Flow-Impairment Toolkit

Impairment Listings for Low-Flow Waterways under the Clean Water Act

earth LAW CENTER

INTRODUCTION

THE CHALLENGE AHEAD

Rivers are running dry in the American West due to human impacts. Causes include over-diversion, excessive damming, climate change, increased periods of drought, and changes in snowmelt patterns. According to the EPA's Clean Water Act (CWA) regulatory program for impaired waterways, "flow alteration" threatens or impairs over 50,000 miles of rivers and streams, and "hydromodification" is the fourth-most-common source of impairment.

But these figures only account for flow alteration that is officially recognized by state agencies. Actual flow impacts are far greater. For example, a 2018 report found that almost half of all Western rivers have been modified by altered flows or land development.

Despite the reality on the ground – that river flows are significantly altered across the west – many western states fail to officially recognize that any rivers are impaired due to altered flows. These states include Alaska, Arizona, California, Colorado, Kansas, Oklahoma, Nevada, North Dakota, and South Dakota. Other states are on the right path. Oregon, for example, lists over 700 waters for flow alteration.

Properly listing waterways as "impaired" due to flow impacts is very important. Under the CWA, governments are required to address causes of impairments. Where the cause of impairment is pollutants, governments limit discharges and take other actions to cleanup a river. And where the cause is altered flows, governments must address how much water a river needs to be healthy. Therefore, we must work to accurately (i.e., based on science, not policy) recognize all flow-impaired waterways.

TOOLKIT PURPOSE

This toolkit seeks to facilitate grassroots advocacy for the expanded use of the CWA in order to protect and restore flows. By applying the CWA to recognize waterways as impaired due to low flows and other forms of hydromodification, western states can better restore their rivers to health. Further, advocates will have new tools to protect rivers.

Fortunately, courts and governments are beginning to recognize the importance of protecting flows under the CWA. In 1994, the U.S. Supreme Court affirmed that the CWA protects not only water "quality," but also water "quantity." The Supreme Court aptly noted that the common distinction between water quality and quantity is "artificial," since water must be both clean and plentiful to fulfill the purposes of the CWA. Seeking flow-impairment listings is another step in the correct interpretation of the CWA as a tool that supports broad river protections.

Practically speaking, there are numerous benefits for securing flow impairment listings, which are described in pages 12-14 of the Toolkit. To give a few examples, such listings can be leveraged in environmental impact statement procedures, with the Public Trust Doctrine, for CWA Section 401 certifications, and to secure grants for waterway restoration. Ultimately, the purpose of this toolkit is to support thriving flow regimes for rivers, including by restoring water to low-flow waterways throughout the Western U.S.

WHAT DOES "FLOW IMPAIRMENT?" MEAN

(1) **Non-Legal Context:** In a non-legal context, flow impairments occur if the natural course of water is altered by human activities. Common examples of flow impairment involve excessive diversions, dams, levees, and irrigation channels – i.e., constructions designed to inhibit or redirect the flow of water. However, in some cases, flow impairment may occur as the less-obvious result of human activity within a watershed. For example, streams near urban areas typically exhibit lower base flows but are subject to more frequent and severe flooding. This flooding derives from the higher frequency of non-porous materials in urban environments than in rural locations.

However, the term "flow impairment" does not merely refer to any inhibition of a river's natural state. The term "impairment" is a legal term of art within the CWA context, and arriving at its precise definition takes a number of steps. The nuances of this issue will be described in the following sections.

(2) Legal Context: States and other authorized entities must protect waterways under the CWA by establishing "water quality standards." These water quality standards establish designated uses for the water and criteria by which to measure whether a body of water is satisfying its designated uses. Flow "impairment" under the CWA describes a situation where a water fails to meet its applicable water quality standards due to flow impacts. For example, if a river has zero or extremely low flows due to over-diversion, it does not support designated uses of a water body relating to protecting aquatic life.

One legal impetus for listing flow-impaired waterways arises from the plain text of the CWA. Under the CWA Section 303(d)(1)(A), where a water body's water quality standards are not being met, then "those waters" "shall" be identified under Section 303(d), whether the impairment is due to a pollutant (such as chloroform or fecal coliform) or other pollution (such as low flows). A 303(d) designation means that the water is impaired, and such a designation must likewise identify the causes and sources of impairment. While adding a river to a 303(d) list is itself a simple administrative task, the listing triggers many federal and state legal requirements that may be used to further protect and restore the flow-impaired river.

STATE APPLICATION OF FLOW IMPAIRMENT

States list rivers for flow impairment on their 303(d) list and/or 305(b) report, with 303(d) and 305(b) referring to sections of the CWA. States combine the 303(d) list and 305(b) report into an "Integrated Report" that is due for submission to the EPA on April 1 of every even-numbered year (2014, 2016, 2018, etc.).

According to Integrated Report guidelines released by the EPA, there are two main categories under which flow-impaired waterways can be listed: Category 4C and Category 5. For a full description of the nuances of each Category, consult the most recent EPA Integrated Report Guidance, available at: www.epa.gov/tmdl/integrated-reporting-guidance.

First, "Category 4C" (also "4c") refers to water segments impaired due to "pollution" sources (e.g., low flows) other than those that are "pollutants" (e.g., chemical constituents). While the distinction between "pollutants" and non-pollutant "pollution" sources can be confusing, just remember that the latter category generally refers to physical impacts to a river.

Second, "Category 5" refers to water segments impaired due to "pollutants" that need total maximum daily loads ("TMDLs") – a CWA term that describes the maximum pollutants an impaired waterbody can receive. Category 5 is typically, though not always, used synonymously with the Section 303(d) list. Despite its focus on pollutants, some states include flow-impaired waterways in Category 5 for various reasons, such as to record all impairment sources in a single list for convenience.

Here is a summary of the different approaches taken by states:

1. **Flow on 303(d) list on its own merit:** List flow impairments as part of the state's Section 303(d) list solely on the merit of a waterway's 4C identification as a cause of impairment – that is, whether alone or in combination with a pollutant impairment (Tennessee).

2. **Flow on 303(d) list if there is also an impairing pollutant present:** List flow impairments as a cause of impairment on the "303(d) list" (e.g., Ohio) or on the "Category 5/303(d)" list if there is also a pollutant impairing the waterway in addition to the flow impairment (New Mexico; Michigan).

3. **Flow on 305(b) list:** List flow impairments as a cause of impairment, but on the 305(b) rather than the 303(d) list – that is, characterizing both Category 4C and 5 waters as causing beneficial use impairment but distinguishing the 303(d) list for purposes of drafting TMDLs, rather than distinguishing impairment (Idaho, Montana, Vermont, Washington, Wyoming).

Many states are using this flow impairment information already, including with respect to setting state priority action. For state-specific information, please see Earth Law Center's "Clean Water Act Section 303(d) and 305(b) Listing of Impaired Waters: Ten Examples," available at: https://drive.google.com/open?id=1KK8j0tPINBjOz1gfC_7EYZK6IKhlLuIe.

ARE FLOW-IMPAIRMENT LISTINGS REQUIRED?

The bottom line is that under the plain language of the CWA, flow-impairment listings are required where a water body's water quality standards are not being met due to low flows. For example, the CWA says that "[e]ach State shall identify those waters within its boundaries for which the effluent limitations … are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters." See 33 U.S.C. § 1313(d)(1)(A) (emphasis added). The Stanford Environmental Law Journal article "Pollution Without Solution: Flow Impairment Problems Under Clean Water Act Section 303" (2005) offers an excellent legal analysis of why flow-impairment listings are mandatory.

Unfortunately, some jurisdictions do not consider altered flows to legally mandate an impairment listing regardless of the strength of available data and evidence. Note that the authors of this toolkit believe this position to be contrary to the law. California holds this view, for example, and this position is currently being challenged in the courts.

Regardless, the practical benefits of hydrological-impairment listings are strong, and so advocates may wish to advocate for such listings regardless of their state's current stance.

II. SECURING A FLOW IMPAIRMENT LISTING

STATUTORY DEADLINE

The Clean Water Act requires that states publish a Integrated Report that combines requirements from 303(d) and 305(b) of the CWA. Both are due on April 1 of even-numbered years, so April 1, 2020, April 1, 2022, etc. The CWA and implementing regulations are clear on the deadline.

However, some states are regularly late. In such cases, you may want to advocate for your state to meet these deadlines. Alternatively, you may have a cause of action to enforce this deadline in the courts.

Whether your state is on time or late, monitor your water agency's website (or sign up for email alerts) for opportunities to submit data justifying impairment listings and to give comments on the draft Integrated Report. States are required to give notice and comment opportunities.

303(d) List or 305(b) Report?

The 305(b) report describes the condition of every river in the state, including all impaired waterways. The 303(d) list is narrower, containing rivers the state has determined are "impaired." Some states interpret the 303(d) list as including only those waterways requiring a TMDL, although this limitation may be in contrast to the CWA. Regardless, most states publish a single Integrated Report to satisfy CWA requirements of both 303(d) and 305(b). The EPA has a useful database which includes examples and information pertaining the requirements and status of states: https://www.epa.gov/tmdl/impaired-waters-and-tmdls-resources-tools-and-databases.

You should understand your state's listing procedure. If you believe it complies with the CWA, you can follow its guidance for seeking flow-impairment listings, whether under 303(d), 305(b), or the Integrated Report. If your state is silent, you may wish to give the state the option to list flow-impaired waterways in a reasonable and legal manner.

If a state will not list *any* flow-impairment listings as an overarching policy, you may wish to engage in the administrative process or seek other solutions, including legal action. The CWA is clear that such listings must be made where justified.

Again, to summarize the options for flow-impairment listings:

(1) 305(b) Report: 305(b) Report: The CWA requires that all impaired waterbodies be reported on the 305(b) Report. The 305(b) Report does not require EPA approval.

(2) 303(d) List: Where a water body's water quality standards are not being met, then "those waters" "shall" be identified as impaired. However, some states interpret the 303(d) list as only including waterways requiring a TMDL. Unlike the 305(b) report, the 303(d) list requires EPA approval.

(3) Integrated Report: Combines the 303(d) list and 305(b) report into one document.

SHOULD A RIVER BE LISTED AS FLOW-IMPAIRED?

Before interacting with the listing process, an advocate should be clear about why listing a river on a 303(d)/305(b) list/report is appropriate. First, is the river currently impaired due to low flows (or hydromodification more generally, such as dam impacts), or may it soon become so? This question generally turns on whether the river fails to meet applicable water quality standards. Again, states have different mechanisms for public participation, so advocates needs to check their jurisdiction's process. Typically, major variables amongst states are:

(*continued below*)

1) whether and how you can generally submit information/data or whether you have to do so in the confines of the 303 listing process, and 2) how the state has handled flow-impairment listings in the past. For more information regarding-state specific requirements, advocates can visit https://www.epa.gov/wqs-tech or search your state water agency's individual websites for an up-to-date listing.

Advocates looking for additional information in California could begin their search at https://www.waterboards.ca.gov/water_issues/programs/water_quality_goals. The EPA likewise provides useful resources at https://www.epa.gov/wqs-tech/water-quality-standards-regulations-california.

However, bearing in mind the danger of over-complicating a simple question, it is instructive to turn to the Clean Water Act itself. The law's purpose, first and foremost, is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters…." At a minimum, water quality standards should provide for the "protection and propagation of fish, shellfish, and wildlife and provide for recreation in and on

(*continued below*)

the water…." Further, it is important to note that conforming submissions to the regulatory requirements is paramount, especially with regards to how any submitted data was compiled.

Second, advocates should look for indications that obstructions to the natural flow of a river are a cause of its impairment. An example of signs of impairment includes dry gullies and increased marine sediment levels.

For example, when a waterway runs completely or nearly dry due to over-diversion, then the evidence is quite clear. Less drastic cases can be noticed through other methods, such as by increased levels of sediment in rivers. It may be useful to first discover a relevant harm, and then see if experts can trace it to flow impairment. States already use a number of creative ways to identify flow impairment:

- Ohio, Tennessee, and Vermont treat biological harm as a red flag for possible flow impairment issues.
- Wyoming monitors for higher sediment levels.
- Idaho monitors both temperature and sediment levels.
- Michigan looks for channelization and directly monitors flow at set stations and times.

COMMUNICATING THE CASE FOR LISTING

Once an advocate has reason to believe flow impairment is harming a waterbody, they should communicate that fact to the relevant listing authorities. At this point, it is important to remember that each state has established its own procedures for communicating information for having a river included as an impaired waterway. Here, due to the large discrepancy between California and the remaining western states, they have been separated into two categories below.

CASE STUDY: CALIFORNIA

Amongst the western states, California has established a unique process for evaluating its waterways and reviewing them for inclusion in the Integrated Report. California is divided into nine regions, which the state breaks into three cycles. Then, each region submits their Integrated Reports every six-years instead of every two-years.

States should consider whether this process is legal before deciding whether to adopt a similar "cycle" listing approach. According to the plain language of the CWA and implementing regulations, states must submit a 303(d) list and 305(b) report every two years, so completing the process for a region only every six years would seem to violate that requirement.

A cyclical listing approach might not be good public policy either. California's especially lengthy, staggered planning system may be especially pernicious when considering flow impairment. Drought, water management decisions, and other forces often cause or exacerbate low flow conditions. However, these conditions change more often than every six years. Additionally, treating two regions differently because of planning schedules while they both face the same drought conditions may lead to non-optimal management decisions. No other state breaks up their reporting process in a similar way.

Once Regional Integrated Reports are adopted in California, the Reports are then sent to the State Water Board for review. The State Water Board assesses and ultimately combines the reports to form California's Integrated Report. As with the regional Integrated Reports, the State Water Board provides notice for public comment before adopting the Integrated Report.

After being adopted at the state level, the potentially impaired water bodies move along in the Integrated Report to the EPA. The EPA reviews the report again and makes the final decision on what becomes listed on the state's 303(d) list.

Each time an authority has a hand in drafting or reviewing a listing report, there is space for public comment. At each point, advocates should submit comments that lay out the case for flow impairment as thoroughly as possible, including their evidence, information about how the evidence was gathered, and how that evidence demonstrates that flow impairment has caused a water to fall below applicable water quality standards. Read the notices for public comment carefully and be sure to conform to their requirements as best you can. Note that the EPA might not give an opportunity to comment, but you can still do so.

In California, information supporting flow-impairment can be submitted to the California Environmental Data Exchange Network (CEDEN). There are two types of accepted information: data (which is numeric) and general information ("any documentation that a water body is not meeting, or is not likely to meet, water quality standards"). However, it is California's duty to consider *all* available information – not just that which is submitted by the public.

THE PROCESS IN OTHER WESTERN STATES

While California is unique in many aspects for reviewing its water quality data, especially having rotating sessions for its nine regions, all other western states abide by the timeline of submitting their Integrated Report for the whole state every two years. However, California is not unique in having a public clearinghouse for water quality data. This section includes example of the mechanisms that several other states have adopted.

To begin, states such as Colorado and Washington have online databases where the public can submit information regarding water quality management to the proper authorities. This system allows relevant data to be reported and examined by professional and may allow for identification of flow impairment. Specifically, for the Colorado River Basin, the state allows entries of sediment data, "aquatic life habitat data," temperature, and flow rate. These items (especially flow rate) may be useful metrics for determining flow impairment. Additionally, Washington allows for "observations" to be recorded, and specifically mentions flow.

On the other hand, Oregon has a slightly more involved system. Oregon has adopted a program that allows volunteers to borrow equipment for water monitoring. However, the data generated through this volunteer program is not publicly available without request. It is advisable that advocates in Oregon be meticulous when navigating through Oregon' 303(d) and 305(b) listing process and follow the requirements closely.

For all western states, advocates should read the submission requirements closely, and tailor their communications appropriately. Specifically, pay attention to the details that must be recorded not only about their data, but also how their data was compiled. Further note that narrative submissions are allowed. These, however, must be scientifically defensible. The collected data is assessed for both quality and quantity according to each state's designated listing process.

Finally, recall that states must consider *all* evidence of flow-impairment when deciding whether to make such listings, whether or not it was submitted by the public.

WRAPPING IT UP

In short, states have adopted many different mechanisms for public participation. Depending on the state, submitted data may, or may not, be generally open and available on a public database. If not, active and timely participation in the listing process' notice and comment period is even more essential. Further, states differ in the metrics they quantify and how they handle narrative information. This latter point may be a useful place to further push for reform. Quantifying and monitoring turbidity, flow rate, and other data may be useful in ensuring that states systemically consider flow impairment when discussing water quality, and states such as Colorado indicate that this is a viable practice.

Remember, whatever processes you go through, there is fundamentally a two-step question:

> 1) Is the river impaired (i.e., failing or likely to fail to meet water quality standards), and
>
> 2) is flow impairment a primary cause of this impairment?

A sufficiently well-written and supported comment might compel the responsible agency to address flow impairment. If the agency still refuses to list the river for flow impairment, advocates should consider seeking legal advice to review the adequacy of the agency's response and its compliance with the Clean Water Act and other state and federal laws.

Whatever your state's circumstances are, the most important factor is to be diligent, timely, and persistent in seeking flow-impairment listings through administrative processes. This is particularly true for states that currently do not make such listings, as there may be resistance to do something new – even though properly listing for flow-impairment where supported by data and evidence is legally required by the CWA (a point that we suggest advocates emphasize in their communications). You must also be sure to emphasize the practical benefits of securing such flow-impairment listings. Some of these benefits are discussed in the following section.

III. USING FLOW LISTING TO PROTECT IMPAIRED WATERS

If your state lists flow-impaired water bodies, that alone does not guarantee that the government agencies will adequately address flow-impairment. The listing provides a common, near-unassailable factual basis which should inform all government actions affecting flow-impaired rivers. But it will also be up to local stakeholders to lobby their representatives for action and ensure that government agencies make allowances to address flow-impairment. Stakeholders have several channels by which they can effect change. Using these channels often require advocates to navigate through both formal and informal processes. This section will provide some guidance to several of these processes.

1) Protecting Flow-Impaired Waterways from Projects that Further Reduce Flows

Development projects, water projects, and other activities with the potential to significantly affect flows most likely require government approval. State and federal laws mandate that governments must interact with the public when taking action by "notice-and-comment rulemaking." An advocate should 1) know about proposals affecting an impaired water 2) know how to use administrative recourses, and 3) recognize arguments to support more flows as underscored by a CWA flow listing. In some cases, successfully navigating the administrative process and raising popular opposition will be enough to dissuade agency action that is unnecessarily harmful to the environment. In other cases, legal recourse may be an option.

A) Notice

The first step to challenging misguided projects is knowledge. Fortunately, federal and state laws have extensive provisions requiring public notice for most governmental actions. In the context of protecting rivers, this means there are many sources to monitor.

As always, advocates should customize their strategy to a particular issue, but here are a number of sources and methods to get started.

i) Notification as an interested party

Advocates should take care to keep up with published notices concerning relevant agency actions. California's State Water Board and other state agencies provide resources to find notices and subscribe to email notifications that will provide routine updates for specific issues. Please see several links listed below:

- California's State Water Board: https://www.waterboards.ca.gov/press_ room/; https://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.html
- Montana DEQ: http://deq.mt.gov/Water/WQPB/cwaic/reports
- Montana Listserv: http://deq.mt.gov/Portals/112/Water/WQpb/CWAIC/Reports/PDFIRLetter.pdf
- Oregon DEQ: https://public.govdelivery.com/accounts/ORDEQ/subscriber/new
- Utah DEQ: https://deq.utah.gov/division-drinking-water
- Washington DEC: https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d/Assessment-policy-updates
- Washington Listserv: http://listserv.ecology.wa.gov/scripts/wa-ECOLOGY.exe?A0=ECOLOGY-WATER-QUALITY-INFO

ii) Monitor local news and publications

Another, less formal option to monitor notices is to create a Google Alert (or similar news alert) for one or more flow-impaired waterways. Projects and other activities that affect these waterways might show up in the news and, through this service, your inbox.

Many agency actions also require that a notice is published in local periodicals, so be sure to monitor those sources, as well.

For advocates in California, Maven's Notebook is a useful resource for water resources news. For advocates located in other states, running an internet search for development projects, water projects, and other actions that impact waterways will likely yield useful results.

B) Hearings and Comments

When there is an action that has the potential to negatively impact public waters, the government is typically obligated to hold a hearing within a public forum where the government will solicit public opinion. At the very least, many states have dead periods where no actions can be taken for a period of time after a rulemaking proposal to allow time for individuals to submit written comments.

At this point, advocates may choose to solicit legal advice or technical experts. Here, well-drafted and informed comments will require more involved responses from the relevant government agency. Moreover, in many cases, the advocates must raise their arguments in the form of written comments and during the designated timeframe in order to preserve the argument and later appeal those issues in court, if necessary.

As with the comments, the strategy for challenging these detrimental actions is as much about demonstrating a united public opinion/opposition to government agencies as it is prompting them to comply with their legal obligations.

C) Arguments Supported by CWA Listings

Given the importance of comments and hearings, what are some starting issues an advocate may way to bring up to leverage flow listings? There are many legal obligations binding government agencies that touch upon procedural, environmental, administrative, and property issues. More often than not, engaging these issues require extensive factual expertise. Again, given those points, it may be prudent for advocates to retain professional legal and scientific advice. Here are a of introductory laws and legal doctrines that an advocate can explore when preparing for comments and/or hearings, although there are many more.

i) NEPA and State Environmental Policy Acts

At both the federal and state levels, there are environmental laws that covers most agency actions. The National Environmental Policy Act (NEPA) makes it incumbent upon on all federal government agencies to take a hard look at the environmental risks of their actions and alternatives to their proposal. Every state has its own implementation of a similar law. For example, California's is known as the California Environmental Quality Act ("CEQA").

When reviewing a project under NEPA, advocates could ask whether a government agency took an adequately "hard look" at their action(s) in light of a flow impairment listing. Advocates may also direct questions as to what less-harmful alternatives were considered, including a no-action alternative, before arriving at the outcome. Additionally, advocates could also pose questions about additional impacts to flows and ensure that agencies go on the record to address them. Agencies generally must acknowledge and respond to all comments that reasonably support significant scientific uncertainties, and it must do so in an open, reasoned manner. Note that flow diversion projects and other projects impacting the physical state of a river threaten aquatic life and may present scientific uncertainty.

NEPA and state environmental policy acts are both very complex. However, if further water diversions or other activities impacting flows are proposed to a river listed as flow-impaired, providing for compliance with these laws can go a long way towards ensuring that agencies not compound existing harms. If you believe that a project that falls under NEPA or state environmental policy acts is not adequately considering flow-impaired rivers, consider contacting an expert.

ii) Public Trust Doctrine

In addition to statutory duties, state agencies have a constitutional duty to hold waters in the public trust. Unlike NEPA – the obligations of which are triggered by proposals and projects – public trust duties are continual. The ongoing nature of public trust obligations allows the doctrine to be used to both challenge a proposal and to improve the status quo.

For example, California's State Water Board allows permits to be challenged by protests which show "that the proposed appropriation would not be within the board's jurisdiction, would not best conserve the public interest or public trust uses, would have an adverse environmental impact, or would be contrary to law...." In these circumstances, a flow-impairment listing provides a vital factual basis for challenging further flow impacts. So if a will further impair the flow of a waterway listed for that cause, an advocate should cite this "adverse environmental effect."

The Public Trust Doctrine is underutilized as a tool in western states, most or all of which may be failing in their public trust duty to preserve water for public use and enjoyment. Listings for flow-impairment provide further evidence that states are failing in this duty and are required to take affirmative action to protect water for the public.

iii) Section 401 Permits

Section 401 of the Clean Water Act applies to applicants for a license or permit to conduct certain activities that may result in a discharge of fill or dredged materials into navigable waters. Such applicants much obtain a state or tribal authority certification that the activity in question complies with water quality standards – which, again, can be violated due to flow impacts. In such cases, if a state has listed a certain water as flow-impaired (i.e., water quality standards are not being met due to low flows) and the activity in question would exacerbate flow impacts, then certification could potentially be denied under Section 401. This places a check on projects that could adversely impact existing flow challenges in western rivers and streams.

D) Fast-Tracking Flow-Impairment Listings

When addressing waterways that are suffering from flow impairment, it would be vigilant for an advocate to urge their state to fast-track the development of instream flow criteria (narrative and then numeric) that, when met, would uphold the water quality standards that have been established by the CWA. In particular, it is important for all western states to establish criteria to specifically alleviate the significant ecosystem harms caused by low flows. Note that while establishing such instream flow criteria can be useful for listing flow-impaired waterways in the first place, doing so is not a prerequisite to making such listings.

2) Remediating Impaired Waters

Obviously, the goal of advocates is not simply to prevent the further deterioration of waters but to restore them. While the options available vary on a case-by-case basis, there are many avenues by which citizens can seek to improve overall water conditions after a flow-impairment listing has been made. Some of these avenues are identified and addressed below.

A) Agency Actions

Once a water has been listed as impaired under the CWA, agencies must take action to restore the waterway to health – whether it be by creating a TMDL for pollutant-impaired waterways or, for flow-impaired waterways, protecting and restoring flows. There are many ways that an agency can achieve this: permit conditions, affirmative use of the Waste and Unreasonable Use Doctrine, implementation of conservation programs, securing water rights for instream use, and so forth.

Additionally, establishing minimum instream flows and a science-based flow regime (as required to establish a healthy waterway) should be considered for all waterways that are listed as impaired due to altered flows. Advocates should use all tools at their disposal and also incorporate flow-impairment listings into their current suite of environmental work. If successful, we can protect and restore our rivers' flows.

B) Grants

An impairment listing may trigger eligibility for a number of financial outlays, but one special consideration is the Clean Water State Revolving Fund (CWSRF). The CWSRF is administered locally and not explicitly tied to CWA listings. However, it provides subsidized loans for eleven specific types of projects. Among these are projects designed to address non-point source pollution. As the EPA specifically categorizes hydromodification under non-point source pollution, these projects could conceivably address flow impairment issues. Although CWSRF loans are not directly tied to CWA listings, they are provided for in CWA. Thus, a compelling argument may be made for using CWSRF to restore an impaired river.

Advocates should also leverage flow-impairment listings to secure funds for specific flow restoration projects through bond funds and other funding sources. As discussed above, states have an imperative to delist flow-impaired waterways, and so they should have a shared interested in securing restoration funding.

C) The Political Process

Broadly speaking, perhaps most important means of effecting change by a CWA listing is through democratic action. All the arguments mentioned above apply and can be leveraged to garner public support. Through this route, the advocate may advise the citizens that the government has decided that your river is in danger, and it knows that the cause is flow impairment. Organize public outreach, contact representatives, and demand that action is taken to restore and protect your waters.

D) Litigation

Unfortunately, states may fail to meet the plain language requirements of the CWA and implementing regulations, which requires them to, at minimum, 1) consider data and evidence of flow impairment, 2) list flow-impaired waterways where supported by the evidence, 3) meet the statutory deadline of April 1 of every even-numbered year for completing its 303(d) list and 305(b) report, and 4) take actions to restore flow-impaired waterways once listed, amongst other requirements. While the administrative process is one approach to address these shortcomings, litigation may be necessary. While there are many requirements to successfully litigate this issue, one typical requirement for lawsuits of this nature are to first exhaust administrative remedies, so be sure to engage in the administrative process. Consult a legal expert to learn more about this approach.

Conclusion

By securing flow-impairment listings, we have a new and crucial tool to protect and restore flows in western waterways. We encourage advocates to consider advancing campaigns in their own states similar to the ones that Earth Law Center have pursued to seek flow impairment listings in California. Other innovative tools can be to address western flow challenges, as well, including use of the Public Trust Doctrine, the "rights of rivers" movement (to recognize rivers as legal entities possessing rights), and the establishment of minimum instream flows that are protective of aquatic life, amongst other approaches. If successful, we can overcome the challenges ahead and achieve thriving waterways for all.

Visit www.earthlawcenter.org to learn more about Earth Law Center's work to recognize and protect flow-impaired waterways

ATTACHMENT 2:
EXAMPLES OF HYDROMODIFICATION LISTINGS

earth LAW CENTER
AWAKENING TO EARTH RIGHTS

P.O. Box 3283 Fremont, CA 94539
tel (510) 490-1690
www.earthlawcenter.org

Clean Water Act Section 303(d) and 305(b) Listings of Impaired Waters: Ten Examples

SUMMARY

This document provides excerpts from Clean Water Act Section 303(d) and 305(b) reports for ten sample states listing waterways as impaired due to causes related to altered flows.[1] These states, and others that identify waterways as impaired by flow-related alterations, recognize the importance of accurately reflecting waterway health status as required by Section 303(d)(1)(A).[2]

A summary of the attached excerpts is provided below, with "prior appropriation" water law states in **bold**. Note that "Category 4C" (also "4c") refers to a US EPA-created category of water segments impaired by "pollution" (*e.g.*, flows) as opposed to "pollutants" (*e.g.*, chemical constituents). "Category 5," which refers to impairments due to "pollutants" that need TMDLs, is typically, though not always, used synonymously with the Section 303(d) list. As addressed below and illustrated in the pages to follow, state approaches to listing flow alterations as a "cause" (rather than merely a "source") of impairment can vary as follows:

- Flow on 303(d) list on its own merit: list flow impairments as part of the state's Section 303(d) list solely on the merit of a waterway's 4C identification as a cause of impairment; that is, whether alone *or* in combination with a pollutant impairment (Tennessee)[3];
- Flow on 303(d) list *if* there is also an impairing pollutant present: list flow impairments as a cause of impairment on the "303(d) list" (Ohio) or on the "Category 5/303(d)" list (New

[1] Other states with flow-related listings include but are not necessarily limited to: Maryland, Nebraska, New York and Washington D.C. (D.C. lists flow impairments on its 303(d) list of impaired waters rather than the 305(b) list).

[2] Section 303(d)(1)(A): "Each state shall identify those waters within its boundaries for which the effluent limitations … are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the *pollution* and the uses to be made of such waters." (Emphasis added.) Note that Section 303(d)(1)(A) refers to "pollution," calling into question the assumption that the list excludes impairments due to flow, also labeled "pollution." By contrast, Section 303(d)(1)(C) focuses on determining whether or not TMDLs are required to address pollutant-related impairments ("Each State shall establish for the waters identified in paragraph [303(d)](l)(A)] of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies … as suitable for such calculation….). Accordingly, the states identified in this document at a minimum recognize that they must identify *all* impaired water bodies comprehensively, and that the identification of impairments for TMDL purposes is a separate task. Tennessee (and Washington D.C.) also appropriately recognize that flow impairments should be on the "Section 303(d)" list, as per Section 303(d)(1)(A). For more information on the requirements under federal Clean Water Act Section 303(d) to list impaired waters and the utility of such required listings, *see, e.g.,* Comment Letter from Earth Law Center *et al.* to North Coast RWQCB, "2012 Integrated Report for the Clean Water Act Section 305(b) Surface Water Quality Assessment and the 303(d) List of Impaired Waters: (Aug. 8, 2014) (ELC *et al.* Letter); at: http://earthlawcenter.org/static/uploads/documents/303d__Ltr_NorCal_Flows_Res_and_Staff_Rpt.pdf.

[3] As noted above, Washington D.C. also lists flow-impaired waters on its Section 303(d) list.

Mexico, Michigan) *if* there is also a pollutant impairing the waterway in addition to the flow impairments;

- Flow on 305(b) list: list flow impairments as a cause of impairment, but on the 305(b) rather than the 303(d) list; that is, characterizing both Category 4C and 5 waters as causing beneficial use impairment but distinguishing the 303(d) list for purposes of drafting TMDLs, rather than distinguishing impairment (Idaho, Montana, Vermont, Washington, Wyoming).

Note again that, unlike California (the Los Angeles Region listings excepted), each of these states (including "prior appropriation" water law states) clearly list flow-related alterations as a cause of impairment. The permutations arise from the fact that the states (except Tennessee) reconcile in different ways the language of Section 303(d)(1)(A) versus US EPA guidance setting out categories for the listing process.

As illustrated below, states are using this flow impairment information already, including with respect to setting state priorities for action. For example, Montana and Ohio use their 4C flow impairment data in compiling statistics on statewide sources of impairment, which provides more accurate information on threats to waterway health than in states that fail to include this important information. Vermont compiles the flow impairment information with the status of efforts to address it, as well as a "Projected WQS Compliance Year" for the affected waterways.

Further summary information is provided below, with excerpts from states' reports following. We urge California to follow the lead of these states and identify flow impairments on its Section 303(d) list of impaired waterways. Taking action now on those waters most clearly flow impaired is essential, especially given the fact that we are witnessing biennial reports every six years now instead of every two.

I. **California** – The 2006 California 303(d) list includes Category 5 listings for "water diversion" and "hydromodification" in the Los Angeles region.[4]

II. **Idaho** – Appendix I of the latest Idaho Integrated Report states that "[i]mpaired water bodies are placed in Category 4c if the impairment is not caused by a *pollutant* but rather caused by *pollution*," and contains 36 pages (7,342 river/stream miles) of Category 4c-impaired waters, including numerous waterways listed as impaired due to the cause of "low flow alterations."[5] Appendix J consists of Category 5 waterways, interpreted as a "streamlined" [6] 303(d) list that focuses on the need for TMDLs rather than overall impairments.

III. Michigan – Appendix B, the "Comprehensive List of Assessment Unit Designated Use Support," contains all information on assessment units and is split (for size reasons) into

[4] http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r4_06_303d_reqtmdls.pdf.
[5] https://www.deq.idaho.gov/media/1117323/integrated-report-2012-final-entire.pdf.
[6] *Id.,* p. 35.

Appendices B1 and B2.[7] "Other flow regime alteration" is listed as a cause of impairment for both Category 4c- and Category 5-identified assessment units in Appendix B. Category 4c is defined as water bodies impaired only by pollution, such as low flows. Appendix C, which Michigan interprets to be its 303(d) list, consists of Category 5 assessment units, but does include assessment units that list "other flow regime alterations" as a cause of impairment, where the flow alteration is an impairment cause along with a pollutant cause (*e.g.*, sedimentation/siltation).[8]

IV. **Montana** – Appendix A ("Impaired Waters") of the Integrated Report lists *all* impaired waters in the state, including Category 4c ("waterbodies impaired only by non-pollutant causes") and Category 5 waters; it specifically includes "low flow alterations" and "other flow regime alterations" as causes (not sources) of impairment.[9] Appendix B lists "Waters in need of TMDLs [303(d) list] and TMDL Priority Schedule"; this includes only pollutants, as the focus of the table is on TMDLs.[10] Montana also uses flow impairment data elsewhere; for example, "Low flow alterations" is listed as third in the "Top 10 Causes of Impairment" for all assessment units (AUs) in Montana, with 237 AUs impaired for low flow alteration.[11] This statistic illustrates the utility of collecting flow impairment data in identifying the correct priorities for state action to improve waterway health.

V. **New Mexico** – The "List of Assessed Surface Waters" (Appendix A) identifies impaired waters for every assessment unit as organized by watershed, which includes Category 4c and Category 5 listings. Both Categories include "low flow alterations" as an impairment cause. Flow impairments are included in Category 5 listings as well, and thus on the 303(d) list (*e.g.*, Rito Leche, Rio Bonito), but only where a pollutant is also identified as a cause.[12]

VI. Ohio – Combines Category 4C-listed waters (including those impaired due to "other flow regime alterations") with Category 5 and other categories in single charts, though the text identifies Category 5 as the 303(d) list.[13] Like Montana, Ohio also provides statewide summaries of impairments by cause; for example, "hydromodification" is identified as one of the "top five causes of impairment" for 36% of monitored assessment units with aquatic life impairment (nutrients is first for watershed assessment units).[14] Again, this illustrates

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[7] http://www.michigan.gov/documents/deq/wrd-swas-2012IR-appB1_370329_7.pdf (Appendix B1). http://www.michigan.gov/documents/deq/wrd-swas-2012IR-appB2_370330_7.pdf (Appendix B2).

[8] http://www.michigan.gov/documents/deq/wrd-swas-2012IR-appCdetail_370331_7.pdf ("Appendix C - Assessment units not supporting designated uses (*i.e.* assessment units placed in Category 5")).

[9] http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2012/Appendix_A.pdf (2012); http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2014/Appendix_A.pdf (draft 2014).

[10] http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2012/Appendix_B.pdf.

[11] http://deq.mt.gov/WQInfo/CWAIC/Reports/IRs/2012/Final2012IR.pdf (Table 4-6).

[12] http://www.nmenv.state.nm.us/swqb/303d-305b/2012-2014/AppendixA-USEPA-Approved303dList.pdf.

[13] http://www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionL4final.pdf; *see also* http://wwwapp.epa.ohio.gov/gis/mapportal/IR2012.html (the 2014 Integrated Report Map Portal that lists details on the source of 4C impairments, which includes "other flow regime alterations") and www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionAfinal.pdf (providing details on flow alteration as a major cause and source of water quality problems).

[14] http://www.epa.ohio.gov/portals/35/tmdl/2012IntReport/IR12SectionGfinal.pdf.

the utility and importance of identifying impairment causes properly, rather than neglecting to list entire categories of impairment causes and potentially identifying state priorities based on inaccurate data.

VII. Tennessee – Definitively and deliberately includes numerous flow-impaired waterways on its 303(d) (*i.e.*, not 305(b)) list), regardless of whether an impairing "pollutant" is also present.[15] Greg Denton at the Division of Water Resources (Gregory.Denton@tn.gov, 615-532-0699) says the state includes flow impairments on the 303(d) list because "[t]he list is supposed to be inclusive of everything we have data to justify." He adds that the public uses the 303(d) list a "quick reference guide as to what is impaired and what is not," which also calls for full listings of all impairment causes. Category 5 identification can still clearly indicate the need for TMDLs, but having all impaired waters in one 303(d) list serves the public interest and the Clean Water Act.

VIII. Vermont – Lists "Impaired Surface Waters in need of TMDL" in Part A, which they identify as their Section 303(d) list.[16] For its Category 4c listings, Vermont lists "Surface Waters Altered by Flow Regulation" in Part F, which includes nine pages of waterways with aquatic habitat or other designated uses for which "one or more designated uses are not supported" due to flow alteration.[17] Vermont identifies the Part F waters as "priority waters for management action," lists management actions to be taken for each where available, and also identifies the "Projected WQS Compliance Year" for each of these flow-impaired waterways.

IX. **Washington** – Lists numerous waterways as impaired due to altered flow under Category 4C[18] in the "303(d)/305(b) Integrated Report" (*e.g.*, there are 55 results when searching within "2012 Category: 4C" for "instream flow").[19] Washington currently recognizes Category 5 as comprising the 303(d) List, with no flow listings in Category 5/303(d). However, the Report notes in the Section 4C portion of the Integrated Report that flow listings had been on the state's earlier Section 303(d) lists (*e.g.*, on the 1998 List) but were moved off the 303(d) list to 305(b) specifically as a result of new US EPA Guidance.[20] In other words, the movement from the 303(d) list was based on a new reporting convention rather than a state legal or factual finding under the Clean Water Act. A quick search of all

[15] http://www.tn.gov/environment/water/docs/wpc/2012-final-303d-list.pdf.
[16] http://www.vtwaterquality.org/mapp/docs/mp_2012_303d_Final.pdf.
[17] http://www.watershedmanagement.vt.gov/mapp/docs/mp_2012_priority_waters_lists.pdf (2012); http://www.watershedmanagement.vt.gov/mapp/docs/mapp_Part_F_2014_draft_complete.pdf (draft 2014).
[18] *See* http://www.ecy.wa.gov/programs/wq/303d/WQAssessmentCats.html.
[19] http://www.ecy.wa.gov/programs/wq/303d/currentassessmt.html. *See, e.g.,* one such listing at: http://apps.ecy.wa.gov/wats/ViewListing.aspx?LISTING_ID=6212.
[20] *See, e.g.,* http://apps.ecy.wa.gov/wats/ViewListing.aspx?LISTING_ID=6212 ("This listing was on the 1998 303(d) list, but has been moved to the new Category 4C (impaired by a non-pollutant) based on EPA Guidance for preparing the 2004 Integrated Report").

flow listings that had been so moved from the 1998 303(d) list to the current 305(b) list shows 48 separate listings for flow impairments.[21]

X. **Wyoming –** Section 9 of the state's 303(d)/305(b) report, "Surface Water Assessment Results," includes in Section 9.4 "Category 4 Surface Waters"; this section includes listings for "flow alterations" as a cause of impairment.[22] Section 9.5 is the "Category 5 Surface Waters (2012 303(d) List)," which does not include flow because of the state's interpretation of the 303(d) list as the repository for those waterways in need of TMDLs.[23]

[21] This list can be viewed at: http://earthlawcenter.org/static/uploads/documents/WA_1998_Flow_Listings_9-15-2014.pdf. The movement of impaired waters off the impaired waters list raises a question as to the use and application of US EPA guidance. In particular, US EPA regulations or policy cannot contravene the Clean Water Act, as (among other reasons) the Administrative Procedure Act makes clear that rules "found to be . . . in excess of statutory jurisdiction" shall be both held unlawful and "set aside." 5 U.S.C. § 706(2)(C); *see also Nat'l Mining Ass'n v. United States Army Corps of Engrs*, 145 F.3d 1399, 1409 (D.C. Cir. 1998), and *Oregon v. Ashcroft*, 368 F.3d 1118, 1129 (9th Cir. 2004) (quoting *NLRB v. Brown*, 380 U.S. 278, 291-92 (1965)). Arguments as to the reasons that flow impaired waters must be included on states' Section 303(d) lists have been offered at length before the California State Water Resources Control Board and North Coast Regional Water Quality Control Board. *See, e.g.*, ELC *et al.* Letter, *supra* n. 1.

[22] http://deq.state.wy.us/wqd/watershed/Program%20Documents/5.%20Water%20Quality%20Assessments%20&%20Integrated%20Report/Guidance/WY2012IR.pdf.

[23] *Id.*