Submitted at Feb 4, 2003 Bd Mtg Item 5

Before the State Water Resources Control Board
February 4, 2003

Section 303(d) Impairment Designations

Testimony of James Wells
On Behalf Of
Makhteshim-Agan of North America, Inc.

Good morning. I am James W. Wells, a consultant with Exponent, and I am here on behalf of Makhteshim-Agan of North America, Incorporated and its parent company Makhteshim Chemical Works, Limited. Please note that I will jointly refer to Makhteshim-Agan and Makhteshim Chemical as "MANA" throughout the rest of my testimony.

MANA is a pesticide manufacturer that holds registrations for both chlorpyrifos and diazinon. MANA is deeply committed to product stewardship and has actively participated in the proceedings before this Board on the Section 303(d) impairment designation issue.

MANA has previously submitted its views regarding the 2002 revisions to the Clean Water Act Section 303(d) List of Water Quality Limited Segments. Those views were submitted in writing and were dated May 14, 2002 and December 5, 2002. Today, MANA is submitting a brief letter that lends further support to its views.

As it has in its May and December letters, MANA again explains that the data underlying the diazinon and chlorpyrifos impairment designations proposed for the Central Valley Region are antiquated and inadequate. Let me read just one portion of the letter to demonstrate our point:

> The Butte Slough impairment listing for diazinon typifies this error. It is based on just two years of data, taken six years apart.
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> * * *

> Here is the data: 28 samples were taken in 1994. The highest diazinon detection was 1.0 µg/L. Nine samples were taken in 2000. There was only one exceedence. That exceedence was measured at 0.082 µg/L – an order of magnitude less than samples collected six years before, and only 0.002 µg/L (2 parts per trillion) higher than the California Department of Fish and Game ("CDFG") acute toxicity number that the Central Valley report indicates was the trigger of concern.
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> * * *
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> The Central Valley Board report downplayed these facts. First, it reported only the percentage of samples exceeding the CDFG criteria, which is misleading given the small sample size. Second, it characterized the two sets of measurements as one cumulative set, despite the fact that the clusters of samples were taken six years apart and the later data evidenced far lower diazinon levels.

[February 4, 2003 Letter from MANA to State Water Resources Control Board at 1-2.]

The practical result of this mischaracterization, and others MANA has identified, will be the imposition on hundreds of growers and farmers of regulatory burdens which cannot be justified.

In light of these deficiencies, MANA believes you should not approve the proposed report. Rather, you should send it back to the staff with directions to undertake further analysis consistent with our comments. MANA is fully prepared to work with the staff in that effort.

Thank you.

February 4, 2003

Arthur G. Baggett, Jr., Chair
Peter S. Silva, Member
Richard Katz, Member
Gary Carlton, Member
State Water Resources Control Board
1001 I Street
Sacramento, California 95814

Re: Comments on Clean Water Act Section 303(d) List of Water Quality Limited Segments

Dear Chair Baggett and Members of the State Water Resources Control Board:

Makhteshim-Agan of North America, Inc. and its parents Makhteshim Chemical Works, Ltd. and Agan Chemical Manufacturers, Ltd. (collectively referred to below as "MANA") manufacture and distribute diazinon, chlorpyrifos and other pesticides for sale and use in California. We have a strong commitment to product stewardship, and have actively supported projects designed to address water quality concerns in California. This letter expands upon objections that we previously have provided to State and Regional Board staffs, but which we believe have received inadequate consideration, regarding the "2002 [Clean Water Act] Section 303(d) List of Water Quality Limited Segments" (the "Section 303(d) List") you are considering today.

I. MANY OF THE IMPAIRMENT DESIGNATIONS ARE NOT SUPPORTED BY ADEQUATE DATA INTERPRETATIONS

The Staff Report "Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments" and the underlying reports of the Regional Board and its staff identified several factors applied by the Regional Boards to make listing recommendations. *See, e.g.*, January 2003 Staff Report at 4-8; California Regional Water Quality Control Board, Central Valley Region Draft Staff Report on Recommended Changes to California's Clean Water Act Section 303(d) List – Appendix A at A24 ("Central Valley Appendix A"). These factors included: (1) total number of samples; (2) total number of criteria exceedences; (3) magnitude of exceedence; and (4) frequency of exceedence.

However, in many cases those factors do not support proposed impairment listings. The Butte Slough impairment listing for diazinon typifies this error. It is based on just two years of data, taken six years apart. *See* California Regional Water Quality Control Board, Central Valley

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Region Draft Staff Report on Recommended Changes to California's Clean Water Act Section 303(d) List – Appendix B at B12-16 ("Central Valley Appendix B").

Here is the data: 28 samples were taken in 1994. The highest diazinon detection was 1.0 µg/L. Nine samples were taken in 2000. There was only one exceedence. That exceedence was measured at 0.082 µg/L – an order of magnitude less than samples collected six years before, and only 0.002 µg/L (2 parts per trillion) higher than the California Department of Fish and Game ("CDFG") acute toxicity number that the Central Valley report indicates was the trigger of concern.

MANA does not agree that CDFG numbers are appropriate indicators of water quality impact.[1] Even if they were, however, these nine data points are neither a sufficiently large set to allow a conclusion to be drawn, nor (on their face) evidence of frequent or significant exceedence.

The Central Valley Board report downplayed these facts. First, it reported only the percentage of samples exceeding the CDFG criteria, which is misleading given the small sample size. Second, it characterized the two sets of measurements as one cumulative set, despite the fact that the clusters of samples were taken six years apart and the later data evidenced far lower diazinon levels.

A fair, scientifically sound presentation of this data would have included: (1) definition of the analytical methods used and the associated LODs and LOQs; (2) description of the precipitation patterns surrounding the sampling dates; (3) presentation of observations of antecedent moisture conditions; and (4) analysis of product use patterns. This would have fairly presented the data, and facilitated a sound decision.

The report also is flawed in defining the extent of purported impairments. The Central Valley report states that the extent of impairment is "minimally defined as the distance between sampling points at which exceedences of criteria were found." *See* Central Valley Appendix A at A25. In fact, however, a definition of impaired segments cannot properly be based on only two monitoring points as the Board has stated. To the contrary, a hydrologic investigation using GIS and product use data is a far more appropriate basis for making impairment decisions. But even if one accepts the standard articulated by the Board, this listing is unsupported.

Some of the listings do not even meet the incorrect standard set forth in the report, however. The Colusa Basin Drain, for example, does not appear to have had any upstream sampling point. That is, Central Valley Board Staff listed an entire 70 miles based only on the

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[1] MANA does not believe that those numbers are an appropriate indicator of impairment and its reference to the CDFG numbers in this letter should not be interpreted as an endorsement of the numbers' application. *See, e.g.*, July 30, 2001 letter from MANA to Gary Carlton, Central Valley Regional Water Quality Control Board (enclosed).

monitoring data at a single downstream point.[2] The practical result of now listing this segment would be to impose on hundreds of growers regulatory burdens which cannot be justified.

II. MORE COMPELLING DATA FROM SEGMENTS LISTED IN 1998 REVEALS THE ERROR IN USING OLD DATA TO SUPPORT NEW LISTINGS

A number of segments were listed as impaired by diazinon in 1998. MANA does not believe that those listings were appropriate. *Cf. Sacramento Regional County Sanitation District v. State Water Resources Control Board*, Case No. 98CS01702 (Connelly), *appeal pending*. Putting aside that issue, however, data on the previously designated water bodies that was not available in 1998 further demonstrates why it is inappropriate to base listings on old or limited data.

For example, the Sacramento River from Colusa north to Red Bluff was listed in 1998. That listing was based on 1994 data. In 1994, 55 samples had been taken, 10 exceeded the CDFG criteria for acute toxicity.

However, during the three-year period between 1999 and 2001, 62 more samples were taken from the Colusa and Hamilton City monitoring points.[3] Twenty-two of these samples were collected in the months of January and February, when the highest water column concentrations of diazinon are expected. Analysis of these samples revealed no exceedences of the CDFG numbers. This makes some sense, since dormant spray applications of diazinon were reduced by 55% over the 1994-98 period. But the data demonstrate that the Board's 1998 listing decision was too hasty.

III. CONCLUSIONS

The specific examples noted above confirm what MANA has more fully explained in previous comments: the Central Valley Section 303(d) diazinon and chlorpyrifos impairment designations are not supported by current data or scientifically sound decision making. MANA thus respectfully urges the State Water Resources Control Board not to approve the listings now before you. To the contrary, you should direct State Board Staff to reevaluate the support

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[2] The Central Valley Board Staff merely indicated that "Diazinon is used to control insects ... throughout the [area draining into the Colusa Basin Drain] .... [t]herefore, it is likely that the entire length of the [Colusa Basin Drain] is impaired by diazinon." Central Valley Appendix B at B26.

[3] *See* Central Valley Regional Water Quality Control Board Sacramento River at Colusa Design Flows and Loading Capacities (TMDL Report)

underlying the proposed Central Valley Section 303(d) water quality limited segment designations for diazinon and chlorpyrifos, and report back to you on its findings.

Thank you for your consideration of our views.

Respectfully submitted,

JB for

Andy Eimanis,
Manager, Regulatory Affairs
Makhteshim-Agan of North America Inc.

AE:jbb

Enclosure

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MAKHTESHIM
A G A N
of NORTH AMERICA

July 30, 2001

BY FACSIMILE AND REGULAR MAIL

Mr. Gary M. Carlton
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Central Valley Region
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Ms. Shakoora Azimi-Gaylon
Regional Water Quality Control Board
Central Valley Region
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Re: June 21, 2001 Draft Diazinon and Chlorpyrifos Target Analysis

Dear Mr. Carlton and Ms. Azimi-Gaylon:

On behalf of Makhteshim-Agan of North America and its parent Makhteshim Chemical Works, Ltd. (jointly referred to below as "MANA"), I am writing to submit comments on your Draft Diazinon and Chlorpyrifos Target Analysis dated June 21, 2001 ("Target Analysis"). As you know, MANA manufactures pesticide products containing diazinon for sale and use in California under federal and state registrations, and has a strong commitment to product stewardship.

MANA supports the creation of a scientifically supported, legally sound, and practically feasible Total Maximum Daily Loads ("TMDLs") for diazinon in the San Joaquin and Sacramento Rivers. We look forward to working with the Central Valley Regional Water Quality Control Board (the "Regional Board") and other concerned government agencies and stakeholders to realize that goal. We also acknowledge the considerable work that has been undertaken to date on these issues by the Regional Board Staff, the Sacramento River OP Focus Group, and other concerned stakeholders.

Nevertheless, MANA believes that the Regional Board's emphasis on developing numerical "targets" is legally flawed, inconsistent with sound science, and may impede rather than advance the development and implementation of diazinon TMDLs. MANA thus respectfully recommends that the Regional Board reconsider its target-based approach.

MANA also believes that the Regional Board's proposed employment of a "target" to frame the development of diazinon TMDLs, to the apparent preclusion of alternative approaches, warrants opening the issue at this stage of the TMDL process to thorough public participation before proceeding further. This process also should recognize the different usage and other conditions presented in the two river areas, and reflect those differences in the developed TMDLs. We have reviewed with great interest the comments on the Target Analysis recently submitted by Dr. Lenwood Hall. As indicated below, we largely agree with them. We also submit the following information in support of our recommendations.

I. SUMMARY

As explained in detail below, MANA believes the Regional Board should revisit the approach outlined in the Target Analysis for the following principal reasons:

1. The targets, which are Water Quality Objectives ("WQOs"), do not meet the various balancing tests, standards, and procedural requirements applicable to WQOs under Sections 13000 and 13241 of the Porter-Cologne Water Quality Control Act (the "PCA") and Resolution No. 68-16 (the "Anti-Degradation Declaration") of the State Water Resources Control Board ("State Board");

2. The target approach relies at least in part upon a U.S. Environmental Protection Agency ("EPA") Region IX guidance that incorrectly interprets EPA regulations and, per federal case law and the guidance's own terms, should be accorded no legal weight;

3. The target approaches pursued by the Regional Board do not conform to applicable federal public participation requirements;

4. The target approach relies at least in part upon an impermissible interpretation of the State Board Anti-Degradation Declaration; and

5. The target approach is inconsistent with both the recent TMDL recommendations of the National Academy of Sciences and similar TMDL efforts implemented by other California regional water quality boards.

II. COMMENTS ON TARGET ANALYSIS

A. Targets do not meet Water Quality Objective requirements under the Porter-Cologne Act

The PCA defines WQOs as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area."[1] The PCA authorizes the Regional Board to promulgate WQOs in order to protect beneficial uses which the Board identifies for the water bodies within its jurisdiction. *See* PCA §13241. The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (the "Basin Plan") already contains a number of narrative water quality objectives for pesticides and toxic substances in the San Joaquin and Sacramento Rivers. *See* Basin Plan at III-6.00, III-8.00. The proposed diazinon targets set out in the Target Analysis correspond with the PCA description of a WQO. As the Target Analysis indicates that the Regional Board intends to adopt the targets as WQOs,[2] the targets must meet the requirements for WQOs set under the PCA.

The Targets and PCA §13241. As noted in the Target Analysis,[3] WQOs are subject to a number of requirements under the PCA. Per PCA §13241, WQOs must be based upon: (1) past, present, and probable future beneficial uses of water; (2) the environmental characteristics of the water body (including the water quality); (3) the water conditions that could reasonably be achieved through control of all vectors that could affect water quality; (4) economic considerations; (5) housing development needs; and (6) water recycling needs. Section 13241 also requires that WQOs be established as part of water quality control plans and that the plans "ensure the reasonable protection of beneficial uses and the prevention of nuisance." Section 13241 also notes the California Legislature's acknowledgment that "it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses."

The Regional Board's target process reflected in the Target Analysis appears inconsistent with the PCA's requirements for WQOs, in that: (1) the Target Analysis does not reflect any consideration of the economic impacts associated with the proposed targets; (2) the Target Analysis does not describe the relevant environmental characteristics or water quality of the water bodies; (3) the proposed targets are not being presented as part of a water quality control plan; (4) the Target Analysis does not indicate how such a new water quality control plan will protect the identified beneficial uses; (5) the Target Analysis evidences no consideration of a no-

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1 *See* PCA §13050(h).

2 *See* Target Analysis at 8-9.

3 *See, e.g.*, Target Analysis at 3.

action alternative; and (6) the Target Analysis does not include a determination on whether an identified water quality impact from diazinon is reasonable.

B. Regional Board reliance on EPA Region IX guidance should be reconsidered

As you are aware, the EPA Region IX Office has published a guidance – the January 7, 2000 Guidance for Developing TMDLs in California (the "Guidance") – which "describes the minimum federal requirements for developing TMDLs ... in California ...." Guidance at 1. The extent to which the Regional Board relies upon the Guidance is not clear from the Target Analysis. However, in light of the Guidance's listing of numeric targets as a "minimum federal requirement," *see* Guidance at 2-3, MANA believes that it is important to specifically address the Guidance's most germane provisions.

Guidance Disclaimer. Immediately following the Guidance's Table of Contents is a Disclaimer section regarding the Guidance's practical effect. The Disclaimer indicates that while the document is meant to serve as a guide to both the State of California and the public for the creation of TMDLs as well as a means of "implement[ing] national regulations and policies," the document has no legal effect:

> The [Guidance] does not, however, substitute for section 303(d) of the Clean Water Act or EPA's regulations; nor is it a regulation itself. Thus it does not impose legally-binding requirements on EPA, the State of California, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA and State decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate and consistent with the requirements of section 303(d) and EPA's regulations.

Guidance, "Disclaimer" (unnumbered section).

Guidance's Erroneous Interpretation of 40 C.F.R. §130.7(c)(1). Section 2 of the Guidance lists what EPA Region IX characterizes as minimum Federal requirements for TMDL submittals from the State of California. The third minimum requirement regards numeric targets:

> Numeric water quality target(s) for TMDL must be identified, and an adequate basis for target(s) as interpretation of water quality standards must be specifically documented in the submittal.

Guidance at 2-3. The Guidance cites 40 C.F.R. §130.7(c)(1) as support for the numeric target TMDL requirement. *Id.* However, Section 130.7(c)(1) does not contain the mandate cited by EPA Region IX in its Guidance:

> (c) Development of TMDLs and individual water quality based effluent limitations.
>
> (1) Each State shall establish TMDLs for the water quality limited segments identified in paragraph (b)(1) of this section, and in accordance with the priority ranking. For pollutants other than heat, TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical [water quality standards] with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. Determinations of TMDLs shall take into account critical conditions for stream flow, loading, and water quality parameters.

Section 130.7(c)(1) makes no mention of either targets or the use of anything other than water quality standards in the setting of TMDLs.[4] No part of the CWA or EPA's regulations even suggest that the adoption of numeric targets might be a requirement for TMDLs.[5]

Relevance of Guidance Interpretation to the Diazinon TMDLs. As noted above, the Disclaimer reflects EPA's acknowledgment that the Guidance is neither a regulation nor a policy that binds either EPA or the State of California. Moreover, a line of Federal case law indicates that even reasonable interpretations of regulations or statutes – unlike the Guidance's unsupported interpretation of Section 130.7(c)(1) – in guidance documents are to be accorded little to no legal weight.[6]

Due to the Guidance's admitted lack of legal effect, the lack of regulatory text supporting EPA Region IX's "minimum requirement," and the minimal legal weight accorded such guidances by the federal judiciary, the Regional Board cannot rely upon the Region IX TMDL Guidance as a legal support for its targets-based approach to developing TMDLs.

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4 The word "levels," as used in §130.7(c)(1), is a direct reference to the TMDL rather than an indirect reference to targets.

5 Please note that neither the definition of TMDLs (at 40 C.F.R. §130.2) nor the discussion of TMDL requirements (at 40 C.F.R. §130.7) mentions the promulgation of numeric targets.

6 *See, e.g.,United States v. Mead Corporation*, No. 99-1434, slip op. at 15 (U.S. June 18, 2001) ("In sum classification rulings are best treated like interpretations contained in policy statements, agency manuals, and enforcement guidelines. They are beyond the *Chevron* pale."); *McLouth Steel Products Corporation v. Thomas*, 838 F.2d 1317 at 1319-23 (D.C. Cir. 1988) (the inflexible application of a guideline not subjected to notice and comment prior to adoption was violation of the federal Administrative Procedure Act).

C. The Regional Board's target process does not conform to federal requirements

Public Participation Requirements. 40 C.F.R §131.20 ("State Review and Revision of Water Quality Standards") obligates a state agency (e.g., the Regional Board) to hold public hearings periodically to review, modify, and adopt water quality standards. Per §131.20, the agency's process must meet EPA's public participation standards at 40 C.F.R. Part 25. 40 C.F.R. §25.4(b)(2) requires that the agency's "informational materials" describe the social, economic, and environmental consequences of its proposed course of action. Section 25.4(b) also indicates that the agency must act to maximize public involvement:

> Providing information to the public is a necessary prerequisite to meaningful, active public involvement. Agencies shall design informational activities to encourage and facilitate the public's participation in all significant decisions covered by §25.2(a), particularly where alternative courses of action are proposed.

Section 25.8 further obligates the agency to prepare responsiveness summaries which: (1) identify the public participation activity conducted; (2) describe the issue which the public considered; (3) describe the public views and comments; and (4) summarize the agency's responses to the public's comments.

The action being developed by the Regional Board is tantamount to modifying a water quality standard.[7] As a result, 40 C.F.R. §131.20 appears to obligate the Regional Board to comply with Part 25. Section 25.4(b) requires the Regional Board to seek public involvement at significant decision points where alternative courses of actions are proposed. The Target Analysis contains the type of significant decision points involving alternatives which were contemplated in Section 25.4(b) Indeed, both the decision to embrace targets as the means of developing the diazinon TMDLs and the choice of target methodologies are substantive and possibly determinative issues that may effectively preclude meaningful public review and input at a later date.

The Target Analysis indicates that "[t]he targets selected for this TMDL will be proposed as new water objectives as part of the TMDL implementation process. The process will begin with a Basin Plan Amendment public hearing by the Regional Board".[8]

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[7] The Target Analysis indicates that a water quality standard under the CWA is equivalent to the combination of a water quality objective (e.g., the proposed targets) and a beneficial use under the PCA. Target Analysis at 8.

[8] Target Analysis at 13.

Should the Regional Board continue to use the numeric target approach, it follows that the very nature of the wasteload and load allocations, the margin of safety, and the allowance for seasonal variation and flow which are made or selected under any TMDL will be significantly shaped – if not determined – by the numeric targets. The point at which the Regional Board is seeking public input on those TMDL allocations, margins, and allowances will hardly be a practical point at which the public can seek to revisit or discuss the underlying WQOs.

Presenting the numeric targets a part of a proposed TMDL forces those members of the public seeking the use of alternate goal-setting methodologies to replicate all subsequent TMDL decision making in order to determine the methodologies' effect and suitability – a significant and substantial disincentive to substantive public participation. The amount of time not spent refining the alternate methodologies, not collecting the necessary data, and not tracking advances in the methodologies' uses and applications, will quickly become an additional prohibitive factor militating against this issue being effectively revisited and applied in the midst of making the subsequent, highly technical and involved TMDL decisions.

The Target Analysis also does not provide the type of information contemplated in Section 25(b). The Target Analysis does not contain information regarding the social, economic, and environmental consequences of applying the chosen targets for diazinon. This lack hinders substantive and informed review of the proposed targets. Finally, the Regional Board's stated intention not to respond to the comments submitted during its informal process will not be sufficient to satisfy the responsiveness mandate at Section 25.8.

D. The "strict interpretation" of the Anti-Degradation Declaration suggested in the Target Analysis is impermissible

Anti-Degradation Declaration Text. The Target Analysis indicates that the State's anti-degradation policy limits the amount of diazinon in State waters to natural levels or zero. Target Analysis at 10. However, the Target Analysis' interpretation of the State Board Anti-Degradation Declaration is not consistent with the actual text of the Declaration. The Anti-Degradation Declaration indicates both a tolerance for controlled discharges and the need for a balancing test (i.e., maximizing the benefit to the public) to be performed:

> Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which *will result in the best practicable treatment or control of the discharge* necessary to assure that (a) a pollution or nuisance will not occur and (b) *the highest water quality consistent with maximum benefit to the people of the State* will be maintained."

Anti-Degradation Declaration, Resolution 2 (emphases added). The language also suggests that the Declaration is limited to certain high quality waters. *Id.*

The Target Analysis does not reflect the performance of such a balancing test. The Target Analysis also does not indicate how the proposed targets will maximize benefit to the public. Nor does the Target Analysis indicate that the water quality limited segments targeted by the diazinon TMDL are "existing high quality waters."

PCA Section 13000. The Basin Plan cites PCA Section 13000 as support for the State Board's Anti-Degradation Declaration. *See* Basin Plan at IV-15.00. However, PCA Section 13000 also lends no support to the strict interpretation suggested in the Target Analysis:

> [T]he quality of the waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on these waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.

This language also indicates that both a balancing test and a determination as to "reasonable water quality" are necessary for proper application.

The Target Analysis does not reflect a comparison of the beneficial, detrimental, economic, social, tangible, or intangible aspects of either adoption of the proposed targets or the precluded diazinon uses that may result from the proposed targets. The Target Analysis also fails to establish "reasonable water quality" for the targeted water bodies.

E. The proposed targets are not supported by sound science

National Research Council Report. The National Academy of Science's National Research Council ("NRC") recently issued a report regarding the EPA's TMDL program. The report, entitled "Assessing the TMDL Approach to Water Quality Management" ("NRC Report"), included an evaluation of the science currently being used to support the designation of impaired waters and the creation of TMDLs.

The NRC Report indicated that "although the state of science is sufficient to develop TMDLs to meet ambient water quality goals in many situations, programmatic issues substantially hinder the use of the best available science." NRC Report at 3. The NRC Report strongly endorses the use of biological criteria in determining progress and goals, *id.* at 3, and the development of corresponding models to support use of such biological criteria:

> EPA should promote the development of models that can more effectively link environmental stressors (and control actions) to biological responses. Both mechanistic and empirical models

> should be explored, although empirical models are more likely to fill short-term needs. Such models are needed to promote the wider use of biocriteria at the state level, which is desirable because biocriteria are a better indicator of designated uses than are chemical criteria.

NRC Report at 56-57.

In essence, the Target Analysis' consideration of biological criteria is manifested by basically qualitative descriptions of potential impacts only to a particularly sensitive species (*Ceriodaphnia dubia*) in the targeted water bodies. The Target Analysis uses the unquantified impacts on *Ceriodaphnia* as a substitute for impact to all species and the water bodies' beneficial uses.

The Target Analysis approach does not comport with the readily available and more accurate scientific approaches mentioned in the NRC Report. As a result, this approach will leave unanswered the actual impact to species in the water bodies due to diazinon or like chemical compounds.

The NRC Report suggests that approaches like that used in the Target Analysis are antiquated and inaccurate.[9] Furthermore, the Target Analysis' inaccuracy could lead to a failure to protect beneficial uses, an outcome that seems precluded by the PCA §13241 obligation to establish water quality objectives that "ensure the reasonable protection of beneficial uses and the prevention of nuisance." The Target Analysis' approach is even more problematic in light of the summary, policy-based rejection of approaches that are more responsive to the NRC's conclusions (*e.g.*, PERA, mesocosm studies).[10]

Previous and Concurrent TMDL Practices. The State of California is engaged in a number of either concurrent or recently completed TMDL development efforts. One of those concurrent efforts regards phosphorous in the Indian Creek Reservoir. *See* November 2000 Technical Staff Report: Total Maximum Daily Load and Implementation Plan, Indian Creek Reservoir, Alpine County, California ("Indian Creek Report").

The Indian Creek Report (*see* Report at 5) is based upon site-specific monitoring data describing historic and current ambient water quality conditions, a literature review, and a "loading capacity linkage analysis" which quantitatively differentiated between loadings from nonpoint source run-off and loadings from river-bottom sediment. The literature review linked the chosen target with the specified beneficial use and discussed in detail how the load allocation

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9 *See* NRC Report at 24-28, 33-35.

10 Target Analysis at 20-26.

and margin of safety would lead to improved ambient water quality and the achievement of the target. *Id.* at 6. The Indian Creek Report based the TMDL load allocations on the estimated reduction impacts of best management practices. *Id.*

Similarly, a TMDL strategy governing a number of water body pollutants was recently completed for the Stemple Creek watershed. *See* December 19, 1997 Resolution No. 97-108 Amending the Water Quality Control Plan for the North Coast Region to Include a Total Maximum Daily Load and Attainment Strategy for the Stemple Creek Watershed into Section 4, Implementation Plans, Nonpoint Source Measures ("Stemple Creek Amendment").

The Stemple Creek Amendment generated targets based, in part, on a literature review, a site-specific erosion and sediment study, a site-specific water quality characteristics study, and interviews with residents regarding the watershed. Stemple Creek Amendment, Background at 5-6. The Stemple Creek Amendment also identified the geographic points at which progress would be measured, described current water quality in detail, and explained the nature and impacts of the "environmental stressors." *Id.*, Problem Statement at 11-12. The numeric targets for nutrients and sediments were verified using a "steady-state mathematical model." The Stemple Creek Amendment also based its load allocations on the estimated reduction impacts of best management practices.

The Indian Creek and Stemple Creek TMDL practices contrast sharply with those embraced by the Target Analysis. The modeling, extensive site specific data collection, and direct, quantitative links between goals and beneficial uses that were used in the Indian and Stemple Creeks contrast negatively with the Target Analysis' qualitative, site non-specific single-species assessment and adoption of generic, site non-specific goals (which were generated as part of outdated guidance promulgated sixteen years ago), in the absence of site specific data. The most glaring of these contrasts is the Target Analysis' failure to directly and substantively link the proposed targets to either the identified beneficial use or measured water quality characteristics of the San Joaquin and Sacramento Rivers. The Target Analysis, after settling on proposed targets, makes the following link between the targets and the beneficial use and then immediately qualifies that link:

> The [California Department of Fish and Game ("CDFG")] Hazard Assessment criteria, which uses U.S. EPA's methodology, is [sic] designed to protect all the aquatic life species and the methods would, therefore, appear to meet all the evaluation factors [which includes protection of beneficial uses]. The CDFG criteria are intended to avoid detrimental physiological responses and are based on the EPA's 304(a) guidance.
>
> Based on information currently available to Regional Board staff, it appears an acceptable diazinon target would be between "zero" and the target derived by CDFG ....

> Establishment of the final numeric targets and WQOs, however, will also depend on the evaluation of a number of factors. These factors include: the environmental characteristics of the watershed; water quality conditions that could be reasonably achieved through the coordinated control of all factors which affect water quality in the area ....

Target Analysis at 27. Although the Target Analysis acknowledges the absence of the information upon which target selection must depend, the Analysis proposes targets and does not mention a progression for acquiring the required information or describe how that information will be integrated into its already-proposed targets. The Target Analysis neither justifies its departure from what appears to be a logical progression (e.g., collect required information, then propose target), nor does it address the apparent departure from the higher supporting data standards for TMDLs in Indian and Stemple Creek.

F. Due to WQO requirements, the targets for the San Joaquin and the Sacramento Rivers cannot be the same

As mentioned above, the PCA and the Anti-Degradation Declaration require that WQOs support the designated beneficial uses specific to the water quality limited segment of concern. They also must be based upon a number of balancing tests, impact reasonableness determinations, and attainability analyses.[11] Those tests, determinations, and analyses necessarily involve data and information that is specific to the particular water body. (*E.g.*, per PCA §13241, the differing water quality characteristics of the two rivers must be established to support the rivers' respective WQOs).

In the current context, the combinations of data and information for the two river systems of concern are unlikely to be equivalent. Yet the target analysis seems to indicate that the proposed targets for the Sacramento and San Joaquin Rivers are the same. Therefore, WQOs that are based on such data and information are also unlikely to be equivalent. Unless this issue has been given more attention than the draft indicates, the Target Analysis is inconsistent with the requirements of the PCA and the Anti-Degradation Declaration.

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[11] *See, e.g.*, PCA §13241; *see also* Sections II(A) and II(D) *supra*.

G. California case law indicates that the targets will ultimately not withstand judicial scrutiny

Actions of California administrative agencies are expected to be reasonable, supported by substantial evidence, and not arbitrary or capricious.[12] Although an administrative agency's interpretation of the law may be given substantial weight, a court is the final arbiter of whether that interpretation is permissible.[13]

A brief summary of the issues raised in this letter indicate that the Regional Board's actions to date are not likely to withstand judicial scrutiny. The Target Analysis and the contemplated target process appear:

(1) inconsistent with the balancing tests, standards, and determinations required under the PCA;

(2) based upon a federal guidance that is inconsistent with federal law and regulation;

(3) inconsistent with the applicable federal public participation requirements;

(4) inconsistent with readily implemented scientific standards recommended by the National Academy of Sciences;

(5) unsupported by data sufficient to ensure the reasonable protection of beneficial uses as mandated under the PCA;

(6) inconsistent with other TMDL efforts designed by sister California regional boards; and

(7) do not adequately consider differences between the Sacramento and San Joaquin river systems.

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12 *See Skyline Homes, Inc. v. Occupational Safety and Health Appeals Board*, 174 Cal. Rptr. 665 at 670 (Cal. Ct. App. 1981); *Carmona v. Division of Industrial Safety*, 530 P.2d 161 at 165 (Cal. 1975).

13 *See, e.g., Lusardi Construction Company v. Occupational Safety and Health Appeals Board*, 2 Cal. Rptr. 2d 297 at 300 (Cal. Ct. App. 1991) ("Since the interpretation of a regulation is a question of law, while the administrative agency's interpretation is entitled to great weight, the ultimate resolution of the legal question rests with the courts").

III. CONCLUSIONS

Because the Regional Board's current target-based approach for crafting the diazinon TMDL appears deeply flawed, MANA strongly recommends that the Regional Board either reevaluate or abandon the Target Analysis and reject the diazinon and chlorpyrifos targets proposed therein.

This does not mean work on development of TMDLs should stop. To the contrary, MANA is ready, willing, and able to work with the Regional Board in an open, interactive, and transparent public process (e.g., the more intensive public processes contemplated in the Region IX Guidance, *see* Guidance at 14-17) to craft a scientifically and legally sound diazinon TMDLs that take into account the resource and data limitations under which the Regional Board is operating. But MANA urges that the Board take the time to create a sound foundation for its diazinon TMDL, by taking an approach that is consistent with sound scientific principles and the law.

Thank you for your consideration of our views.

Respectfully submitted,

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