Supplementary Information for

Science journalism and a multi-directional science-policy-society dialogue are needed to foster public awareness for biodiversity and its conservation

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S3 Text

Details on the evaluation survey

<u>The survey</u>

Introductory text

Dear participant,
Thank you for your interest in this online survey on **biodiversity-related science communication**, and supporting our work of the Permanent Senate Commission on Fundamental Issues of Biological Diversity of the German Research Foundation (DFG).
After a set of introductory questions, the survey consists of two parts:
1. **Social media channels** used for biodiversity-related science communication, and
2. **Do's and Don'ts** in biodiversity-related science communication.

Completing the survey takes about 10 minutes. No personal data is collected. Once the survey is completed, you will be given the option to submit your email address to receive the published survey results.
We hope you can complete the survey as soon as possible and no later than March 9th 2021.
If you have any questions, please send an email to jonas.geschke@ips.unibe.ch.
Your contribution will greatly help to understand biodiversity-related communication by scientists.
Thank you very much and best wishes,

Jonas Geschke (Univ. Bern), Markus Fischer (Univ. Bern), Lynn Dicks (Univ. Cambridge), Eva Spehn (Swiss Biodiversity Forum) and Alexandra-Maria Klein (Univ. Freiburg)

Questions

1. What country are you mainly located/working in? *Dropdown of the world's countries*
2. Were or are you an author of an IPBES assessment? Yes / No
3. *[If yes:]* What IPBES assessments did you contribute to? *Multiple choice of assessments*
4. Are you actively doing biodiversity-related science communication? Yes / No *[If no: survey completed]*

5. *[If yes:]* For how long are you doing biodiversity-related science communication in social media? I don't / Less than a year / 1-5 years / 6-10 years / More than 10 years (single choice)
6. *[If at least a year:]* In all (100%) of your biodiversity-related science communication, how much do you use different social media channels? *randomized:* Twitter, Instagram, YouTube, Facebook, Reddit, LinkedIn, Xing, Blog(s), Other
    If "Other", please specify the social media channel: (open text)
    Do you mainly use personal or institutional social media channels? Personal (i.e. your own) / Institutional (e.g. research group, University, network)
7. Do you agree or disagree to the following proposed Dos and Don'ts in biodiversity-related science communication?
    Matrix with randomized dos/don'ts and agree/neutral/disagree button

Thank you for taking this global survey. Your contribution is very important to us.
In case you have colleagues who have contributed to IPBES assessments, please forward the survey accordingly. Thank you!
In case you are interested to receive the survey results, please indicate so in this form:
Interested in the survey results?
You can now close the window.

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By entering and submitting your email address, you confirm that we may contact you to send you the survey results. Your address will not be used for any other purpose and will be deleted as soon as we have sent you the survey results.
For details about our data policy, please see here.

Software, data and code

The survey was conducted using the software Alchemer (www.alchemer.com). No personal data was collected.
RStudio (Version 1.2.5001) and R (Version 3.6.1) were used for the data analysis and visualization, as well as Microsoft Excel for Mac (Version 16.47.1).

The data and code to reproduce the results are available from
https://doi.org/10.5281/zenodo.6038001

Results

S1 Table provides the response distribution *per country*, S2 Table *per IPBES region* (also see S1 Fig).

IPBES author information

From the 73 responses, 60 were indicated as being from IPBES authors. From those, 29 have contributed to the global assessment, 19 to the pollination assessment, 12 to the European and Central Asian regional assessment, 7 are contributing to the values assessment, each 5 have contributed to the African and American regional assessments, 4 to the Asian and Pacific regional assessment, 3 are contributing to the sustainable use assessment, 2 have contributed to the scenarios and modeling assessment, and each 1 is contributing to the invasive species and the nexus assessment.

One survey participant has contributed to a total of 5 assessments, 2 participants to 4 assessments, 5 participants to 3 assessments, 8 participants to 2 assessments, and 44 participants have contributed to a single assessment.

Assessment of social media channels used in biodiversity-related science communication

Most of the 73 responses have, based on their indication of how long they have been doing biodiversity-related science communication in social media, a creditable experience, with 69.86% active in social media for at least five years (S2 Fig).

Participants who actively engage in biodiversity-related science communication on social media use different channels to varying degrees (S3 Table). Figure 1 in the main text shows the use of social media channels per IPBES region.

While in Europe and Central Asia as well as the Americas, Twitter/X is the most used social media channel, Facebook is most used in Asia and the Pacific as well as Africa. Instagram is most used in the Americas. Reddit is solely used in the Americas. YouTube is used about the same amount in all regions. Blogs are mostly used in Asia and the Pacific, but also in Europe and Central Asia and the Americas. Other channels being used, mostly in Africa but also the other regions, are ResearchGate, emails and text messaging services such as WhatsApp, Telegram and KakaoTalk. At the time of the survey, TikTok was not yet as well-known as it is now. Therefore, it was not a selection option in the survey. Nonetheless, it was not mentioned among the "other channels" either.

From those participants that provided information about whose social media account(s) they mainly use (n = 52), 35 participants indicated to mainly use a personal i.e. their own account (32.7%) and 17 participants to mainly use an institutional account, e.g. from their research group, university, or a network (67.3%).

Evaluation of Dos and Don'ts for biodiversity-related science communication

Based on our own experiences and recommendations from the literature, we formulated each 10 Dos and Don'ts for biodiversity-related science communication. In the survey, they were presented for a critical rating if participants agree with them or not.

With a focus on the Americas (see S3 Fig a), none of the Dos and Don'ts is completely agreed with. Both Do 10 and Don't 10 are most agreed with 90%.

Focusing on Europe and Central Asia (see S3 Fig b), only Do 2 is agreed with more than 90%. Do 5 (*Do clarify your expertise and limits of knowledge*) and 7 is least agreed with, with Do 7 being agreed with less than 60%. Don't 10 is completely agreed with. Don'ts 1 and 4 are least agreed with less than 70%.

From Africa (see S3 Fig c), Dos 2, 3 (*Do put key findings or results first*), 4 (*Do prepare take-home messages*) and 8 (*Do be yourself*) are most but not completely agreed with. Don'ts 5, 7, 8 (*Don't forget to have fun*) and 10 are completely agreed with.

Last but not least, focusing on the detailed perspectives from Asia and the Pacific (see S3 Fig d), Dos 1, 2 and 10 (*Do provide content-related links to other areas of concern*) as well as Don'ts 6 (*Don't always use technical terms*) and 7 are completely agreed with.

The most critically seen Dos and Don'ts, i.e. max. 50% agreement, from Asia and the Pacific as well as Africa, are Dos 5 and 9 and Don'ts 2, 3 (*Don't take every opportunity*) and 4. This however might be due to the small number of responses from these IPBES regions.

In the overall (see S3 Fig e), Do 2 (*Do use target audience language*) and Don'ts 7 (*Don't overload with details*) and 10 (*Don't talk down to people*) are most agreed with (> 90%). Do's 7 (*Do find new audiences*) and 9 (*Do prepare for criticism and to fight arguments of denialists*) as well as Don'ts 1 (*Don't communicate when you are not keen on doing it*), 2 (*Don't wait to answer if you are keen doing it*) and 4 (*Don't leave your area of knowledge*) are least agreed with (< 70%).