



AGM 2023 Overview



On March 10-12, 2023, the Ontario Chapter of the American Fisheries Society hosted our 2023 Annual General Meeting. With waves of Covid behind us, AFS-OC ExComm members were confident that we could cautiously host the AGM in person, and set out to find a venue



Dr. Chris Vandergoot

that would welcome us. After much work, we secured the Bayview Wildwood Resort in Severn Bridge, and were also able to accommodate attendees virtually that could not make it in person this year. This year’s conference theme was “Expanding our view: Advancement in monitoring techniques” to highlight cutting edge research and monitoring technologies.

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Dr. Robert Hanner

Our first Keynote speaker was Dr. Chris Vandergoot, Director of the Great Lakes Acoustic Telemetry Observation System (GLATOS) and Associate Professor at the Center for Systems Integration and Sustainability, Department of Fisheries and Wildlife, with the talk entitled “Linking fish movements to environmental conditions in the Great Lakes basin”. Dr. Vandergoot gave an informative talk on the use of acoustic telemetry to revolutionize understanding of fish movement and behaviour for

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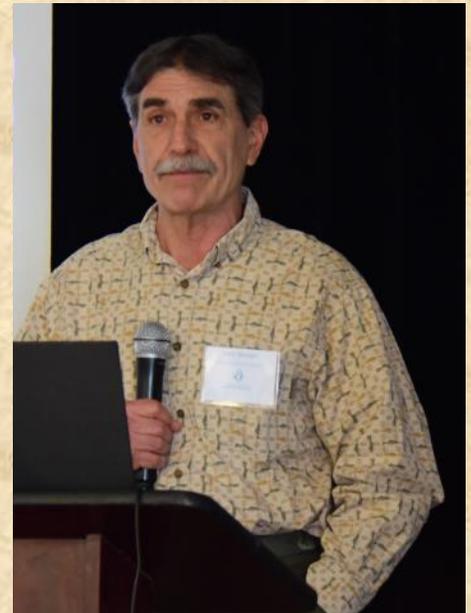


fisheries management and conservation. This technology has been used in the Great Lakes basin, with the creation and development of GLATOS.

Our second Keynote speaker was Dr. Robert Hanner, Professor in the Department of Integrative Biology at the University of Guelph where he also serves as the Director for the Biodiversity Institute for Conservation Synthesis, with the talk entitled “Molecular Biomonitoring with DNA Barcodes and Environmental DNA”. Dr. Hanner outlined the uses of DNA barcoding and eDNA for rapid sampling of communities and applications for fisheries management and conservation.



Dr. Nick Mandrak



Gary Whelan

In addition to the Keynote Speakers, we also had guest speaker Gary Whelan, AFS Second Vice President joining us and presenting on fish movement as well as an overview of the Parent Society and an update on current engagements.

The program was full to the brim with exciting talks, at times to the AGM planning committee’s detriment as it scrambled to keep up! Sessions included many amazing and informative talks, posters, and exhibitors. Nick Mandrak, 2022 winner of the Outstanding Mentor Award, gave an overview of the taxonomy of Canadian fishes and recent changes that will be included in some upcoming publications. Keep an eye out in the AFS Bookstore for the updated Common and Scientific Names of Fishes from the United States, Canada, and Mexico, 8th edition.

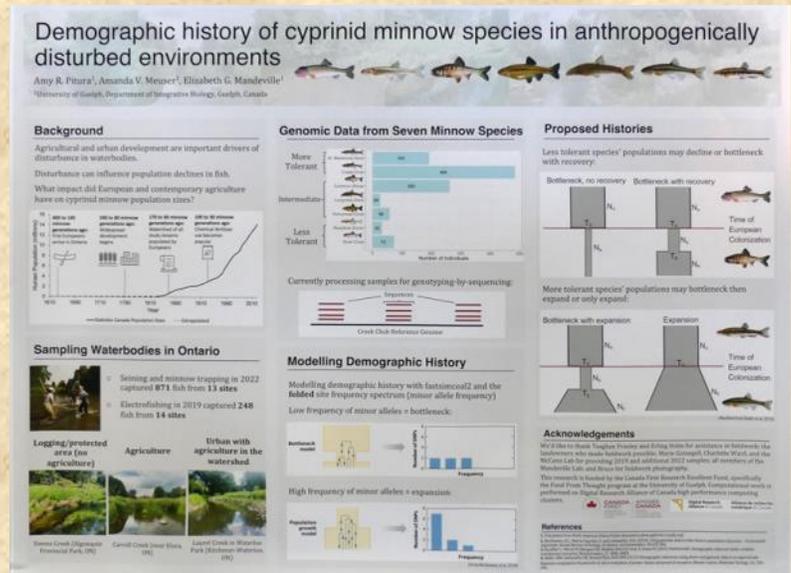
Our mentorship and social events were very cozy, with so many attendees participating in a much smaller venue than our beloved Orillia YMCA lounge. Students were randomly paired up with professionals to



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initiate one-on-one discussions about careers in fisheries. Following this, attendees diverged into two main groups: sessile gamers and gregarious chatters (sometimes both!). Given the recent understanding amongst the ExComm and membership that many individuals were lacking opportunity to share their passions with other like-minded people, a fusion of fish and gaming love was conceptualized. A wide variety of games and activities were brought by Sarah Steele (AFS-OC Past-President) and Katie Easterling (AFS-OC Treasurer), though themes did undoubtedly expand to nature in general. Conferences can be overwhelming, particularly after the pandemic, and the AFS-OC Diversity and Inclusion Subcommittee is working on ways of making the Chapter and its AGM more welcoming, accessible, and enjoyable for all. An in-person AFS-OC AGM was not complete without the Student Subunit Raffle, and it did not disappoint with a huge number of prizes available. Individuals decked with strands of tickets was a common sight on Saturday night.



President’s Award Best Student Poster



E.J. Crossman Award winners Timothy Fernandes (left) and Erik Dean (right)

The student presenters gave judges another difficult year in determining winners of both the E.J. Crossman Award and the President’s Award. The E.J. Crossman Award for best student paper (oral presentation) was awarded to both Timothy Fernandes, with the talk titled "A Fish out of winter: Winter energy acquisition and storage influence spring reproduction in a warm-water Fish" and Erik Dean, with the talk titled "Bighead Carp overwintering under climate change — spawning, survival, and implications for invasion". The AFS-OC President’s Award for best student poster presentation was awarded to Amy Pitura for her poster titled “Demographic history of cyprinid minnow species in anthropogenically disturbed environments”. The 2023 Outstanding Mentor Award was awarded to Sigal Balshine, Professor at McMaster University. Dr. Balshine is a strong mentor whose dedication to creating welcoming learning

2023 AGM Overview — cont.



spaces, promoting access to experiential research opportunities, and providing close and accessible supervision sets up her students for success in their careers.

The first in-person AGM after the pandemic was a huge success, and we thank all the speakers and contributors that made this event run as smoothly as it did. Thank you to all who joined us both in person and virtually, we put in a lot of effort to tackle a hybrid event at a completely new venue so appreciate your understanding during our hiccups.

We did hear feedback that due to current travel approval processes, our current standards to get this AGM running are not meeting the demands of many employers. In response, we have already booked the Bayview Wildwood Resort for January 26-28, 2024, and will be moving quickly to get information in place so more professionals can join us for the 2024 AGM.

The Executive Committee looks forward to seeing you there!



Student Subunit Update



It has been a terrific year for the Student Subunit! When we first convened in September 2022, one of our main goals was to show that we are ready and able to bounce back after several years of relative inactivity imposed by the COVID-19 pandemic. With the support of the Executive Committee and our professional partners, we have made significant headway in growing our



capacity to provide more networking and learning opportunities for our student and early-career professional members.

Over the past 10 months, we have worked with the Executive Committee on the hybrid 2023 Annual General Meeting by hosting our annual fundraising raffle, as well as coordinating nominations for the Outstanding Mentor Award and presenting it to this year's winner, Dr. Sigal Balshine. Our social media team has also worked hard to feature fish and fisheries research done by students based or working in Ontario through our #FishFactFriday series. In addition, we had an engaging visit to the research and collections facility at the Canadian Museum of Nature (pictured below), generously hosted by Dr. Katriina Ilves as well as other researchers and staff at the CMN. A tour of the Normandale Fish Culture

Station in Norfolk, Ontario is coming up this August, and a web tutorial series on statistical analyses in R/RStudio is currently in production, so stay tuned for more!

As we wrap up another academic year, the Subunit is already preparing projects and ideas for next year. We hope to include more in-person events across the province, with possible examples including educational site visits to aquaculture centres, museums, and other professional workplaces; workshops on data analysis, grant writing, and other useful skills for students and early-career professionals; and networking events like mentor mixers and pub socials. Thank you to all of our Chapter members for your continued support – our work would not be possible without you!



Workday Advertisement



In 2022, AFS-OC experimented with an in-stream workday to provide members with the opportunity for networking, skill building, socializing with other fishheads, and a chance to step away from the regular routine to get out into the water! We partnered with Conservation Halton to conduct stream restoration, using sediment mats to narrow a section of Grindstone Creek. Participants were able to dig for mussels, get their hands dirty, and help improve Brook Trout habitat in a local watershed. After the hard work was over, participants celebrated with a pizza lunch and discussed a variety of topics in fisheries, including how to nail an interview!



If your organization has an opportunity where some extra hands could lead to project success that could also benefit fisheries students and early career professionals, please be in touch (past-president@afs-oc.org) We will consider supporting a variety of fisheries related activities, whether in the lab or in the field!

2022 Best Chapter Communications Award

We were pleased to be awarded the 2022 Best Chapter Communications Award from AFS North Central Division! Thanks to our dedicated webmaster, social media, and newsletter coordinators for their efforts in keeping our chapter informed, up-to-date on events, and making a wealth of information and resources available to our members.

Keep sending newsletter, social media and website materials to social-media@afs-oc.org and/or webmaster@afs-oc.org so we can continue to learn more from each other.

If you didn't know, there are tons of jobs that are advertised through Twitter and that we reshare there!

Follow us on [Facebook](#), Twitter (@afs_oc) and Instagram (@afs_ontariochapter).



Fish Focus: **GOLDEN REDHORSE** (*Moxostoma erythrurum*)

By Siobhan Ewert

Moxostoma: moxo = misspelling of myzo which means to suck; stoma = mouth.

erythrurum-: erythros = red; urus=tail; refers to the red colour of the tail, an inaccurate term as the tail is grey.

The Golden Redhorse is a type of sucker in the 'Redhorse' group (Genus *Moxostoma*)

Features: The Golden Redhorse has large scales (37-45, usually 40-42, lateral scales), is slightly deep bodied, and the ridges of the lips are not usually broken by transverse grooves. The angle of the posterior edge of the lower lip is considerably greater than 90 degrees when the mouth is closed (as seen in the picture to the right). There are 12-13 scales around the narrowest part of the caudal peduncle, and the edge of the dorsal fin is concave.

Similar Species: These suckers are hard to distinguish from one another, with the Black Redhorse being the most similar to the Golden Redhorse. The main difference is that the Black Redhorse has smaller scales (43-51, usually 44-47) versus 37-45, usually 40-42, for the Golden Redhorse.

Diet: Since Golden Redhorses are bottom feeders, they consume many aquatic insects, molluscs, and aquatic plants that live on the stream floor.

Reproduction: Golden Redhorses can live to 9-10 years and become sexually mature at 3-5 years of age. Spawning occurs in the late spring when water temperatures reach 15°C. Males will aggressively defend their spawning site with their nuptial tubercles, by butting other males. Eggs and sperm are released into the stream with no parental care given. Redhorse juveniles will often group together to form schools along the stream bottom and may consist of more than one Redhorse species.

Habitat: The Golden Redhorse mainly occupies the bottom of moderate-flowing warm-water streams. Its distribution in Ontario is mainly in southwestern Ontario, going north towards the base of the Bruce Peninsula, and extending down toward Port Maitland and the Niagara area, with isolated populations within the Halton and Peel watersheds. They are also found in the drainage basins of the Mississippi River, Ohio River, and the lower Missouri River.



Pictures of Fishes



By Kathryn Peiman

We all know our local fishes are beautiful, and I have been fortunate enough to be able to go out and take pictures of them in their natural habitat. Check out www.youtube.com/@NatureTidbits/videos for videos of these fish!



Above: Coho Salmon fry (*Oncorhynchus kisutch*); above right: Rosyface Shiners (*Notropis rubellus*); right: Mottled Sculpin (*Cottus bairdii*); below right: Rainbow Trout (*Oncorhynchus mykiss*); below: Brown Trout fry (*Salmo trutta*)



Longnose Gar (*Lepisosteus osseus*)



Rainbow Darter (*Etheostoma caeruleum*)

Book Review



By Ignacio Jiménez

Effective Conservation: Parks, Rewilding, and Local Development. By Ignacio Jiménez. 2022. Island Press. 280 pages and 39 illustrations, 45.00 USD, Paper. Also available as an E-book. First published in Spanish, 2018

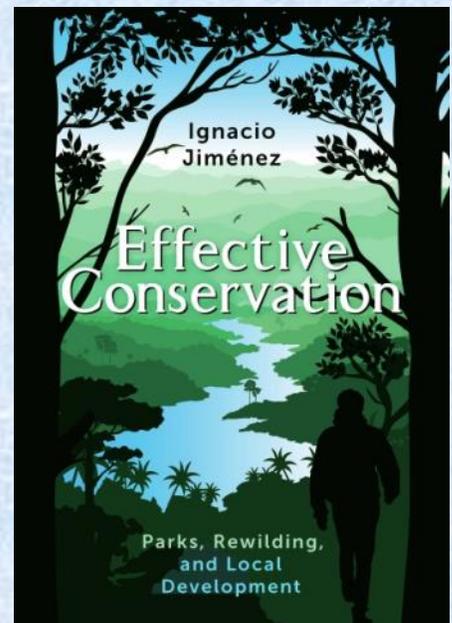
Reproduced under the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/). This review was originally published as: Collins, R. (2022). "Effective Conservation: Parks, Rewilding, and Local Development" by Ignacio Jiménez [book review]. *The Canadian Field-Naturalist*, 136(3): 294-295.

The author of *Effective Conservation*, Ignacio Jiménez, has an extensive background in conservation. In 2005, he began working with The Conservation Land Trust (CLT) Argentina, a project initiated by the co-founder of The North Face and Esprit, Douglas Tompkins. Tompkins had purchased and preserved 810 000 ha (more than 2 million acres) of property in Chile and Argentina in the early 1990s, establishing a series of parks. At CLT Argentina, Jiménez worked on endangered species recovery in the Iberá wetlands, a region of northern Argentina included in the new parks, and he coordinated one of the largest species reintroduction programs in the Americas. He directed the Iberá rewilding program until 2018.

In *Effective Conservation*, Jiménez promotes a style of conservation that could be described as a business management approach to ecological conservation and wildlife rescue. The book is intended as a user-friendly manual with the kinds of highlighted sidebars and explanatory charts that

you might find in a textbook. There is extensive supplementary material—30% more—available to readers online (but not reviewed here). The print version focusses on strategic management (with core chapters on method, promotion, planning, operationalizing, conflict management, and evaluation and renewal) and is both comprehensive and clear. Some of this material may strike the reader as self-evident or overly utilitarian, but Jiménez sees his advocacy as a race against time and pushback against older "conservative" ideas about conservation.

Throughout, what will particularly interest field-naturalists, are very brief descriptions of efforts to restore endangered species and the longer outlines of back-from-the-brink case histories. These include the reintroduction of Black-footed Ferret in the United States (p. 85), Spain's Lesser Kestrel (p. 90), Mauritius Kestrel (p. 116), Andean Condor (pp. 92, 116), Costa Rica's manatees (p. 95 and the subject of the author's Master's thesis), Golden-crowned Si-



faka in Madagascar (p. 96), Bonelli's Eagle in Spain (p. 100), Hooded Grebe in southern Argentina (p. 103), Iberian Lynx (p. 117), White Rhino in South Africa (p. 116), and Brazilian Jaguars (p. 131). He also looks at the problem of Eurasian Griffon Vulture collisions with wind turbines (pp. 98–99).

There is very little reference to climate change, considering the book's theme, although the subject looms in the background. For example, Jiménez agrees that,

Book Review — *cont.*

On a planetary scale, climate change does have the capacity to trigger the destruction of not only small populations but also even of abundant species and whole ecosystems and complete groups of species. (p. 88)

While that is an unequivocal position found in *Effective Conservation*, concern about climate change from anthropogenic sources seems understated.

Full Nature Conservation

The goal of conservation, the book argues, is to at a minimum slow down any threatening extinction-level crisis. This moral obligation “to put a brake on the current drift toward environmental decline” (from all causes; p. 130) will require concerted breaches of the status quo through human intervention, rewilding, and a “Full Nature” (pp. 13–31) or “institutional ecology” approach (p. 436; Child *et al.* 2012).

The Full Nature approach, Jiménez explains, incorporates a feedback cycle that includes national parks, local development, wildlife ecosystems, and restorative economies. It re-

quires simultaneous actions to address ecological and human community health to fulfil the goal of global wilderness recovery. It may include tools such as community poverty alleviation, job creation through ecotourism (a major theme throughout the book), and controlled recreational camping and hunting. It also responds to extermination-level hunting frenzies, cattle importation that is destructive of the livelihoods of local communities, and mining company excesses (that can be replaced by more sustainable nature tourism, such as where this has occurred in post-Apartheid South Africa [pp. 1–3]).

Successful outcomes of a Full Nature approach must therefore: establish better natural ecosystems, not utopias; tie -in local social processes (employment, decision-making); engage interdisciplinary organizations and teams (not only biological expertise); coordinate the policy processes affecting both natural and human ecosystems; and effectively communicate to the public. A tall order.

One of *Effective Conservation's* goals is to reframe the

debate away from the reductionist false dichotomy of humans versus nature. Jiménez wants us to understand conservation as an alternative type of production, but also as a more enticing counterargument to those who insist that “a tree should not get in the way of development” (pp. 14–16). This entirely pragmatic argument is necessary, Jiménez says, because in the standoff between people, wildlife, economy, and environment, people and economy always win.

Understanding the policy process as central means learning the skills of message promotion and marketing, activism and mobilization, boycotts and petitions, legal action, diplomacy, and bridging the urban-rural-Indigenous divides. This language is not typically in the biological lexicon. The route to successful conservation is complex, Jiménez argues, and therefore merely conserving biodiversity or promoting sustainable development are goals that are too vague, and likely to only deliver an “occasional pyrrhic victory” (p. 92).

*The Science and the Politics
The Canadian Field-*

Book Review — *cont.*

Naturalist authors and readers may be disappointed to learn that Jiménez doubts the impact of scientific papers (p. 95). Their value is not denied entirely, but other vehicles (perhaps distantly backed by research) with wider public appeal (for example, comic books and popular publications) are touted as having greater currency among the public and decision-makers.

A scientific paper, unread by most, he argues, is still important because it can be referred to as peer-reviewed, credible evidence. But scientists are often underappreciated because they are seen as early guidance rather than as tools for measurement and evaluation (p. 101). After a problem is clearly defined in a potential conservation or rewilding project, the fallback is on “robust research in population or landscape ecology” (p. 92). But ahead of this, a decision must be made as to “whether or not a species or habitat is of any particular importance to society in general” (p. 92).

This kind of language may rattle readers, but it’s central to the book’s thesis that some projects are too complicated and costly to be worthwhile while others are worth pursuing despite the price tag (examples include the release of Andean Condors and the restoration of Mauritius Kestrels). The goal of the science is not just to generate documentation; it is to

ensure that those “put in charge of drafting the conservation plans” are also the experts in the field for the species-at-risk (p. 111). However, the experts on a particular species may know nothing about managing a public conservation project, which is essentially a political process that must manage conflicts between conservationists and vested interests (e.g., mining, dam-building, ranching, plantations, and hunting).

Jiménez believes that 90% of conservation is about working with people. Those focussed and trained primarily in the biological sciences may fail at generating “change on the ground” (p. 220). By making conservation relevant to the wider population, he believes “we will be able to avoid—or at least, mitigate—the great Sixth Mass Extinction” (p. 232). This entails assuaging the concerns of wary “conservative” conservation professionals and activists who retain an “aversion to perverting the purity of natural ecosystems with management actions” (p. 244).

Objections to Reintroduction

As becomes clear to the reader, *Effective Conservation* has a particular bone to pick with a segment of the conservation community who at heart believe that nature will resolve existential threats without human intervention. Jiménez vehemently disagrees. He

also challenges the idea that reintroduced species are inherently harmful to existing resident species. In his view,

[f]ew cases exist of natural areas (be they public, private, or communally owned) that ever manage to maintain or even restore their natural populations without any [human] intervention. (p.144)

This explains his emphasis on establishing national parks.

Natural restoration, writes Jiménez, is “only possible in certain highly remote regions, untainted by human contact” (p. 144). The exception he offers here—remoteness—may be key, and a place where many field-naturalists and Full Nature conservation advocates meet in significant agreement.

Important points are made throughout this important book, all of which are worth thinking about right now. Many may ring true enough that they will deserve implementation.

Literature Cited

Child, B., H. Suich, and A. Spenceley. 2012. *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas*. Earthscan, London, United Kingdom.

Robin Collins
Ottawa, ON, Canada

Save the Dates!



Our next **Annual Meeting & Conference** will be held January 26-28th, 2024 at the Bayview Wildwood Resort, Severn Bridge. Save the date!



AFS-OC invites you to the **Instream Barrier Removal Workshop!**

To be held on November 29, 2023 at the Tiffin Centre for Conservation, Jose Building, 8195 8th Line, Utopia, ON. The agenda is forthcoming, but will include legislative overview for dam removals, case studies, and panel discussions. A social event will follow the workshop. For questions, please contact Brian Morrison (education@afs-oc.org).



Freshwater Fisheries in Canada



CARS is happy to announce the publishing of *Freshwater Fisheries in Canada: Historical and contemporary perspectives on the resources and their management* by American Fisheries Society Publishing. Canada is surrounded by three oceans and home to more freshwater lakes and rivers than can be reasonably counted. It is therefore not surprising that Canada has a plethora of freshwater fisheries and a long history of use and innovative strategies for managing them. This book is designed to follow a logical arc beginning with an overview of the Canadian landscape and the zoogeography and status of freshwater fish populations. Next, the book brings together reports on fisheries from across Canada—either at the provincial or regional scale (as dictated largely by ecoregion; e.g., the North, the Laurentian Great Lakes). Then, a number of issues and threats are presented that are useful in revealing the challenges and opportunities that exist for ensuring that freshwater fish populations are healthy and vibrant. We conclude with some reflective contributions, including short essays from some legendary fisheries professionals in Canada as well as a forward-looking piece by some early-career fisheries professionals. Taken together, this book will serve as a resource for those interested in learning about the past, present, and future of freshwater fishes and fisheries in Canada. The book is available at <https://fisheries.org/bookstore/>.

Freshwater Fisheries in Canada: Historical and Contemporary Perspectives on the Resources and Their Management



Caleb T. Hasler, Jack G. Imhof,
Nicholas E. Mandrak, and Steven J. Cooke

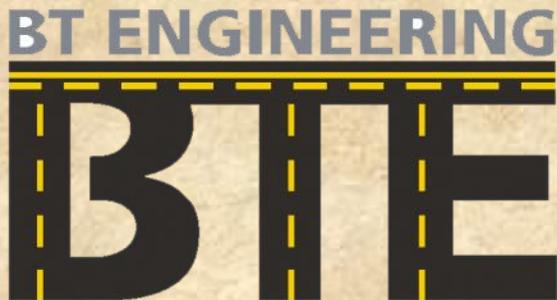
In Memorial: Wil Wegman

Some AFS-OC members will have known Wil Wegman. He passed away on May 21, 2023 (<https://skwarchukfuneralhome.com/tribute/details/6515/Wil-Wegman/obituary.html>). A summary of his accomplishments can be found [here](#) and a future newsletter will have a tribute.

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“On the Hook!”



Fish, Fishing, and Conservation

FISH, FISHING, AND CONSERVATION



This is a 389-page, peer-reviewed open textbook intended for undergraduate students who are exploring majors in Fish & Wildlife. It is also relevant to a general audience or for use in courses which explore social and ethical aspects of fish, fishing and conservation.

vtechworks.lib.vt.edu/handle/10919/112741

Facing the Dragon: California’s Nasty Ecological Debts

A blog about “ecological debts”: extinctions that occur years or generations following habitat fragmentation.

californiawaterblog.com/2023/06/11/facing-the-dragon-californias-nasty-ecological-debts/

People need freshwater biodiversity: Nine reasons freshwater biodiversity is important for humans

A discussion of the threats and important of freshwater to people.

www.globalwaterforum.org/2023/05/22/people-need-freshwater-biodiversity-nine-reasons-freshwater-biodiversity-is-important-for-humans/

Ontario’s Biodiversity Strategy: renewing the strategy to 2030

Ontario's Biodiversity Strategy guides actions across the province to restore and conserve biodiversity.

ontariobiodiversitycouncil.ca/ontarios-strategy/



World Fish Migration Foundation

The next World Fish Migration Day is a year away on May 25, 2024 where organisations from around the world organise their event around the common theme of CONNECTING FISH, RIVERS AND PEOPLE.

worldfishmigrationfoundation.com/



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