



SCIENCE BASED TARGETS NETWORK
GLOBAL COMMONS ALLIANCE



FRESHWATER

Technical FAQs

For SBTN Freshwater Guidance

Step 3: Measure, Set and Disclose

STEP

3

**MEASURE, SET
& DISCLOSE**

Version History

Version	Update description	Release Date	Effective Dates
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General approach

Why does SBTN use “equal contraction” as the default approach for allocation of responsibility within the Step 3 freshwater methods?

Due to technical limitations and data gaps, the only approach that is currently implementable (in the absence of an allocation scheme approved by the local basin authority) is the equal contraction of efforts approach to allocation. This approach asks every company setting science-based targets within a given basin to contract or reduce their pressures (e.g., water use and water pollution) at the same rate over the same period. SBTN is aware of the shortcomings of this approach—in particular, the potential for perverse incentives, entrenching economic inequalities that may arise from it, and lack of recognition of efforts already made by some companies in a basin. SBTN is busy identifying alternative allocation approaches that can be implemented in a practical manner in the next version of the methodologies. While we develop and enable the implementation of these alternative approaches to allocation, we must make use of the one approach that is readily available. While potentially suboptimal, equal contraction is a valid and generally used approach in target setting, and its use can help early adopters set initial targets. SBTN expects that as newer versions of the methodologies are published in the future and companies renew their targets, the immediate shortcomings of equal contraction will be overcome.

Relevant sections in the technical guidance: Task 10 (p. 51 & 63) of Step 3: Freshwater.

Will SBTN include methodologies to assess downstream business activities?

Downstream impacts are not a part of the V1.1 release of science-based targets for nature in July 2024 for Assess and Prioritize (Steps 1 and 2) and can't be subject to target setting (Step 3).

Piloting with companies has included some exploration of downstream impact assessment and target setting, and learnings from these will be brought into SBTN's methodology development.

Relevant sections in the technical guidance: Method application (p. 19) of Step 3: Freshwater.

How is freshwater biodiversity included in the Step 3: Freshwater Technical Guidance V1.1 version?

While biodiversity does not appear explicitly as part of the Step 3 Freshwater methods, it is embedded implicitly within them. SBTN recognizes that the health of freshwater biodiversity and that of freshwater systems are interlinked and, in some contexts, may not

even be distinguishable. Hence, all actions to maintain or improve the state of nature will effectively support biodiversity. In Steps 1 and 2, companies must incorporate biodiversity state of nature metrics to prioritize basins for setting Freshwater targets. Recommended freshwater biodiversity metrics can be found in the Step 1 methods.

Step 3 Freshwater methods consider biodiversity in the sub-step in which desired environmental conditions are set. The water quantity threshold accounts for the maintenance or enhancement of the freshwater ecosystems, including the needs of specific species, using environmental flow requirements. Similarly, water quality thresholds for nutrients used in this method are linked to the eutrophication of freshwater ecosystems to avoid impacts on freshwater species and ecosystems.

For further explanation on the inclusion of biodiversity, please visit [SBTN's website](#).

How should water targets be addressed for companies that use water but do not collect it for production, such as hydropower energy companies?

Dams and reservoirs can alter the timing of natural flow regimes. They also contribute to water losses (i.e., due to evaporation) and result in water quality pressures on aquatic systems. Freshwater quantity targets are, therefore, relevant to hydropower energy companies. However, Step 3: Freshwater Technical Guidance V1.1 is not currently suitable for hydropower operations. Future developments may incorporate hydropower-appropriate guidance.

How does the Freshwater guidance relate to the Alliance for Water Stewardship (AWS) Standard and our company's water stewardship plans?

Targets and standards reinforce each other. Setting targets enhances the effectiveness of standards, while achieving targets benefits from the consistent practices established by standards. The Alliance for Water Stewardship Standard and Freshwater science-based targets are highly complementary. First, both can be applied at the same scales — within operational sites and their respective catchments. Second, they address similar issues from different angles. The AWS Standard helps operations in collecting site and catchment data to create comprehensive water stewardship plans, which should include target setting. The Step 3: Freshwater guidance offers a robust method for setting targets that acknowledge catchment thresholds. In summary, applying the AWS Standard facilitates setting Freshwater science-based targets, and setting these targets strengthens the outcomes of the water stewardship plans developed through AWS.

For explanation on the alignment and interoperability between leading approaches, please see the [SBTN communications paper](#) with the Alliance for Water Stewardship.

Step 1: Assess and Step 2: Interpret & Prioritize

Traceability

Can I still set targets if I don't know where my upstream suppliers are located?

Yes, estimated or modeled subnational locations for relevant pressures can be used to set freshwater science-based targets in upstream value chains. More details on when and what is acceptable are noted in Steps 1 & 2.

Relevant sections in the technical guidance: Table 3 (p. 22) of Step 1, Upstream target boundary A (p. 22) of Step 2, Task 2 (p. 24) of Step 2.

Step 3a: Hydrological Model Selection

Resources: Tools and Databases

Can SBTN provide a database of existing local models that would be approved for use in setting freshwater science-based targets?

Although this resource is not yet available, SBTN plans to release an initial version of the basin threshold tool in 2024 to provide information on available local models and thresholds that have been approved for use in setting freshwater science-based targets.

Relevant sections in the technical guidance: Tasks 1 & 2 (p. 30) of Step 3: Freshwater.

Global and local models

How should companies use global and local freshwater models when setting science-based targets for nature?

In general, science-based targets for freshwater should be set using local models when these are available. However, because such models are often not available, companies may use global models according to the model selection process in Section 3.1 of the guidance on Step 3: Freshwater. Please refer to the decision tree on page 28 indicating the process of selecting a modeling approach through a series of database and stakeholder consultations.

The two types of models have different advantages—local models allow companies to set more precise targets that better reflect local conditions; global models allow for application of the methods so that companies can begin setting directionally correct targets. When global models are used, companies may need to revise targets if a local model becomes available.

SBTN will continue to assess the robustness of the globally developed model approach and will consider additional measures to increase robustness or safeguards to apply this approach based on the results of that assessment.

Relevant sections in the technical guidance: Tasks 8 & 9 of Step 3: Freshwater.

What to do when local models are not available?

A model selection decision tree is provided in the freshwater method to explain what to do in these cases. Please refer to figure 3 on page 28.

Relevant sections in the technical guidance: Task 10 (p. 51 & 63) of Step 3: Freshwater.

How do companies set science-based targets for freshwater in transboundary water basins?

Transboundary water basins are those shared by two or more different countries or jurisdictions. Companies will apply the same methods as they would in a non-transboundary basin. This is possible by using a transboundary model if using the locally developed approach and with the provided model in the globally developed approach.

Relevant sections in the technical guidance: Task 4 (p. 33) of Step 3: Freshwater.

Stakeholder Engagement and Collective Action

What should be done if, during the stakeholder engagement process, stakeholders suggest focusing on other issues (e.g., local pollutants, species or habitat restoration, water access)?

This should not change the focus of the targets, though it could inform companies' strategies for target attainment (including action plans).

The methods are designed to provide an indication of how to address two specific pressures (water use and pollution). If the process concludes that these two pressures are not relevant, the companies should document this consultation to explain why science-based targets for these pressures are not being set. Though companies cannot make claims on this work, SBTN recommends that companies apply context-based water targets in these scenarios. If other pressures are related to Land, Biodiversity, or Oceans, companies should refer back to Steps 1 and 2 for guidance toward setting Step 3 targets for those earth systems for which the SBTN methods are available, or complementary guidance where it is not. For other pressures considered important, companies can take action to prevent, control, and manage them, but this will be outside the scope of the V1.1 SBTN Freshwater guidelines.

Why do the target-setting methodologies focus on individual company actions? Isn't collective action across basins required for target attainment?

SBTN recognizes that collective action is necessary in order to achieve the environmental outcomes that science-based targets relate to water security and improved water quality for biodiversity and people. However, SBTN target-setting methodology is designed for use by companies and assumes that target setting will occur at the level of an individual company. This is because individual actions are the cornerstone of mobilizing broader action and holding individual stakeholders accountable for their own contributions and responsibilities. The process of setting and achieving these individual targets is designed to promote collective action throughout the basins and economic systems in which companies operate. In conducting their initial impact assessments and collecting baseline data to set targets, companies are required to work with upstream actors in their supply chain and SBTN recommends companies engage suppliers in target setting directly when they are better suited to manage ground-level impacts.

SBTN encourages companies to enter into dialogue with stakeholders, mobilize others to contribute to collective efforts, and maximize collective action wherever possible.

[The SBTN Stakeholder Engagement guidance](#) is updated to help companies build on existing environmental knowledge, set targets that are aligned with local needs, and establish the basis for a collaborative relationship during target implementation and beyond.

In addition, the process of target setting involves first identifying local models and thresholds as part of stakeholder consultation for model selection, which in themselves could be leveraged as a rallying point or “collective target” for companies engaging in collective action in Step 4: Act. SBTN also provides [recommendations for conducting Stakeholder Consultations](#). Stakeholder consultation ensures that the basin-wide targets resulting from the selected model and threshold are grounded in reality and are protective of nature. Consultation improves the target-setting process by adding transparency, accountability, and collective understanding, as well as building trust with relevant stakeholders prior to implementation in Step 4. Consultation also helps to avoid setting unrealistic targets. If companies decide to support the development of a local model, the same stakeholders might also be consulted.

In subsequent releases, the SBTN “Act” and “Track” steps—the final two steps in the five-step target-setting framework—will provide detailed guidance on implementing targets and tracking progress to achieve targets. These will provide practical response options for companies that are aligned with existing approaches, metrics, and indicators that are sensitive to actions both at the company and basin level, facilitating collective action in basins where many companies are co-located.

Relevant sections in the technical guidance: Task 1–5 of Step 3: Freshwater.

What steps should companies setting science-based targets take if other companies in the same basin choose not to reduce their impact?

SBTN recognizes that free-riding (using public resources without abiding by the rules while others are mandated to do so) is a universal issue, particularly in environmental governance. To mitigate free-riding, companies are encouraged to engage stakeholders to bolster the participation of local champions (communities, governments, NGOs, and other actors) who can help ensure better outcomes at the basin level. Companies and the stakeholders they engage can even encourage other corporations or non-corporate actors to set science-based targets in order to increase the number of actors working together to meet basin-level objectives of water availability and quality. Over time, SBTN envisions science-based targets for nature becoming common practice, such that a majority of companies set science-based targets. Guidance for Act and Track (Steps 4 and 5) will allow companies to get credit for their individual efforts independently of the actions of others; these steps will also allow companies to pursue (and get credit for) collective action. Regardless, reluctance from other actors at the basin level to participate today should not hinder a company's ability or willingness to act today; companies can still start making a positive change and have ripple effects on others in the basin.

Step 3b: Baseline Pressure Calculation

Resources: Tools and Databases

Where can we access the global freshwater quantity model?

It is accessible here: <https://www.acc.waterfootprintassessmenttool.org/?b=sbtn>

Where can we access the global freshwater quality model?

All information required to apply the global water quality model is available in [the FW State of Nature app](#). McDowell [raw values are also available in this table](#). N & P thresholds are the same globally (0.80 mg-N/L for total N; 0.046 mg-P/L for total P).

The results of the global water quality model are available at: McDowell, R.W., A. Noble, P. Pletnyakov, B.E. Haggard, and L.M. Mosley, 2020. Global Mapping of Freshwater Nutrient Enrichment and Periphyton Growth Potential. Scientific Reports. <https://www.nature.com/articles/s41598-020-60279-w>

Can we extrapolate data from representative sites in order to calculate the baseline for freshwater use?

Yes, provided the company can demonstrate that these sites are representative (representativeness factors may include climate, topography, soil type, land use, farming technologies, and practices).

Step 3c & 3d: Environmental Thresholds Identification and Freshwater Target Setting

How to proceed where a regulatory authority has already set a water use or quality threshold?

If it can be demonstrated that the existing basin-wide threshold is protective of nature, set a target at the site's current baseline levels and follow the SBTN mitigation hierarchy (Avoid, Reduce, Regenerate, Restore, Transform—Step 4).

If the existing basin-wide threshold is not protective of nature, use calculated science-based targets following the model selection decision tree.

Relevant sections in the technical guidance: Figure 3 (p. 28) of Step 3: Freshwater.

We have selected a water basin for which we have found local models at the level of individual rivers and aquifers. These models show different water quality/availability levels and thus have different target implications. Are we supposed to set one overall target for this water basin or one for each river/aquifer?

SBTN recommends that the company sets the target at the river basin level. It is recommended that you select the threshold basin level for the part of the river with which either the direct operations or upstream activities interacts that has the poorest ecological status.

Step 3c & 3d: Environmental Thresholds Identification and Freshwater Quantity Target Setting

If monthly data for sites is not available (thus making the calculation of a monthly baseline impossible), is it still possible to set a target on a monthly basis in order to maximize the effect of the withdrawal reduction?

If monthly pressure data do not exist, use annual targets. If monthly targets are desired, the company should begin collecting monthly pressure data in time for the next period of target settings.

Companies can be more ambitious than the targets and take more ambitious action during more critical months (i.e., abate more during drier periods) but will still need to set an annual target if this is the best data.

When using the back calculation approach, how can we provide confirmation that factors such as groundwater depletion or dam operations are not relevant?

During the stakeholder consultation process for model selection, you should look at the model development documentation to understand which factors were accounted for when it was developed (i.e., groundwater depletion, flow alteration from dam operation). Local stakeholders should weigh in on whether the model (given the documentation and the local context) is adequate or not. Please share this information (including records of your consultations) when you submit for validation.

How should treated water that discharges to land onsite be accounted for in terms of consumptive vs. non-consumptive flow?

If you can demonstrate how much of the land-applied water returns to the stream at the appropriate time and location (and of suitable quality), the amount of return flow can be subtracted from the consumptive flow to calculate the non-consumptive flow.

Step 3c & 3d: Environmental Thresholds Identification and Freshwater Quality Target Setting

Should companies submit targets only for N or P (whichever is the limiting factor) for each river basin or for both in each river basin?

Companies are required to set targets only for the limiting nutrient in each basin. They can optionally set targets for both nutrients in any basin.

How should we determine the limiting nutrient for an upstream location (when using data from the maps given by McDowell et al. (2020))?

For Top Priority basins, if McDowell results, as provided in the SBTN State of Nature app, show “acceptable” levels, this indicates thresholds are being met for both N and P. In this case, set a target at the site’s current baseline levels (0% reduction) and follow the SBTN mitigation hierarchy (Avoid, Reduce, Regenerate, Restore, Transform — Step 4).

For “all other basins in the target boundary,” SBTN recommends companies search for appropriate local water models.



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