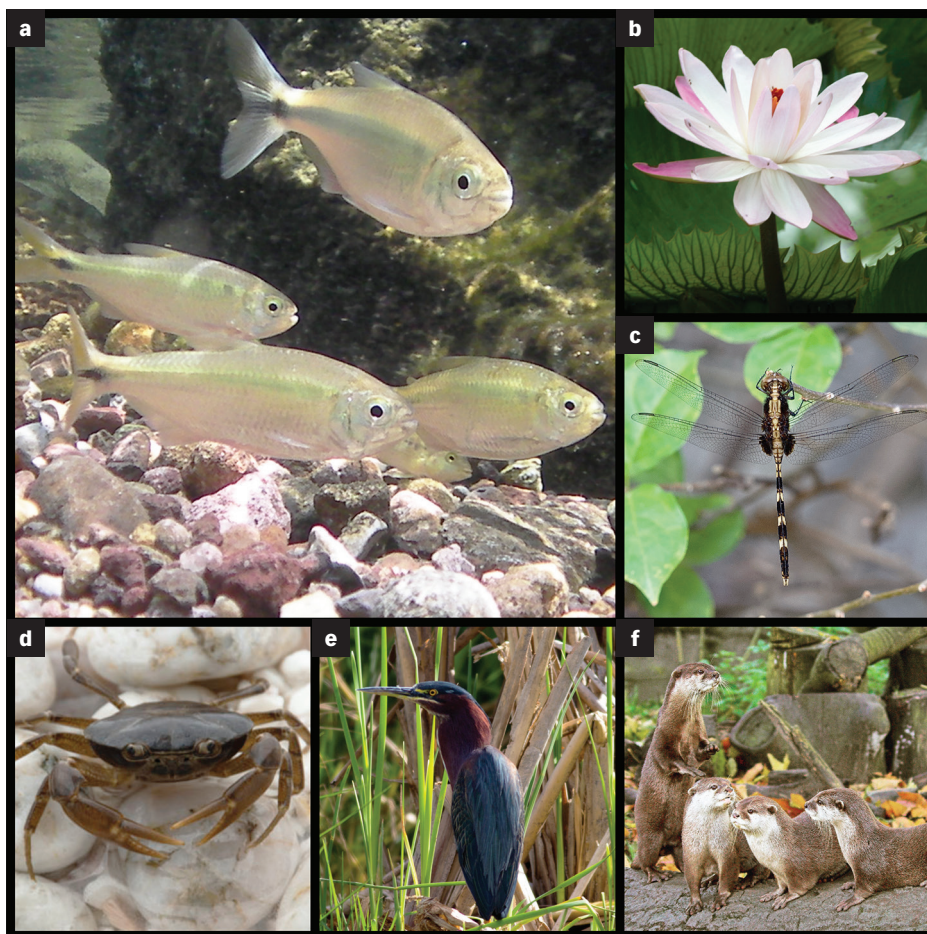
Red List: complete Red List assessments of all freshwater species targeted by IUCN for global coverage (ca. 38,300 species).

Research activities: (1) develop a programme of Conservation Evidence, documenting conservation success (e.g. what is the relationship between conservation success and protected areas, and links between biodiversity and ecosystem services/human health); (2) Ramsar site review; (3) meta-data analysis of freshwater biodiversity and dams/other infrastructure.

### Plan

Planning: (1) promote the inclusion and effective management of freshwater ecosystems in protected areas and other effective area-based conservation measures (OECMs); (2) provide input into the development and implementation of the IUCN 2021–2024 Programme of Work.

Policy: (1) publish a paper on review of threats to freshwater wetlands; (2) ensure that freshwater ecosystems are better integrated into the post-2020 global biodiversity outlook.



Examples of freshwater species: (a) Tetra Fish (*Astyanax aeneus*), (b) Water Lily (*Nymphaea*), (c) Pin-tailed Pondhawk (*Erythemis plebeja*), (d) Crab (*Pseudothelphusa dugesi*), (e) Green Heron (*Butorides virescens*), (f) Asian short-clawed otter (*Aonyx cinereus*)  
Photos: Topiltzin Contreras

### Act

Conservation actions: develop projects and collaborations focused on freshwater invasive species.

### Network

Capacity building: (1) plan and run a workshop, focused on challenges, opportunities and priorities for freshwater biodiversity conservation, at the 2019 SSC Leaders' Meeting; (2) following the freshwater workshop at the 2019 SSC Leaders' Meeting, plan and run a cross-linked series of freshwater themed events at the 2020 World Conservation Congress, focused on challenges, opportunities, and priorities for freshwater biodiversity conservation.

Proposal development and funding: fundraising for projects/Programme Officer.

Synergy: (1) be a key partner in developing the IUCN One Programme Strategy for Freshwater Biodiversity (as defined by a white paper describing the objectives of the strategy); (2) develop and help coordinate an IUCN Fresh-

water Network, for sharing information and freshwater objectives, with an online mechanism for sharing information; (3) review freshwater targets and objectives of other Specialist Groups to identify areas of shared or supporting interest; (4) be a key partner in developing the new initiative, the Alliance for Freshwater Life (AFL); (5) be a key partner in a new initiative/NGO focused on fundraising for freshwater biodiversity conservation; (6) be a source of advice and coordination on freshwater activities in SSC and partners; (7) support, promote and communicate the activities of the IUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (MSP TF). The objectives of the MSP TF are integrated into FCC reporting; the FCC will assist the MSP TF with fundraising activities over the quadrennium period; when FCC is consulted for advice by IUCN on matters relating to macroinvertebrates and freshwater ecosystem health, the FCC will consult with the MSP TF; FCC and MSP TF will collaborate in the production of key papers/reports that relate macroinvertebrate biodiversity to freshwater ecosystem health.

Technical advice: collaborate with Indianapolis Zoo in determining the functions of the Freshwater Officer position in the newly forming Global Centre for Species Survival.

### Communicate

Communication: (1) create a list of '25 top species' – representative across taxonomic groups and regions – that highlight some of the main issues associated with freshwater ecosystem conservation; (2) establish effective outreach and communications; (3) assist the BBC Natural History Unit in development of freshwater stories for their Planet Earth III series.

### Activities and results 2019

#### Assess

##### Red List

i. Eighteen regional assessments (+1,600 published individual species assessments, and twice as many yet to be published, not counting Brazil). Published: (1) West Africa: shrimps – 1 species; (2) Malili Lakes: fishes – 34 species, shrimps – 12 species, molluscs – 40 species, followed by KBA delineation; (3) Lake Malawi/Nyasa/Niassa Catchment: plants – 62 species (remainder to those published in 2018), fishes – 13 species (remainder to those published in



Members of the FCC attending the 2019 IUCN SSC Leader's Meeting at Abu Dhabi, United Arab Emirates  
Photo: FCC Archives

2018); (4) Sunda Basin: fishes – 483 species; (5) Japan: fishes (endemics) – 61 species; (6) Africa (not specific to the regions above): *Nothobranchius* fishes – 75 species; (7) Venezuela: fishes (endemics) – 77 species; (8) Australia: fishes – 238 species; (9) Mexico: fishes – 526 species. In progress as of 2019: (1) Sunda Basin: remainder of the native fishes to be published in 2020, *Nothobranchius* fishes – newly described species to be published in 2020; (2) West Africa: crabs, fishes, molluscs and plants, to be published in 2020, followed by KBA delineation; (3) Pakistan: fishes, to be published in 2020; (4) Central Asia: fishes, to be published in 2020; (5) Russia: fishes, to be published in 2020; (6) New Guinea: fishes, to be published in 2020; (7) Philippines: fishes, to be published in 2020; (8) Central America: fishes, to be published in 2020; (9) Brazil: endemic and non-endemic fishes, to be published in 2020/2021. (KSR #1)

#### Research activities

**i.** Development of a programme of Conservation Evidence: No significant progress on this activity thus far, since it is dependent on funding to develop this programme. As previously noted, Co-Chair Topis Contreras MacBeath had a discussion with Bill Sutherland from Cambridge about developing a Conservation Evidence review for freshwater fishes,

and Bill is keen to do this on fishes, but it would require a postdoc. Bill's standard rate for a postdoc over 3 years is about US\$ 90,000. Topis was preparing a funding proposal for the project, but thus far we have not found support. FCC member Phil Boon, who is Chief Freshwater Editor for *Aquatic Conservation: Marine and Freshwater Ecosystems*, has stated that the journal is interested in publishing short accounts of 'conservation success.' (KSR #32)

#### **Plan**

##### Planning

**i.** FCC members have provided recommendations on the IUCN Programme of Work as it has been developed. But, most importantly, a large number of members attended a session on the Programme during the 2019 SSC Leaders' Meeting in Abu Dhabi and made recommendations for strengthening the freshwater component of the programme. Specific written recommendations were then supplied to the IUCN Secretariat in follow up, and additional comments were provided on the draft circulated in 2020. Once the 2021–2024 Programme of Work is finalised, the FCC will review what aspects of our work are priorities in terms of contributing directly to the Target impacts for the Freshwater area programme. (KSR #14, 21, 29)

**ii.** Co-Chair Topis Contreras MacBeath and Committee member Harmony Patricio (who is also Co-Chair of the WCPA Freshwater Specialist Group) attended a Workshop on Transboundary Protected Area Research and Management

Cooperation, and the 2019 International Alliance of Protected Areas Annual Meeting in China in July 2019; they discussed freshwater ecosystems in protected areas. Patricio has a plan to do a meta-analysis of protected areas and their coverage of freshwater ecosystems. The FCC's work on this target is likely to be a focus of action for the 2021–24 quadrennium. (KSR #26)

#### Policy

**i.** No progress in the publication of a paper on a review of threats to freshwater wetlands. The paper is less of a priority now, following the publication of Reid, A.J. et al. (2018). Emerging threats and persistent conservation challenges for freshwater biodiversity. *Biological Reviews* 94:849–873. [DOI: 10.1111/brv.12480]. However, the data in an initial survey compiled by Committee member Richard Lansdown will be very useful for informing future work of the Committee, and for future publications. (KSR #26)

**ii.** Our engagement in planning for the Post-2020 Global Biodiversity Framework has been one of the priorities for the FCC in 2019. FCC members have contributed feedback to the IUCN Global Species Programme's request for comments on Convention on Biological Diversity (CBD) documents. This included comments on CBD's (24 January 2019) *Synthesis of Views of Parties and Observers on the Scope and Content of the Post-2020 Global Biodiversity Framework*, where CBD recognises (page 14)

that freshwater ecosystems and the conservation and wise use of wetlands were gaps in the 2011–2020 Strategic Plan, as well as comments on CBD's *Post-2020 Global Biodiversity Framework: Discussion Paper* (no reference to freshwater/inland waters). IUCN compiled its response to the discussion papers and FCC provided input. IUCN's response documents to the feedback (available at [https://www.iucn.org/sites/dev/files/iucn\\_response\\_cbd\\_post\\_2020\\_part\\_1\\_issues\\_and\\_questions\\_for\\_discussion\\_12\\_april\\_2019\\_final.pdf](https://www.iucn.org/sites/dev/files/iucn_response_cbd_post_2020_part_1_issues_and_questions_for_discussion_12_april_2019_final.pdf) and [https://www.iucn.org/sites/dev/files/iucn\\_response\\_cbd\\_post\\_2020\\_part\\_2\\_target\\_formulations\\_and\\_topics\\_12\\_april\\_2019\\_final.pdf](https://www.iucn.org/sites/dev/files/iucn_response_cbd_post_2020_part_2_target_formulations_and_topics_12_april_2019_final.pdf)) included, in Part 2, 15 recommendations on freshwater, including the statement "Far more emphasis needs to be placed on the importance of conserving freshwater biodiversity post-2020, given that a sustainable future depends upon targeted actions for conservation of inland waters." FCC members also provided specific feedback on how the existing Aichi targets should be edited and adapted for the Post-2020 Framework; this was done within the FCC and transited to IUCN, and at plenary sessions at the 2019 SSC Leaders' Meeting. CBD subsequently produced their Zero Draft of the Post-2020 Framework and, starting in late 2019, UN Water led a consultative process to provide feedback on this document. Co-Chair Harrison was part of the working group involved in this process and the resulting document (*UN-Water input on Freshwater-Biodiversity Linkages: Response to the Zero-Draft Document from the Open-Ended Working Group on the Post-2020 Global Biodiversity Framework*; available at [\[ages-response-to-the-zero-draft-document-from-the-open-ended-working-group-on-the-post-2020-global-biodiversity-framework/\]\(https://www.unwater.org/publications/un-water-input-on-freshwater-biodiversity-link-ages-response-to-the-zero-draft-document-from-the-open-ended-working-group-on-the-post-2020-global-biodiversity-framework/\)\) includes several recommendations for inclusion of freshwater systems in the Zero Draft Goals and Targets. \(KSR #7, 26\)](https://www.unwater.org/publications/un-water-input-on-freshwater-biodiversity-link-</a></p></div><div data-bbox=)

## **Act**

### **Conservation actions**

**i.** Committee members have worked with the new initiative 'Freshwater Life' (<https://fwlife.org/>), that is focused on the removal of freshwater invasive species and restoration of ecosystems. FCC Co-Chair Ian Harrison has assisted Freshwater Life in seeking funding opportunities, providing contact to at least one funding organisation. FCC member Harmony Patricio was Chief Scientist for Freshwater Life and has worked with FCC Co-Chair Topis Contreras MacBeath in developing a project (now funded by National Geographic and the Mohamed bin Zayed Species Conservation Fund) on eradicating invasive trout and carp from lakes in Lagunas de Zempoala National Park, Mexico, which is home to an endangered species of salamander, the Zempoala Axolotl. FCC Co-Chairs have worked with the Invasive Species Specialist Group, Post-2020 Biodiversity Targets Task Force, IUCN Global Species Programme, and CBD in planning a session on 'Global Invasive Alien Species Target for the Post-2020 Global Biodiversity Framework', for the 2020 World Conservation Congress. (KSR #31)

## **Network**

### **Capacity building**

**i.** Input to the Fourth SSC Leaders' Meeting, and the SSC Steering Committee that preceded it, was an important activity for the FCC. While at the SSC Leaders' Meeting, the FCC spent one day in an internal meeting reviewing its

own work, and the afternoon of another day sharing discussions with other SSC members. FCC members also contributed to sessions focused on the CBD Post-2020 Global Biodiversity Framework and the IUCN 2021–2024 Programme of Work, with a view to ensuring that freshwater ecosystems are adequately included in both. Our inputs to both of these processes were constructive and the IUCN Programme of Work now includes better representation of freshwater ecosystems. (KSR #18)

**ii.** Our engagement in planning for the World Conservation Congress has been one of the main areas of activity for the FCC in 2019. FCC members have contributed as lead, or as collaborators, to planning the following six Forum sessions: 'Opening Plenary: Our Freshwater Global Risk – Taking Actions to Reverse the Trend'; 'A cascade of benefits from healthy freshwaters'; 'Protecting aquascapes: integrating freshwater, estuarine and marine conservation'; 'Improving Protected Area designation, management and design for freshwater biodiversity'; 'Global Invasive Alien Species Target for the Post-2020 Global Biodiversity Framework'; 'Scaling up – expanding action on the global crisis facing freshwater biodiversity'. Co-Chair Harrison is also part of the Planning Committee for the Freshwater Theme events. FCC members have also provided input to the development of the following four Motions: 009 – Protecting rivers and their associated ecosystems as corridors in a changing climate; 013 – Protection of Andes-Amazon rivers of Peru: the Marañón, Ucayali, Huallaga and Amazonas, from large-scale infrastructure projects; 014 – Aquatic biodiversity conservation of shallow

marine and freshwater systems; 020 – Valuing and protecting inland fisheries. (KSR #18)

### Synergy

**i.** The plan for developing the IUCN One Programme Strategy for Freshwater Biodiversity Conservation is being managed by IUCN Water. However, administrative changes within IUCN Water in 2018 slowed the process down, and the Strategy document for developing the plan has not been prepared. Co-Chairs Contreras MacBeath and Harrison remain in communication with IUCN Water about the One Programme Strategy for Freshwater Biodiversity Conservation. IUCN Water has stated their continued interest in advancing this agenda when they have greater capacity. In the interim, FCC members have integrated some of the objectives of the One Programme Strategy for Freshwater Biodiversity Conservation into their recommendations for the IUCN 2021–2024 Programme of Work, as well as recommendations made for the Zero Draft of the Post-2020 Global Biodiversity Framework. (KSR #29)

**ii.** IUCN Freshwater Network: Committee members assimilated a list of Specialist Groups, Committees and Task Forces within the IUCN Commissions that have an interest in freshwater. In April 2019, an email was sent out (initially focusing mainly on SSC) to the Specialist Groups, Committees and Task Forces requesting some general information about their types of activities and priorities for freshwater species and systems. However, infor-

mation has not been fully compiled thus far, in order to assess areas of shared interests and objectives and possible collaborations. Developing these actions further, in order to initiate an IUCN Freshwater Network, should be a priority for the FCC. (KSR #29)

**iii.** Both Co-Chairs and some other members of the Freshwater Conservation Committee have been closely involved with the development of the Alliance for Freshwater Life (AFL). Committee members assisted in submitting a proposal (accepted) for a session on ‘The Alliance for Freshwater Life – fostering multidisciplinary freshwater research on local to global scales’ for the 2019 Annual Meeting of the Society for Freshwater Science. Committee members have also assisted in preparation of documents for the Alliance, including a promotional brochure for the Alliance; a Memorandum of Understanding Among Parties of the Alliance for Freshwater Life; a ‘Declaration’ of objectives of the Alliance, to send to potential funders; and Terms of Reference/Job Description for a Director position for the Alliance. Committee members have also planned an Alliance Forum session (‘Scaling up – expanding action on the global crisis facing freshwater biodiversity’) for the 2020 World Conservation Congress. (KSR #29)

**iv.** Shoal initiative: The mission of Shoal is to engage a wide range of organisations to accelerate and escalate action to save the most threatened fish and other freshwater species. Co-Chair Harrison attended the Shoal partnership launch in London in March 2019. Committee members have provided feedback on potential projects (on freshwater ecosystems, fishes and freshwater plants) that could

be prioritised by Shoal. Co-Chair Harrison attended a meeting with Shoal and the Albuquerque BioPark, in July 2019, to discuss areas of collaboration between the BioPark, Shoal, the FCC and the SSC Freshwater Fish Specialist Group. (KSR #29)

### Technical advice

**i.** FCC members discussed the Freshwater position with Dr. Rob Shumaker, president of the Indianapolis Zoological Society, at the SSC Leaders’ Meeting, outlining areas of work where the FCC and the Global Centre for Species Survival might have complementary interests and needs. The FCC’s focus on this target will become more important once the position is advertised and filled. (KSR #14, 29)

### **Communicate**

#### Communication

**i.** A grant proposal has been developed to create a list of ‘25 top species’, but no funding has yet been received. (KSR #28)

**ii.** FCC members have worked individually on publications, and a few members have collaborated on publications (e.g. in 2019, some members collaborated on the article ‘Bending the Curve of Global Freshwater Biodiversity Loss: An Emergency Recovery Plan’ by Tickner et al., that will be published in 2020), but there have been no substantial joint publications of the FCC. This is something that Co-Chairs Contreras MacBeath and Harrison would like to address. The FCC has been running a Twitter account since 2014; it has 738 followers, but



Co-Chairs of the IUCN SSC Freshwater Conservation Committee, Topiltzin Contreras MacBeath and Ian Harrison, meeting during the 2019 IUCN SSC Leader's Meeting at Abu Dhabi, United Arab Emirates  
Photo: FCC Archives

the Committee still needs to develop its own website and Facebook page. As noted previously, Co-Chair Contreras MacBeath spoke in 2019 with Sean Southey, Chair of the IUCN Commission on Education and Communication (CEC), who is willing to help us. (KSR #28)

iii. FCC consulted internally and with colleagues in freshwater focused SSC Specialist Groups and drew up a list of just under 100 possible freshwater story topics that have been suggested to the BBC Natural History Unit to develop as freshwater stories for their Planet Earth III series. This Unit is now following up on some of them. (KSR #28)

### Acknowledgements

We are grateful to Synchronicity Earth and Conservation International for providing support for Co-Chair Ian Harrison to work on Committee activities. We are grateful to administrative assistance and advice from Rachel Roberts, SSC Director of Oversight and Conservation Outcomes. We would also like to thank the International Alliance for Protected Areas for sponsoring a workshop on Freshwater Protected Areas in Inner Mongolia (2019), with the participation of Topis Contreras and Harmony Patricio. Also National Geographic and the Mohamed bin Zayed Species Conservation Fund for supporting our invasive species work. We are also very grateful to the Albuquerque Biopark for hosting and funding two workshops where freshwater fishes from Mexico (526) and Central America (200) were assessed. The Biopark has also provided fulltime funding for Tim Lyons, who has compiled data and prepared assessments.

### Summary of activities 2019

Components of Species Conservation Cycle: 5/5

Assess	2	
Plan	4	
Act	1	
Network	7	
Communicate	3	

Main KSRs addressed: 1, 7, 14, 18, 21, 26, 28, 29, 31, 32

Resolutions addressed: WCC-2016-Res-062, WCC-2016-Res-086

KSR: Key Species Result