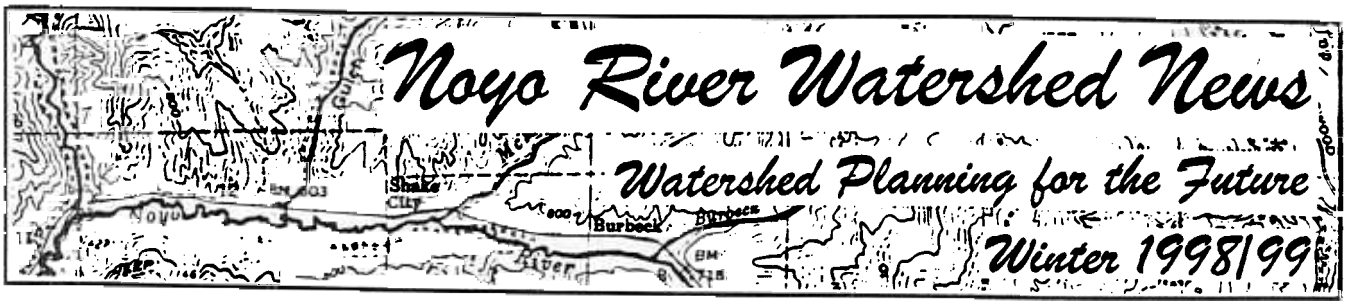
APPENDIX B



Request for Noyo River Watershed Data

Staff at the North Coast Regional Water Quality Control Board (Regional Water Board) have written a work plan to calculate a "TMDL" (Total Maximum Daily Load) for sediment in the Noyo River watershed. The TMDL will serve as the basis for a legal program designed to encourage landowners to reduce the impact of erosion from their properties on the cold water fishery. In particular, the Regional Water Board is concerned about the impact of erosion on coho salmon and steelhead trout.

"Without good data, margins of safety must be included in the TMDL calculation to account for the uncertainties."

To calculate a TMDL, certain data inputs are required. For example, one must have an understanding of: 1) the current sediment delivery rates from locations all throughout the watershed and 2) sediment delivery rates under which cold water fish can successful reproduce and grow to maturity. With this, one can assign a sediment load allocation to all non-point source dischargers, such as timberland owners, ranchers, and public road operators. Without good data, margins of safety must be included in the TMDL calculation to account for the uncertainties.

Data from industrial timber companies, public facilities, other landowners, environmental organizations, community groups, academic institutions and others are requested. Any studies of sedimentation in the basin, sediment budgets or watershed assessments would be particularly helpful. The data most useful to the development of a TMDL for the Noyo River watershed includes, but is not limited to, the following.

- Precipitation and stream flow
- Location and volume of drinking water intakes/riparian wells
- Stream channel slope and other indicators of stream channel sediment transport ability

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- Stream channel substrate composition and quality
  Air photo histories of landslides, riparian shade, fish passage barriers, etc.
- Cold water fish habitat types and distribution
- Location and cause of instream barriers to fish passage
- Fish population composition and distribution
- Stream water chemistry
  Location and quality of riparian shade
- Volume and location of large woody debris
- Assessment of road network, including road types and road densities
- Sediment production rates for both human-related and natural sources of sediment
- Volume and location of instream stored sediment
- Rate of suspended sediment and bedload stream discharge

As described in the Regional Water Board work plan, staff will: 1) create a data base of existing data, 2) conduct technical analyses, 3) produce a technical report which assess the existing data, 4) calculate the *total maximum daily load of sediment* and 5) conduct outreach activities. The work plan can be obtained by calling (707) 576-2220. Questions regarding the work plan and data request can be directed to Alydda Mangelsdorf at (707) 576-2030 or manga@rb1.swrcb.ca.gov.

Focusing on Sedimentation

The Noyo River watershed once supported a significant cold water fishery which is now substantially reduced. The reduction of the cold water fishery has caused significant public concern, including the concern of various resource protection agencies. For example, in 1997, the National Marine Fisheries Service (NMFS) listed coho salmon under the Endangered Species Act as a threatened species along the north coast of California. NMFS is currently considering the listing of steelhead trout, as well. These listings result from the observation of substantial declines in salmonid populations overtime.

"The Noyo River watershed once supported a significant cold water fishery which is now substantially reduced."

In addition, the Regional Water Board and the U.S. Environmental Protection Agency (EPA) listed the Noyo River watershed as an impaired waterbody due to sedimentation. The cold water fishery is identified as a "beneficial use" of many of the north coast watersheds. Preliminary investigation into the cause of the salmonid population decline has uncovered channel alteration as one of many potentially influential factors. Spawning and rearing habitat has been disturbed by sedimentation, including both increases in

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sediment delivery and a reduction in the instream channel structure necessary to slowly meter out instream sediment.

Finally, the EPA was sued by a consortium of fisher and environmental groups who argued that EPA was moving too slowly to ensure that TMDLs were developed to control sedimentation, temperature and nutrient impairments on the north coast, as required under the Clean Water Act. In a settlement of the lawsuit, EPA agreed to a court-administered schedule for the development of TMDLs along the north coast. According to the schedule, the TMDL for sediment in the Noyo River watershed must be completed by December 1999. A draft TMDL should be developed by July 1999 to allow enough time for its completion.

For these reasons and others, a public focus on the issue of sedimentation in the Noyo River is called for, including the implementation of the Regional Water Board's work plan for the calculation of a TMDL. Such focus is necessary not only to more accurately assess the existing conditions in the watershed; but, to assess the impacts of current land management practices, as well. The process of calculating a TMDL provides a framework for developing a comprehensive understanding of environmental and management issues confronting landowners and cold water fish with respect to sedimentation in the Noyo River.

What is a TMDL?

In 1972, Congress passed the Clean Water Act-- a federal law designed to protect water quality for human and environmental uses. Congress stated its goal by saying: "The objective of the (Clean Water) Act is to restore and maintain the chemical, physical and biological integrity of the Nation's waters."

To this end, a program was designed by which the Nation's waters are to be assessed for their chemical, physical and biological integrity. Waters which are determined to be impaired are prioritized for more detailed assessment and restoration/mitigation.

"A TMDL is a mathematical calculation which describes the total amount of a pollutant which a waterbody can withstand before it is no longer able to support its 'beneficial uses.'"

EPA has written federal regulations which describe this program-- known as the TMDL program-- in greater detail. The acronym "TMDL" stands for "Total Maximum Daily Load." A legal description of the program can be found in Section 303(d) of the Clean Water Act and Section 40 of the Code of Federal Regulations, Part 130.7.

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TMDL

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In general, a TMDL is a mathematical calculation which describes the total amount of a pollutant which a waterbody can withstand before it is no longer able to support its "beneficial uses." "Beneficial uses" might include such things as a cold water fishery or drinking water supplies.

The TMDL calculation must consider pollutant contributions from point sources (such as sewage treatment plants or industrial facilities), non point sources (such as stormwater runoff) and natural sources. The primary sediment sources of concern in the Noyo River watershed are roads, logging activities, and other non-point sources.

While it is not so difficult to determine if the instream environment is capable of supporting beneficial uses, it is much more difficult to determine the amount of sediment from hillslope activities which is contributing to the impairments seen instream. Thus, the greatest challenge in the development of a TMDL for sediment is in trying to determine the amount of sediment a watershed can withstand before losing its ability to fully support the identified beneficial uses. This challenge, while technically difficult, offers an exceptional opportunity to exercise creativity and scientific ingenuity. Interested parties are invited to share their creative ideas in the development of TMDLs on the North Coast through participation in public meetings; review and comment on work products; and the submittal of relevant information/data, data interpretation, and watershed analyses.

Citizen Groups Sue EPA

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for ensuring that the requirements of the Clean Water Act and its implementing regulations are met. In the State of California, EPA has delegated many of its authorities under the Clean Water Act to the State Water Resources Control Board and its Regional Water Boards. Having been delegated these Clean Water Act authorities, the Regional Water Board is the primary agency responsible for implementing programs such as the TMDL program. But, EPA retains its ultimate responsibility for the program.

"The result of the lawsuit was a settlement between EPA and the plaintiffs in which EPA agreed to ensure that TMDLs for the 17 identified watersheds were developed in 10 years, not 20."

The Regional Water Board proposed the listing of 17 watersheds in the North Coast on the 303(d) list as impaired due to sedimentation, elevated temperature, and/or nutrients. EPA modified the list and published it in the Federal Register. Subsequently, the Regional Water Board adopted a schedule for developing TMDLs for these 17 watersheds. The schedule called for completion of the TMDLs within 20 years.

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Lawsuit

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The Plaintiffs in Pacific Coast Federation of Fishermen's Association vs. Marcus sued EPA arguing that they were not ensuring the development of TMDLs on the North Coast in a timely fashion. They argued that the schedule for TMDL development on the North Coast should be considerably shortened.

"The hope is that (the TMDLs) will result in the timely implementation of mitigation and land management measures designed to reduce sedimentation."

The result of the lawsuit was a settlement between EPA and the plaintiffs in which EPA agreed to ensure that TMDLs for the 17 identified watersheds were developed in 10 years, not 20. To accomplish this task, EPA agreed to develop half of the TMDLs themselves while the Regional Water Board continues its work on the TMDLs it had slated for completion in the first 10 years of its 20 year schedule. According to the consent decree, EPA agrees to "backstop" the Regional Water Board by taking responsibility for developing any TMDLs the Regional Water Board is unable to develop on time.

Such was the case in the Garcia River watershed. The Garcia River watershed was the first watershed scheduled for the development of a TMDL. On the original schedule, the TMDL was to be completed by December 1997. The plaintiffs granted EPA an extension until March of 1998 since the Regional Water Board was unable to meet the December 1997 deadline. The Regional Water Board was unable to make a decision regarding the adoption of the proposed Garcia River TMDL at its January 1998 hearing. Thus, EPA developed its own TMDL to meet the new March 1998 deadline.

The Regional Water Board continued its deliberation of a TMDL for the Garcia River watershed and adopted one in May 1998. It then revised it in December 1998. The Regional Water Board's revised TMDL for sediment in the Garcia River watershed will be considered first by the State Water Resources Control Board and then the State's Office of Administrative Law before it is submitted to EPA as a replacement of EPA's TMDL for the Garcia River.

The settlement agreement between EPA and the plaintiffs has resulted in an aggressive schedule for TMDL development. The hope is that this will result in the timely implementation of mitigation and land management measures designed to reduce sedimentation. Such an outcome would certainly benefit the threatened species of fish, as well as the ecological functioning of the watershed overall.

It also means, however, that TMDLs must be developed based on the information that can be gathered and assessed quickly. Where data collectors, including landowners, are willing to share their information, the time schedule should not be a barrier to the development of an appropriate TMDL. Where there is less such cooperation, however, the TMDLs are likely to require conservative assumptions which result in more restrictive source

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allocations than might later be determined as necessary.

EPA and Regional Water Board staff hope to foster the development of cooperative relationships with all the interested parties so that the North Coast TMDLs are developed with careful consideration of the known facts related to both the environmental condition and land management challenges. Data collectors, including landowners, are encouraged to share information regarding the condition of their watersheds to ensure that the future TMDLs reflect on-the-ground conditions as accurately as possible.

The Garcia River Experiment

The Garcia River TMDL was the first TMDL to address erosion from forestlands on the north coast. Staff at the Regional Water Board used the Garcia River as a pilot study to determine whether or not the development of a consensus-based TMDL was possible. The Garcia River was identified as a good test case because of substantial information existing for the basin and the presence of an existing watershed group. The Garcia River Watershed Advisory Group, or WAG, had had great success in developing a consensus-based restoration plan in the early 1990s. Regional Water Board staff hoped to develop a consensus-based TMDL because they understood that the accompanying implementation plan might otherwise cause divisions among landowners, resources managers and fisher/environmental groups. The implementation plan, adopted in the Basin Plan, describes the actions that must be taken to improve conditions in the basin.

North Coast Court-Administered TMDL Schedule

Waterbody	Pollutant	Date
Garcia River	Sediment	1997
So. Fork Trinity River	Sediment	1998
Redwood Creek	Sediment	1998
Noyo River	Sediment	1999
Van Duzen River	Sediment	1999
South Fork Eel River	Sediment and temp.	1999
Ten Mile River	Sediment	2000
Navarro River	Sediment and temp.	2000
Trinity River	Sediment	2001
Albion River	Sediment	2001
Gualala River	Sediment	2001
Big River	Sediment	2001
Mattole River	Sediment and temp.	2002
North Fork Eel River	Sediment and temp.	2002
Middle Fork Eel River	Sediment and temp.	2003
Upper Main Fork Eel River	Sediment and temp.	2004
Klamath River	Nutrients and temp.	2004
Scott River	Sediment and temp.	2005
Shasta River	Temp. and dissolved oxygen	2005
Middle Main Fork Eel River	Sediment and temp.	2005
Eel River Delta	Sediment and temp.	2006
Mad River	Sediment and turbidity	2007

Unfortunately, the time available to complete the TMDL did not allow for resolution of all of the issues confronting the WAG. As such, the group did not develop consensus on the TMDL. But, the process required regular discussion and exchange of

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information from which the final TMDL immensely benefited.

EPA's conclusion, though, is that to meet the consent decree deadlines, the Regional Water Board can not spend any more federal money on the development of implementation plans for TMDLs. The technical elements of the TMDLs must first be written to ensure compliance with the court-administered schedule. At some point in the future, implementation plans will then be written and considered for adoption into the Basin Plan.

North Coast TMDL Update

The North Coast Regional Water Board has been busy working on TMDLs for the last several years. Prior to the lawsuit against EPA by fisher and environmental groups, the North Coast Regional Water Board had listed 17 watersheds as impaired, with the intention of developing TMDLs for each of them. Even since the new time pressures associated with the lawsuit, the Regional Water Board has continued to list additional waterbodies and pollutants. For example, at the April 1998 meeting, the Regional Water Board approved the proposal to list on the 303(d) list the following waterbodies: temperature in the Garcia River, sediment in Elk River, sediment in Freshwater Creek, sediment in the Russian River, dissolved oxygen in the Klamath River and temperature in the South Fork Trinity River. Regional Water Board staff have also developed four TMDLs. They include: Laguna de Santa Rosa (ammonia and dissolved oxygen), Stemple Creek (nutrients and sediment), Garcia River (sediment), and Redwood Creek (sediment.) Redwood Creek will be considered for adoption at the March 1999 Board Meeting.

In addition, EPA has been quite active with regard to TMDLs on the north coast. They have developed TMDLs for the South Fork Trinity River, Garcia River, and Redwood Creek. EPA agreed as a result of its lawsuit settlement with fisher and environmental groups to develop the South Fork Trinity River TMDL itself. The Garcia River and Redwood Creek TMDLs were developed to backstop the Regional Water Board which was unable to meet the court-administered TMDL schedule. EPA will consider replacing their own TMDLs with the State's TMDLs once the State's TMDLs have wended their way through the State approval process in Sacramento.

Regional Water Board Contacts

Call (707) 576-2220 to request a copy of:

- *Noyo River Watershed TMDL Work plan* (January 1999)
- Basin Plan Amendment containing the Garcia River Watershed TMDL for Sediment (December 10, 1998)
- Garcia River TMDL Staff Report (Nov. 1998)
- Redwood Creek TMDL Staff Report (Nov. 1998)
- *Garcia River Watershed Water Quality Attainment Strategy for Sediment* (December 9, 1997)
- Any other TMDL, Basin Plan Amendment or Staff Report

Contact Alydda Mangelsdorf at (707) 576-2030 or manga@rb1.swrcb.ca.gov to discuss:

- Data needs for the Noyo River TMDL
- General questions regarding development of the Noyo River TMDL
- General questions regarding the Garcia River TMDL

Mailing List

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◊ Add this name to the mailing list
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Name_____

Address_____

City_____State_____Zip_____

Phone_____ E-mail _____

Return to:
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California Regional Water Quality Control Board
North Coast Region
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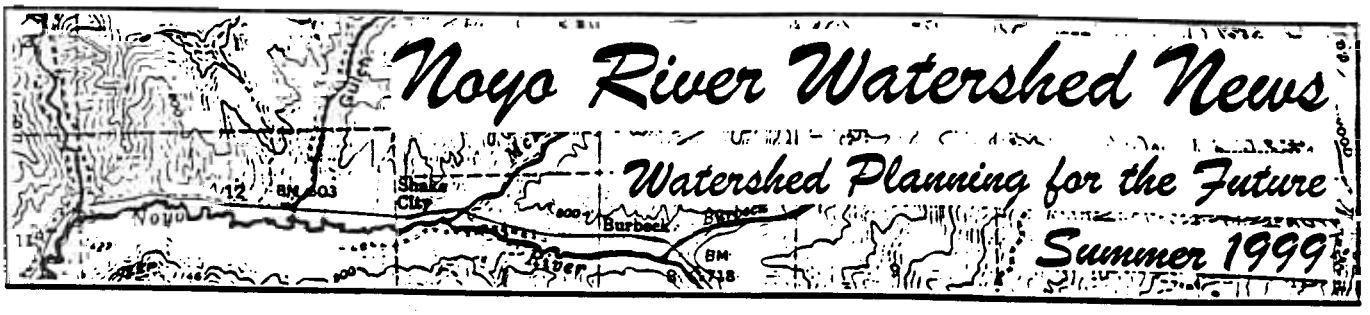

Draft Noyo River TMDL Now Available

Staff at the Regional Water Board have completed a draft of the Noyo River TMDL and have it available for public perusal. The draft was submitted to the U.S. Environmental Protection Agency for their review on June 15, 1999. A final State TMDL will be submitted to EPA in mid-July 1999.

The Noyo River TMDL is unlike the Stemple Creek TMDL, Garcia River TMDL, or Redwood Creek TMDL in one very important regard. The Noyo River TMDL is a "technical" TMDL, only. That is, it does not, at this stage, include an implementation plan or a monitoring plan. It includes the technical analysis necessary to support the development of numeric targets and load allocations.

This is the case because the federal funding received by the State to develop TMDLs was earmarked for the development of "technical" TMDLs, only. The quick development of "technical" TMDLs is necessary to ensure EPA's compliance with a court-administered TMDL consent decree.

The State will develop an implementation plan and monitoring plan sometime in the future from which an amendment to the Regional Water Board's Basin Plan will be proposed. At that point, all the normal State public review and comment processes will come into play.

For now, the State's draft Noyo River TMDL is available for informal review. Once the State's final TMDL is prepared and forwarded on to EPA, the EPA will then embark on a formal TMDL-development and adoption process, including public meetings and comment periods. The court-administered consent decree requires that EPA approve a TMDL prior to December 31, 1999.

"The Noyo River TMDL is a 'technical' TMDL, only...(I)t does not, at this stage, include an implementation plan or a monitoring plan."

Anyone interested in providing comments on the State's draft TMDL should send them to the Regional Water Quality Control Board, to the attention of Alydda Mangelsdorf. The State will address as many of the comments as possible prior to the preparation of it's final TMDL which is then to be submitted to EPA. Those which can not be addressed will be forwarded on to EPA for its consideration in the formal federal public review process.

Again, when the State undertakes the development of an implementation plan and

monitoring plan for the Noyo River TMDL, the State will embark on a formal public review process, as well.

Request a copy of the State's draft Noyo River TMDL by calling (707) 576-2030 or sending an e-mail to manga@rb1.swrcb.ca.gov. Send comments to the North Coast Regional Water Quality Control Board, 5550 Skylane Blvd., Suite A, Santa Rosa, CA 95403, attn: Alydda Mangelsdorf, or to the e-mail address above.

Highlights of the draft Noyo TMDL

The Noyo River was listed as impaired due to elevated sedimentation. As such, the Noyo River TMDL is a sediment TMDL. The following is synopsis of the TMDL as it is expressed in the draft.

General

- The TMDL does not yet include an implementation plan.
- The TMDL does not yet include a monitoring plan.
- The TMDL has involved, to date, only informal public review and input.

Instream Assessment

The assessment of instream problems are based primarily on data provided by Mendocino Redwood Company, the Department of Fish and Game, the Department of Forestry, and the Regional Water Board's own files. The frequency and depth of pools appears to be the primary habitat-related problem in the Noyo River watershed.

- The availability of large woody debris for habitat structure, pool formation, and sediment metering appears to be limited.
- The availability of off-channel habitat and large cobbles or boulders may be limited for overwintering salmonids.
- Fine sediment and embedded gravels appear to be a problem primarily in the mid- and lower- watershed.

Source Assessment

- The analysis of sediment inputs was conducted by Graham Matthews & Associates.
- The analysis of sediment inputs is based on 1:24,000 scale aerial photographs dating back to 1942 and including at least one set of photos for every decade from the 1940s through the 1990s.
- The analysis misses small landslides. The photo sets were incomplete for the 1940s and 1950s photos. Thus, the findings represent ~~are~~ an under estimate of sediment delivery over time.
- Harvest activity since 1986 has been most intense in the North Fork Noyo and Hayworth Creek region.
- Evenaged timber management is the predominant group of silvicultural systems used in the Noyo, except on Jackson Demonstration State Forest in the South Fork Noyo.
- Tractor yarding is the predominant method of yarding, except on Jackson Demonstration State Forest where 56% of the harvest since 1986 has been yarded by skyline cables.
- Road density ranges from 6 to 8 mi/mi^2.
- Landsliding related to the railroad was significant up until the last ten years, or so.
- Improved forest practices as conducted in the Noyo River watershed in the

1979-1999 period have apparently slowed sediment delivery, in some cases. But, they do not appear to have controlled sediment delivery, overall.

Numeric Targets

- As indicators of overall watershed health, a decrease in the width-to-depth ratio in tributaries is proposed. The Basin Plan's turbidity objective is also reiterated.
  As indictors of habitat quality, percent fines, pool dimensions, V*, thalweg profile, and backwater pool frequency targets are proposed.
  As indicators of hillslope management, stream crossing failure, hydrologic connectivity, and disturbed area targets are proposed.

Load Allocations

- Load allocations are based on the average sediment delivery in the 1979-1999 period for the whole watershed; but, allocated by geographic region: Headwaters, North Fork Noyo, South Fork Noyo, and Mainstem Noyo assessment areas.
  Load allocations are expressed as a percent reduction in sediment delivery. The percent reductions are developed based on sediment delivery estimates provided by Graham Matthews & Associates. However, implementation is intended to be based on on-the-ground baseline surveys.
  Reductions are proposed from railroad and road sites in the Headwaters Assessment Area.
- Reductions are proposed from road and skid trail sites in the North Fork River Noyo Assessment Area.
- Reductions are proposed from road sites in the South Fork Noyo River Assessment Area.
  Reductions are proposed from railroad, road, skid trail and harvest sites in the Mainstem Noyo River Assessment Area.

Implementation and Monitoring

- Implementation of the TMDL is intended to follow the development of baseline surveys by discharging landowners in the Noyo River watershed.
- Both the numeric targets and load allocations will be refined as more site-specific information is submitted.
- Monitoring should focus on the hillslope and instream concerns specific to individual properties and/or regions. Some subset of the parameters should be monitored throughout the watershed to provide information regarding long-term trends and regional differences.

Food for Thought

Prior to submitting a final TMDL for the Noyo River watershed to the EPA, staff at the Regional Water Board will be evaluating the necessity and likely effectiveness of establishing large woody debris load allocations, in addition to the sediment load allocations. Anyone with information or opinions on the efficacy of such a tact should contact Alydda Mangelsdorf at (7070 576-2030 or via e-mail at manga@rb1.swrcb.ca.gov.

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Name_____

Address_____

City_____State_____Zip_____

Phone_____ E-mail _____

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