ATTACHMENT 2:

Revised Draft Basin Plan Language –
includes four separate but related documents titled as follows:

- Revised Draft Waste Discharge Prohibition and Exemption Criteria
- Chapter 3 Revised Draft Language – Pesticide BPA
- Chapter 4 Revised Draft Language – Pesticide BPA
- Chapter 5 Revised Draft Language – Pesticide BPA

Revised Draft
Waste Discharge Prohibition and Exemption Criteria Language

Pesticide Basin Plan Amendment

The following changes pertain to replacing the Water Quality Objective for pesticides with a Waste Discharge Prohibition on pesticides in water coupled with exemption criteria. Additionally, specific sections of the Basin Plan pertaining to pesticides and rotenone, which are affected by the new prohibition language, will be edited and/or relocated as needed. These associated edits can be found in: Chapter 3, pp. 3-2. 3-3, 3-5, 3-10; Chapter 4, pp. 4.1-1, 4.1-2, 4.9-21, 4.9-22, 4.9-23, 4.9-24, 4.9-25, 4.9-27, 4.10-5; and Chapter 5, pp. 5.1-7, 5.1-8, 5.1-10., 5.2, 5.16-2.

Deletions to language are shown in strike-out and additions are in underline. Instructions regarding edits and page number locations are shown in 12 point Times New Roman Font in bold type.

The existing water quality objective for pesticides is listed in Chapter 3, page 3-5 and Chapter 5, pages 5.1-7 and 5.1-8.

All water quality objectives for pesticides will be struck.

~~**Pesticides**~~
~~For the purposes of this Basin Plan, pesticides are defined to include insecticides, herbicides, rodenticides, fungicides, piscicides and all other economic poisons. An economic poison is any substance intended to prevent, repel, destroy, or mitigate the damage from insects, rodents, predatory animals, bacteria, fungi or weeds capable of infesting or harming vegetation, humans, or animals (CA Agriculture Code, 12753).~~

~~Pesticide concentrations, individually or collectively,shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation of pesticides in aquatic life.~~

~~Waters designated as MUN shall not contain concentrations of pesticides or herbicides in excess of the limiting concentrations specified in Table 64444-A of Section 64444 (Organic Chemicals) of Title 22 of the California Code of Regulations which is incorporated by reference into this plan. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect.~~

The proposed amendment would insert the following language in Chapter 4.1 (p. 4.1-1) of the Basin Plan, immediately preceding "Regionwide Prohibitions":

For regionwide prohibitions, where a decision is tasked to the Regional Board, the term "Regional Board" includes the Executive Officer where the Regional Board delegates such authority.

The proposed amendment would insert the following language in Section 4.1 of Chapter 4 (p. 4.1-1) of the Basin Plan, immediately following Regionwide Prohibition No. 5, and in Section 5.2, Lake Tahoe Basin, "Waste Discharge Prohibitions, Regionwide Prohibitions" immediately after Waste Discharge Prohibition No. 4:

To be numbered as 6 in Section 4.1;
To be numbered as 5 in Section 5.2:

6. The discharge of pesticides to surface or ground waters is prohibited.[1]

The following language should be inserted directly following the newly proposed prohibition language (Regionwide Prohibition no. 6) listed in Section 4.1

Exemptions to this prohibition may be allowed subject to the criteria below detailed in the section titled "Exemption Criteria for Aquatic Pesticide Use."

For purposes of the Basin Plan, pesticides are defined in Food and Agriculture Code section 12753 to include any spray adjuvant or any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, as defined in Section 12754.5, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever.

As defined in section 12754.5 of the Food and Agriculture Code, a pest is any of the following that is, or is liable to become, dangerous or detrimental to the agricultural or nonagricultural environment of the state:
(a) Any insect, predatory animal, rodent, nematode, or weed.
(b) Any form of terrestrial, aquatic, or aerial plant or animal, virus, fungus, bacteria, or other microorganism (except viruses, fungi, bacteria, or other microorganisms on or in living man or other living animals).
(c) Anything that the director of the Department of Food and Agriculture, by regulation, declares to be a pest.

"Aquatic pesticides" are pesticides registered by the California Department of Pesticide Regulation (DPR) and formulated for use in water to control aquatic animal or plant pests. An aquatic pesticide is any substance (including biological agents) applied in, on, or over the waters of the State or in such a way as to enter those waters for the purpose of inhibiting the growth or controlling the existence of any plant or animal in those waters.

Aquatic pesticides, for purposes of this Regionwide Prohibition, also include adulticides which are applied by spraying, either by ground or aerial application, at, over, or near water to control adult mosquitoes. During adulticide applications, a portion of the pesticide will unavoidably be deposited to surface waters in order to effectively target the adult mosquitoes.

[1] Compliance with this prohibition will be assessed or measured by evidence of pesticide application to liquid water or by analyzing water samples (from either surface or ground waters) for the presence of pesticides. Therefore, proper application of terrestrial pesticides directly to plants or animals located in a surface water (as defined by the Water Code) under dry conditions or directly to land adjacent to a surface water should not (1) result in a violation of the prohibition, (2) require the project proponent to submit an exemption request to the Regional Board, nor (3) require the Regional Board to consider exemptions to the prohibition.

Dry condition example: The application of terrestrial pesticides to the dry stream beds of ephemeral streams would not require a prohibition exemption since this situation involves pesticide application under a dry condition (i.e., no liquid water is present in the ephemeral stream).

Adjacent to surface water example: The application of terrestrial pesticides along a canal to kill weeds and help maintain structural stability would not require a prohibition exemption since this situation involves pesticide application to land, not liquid water.

The following language should be inserted in Section 4.1 of Chapter 4 in a new paragraph directly following the newly proposed prohibition language (Regionwide Prohibition no. 6) in the section titled "Regionwide Prohibitions" and immediately before the section titled "Exemption Criteria for Restoration Projects."

Exemption Criteria for Aquatic Pesticide Use

Purpose and Need for Exemption

The Regional Board recognizes that certain activities involving the application of pesticides (defined above) may be in the public interest because they protect public health and safety or provide ecological preservation. Under some circumstances the Regional Board may grant an exemption to the prohibition and allow a direct application of pesticides to water. This exempted action will constitute a discharge of pollutants into waters of the United States or waters of the State and require coverage under an appropriate permit.

Circumstances eligible for a prohibition exemption involve the use of aquatic pesticides for purposes of vector control, fisheries management, and control of aquatic invasive species or other harmful organisms under emergency or non-emergency situations (e.g., control of harmful cyanobacteria blooms affecting a drinking water supply, control of aquatic invasive species interfering with safe navigation).

If an exemption to the prohibition is granted, waters of exceptional quality within the treatment area[2] may be temporarily degraded due to the application of aquatic pesticides.

Pursuant to the State Board's "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (Resolution No. 68-16), any degradation of high quality water is only permissible if the Regional Board finds that such a lowering of the existing water quality will be consistent with the maximum benefit to people of the State. Similarly, the federal Antidegradation Policy (40 CFR 131.12) dictates that water quality shall be preserved unless it is determined that the lowering of water quality is necessary to accommodate important economic or social development. Additionally, it requires that water quality be adequate to protect existing uses fully.

The prohibition exemption criteria require that degradation of existing high water quality is limited to the shortest possible time and confined to the smallest area necessary for project success. The spatial extent of the treatment area and the duration of the treatment event will vary from project to project and will be proposed by the project proponent and accepted or modified by the Regional Board and specified in the final project plans, exemption conditions, and appropriate permit.

The project proponent shall work with Water Board staff to propose numeric limits for each aquatic pesticide project, which will be incorporated as exemption conditions in the Water Board's resolution granting the prohibition exemption and/ or requirements of the appropriate permit. Permit requirements and/or conditions of the exemption may include, but not be limited to, discharge limits for application rates, receiving water limitations for pesticide residue levels, limits on the temporal and spatial extent (areal and depth) of the treatment area, and recovery time expectations and biotic metrics to assess restoration of affected non-target species.

These project specific requirements issued by the Water Board will ensure project design and implementation will not unreasonably affect beneficial uses. The Water Board will evaluate the exemption request and determine if it satisfies exemption criteria that require project plans to incorporate best management practices to limit adverse impacts to the shortest time possible while achieving project success.

[2] The treatment area is the area being targeted to receive lethal doses of aquatic pesticides to control a specific pest. Within the treatment area, a spatial zone of impact exists in which water quality and beneficial uses are temporarily not protected.

To verify compliance with water quality objectives and discharge requirements, project proponents will implement compliance monitoring. Monitoring will commence no more than one week after the application event[3]. The time frame in which a project must achieve compliance with water quality objectives with the exception of the biocriteria objectives[4], will vary by project depending on the type of pesticide proposed, site specific conditions, and temporal extent of treatment event. Reasonable compliance times will be assigned based on the duration of the treatment event and will be included in the Water Board's resolution to grant exemption. The duration of the treatment event will be determined by whether the pesticide in use is a fast-acting chemical or a slow-release systemic compound and by considering site-specific conditions (flow, target species, water chemistry). For fast-acting pesticides it may be possible to achieve compliance with water quality objectives within a week of the application event. Fast-acting pesticides degrade quickly, usually within a week of application, and so are applied at high concentrations to be effective before degrading. Slower acting pesticides are effective at lower concentrations less toxic to non-target species, but degrade more slowly and require a longer treatment event before complying with water quality objectives.

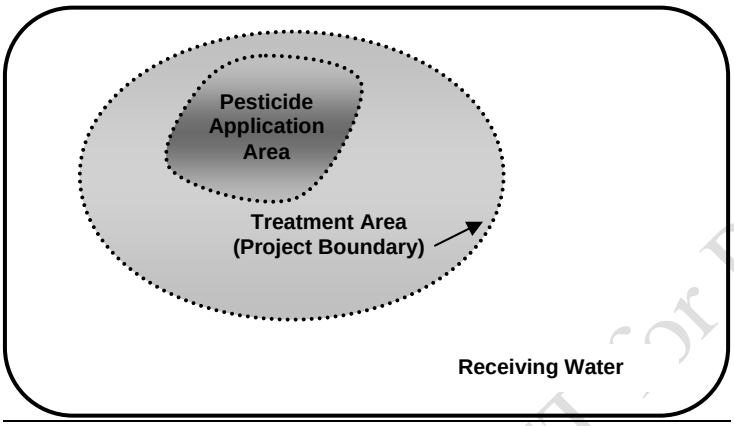

Figure 1.

The receiving water is defined as water outside of the treatment area. Outside the treatment area, compliance with water quality objectives is required within the receiving water at all times during and after the treatment event (Figure 1). During aquatic pesticide applications, an intentional lethal concentration of chemical is applied to water to control pests. The addition of the chemical results in a lowering of existing water quality. For effective treatment, a spatial and temporal zone of impact[5] corresponding to the treatment area is required, and the Regional Board acknowledges that existing uses and the level of water quality necessary to maintain those uses will not be protected within this zone during the treatment event[6].

If an aquatic pesticide project is allowed to occur, the Regional Board must find that the discharge complies with the antidegradation policies, and water quality objectives are restored within the treatment area, within the shortest time reasonably possible after the application event, and within the receiving water during and after the treatment event.

[3] The application event is the time that the pesticide is directly introduced into the treatment area, and not the length of time that the introduced pesticide releases active or inert ingredients into the environment.
[4] Biocriteria objectives include species composition, non-degradation of aquatic communities, and any future biocriteria objectives adopted by the State or Regional Board.
[5] The Zone of Impact is a spatial and temporal zone that exists during, and is targeted by, aquatic pesticide treatments in which existing uses and the level of water quality necessary to maintain those uses will not be protected. The Zone of Impact ceases to exist once the treatment event is completed.
[6] The treatment event is the period during which the aquatic application is actively killing or controlling the target pest within the treatment area. It starts upon initiation of the application event and proceeds until the concentration of the aquatic pesticide is below that which can kill the target pest. During the treatment event, a spatial and temporal zone of impact exists in which water quality and beneficial uses are temporarily not protected.

The Regional Board acknowledges that water quality degradation may occur outside of the treatment area if pesticide residues escape the treatment area. While the presence of these residues may temporarily degrade the existing high water quality, the impact is not expected, nor will it be allowed, to violate water quality objectives that are established at levels protective of beneficial uses. Any water quality degradation within the receiving water is expected to be temporary, since pesticide residues escaping the treatment area breakdown through degradation mechanisms (volitalization, photolysis, etc.) and is not expected to persist beyond hours or days. Appropriate protection measures (application methods, compliance with pesticide label instructions, implementation of best management practices (BMPs)) shall be implemented during the project to ensure that any lowering of water quality is limited to the shortest possible time.

The Regional Board limits pesticide applications subject to the exemption to those conducted for purposes that serve the public interest (e.g., to restore natural resources or protect public health and safety or beneficial uses). State and federal regulations including the (1) Endangered Species Act, (2) Health and Safety Code, (3) Safe Drinking Water Act, and (4) Nonindigenous Aquatic Nuisance Prevention and Control Act compel state and federal agencies and public entities to (a) restore and preserve threatened and endangered species, (b) protect public health from disease-carrying vectors, (c) protect municipal drinking supplies, and (d) prevent damage to valuable aquatic habitats by controlling the spread of aquatic invasive species. Accomplishing these tasks effectively may require treating surface waters with aquatic pesticides.

Discharges of pesticide concentrations needed for effective resource management may cause waters to temporarily exceed established narrative or numeric water quality objectives (e.g., color, chemical constituents, toxicity, species composition). When an exemption to the prohibition on pesticide use in water is granted, a short-term or seasonal exemption to the prohibition on violating narrative or numeric water quality objectives may also be granted for specific water quality objectives. A longer-term exemption to the species composition objective may be granted on a project-by-project basis.

Provided aquatic pesticides are applied under the circumstances listed below, projects subject to this exemption will be considered consistent with the state antidegradation policy incorporated into this Basin Plan because such projects provide the maximum benefit to people of the State and are necessary to accommodate important economic or social development. Additionally, any degradation of water quality associated with the proposed aquatic pesticide use would only be temporary in nature and protective of beneficial uses provided the project complies with the exemption criteria specified below.

Findings Necessary to Grant Exemption

An exemption to the waste discharge prohibition for aquatic pesticide use may be granted by the Regional Board if all the following findings are made:

(a) The project is an eligible circumstance as described below.

(b) The project satisfies all the applicable exemption criteria.

Granting an exemption is at the discretion of the Regional Board. The Regional Board may deny an exemption request even though the project meets all the necessary project conditions and criteria. For example, this may occur as the Regional Board is considering the tradeoffs between use of pesticides and the actual and/or potential environmental impacts of an invasive species infestation. For instance, when considering a repeated application of an herbicide to address an infestation of aquatic invasive vegetation, the Regional Board may determine that it would be less harmful to let the infestation continue than to repeatedly apply pesticides.

Circumstances Eligible for Prohibition Exemption

Requests for exemption to this prohibition will be considered for the following circumstances:

Vector Control

Prohibition exemptions will be considered for the purposes of "Vector Control" where the proposed project is conducted to protect public health by eliminating pests with the direct application of larvicides to surface waters or aerial spraying of adulticides that have the potential to drift to surface waters.

Government agencies (e.g., local and county vector control districts) that apply aquatic pesticides for vector control to protect public health, must be a signatory to a Cooperative Agreement with the California Department of Public Health (DPH) pursuant to Section 116180 of the Health and Safety Code. (There are situations where vector control agencies contract their applications to private applicators. For these scenarios, the private applicators must be covered under the terms of the Cooperative Agreement and work under the authority and guidance of the vector control district.)

Individuals applying larvicides or adulticides must be either (1) a government agency employee (or authorized contractor) certified by DPH as a public health pesticide applicator or (2) a private applicator protecting public health on private lands who can provide documentation that he or she is licensed or certified, if required, by the County Agricultural Commissioner (CAC), or Director of DPR when there is no CAC.

Fisheries Management

Prohibition exemptions will be considered for "Fisheries Management" if the project proponent is the California Department of Fish and Game (DFG) or United States Fish and Wildlife Service (USFWS).

Aquatic pesticide applications implemented by the USFWS and the DFG for Fisheries Management may be considered for an exemption if the pesticide use is proposed to (1) restore and protect of threatened or endangered species, (2) control of fish diseases where the failure to treat could result in significant damage to fisheries resources or aquatic habitat, or (3) elimination of species (as defined in CA Fish and Game Code § 2118), where competition or predation from such species threatens native fish populations, or populations of other organisms (includes rare, unique, sensitive, or candidates for listing as endangered or threatened species).

The Regional Board may, on a project-by-project basis, grant an exemption for the use of fish toxicants in other kinds of fisheries management activities, when the DFG or the USFWS can provide the necessary justification for allowing a temporary lowering of water quality consistent with the provisions of the federal Antidegradation Policy (contained in 40 CFR § 131.12) and State Board Resolution No. 68-16.

Controlling Aquatic Invasive Species (AIS) or Other Harmful Species

Prohibition exemptions will be considered for "Controlling AIS or Other Harmful Species" if the use of aquatic pesticides is to protect public health and safety, the environment, or for other situations described below. Projects proposed for these circumstances will have different criteria depending on whether the projects are considered as emergency, time sensitive, or projects that are neither emergencies nor time sensitive.

Emergency Projects. Emergency Projects are those undertaken in response to an emergency as set forth in Public Resource Code section 21060.3; or projects that meet the CEQA definition of Emergency Projects set forth in CEQA Guidelines 15269(a)(b)(c) and require immediate action to control the pest of concern.

Time Sensitive Projects. For Time Sensitive Projects proposed for purposes of AIS control, the project proponent must demonstrate that the decision to apply aquatic pesticides is in compliance with an adopted Aquatic Invasive Species Management Plan. The AIS of concern must be affecting a water body where that species is not already established. The AIS must be recognized as a species of concern by the Aquatic Nuisance Species Task Force, listed as a Restricted Animal in California Administrative Code Title 14, section 671, listed as an Injurious Wildlife Species in the Lacey Act (50 CFR 16.11-16.15), addressed in the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, listed as a Noxious Weed Species in either Title 3, Section 4500 of the California Department of Food and Agriculture, Federal Noxious Weed Act. P.L. 93-629, or is a dreissenid mussel as addressed in section 2301 of the Fish and Game code. The project proponent must be a state or federal agency with the legal authority to control aquatic invasive species as identified in the January 2008 (as amended) California Aquatic Invasive Species Management Plan, Appendices B and C.

For Time Sensitive Projects not involving AIS that are proposed to protect drinking water supplies, water distribution system, and flood control channels, the project proponent must be (1) the public agency mandated to protect such facilities, or (2) a private entity (e.g., a homeowners association, private water utility) that has control over the financing for, or the decision to perform, aquatic pesticide applications.

Projects That Are Neither Emergencies Nor Time Sensitive
For non-Emergency and non-Time Sensitive projects proposed for purposes of AIS control, the project proponent must demonstrate that the decision to apply aquatic pesticides is in compliance with an adopted Aquatic Invasive Species Management Plan. The project proponent must be a state or federal agency, with the legal authority to implement AIS control projects as identified in the California Aquatic Invasive Species Management Plan, Appendices B and C.

For non-Emergency and non-Time Sensitive projects proposed for purposes **not** involving AIS that are proposed to protect drinking water supplies, water distribution system, navigation, agricultural irrigation, and flood control channels, the project proponent must be (1) the public agency mandated to protect such facilities, or (2) a private entity (e.g., a homeowners association, private water utility) that has control over the financing for, or the decision to perform, aquatic pesticide applications.

Exemption Criteria for Aquatic Pesticide Use
Aquatic pesticide use proposed under the circumstances listed above may be considered for an exemption to the waste discharge prohibition for aquatic pesticides. Project proponents that receive a prohibition exemption must obtain coverage under an applicable permit, such as an individual or general NPDES permit or WDRs, or a waiver of WDRs issued by the State or Regional Water Board. Project proponents that receive a prohibition exemption must apply pesticides consistent with label instructions approved by the United States Environmental Protection Agency (USEPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and any Use Permits issued by the CAC which incorporate permit conditions recommended by the Department of Pesticide Regulation and the California Department of Public Health.

Project implementation, with its associated control measures and compliance monitoring, must demonstrate compliance with Basin Plan Water Quality objectives, effluent limitations, and receiving water limitations, which must be maintained (a) in the receiving water at all times during and after the treatment event, and (b) within the treatment area after completion of the aquatic pesticide treatment event. (Exemptions to the prohibition on violating narrative or numeric water quality objectives may be granted for specific water quality objectives. See Chapter 3 for project-specific water quality objectives or receiving water limitations that apply to fisheries management projects using rotenone.)

An exemption request must be submitted to the Water Board and contain the following information acceptable to the Regional Board. [7]

1. Project Information to include:

    a. Project description including, but not limited to, proposed schedule, duration, name of pesticide, method and rate of application, spatial extent, water body, control/mitigation measures to be used, contact information.

    b. Purpose and need for project.

    c. The chemical composition of the pesticide to be used, including inert ingredients.

    d. Communication and notification plan to be implemented before, during and after the project. The plan will include documented measures to notify potentially affected parties who may use the water (ground or surface) downstream for any beneficial use. The notification plan must include any associated water use restrictions or precautions. Project proponents will provide potable drinking water where necessary and shall obtain any necessary permits from CDPH and NDEP for supply of potable drinking water.

        For projects conducted in an ONRW (e.g. Lake Tahoe) that may impact surface water intakes used for drinking water located within one-half mile of the point of application, the following additional requirements apply:

        i. Proponents will provide written response from the water purveyor(s) indicating (1) request for project modification (e.g., project design, monitoring, and/or mitigation measures) or (2) consent with the project with no continued involvement.

        ii. An estimate of the maximum foreseeable concentrations of pesticide components in any surface water intake used for drinking water supplies.

        Public notification requirements may be waived where project proponent is an agency signatory to Cooperative Agreement with DPH and evidence is provided of notification exemption.

    f. Spill contingency plan to address proper transport, storage, spill prevention and cleanup.

2. Notice of Intent for coverage under the appropriate State Board or Regional Board permit or a report of waste discharge for pesticides or pesticide use not covered under an existing State Board or Regional Board NPDES General Permit for aquatic pesticide discharges.

3. California Environmental Quality Act (CEQA) Documentation – The lead agency is required to conduct the appropriate environmental analysis and the project proponent shall submit the certified environmental document with the exemption request. If the project lead is a federal agency then it must prepare a CEQA equivalent document.

4. Information to comply with section 5.3 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (State Implementation Plan or SIP). This information is **only** required if the proposed application of aquatic pesticides contains priority pollutants. Projects involving discharges that contain priority pollutants require a short-term or seasonal exception from meeting the priority pollutant criteria/objectives prior to treatment of surface waters with aquatic pesticides. Section 5.3 of the SIP allows the Regional Board, on a case-by-case basis, to consider and grant such short-term or seasonal exceptions.)

[7] The Regional Board will consult with the Nevada Division of Environmental Protection (NDEP) when a project affects interstate waters that exist within, or flow to, the State of Nevada. The Regional Board will consult with the California Department of Public Health (CDPH) when reviewing exemption requests that may affect surface drinking water intakes.

5. Information (evidence the project will benefit people of California, a management plan detailing control measures to avoid and mitigate adverse impacts, compliance with use restrictions, etc.) that allows the Regional Board to find that the proposed aquatic pesticide application complies with federal and state anti-degradation policies. (This request for information is waived for Vector Control projects and for projects proposed in response to an emergency as defined by Public Resources Code 21060.3. because these project types underwent antidegradation analysis for adoption of the exemption criteria into the Basin Plan.)

6. Information that the project satisfies the additional exemption criteria for the particular circumstance as specified below.

Exemption Criteria for Vector Control

The Regional Board herein grants an exemption to the prohibition on discharge of pesticides to surface or ground waters where the project proponent can verify that the project meets the following criteria, which must be submitted with an exemption request to the Regional Board. The Regional Board finds that Vector Control projects comply with state and federal anti-degradation policies, since (1) these projects are implemented in the best interest of people of California for the purposes of the protection of public health, and (2) these projects limit water quality impacts and provide reasonable protection of beneficial uses by satisfying the below-listed exemption criteria nos. 1 and 2.

1. The planned treatment will result in the minimum discharge of chemical substances that can reasonably be expected for an effective treatment.

2. Aquatic pesticide applications must minimize impacts to beneficial uses by implementing BMPs to limit the effects of the pesticide to the shortest time and within the smallest area necessary for project success.

Exemption Criteria for Fisheries Management

Project proponents seeking a prohibition exemption to use aquatic pesticides for "Fisheries Management" must satisfy the criteria listed in Chapter 4, section 4.9 titled Control Measures for Rotenone Use and Other Fish Toxicants" and must submit this information with an exemption request to the Regional Board.

Exemption Criteria for Controlling Aquatic Invasive Species (AIS) and Other Harmful Species

Emergency Projects. The Regional Board herein grants an exemption to the prohibition on discharge of pesticides to surface or ground waters where the project proponent can verify that (1) the project meets the following criterion, which must be submitted with an exemption request, and (2) a Notice of Exemption (NOE) has been filed, as required under CEQA. Coverage under the appropriate permit must be sought by the project proponent within 30 days after the NOE is filed.

For projects implemented by state or local agencies, the agency must demonstrate that the project meets the CEQA Emergency Project definition set forth in Public Resource Code section 21060.3 (same as CEQA Guidelines section 15359); or that the project meets the CEQA definition of Emergency Projects set forth in CEQA Guidelines 15269(a)(b)(c). For these state or local agency projects the state or local agency will file the NOE. If a federal agency, such as USFWS, is the project proponent, the federal agency must provide evidence that the pesticide application meets the CEQA emergency definition. For these federal projects, the Regional Board will file the NOE.

The Regional Board retains authority to require project and post-project monitoring and reporting and retains authority to take enforcement action where appropriate to restore/recover water quality or beneficial uses.

Time Sensitive Projects. In the exemption request, the project proponent must demonstrate to the Regional Board the time sensitive nature of the project by demonstrating the existing or imminent deleterious effects of an infestation and the importance of an expedited action. The Regional Board will respond within ten days. The Regional Board may then grant the prohibition exemption where the project proponent can verify the project meets the following criteria, which must be submitted with the exemption

request. (The Regional Board may expedite granting of the exemption and require that compliance with criteria be demonstrated within ten days of the prohibition exemption being granted.)

1. Demonstration that non-chemical measures were evaluated and found inappropriate/ineffective to achieve the project goals. (Alternatives to pesticide use must be thoroughly evaluated and implemented when feasible (as defined in CEQA Guideline 15364: "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.)).

2. A plan detailing mitigation and management measures must be submitted and implemented. The Plan must incorporate control measures to limit adverse impacts to the shortest time necessary for project success. The Plan should include measures to remove and dispose of dead biomass which are adequate to protect water quality and beneficial uses. (Removal of biomass may not be necessary in situations where recovering the dead biomass creates a greater potential to impact water quality.)

3. The planned treatment protocol will result in the minimum discharge of chemical substances that can reasonably be expected for an effective treatment.

4. Monitoring and reporting program must be submitted and implemented to evaluate impacts and verify restoration of water quality in the treatment area. The program must be sufficient to determine compliance with criteria no. 3.

   The project monitoring program must include pre- and post-project sampling of water, sediment, and biota to determine if toxicity persists as a result of project implementation. At the discretion of the Regional Board, due to the urgency of Time Sensitive projects, the collection and analysis of sediment and biological samples may be waived and/or a reference site may be used to represent pre-project conditions.

   Unless waived by the Regional Board, the project proponent shall develop a biological monitoring program to evaluate (a) the magnitude and extent of potential impacts to, and (b) the post-project recovery of non-target organisms and rare/threatened or endangered species. The biological monitoring program must be based on an appropriate study design, metrics, and performance criteria to evaluate restoration of aquatic life as specified below in criterion no. 7. This requirement may be waived at the discretion of the Regional Board where the Regional Board finds that there is no significant threat to non-target aquatic organisms.

Projects That Are Neither Emergencies Nor Time Sensitive. An exemption to the prohibition on discharge of pesticides to surface or ground waters may be granted by the Regional Board for Projects That Are Neither Emergencies or Time Sensitive where the project proponent can verify that the project meets both the above-listed criteria nos. 1 through 4 and the following additional criteria, which must be submitted with the exemption request.

5. Purpose and Goals statement that (a) demonstrates that the target organism is a primary cause of the problem being addressed, and (b) provides evidence that the proposed application of pesticides will accomplish the project goals.

6. A description of the failure of non-chemical measures to effectively address the target organisms. The description will include either (1) evidence that non-chemical efforts failed to address target organisms or (2) justification, accepted by Regional Board, of why non-chemical measures were not employed or are not feasible (CEQA Guideline 15364) to achieve the treatment goals.

7. A monitoring and reporting program accepted by the Regional Board, will be followed to assess the effects of treatment on surface and ground waters, and on bottom sediments if specified by the Regional Board. The monitoring and reporting program must include, but not be limited to, monitoring sites, analytes, methods, frequencies, schedule, quality assurance, and measurable objectives to

determine if the project goals were achieved (e.g., acreage treated, reduction in biomass of target species, improved water quality). The monitoring plan must identify a dedicated budget and specify the entity/person(s) responsible for the monitoring.

The pre-project biological monitoring program and the monitoring, reporting, and mitigation program[8] for non-target communities shall be peer-reviewed[9] by independent experts. The peer reviewers shall be proposed by project proponent(s) and shall be mutually agreeable to both the project proponent(s) and the Regional Board.

The biological monitoring program must be based on an appropriate study design, metrics, and performance criteria to evaluate restoration of non-target biological life potentially affected by the pesticide application. Monitoring of biota should include appropriate indicators (e.g., macroinvertebrates, aquatic plants). The indices used in the assessment must be commonly accepted by the scientific community and accepted by the Regional Board.

For projects with the goal of removing an invasive species community, project proponent shall consider using a reference site to gauge restoration of the non-target species to desired conditions or establish project goals and objectives. The recovery target will be measured using appropriate indicators (e.g., macroinvertebrates, aquatic plants) that demonstrate restoration of non-target species to levels equal to or better than pre-treatment conditions (a reference site may be used to represent pre-project conditions).

When applicable, biological monitoring shall be designed, and conducted as long as needed, no less than annually, to effectively demonstrate that non-target macroinvertebrate populations have been fully restored. Fully restored means that the structure and function of non-target macroinvertebrate communities have returned to conditions that reflect pre-project conditions. Function will be judged by metrics and indices related to trophic levels (e.g., functional feeding groups) and productivity (e.g., abundance, biomass). Structure will be judged based on metrics and indices related to richness and diversity (e.g., taxa richness, multivariate O/E (observed/expected) model predictions, multivariate ordinations) and presence of sensitive and rare taxa. This definition of "fully restored" shall be provided to the peer reviewers prior to peer review of the monitoring and reporting program, with instructions to determine whether the monitoring design is capable of determining whether full restoration has been achieved.

Within two years of the last treatment for a specific project, a qualified biologist(s) representing the project proponent must assess the restoration of non-target aquatic life and benthic communities within the treated waters, and if, based on the monitoring data, the evidence demonstrates, certify in writing that all affected non-target biological communities have been fully restored. The certification shall be accompanied by a report detailing the pre-project and post-project monitoring, including detailed explanation of the assessment methods used and the rationale for the certification. Macroinvertebrates shall be identified and classified, and data provided in electronic formats using conventions acceptable to the Regional Board.

If non-target biological communities are not fully restored after two years, the project proponent must conduct continued annual monitoring and implement the proposed mitigation measures until the Regional Board accepts the certification.

The Regional Board acknowledges that projects may occur where the non-target communities do not fully recover to pre-project levels. After five years of annual post-project monitoring, the project

[8] The mitigation program must examine potential measures to facilitate the restoration of non-target species to pre-project abundance and diversity. The mitigation program must include a discussion of mitigation measures included and those that were considered but rejected. The project proponent must justify why these measures were rejected as feasible mitigation measures. The requirement to implement mitigation measures may be waived during post-project recovery at the discretion of the Regional Board.

[9] The Regional Board can exempt project proponents from the requirement of preparing an externally peer reviewed monitoring and reporting, and mitigation program (e.g., project applicant proposes the use of standardized peer reviewed monitoring protocols).

proponent may petition the Regional Board to release it from annual monitoring and reporting and mitigation obligations. Such petitions must include: (1) results of mitigation efforts, (2) monitoring trends demonstrating maturity of an asymptotic recovery, and (3) evidence that the ability to attain full recovery has been significantly affected by natural environmental factors (e.g., fires, floods, drought) or catastrophic events (e.g., chemical spills) during the years of monitoring. Annual monitoring shall continue unless and until the Regional Board rescinds the monitoring requirements.

Chapter 3 Language

Revised Draft -
Pesticide Basin Plan Amendment

The following changes apply to Chapter 3 of the Basin Plan available at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml. Deletions to language are shown in strike-out and additions are in underline.

Instructions regarding edits and page number locations are shown in 12 point Times New Roman Font in bold type.

Chapter 3, pp. 3-2, 3-3

Water Quality Objectives for Surface Waters

Water quality objectives for surface waters are divided into the three categories of:

1. **Water Quality Objectives Which Apply to All Surface Waters.**
   Listed alphabetically below, these narrative and numerical water quality objectives apply to **all** surface waters (including wetlands) within the Lahontan Region:

   Ammonia
   Bacteria, Coliform
   Biostimulatory Substances
   Chemical Constituents
   Chlorine, Total Residual
   Color
   Dissolved Oxygen
   Floating Materials
   Oil and Grease
   Non-degradation of Aquatic Communities and Populations
   ~~Pesticides~~
   pH
   Radioactivity
   Sediment
   Settleable Materials
   Suspended Materials
   Taste and Odor
   Temperature
   Toxicity
   Turbidity

Chapter 3, pp. 3-3

3. ***Water Quality Objectives for Fisheries Management Activities Using the Fish Toxicant Rotenone***
   Rotenone is a fish toxicant presently used by the California Department of Fish and Game (DFG) and the United States Fish and Wildlife Service (USFWS) for fishery management purposes. (See detailed discussions later in this Chapter and in Chapter 4.) Additional water quality objectives pertinent to rotenone treatments are: Color, ~~Pesticides,~~ Chemical Constituents, ~~Species Composition~~, and Toxicity.

Chapter 3, pp. 3-5

Pesticides

~~For the purposes of this Basin Plan, pesticides are defined to include insecticides, herbicides, rodenticides, fungicides, piscicides and all other economic poisons. An economic poison is any substance intended to prevent, repel, destroy, or mitigate the damage from insects, rodents, predatory animals, bacteria, fungi or weeds capable of infesting or harming vegetation, humans, or animals (CA Agriculture Code, 12753).~~

~~Pesticide concentrations, individually or collectively, shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation of pesticides in aquatic life.~~

~~Waters designated as MUN shall not contain concentrations of pesticides or herbicides in excess of the limiting concentrations specified in Table 64444-A of Section 64444 (Organic Chemicals) of Title 22 of the California Code of Regulations which is incorporated by reference into this plan. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect.~~

Chapter 3, pp. 3-10

Water Quality Objectives for Fisheries Management Activities Using the Fish Toxicant Rotenone

Rotenone is a fish toxicant presently used by the California Department of Fish and Game (DFG) and the United States Fish and Wildlife Service (USFWS) for fishery management purposes. (See Chapter 4 for a more complete discussion of this topic.)

The application of rotenone ~~solutions~~ and the detoxification agent potassium permanganate can cause several water quality objectives to be temporarily exceeded, both inside and outside of project boundaries. (Project boundaries are defined as encompassing the treatment area, the detoxification area, and the area downstream of the detoxification station up to a thirty-minute travel time.)

~~Additional narrative water quality objectives applicable to rotenone treatments are: color, pesticides, toxicity, and species composition~~. The Basin Plan (see Chapter 4) contains prohibitions against discharges of waste that result in violation of narrative or numeric water quality objectives. Conditional ~~variances~~ exemptions to these ~~objectives~~ prohibitions may be granted by the Regional Board~~'s~~ or its Executive Officer, if so delegated, for rotenone applications by the DFG or the USFWS, provided that such projects comply with the conditions described below and with the ~~conditions~~ criteria described in Chapter 4 ~~(Implementation)~~ under the section entitled ~~"Rotenone Use In Fisheries Management"~~ "Exemption Criteria for Fisheries Management." The following project-specific water quality objectives or receiving water limitations also apply to fisheries management projects using rotenone during and immediately following treatment.

Color

The characteristic purple discoloration resulting from the discharge of potassium permanganate shall not be discernible more than two miles downstream of project boundaries at any time. Twenty-four (24) hours after shutdown of the detoxification operation, no color alteration(s) resulting from the discharge of potassium permanganate shall be discernible within or downstream of project boundaries.

~~Pesticides~~ Chemical Constituents

Chemical residues resulting from rotenone treatment must not exceed the following limitations:

1. The concentration of naphthalene outside of project boundaries shall not exceed 25 ug/liter (ppb) at any time.

2. The concentration of rotenone, rotenolone, trichloroethylene (TCE), xylene, or acetone (or potential trace contaminants such as benzene or ethylbenzene) outside of project boundaries shall not exceed the detection levels for these respective compounds at any time. "Detection level" is defined as the minimum level that can be reasonably detected using state-of-the-art equipment and methodology.

3. After a two-week period has elapsed from the date that rotenone application was completed, no chemical residues resulting from the treatment shall be present at detectable levels within or downstream of project boundaries.

4. No chemical residues resulting from rotenone treatments shall exceed detection levels in ground water at any time.

~~Species Composition~~

~~The reduction in fish diversity associated with the elimination of non native game fish or exotic species may be part of the project goal, and may therefore be unavoidable. However, non-target aquatic populations (e.g., invertebrates, amphibians) that are reduced by rotenone treatments are expected to repopulate project areas within one year. Where species composition objectives are established for specific water bodies, or hydrologic units, or ecoregions, the established objective(s) shall be met for all non-target aquatic~~

~~organisms within one year following rotenone treatment. For multi year treatments (i.e., when rotenone is applied to the same water body during two or more consecutive years), the established objective(s) shall be met for all non-target aquatic organisms within one year following the final rotenone application to a given water body.~~

~~Threatened or endangered aquatic populations (e.g., invertebrates, amphibians) shall not be adversely affected. The DFG shall conduct pre-project monitoring to prevent rotenone application where threatened or endangered species may be adversely affected.~~

Toxicity

Chemical residues resulting from rotenone treatment must not exceed the limitations listed above for ~~pesticides~~ chemical constituents.

Chapter 4 Language

Revised Draft -
Pesticide Basin Plan Amendment

The following changes apply to Chapter 4 of the Basin Plan available at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml. Deletions to language are shown in strike-out and additions are in underline. Instructions regarding edits, page numbers, and relocation placement are shown type in 12 point Times New Roman Font in bold type.

Chapter 4, pp. 4.9-21 – 25

~~***Recommended Future Actions for Hatcheries***~~

~~The Regional Board should be advised of routine and other applications of pesticides or other substances potentially containing toxic substances.~~

Rotenone Use in Fisheries Management

The California Department of Fish and Game (DFG) and the United States Fish and Wildlife Service (USFWS) ~~often~~ occasionally has cause to eliminate competitors, predators, and otherwise undesirable fish populations as part of ~~its~~ their fishery management programs. Such management programs may include the restoration or protection of threatened or endangered species, control of fish diseases, elimination of ~~prohibited~~ restricted species, actions to increase the abundance of desirable sport fish species~~,~~ and actions to establish and maintain wild trout stocks.

In carrying out ~~its~~ their management programs, the DFG or the USFWS occasionally ~~often~~ find~~s~~ it necessary to completely eliminate existing fish populations in designated areas; this practice provides ~~optimum~~ conditions for propagation of healthy, desirable fish. The DFG has determined that in certain situations the use of rotenone, a fish toxicant, is the only effective, practical method of achieving this objective.

The discharge of rotenone formulations and the detoxifying agent, potassium permanganate, can violate water quality objectives and adversely affect beneficial uses of water. Impacts may occur both within project boundaries and outside of those boundaries. (Project boundaries are defined as encompassing the treatment area, the detoxification area, and the area downstream of the detoxification station up to a thirty-minute travel time.) ~~Outside of project boundaries, impacts are expected to be minimal. Trace amounts of rotenone or other compounds may escape project boundaries, but these residues do not tend to persist beyond one or two days, and beneficial uses are not expected to be impaired in the long-term.~~

Rotenone treatment is typically followed by the addition of potassium permanganate, which is a strong oxidant used to detoxify the active ingredient(s). ~~In the past, some potassium permanganate has occasionally escaped project boundaries, and has sometimes been visible as much as one or two miles below project boundaries.~~ (Potassium permanganate may cause ~~has~~ a characteristic purple or brown color to waters being detoxified and downstream receiving waters). Unexpected fish kills have also occurred downstream of project boundaries due, at least in part, to permanganate toxicity. However, potassium permanganate decomposes quickly in water and does not persist for more than a day following the end of detoxification. At these levels, potassium permanganate is not considered a health threat to humans.

In addition to the active ingredient, liquid rotenone formulations also contain “inert” ingredients (e.g., carriers, solvents, dispersants, emulsifiers), and may also contain, in trace amounts, organic contaminants. Such “inert” ingredients and contaminants may include naphthalene, methylnaphthalene, xylene, acetone, trichloroethylene (TCE), benzene, and ethylbenzene.

~~Benzene is a known human carcinogen. TCE is a known animal carcinogen, and a suspected human carcinogen. Concentrations of these compounds in rotenone-treated water are expected to meet current drinking water standards. However, the Regional Board expects the DFG to make every reasonable effort to encourage the development of rotenone formulations containing less objectionable compounds, and to prepare annual progress reports.~~

~~Long-term impacts of rotenone use are distinct from short-term impacts. Long-term impacts normally last from two to six years and are expected to be limited to the area within project boundaries. Long-term~~

~~impacts result because the treatments are typically repeated at a given project site for several consecutive years, after which time the treated waters are restocked with fish. During this time, however, most or all fish have been eliminated from the project site. Other gill-breathing organisms (such as aquatic invertebrate and amphibian populations) are also impacted, but are expected to recover over time.~~

~~The long-term impacts therefore consist of a temporary loss of beneficial uses, specifically aquatic habitat and recreational fishing opportunities. In the case of endangered species restoration projects, permanent replacement of existing species with a threatened or endangered species is the project objective, and fishing opportunities for the existing species are permanently lost at the project site.~~

The use of rotenone and detoxifying agents has both short-term and long-term impacts. Short-term impacts (such as toxicity, discoloration, and odors) last only as long as chemical residues from the rotenone treatment persist. ~~These c~~Chemicals are introduced to the water during the treatment and detoxification process, but tend to decompose or volatilize in a matter of hours or days, depending on site conditions. Some chemical residues may be detectable for longer periods, particularly where standing water (i.e. lakes) is treated ~~up to two weeks~~. In addition to effects on aquatic life, short-term impacts can adversely affect aesthetics, recreation, and water supplies. Short-term impacts are generally limited to the area within project boundaries., ~~except on occasions when chemical residues escape beyond these boundaries.~~

Long-term impacts of rotenone use are those that persist after the chemical residues have dissipated. Because rotenone is toxic to all gill-breathing animals, non-target aquatic invertebrates and amphibians are also killed. This may adversely affect non-target endemic species, including undiscovered species or threatened or endangered species, as well as instream assemblages of more common species. The time period for full recovery of instream invertebrate assemblages is unknown, and it is possible that endemic species with limited ranges could be lost entirely. Long-term impacts also result where treatments are repeated at a given project site for multiple years. During this time, most or all fish are eliminated from the project site causing a loss of fishing opportunities until fish are re-stocked after a multi-year project is completed.

As described above, the application of rotenone to surface waters by the DFG or the USFWS will result in a temporary lowering of water quality. The State Board's "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (Resolution No. 68-16) directs that whenever the existing quality of waters is better than standards established in water quality objectives, the existing level of quality shall be maintained. ~~Deterioration of~~ ~~w~~Water quality degradation is permissible only if the Regional Board finds that such a change will be consistent with maximum benefit to the people of the State. Similarly, the ~~F~~federal Antidegradation Policy (40 CFR § 131.12) dictates that water quality shall be preserved unless ~~deterioration~~ degradation is necessary to accommodate important economic or social development.

The temporary ~~deterioration~~ degradation of water quality due to the use of rotenone by the DFG or the USFWS, may be ~~is~~ justifiable in certain situations. The Regional Board recognizes that the State and federal Endangered Species Acts require the restoration and preservation of threatened and endangered species. The Regional Board also recognizes that situations may arise where outbreaks of fish disease or the threat presented by prohibited or exotic species may require immediate action to prevent serious damage to valuable fisheries resources and aquatic habitat. These resources are of important economic and social value to the people of the State, and the transitory degradation of water quality and ~~short-term~~ impairment of beneficial uses that would result from rotenone application may be ~~is therefore~~ justified, provided suitable measures are taken to protect water quality within and downstream of the project area.

~~Pursuant to federal regulations (40 CFR § 131.13), the Regional Board may grant variances to water quality objectives under certain circumstances. Narrative water quality objectives applicable to rotenone treatments include: toxicity, pesticides, color, and species composition (see Chapter 3, "Water Quality Objectives.")~~

~~In 1990, the Regional Board adopted Resolution No. 6-90-43 to allow the conditional use of rotenone by the DFG in the Lahontan Region. The Resolution granted authority to the Regional Board's Executive Officer to waive waste discharge requirements and reports of waste discharge for rotenone application projects meeting the conditions listed below. The Resolution also directed the Executive Officer to execute a~~

~~Memorandum of Understanding with the DFG to facilitate the implementation of rotenone projects within the Lahontan Region. The MOU was executed on July 2, 1990.~~

Control Measures for Rotenone Use and Other Fish Toxicants

~~The Regional Board's Executive Officer may grant conditional variances from applicable water quality objectives for DFG projects involving the use of rotenone, subject to the following conditions. A variance will not be granted for any project that fails to meet these conditions. If a variance is denied, any discharge of rotenone formulation or potassium permanganate may be subject to enforcement action by the Regional Board.~~

The Regional Board may grant the conditional use of rotenone by the DFG or the USFWS, provided the rotenone application is proposed for purposes of (1) the restoration and protection of threatened or endangered species (2) the control of fish diseases where the failure to treat could result in significant damage to fisheries resources or aquatic habitat or (3) the elimination of species (as defined in CA Fish and Game Code § 2118), where competition or predation from such species threatens native fish populations, or populations of other organisms (includes rare, unique, sensitive, or candidates for listing as endangered or threatened species).

The Regional Board may, on a project-by-project basis, grant exemptions for the use of fish toxicants in other kinds of fisheries management activities, when the DFG or the USFWS can provide the necessary justification for allowing a temporary lowering of water quality (i.e. degradation) according to the provisions of the federal Antidegradation Policy (contained in 40 CFR § 131.12) and State Board Resolution No. 68-16.

Before the Regional Board considers an exemption to the prohibition against discharges of pesticides to surface waters, the project proponent must submit a project proposal that satisfies the below criteria. A prohibition exemption will not be granted for any project that fails to meet these criteria.

The following strike-out language is relocated above to the first two paragraphs of *Control Measures for Rotenone Use*. A few minor edits to the relocated language have been made. Text highlighted in gray has been omitted and not relocated.

~~**Conditions:**~~

~~1. The purpose of the proposed project must be one of the following:~~

~~(a) The restoration and protection of threatened or endangered species.~~

~~(b) The control of fish diseases where the failure to treat could result in significant damage to fisheries resources or aquatic habitat.~~

~~(c) The elimination of prohibited species (as defined in CA Fish and Game Code § 2118), where competition or predation from such species threatens valuable sport fish or native fish populations, or populations of other valuable organisms.~~

~~The Regional Board may, on a project-by-project basis, grant exceptions variances for the use of fish toxicants in other kinds of fisheries management activities, when the DFG can provide the necessary justification for allowing a temporary lowering of water quality according to the provisions of the Federal Antidegradation Policy (contained in 40 CFR § 131.12) and State Board Resolution No. 68-16.~~

~~2~~1. Chemical residues resulting from rotenone treatment must not exceed the narrative or numerical limitations established in Chapter 3 of this Basin Plan, under the section entitled "Water Quality Objectives For Fisheries Management Activities Using the Fish Toxicant Rotenone."

~~3~~. ~~Within two years of the last treatment for a specific project, a fisheries biologist or related specialist from the DFG must assess the restoration of applicable beneficial uses to the treated waters, and certify in~~

~~writing that those beneficial uses have been restored. A project will be considered to have been completed upon written acceptance by the Regional Board's Executive Officer of such certification~~

~~4. Based on information and project plans submitted by the DFG, the Regional Board's Executive Officer must determine that the proposed project will meet all applicable provisions (including subsequent amendments or revisions) of this Basin Plan, the DFG's Environmental Impact Report *Rotenone Use for Fisheries Management* (1994), and the Memorandum of Understanding between the Regional Board and the DFG regarding rotenone use. Whenever the language contained in the above-mentioned documents may overlap, the requirements that will provide the most restrictive protection of water quality shall apply. Furthermore, the Regional Board's Executive Officer must determine that the project meets all of the following additional criteria:~~

~~(a) The limitations on chemical residue levels referenced in Condition # 2 (above) can be met.~~

~~(b)~~2. The planned treatment protocol will result in the minimum discharge of chemical substances that can reasonably be expected for an effective treatment.

~~(c)~~3. Chemical transport, spill contingency plans, and application methods will adequately provide for protection of water quality.

~~(d)~~4. ~~Suitable measures will be taken to notify the public, and potentially affected residents.~~ A public notification plan accepted by the Executive Officer.

~~(e)~~5. Suitable measures will be taken to identify potentially affected sources of potable surface water intakes and ground water wells~~intakes~~, and to provide potable drinking water where necessary.

~~(f) A suitable monitoring program will be followed to assess the effects of treatment on surface and ground waters, and on bottom sediments.~~

~~(g) For each project, the DFG has satisfied the requirements of the California Environmental Quality Act (CEQA).~~

~~(h)~~6. The chemical composition of the rotenone formulation has not changed significantly (based on analytical chemical scans to be performed by the DFG or USFWS on each formulation lot to be used) in such a way that potential hazards may be present which have not been addressed.

~~(i)~~7. Plans for disposal of dead fish are adequate to protect water quality.

8. To promote decomposition and minimize persistence of active ingredients and detoxifying agents, rotenone shall not be applied to waters when the water temperature is below five (5) degrees celcius.

9. Pre-project monitoring and mitigation plan to determine the presence of and to protect threatened or endangered species. Where threatened or endangered species are present, appropriate mitigation measures (e.g., temporary or permanent relocation) shall be implemented to lessen adverse effects.

10. A monitoring and reporting program and a mitigation program[1], accepted by the Regional Board, will be followed to assess the effects of treatment on surface and ground waters, and on bottom sediments if specified by the Regional Board. The monitoring plan shall specify, but not be limited to: chemical monitoring methods (for active ingredients, detoxifying agents, and any pesticide "inert" ingredients of concern), biological monitoring methods (pre-project and post-project bioassessment surveys at appropriate test and control sites, sufficient to characterize project impacts and recovery considering spatial and temporal variability), sampling locations, index period(s), frequencies,

[1] The mitigation program must examine potential measures to facilitate the restoration of non-target species to pre-project abundance and diversity. The mitigation program must include a discussion of mitigation measures included and those that were considered but rejected. The project proponent must justify why these measures were rejected as feasible mitigation measures. The requirement to implement mitigation measures may be waived during post-project recovery at the discretion of the Regional Board.

schedule, and QA/QC procedures.

Both the pre-project monitoring and mitigation plan for T&E species, and the monitoring, reporting, and mitigation program for non-target communities shall be peer-reviewed by independent experts. The peer reviewers shall be proposed by the DFG and/or USFWS and shall be mutually agreeable to both the project proponent(s) and the Regional Board.[2]

The biological monitoring plan must be based on an appropriate study design, metrics, and performance criteria to evaluate restoration of aquatic life. The indices used in the assessment must be commonly accepted by the scientific community and accepted by the Regional Board. Biological monitoring shall be designed, and conducted as long as needed, to effectively demonstrate that non-target macroinvertebrate populations have been fully restored. Fully restored means that the structure and function of non-target macroinvertebrate communities have returned to conditions that reflect pre-project conditions. Function will be judged by metrics and indices related to trophic levels (e.g., functional feeding groups) and productivity (e.g., abundance/biomass). Structure will be judged based on metrics and indices related to richness and diversity (e.g., taxa richness, multivariate O/E (observed/expected) model predictions, multivariate ordinations) and presence of sensitive and rare taxa. This definition of "fully restored" shall be provided to the peer reviewers prior to peer review of the monitoring and reporting plan, with instructions to determine whether the monitoring design is capable of determining whether full restoration has been achieved.

Within two years of the last treatment for a specific project, a qualified biologist(s) from the DFG or USFWS must assess the restoration of non-target aquatic life and benthic communities within the treated waters, and if, based on the monitoring data, the evidence demonstrates, certify in writing that all affected non-target biological communities have been fully restored. The certification shall be accompanied by a report detailing the pre-project and post-project monitoring, including detailed explanation of the assessment methods used and the rationale for the certification. Macroinvertebrates shall be identified and classified, and data provided in electronic formats using conventions acceptable to the Regional Board. A project will be considered complete only upon written acceptance by the Regional Board of such report and certification.

If non-target biological communities are not fully restored after two years, the project proponent must conduct continued annual monitoring and implement the proposed mitigation measures until the Regional Board accepts the certification.

The Regional Board acknowledges that projects may occur where the non-target communities do not fully recover to pre-project levels. After five years of annual post-project monitoring, the project proponent may petition the Regional Board to release it from annual monitoring and reporting and mitigation obligations. Such petitions must include: (1) results of mitigation efforts, (2) monitoring trends demonstrating maturity of an asymptotic recovery, and (3) evidence that the ability to attain full recovery has been significantly affected by natural environmental factors (e.g., fires, floods, drought) or catastrophic events (e.g., chemical spills) during the years of monitoring. Annual monitoring shall continue unless and until the Regional Board rescinds the monitoring requirements.

~~The Regional Board recognizes that allowing rotenone use may have unavoidable adverse impacts. Some of these impacts could be mitigated in the long-term through the discovery or development of formulations whose "inert" ingredients (i.e., carriers, solvents, dispersants, and emulsifiers) have less objectionable properties, and which are free of objectionable contaminants. The DFG shall: (1) make every reasonable effort to encourage the development of such formulations, and (2) provide annual updates to the Regional Board (by December 31 of each calendar year) detailing DFG's progress and obstacles encountered during reformulation efforts.~~

[2] The Regional Board can exempt DFG or the USFWS for the requirement of the monitoring & reporting program and mitigation program being externally peer-reviewed.

Recommended Future Actions for Rotenone Use

1. In cooperation with the DFG or the USFWS, monitor projects involving the discharge of fish toxicants to determine impacts on water quality and beneficial uses.

2. In cooperation with the DFG or the USFWS, modify rotenone application, detoxification, and monitoring procedures, whenever measures are identified that will provide greater protection for water quality and beneficial uses.

3. In cooperation with other state and federal agencies, and private entities, encourage the ~~rapid~~ development of rotenone formulations which pose the lowest possible environmental hazards to target species while still achieving project goals. ~~containing less objectionable compounds~~.

Sensitive Species and Biological Communities

Because of its great topographic, geologic and climatic diversity, and because of environmental changes over time which have created ecological islands which facilitate evolutionary change, the Lahontan Region supports a wide variety of plant and animal species and many biological community types. Numerous plant and animal species in the Region are listed as threatened or endangered under the federal Endangered Species Act and/or the California Endangered Species Act (CESA), or are candidates for such listing. Examples include the Lahontan and Paiute cutthroat trout, several kinds of desert pupfish, the Lake Tahoe shorezone plant Tahoe yellowcress, and springsnails which are restricted to a few springs in the Owens River watershed. These and many other sensitive species depend directly on aquatic or wetland habitats for survival. The Lahontan Region also includes water bodies which support rare or unique combinations of species (biological communities). Examples include the Grass Lake sphagnum bog in the Lake Tahoe Basin, the Mono Lake ecosystem, and the springs and wetlands in the Amargosa River watershed. In some cases, these communities have been given special recognition and protection, as U.S. Forest Service Research Natural Areas or Special Interest Areas, U.S. Bureau of Land Management Areas of Critical Environmental Concern, etc. Detailed information on sensitive species and communities in the Lahontan Region can be found in the Department of Fish and Game's (DFG's) Natural Diversity Database, which is updated on an ongoing basis. The Regional Board's Geospatial Waterbody System (GeoWBS) database can also provide information on the presence of sensitive species and communities in association with specific water bodies.

Aquatic and wetland habitats for many sensitive species have been degraded, impaired, or threatened by water diversions and/or the nonpoint source problems (mining, silviculture, livestock grazing, etc.) discussed elsewhere in this Chapter. ~~For example, nonpoint source pollution has contributed to the decreasing clarity of Lake Tahoe and this decreased clarity is believed to be a threat to its unique deepwater macrophyte communities.~~ The human introduction of nonnative predator and competitor species or species capable of hybridizing with sensitive plants and animals is also a problem. Because little chemical or biological monitoring has been done for most water bodies in the Lahontan Region, the habitat requirements of many sensitive species are not well known.

Control Measures for Sensitive Species and Biological Communities

1. The U.S. Fish and Wildlife Service and the California Department of Fish and Game (through the Fish and Game Commission) are responsible for "listing" threatened and endangered species, defining critical habitats, and preparing and implementing recovery plans. These agencies review proposed projects which could affect sensitive species or critical habitats. Under the CESA, state agencies which are lead agencies under the California Environmental Quality Act must consult with the California Department of Fish and Game (DFG) before approving projects with potential impacts on state-listed species. If the DFG issues a determination of "jeopardy," the lead agency must provide for DFG-approved mitigation in order to approve the project. The Regional Board consults with DFG under CESA regarding potential impacts of its Basin Plan amendments, policy changes, and the development projects for which it occasionally takes lead agency responsibility.

2. The Regional Board has recognized existing or potential habitats for sensitive species and biological communities through the "RARE" and "BIOL" beneficial use designations in Chapter 2 of this Plan. Additional water bodies will be so designated as new species are listed or new information about

species distribution becomes available. ~~In 1990,~~ The Regional Board ~~amended its narrative regionwide objective for pesticides to~~ may allow the use of rotenone and other piscicides in treatment of water bodies prior to the reintroduction of threatened or endangered fish species provided these projects (i.e. fish toxicant treatments) comply with the criteria described in Chapter 4 under the section entitled "Exemption Criteria for Aquatic Pesticide Use" under the sub-section titled "Exemption Criteria for Fisheries Management." ~~(see the sections on pesticides and rotenone elsewhere in this Chapter). During future revisions of water quality objectives for specific water bodies, the habitat needs of sensitive species will receive special consideration.~~

Chapter 4.9, p. 4.9-27

Control Measures for Lake/Reservoir Restoration

3. Herbicidal and algicidal chemicals have been associated with major adverse impacts on lake systems, none of which are considered restorative. These impacts include nutrient releases to the water after plant death, dissolved oxygen depletion following plant decay, toxic effects on nontarget organisms at recommended doses, rapid regrowth of plants following treatment, as well as conflicting and unresolved issues regarding the mutagenic and carcinogenic effects of some of the chemicals. Thus, the use of herbicides and algicides for lake/reservoir restoration purposes is strongly discouraged. The Regional Board's regionwide prohibition for pesticides and control measures for pesticides, discussed in Chapter 4, is applicable to the use of herbicides and algicides for lake/reservoir restoration. The Regional Board may grant prohibition exemptions to allow the use of aquatic pesticides for lake/reservoir restoration projects only if the pesticide application project is proposed for the circumstances described in Chapter 4 under the section entitled "Circumstances Eligible for Prohibition Exemption" and according to the criteria under the section entitled "Exemption Criteria for Aquatic Pesticide Use." ~~Any proposals for such uses will be carefully reviewed and regulated by the Regional Board if necessary to ensure that water quality standards will not be violated. The narrative objective of "no detectable pesticides" (see Chapter 3) essentially precludes the use of aquatic herbicides (also see discussion of "Agricultural Chemicals" in the "Agriculture" section of this Chapter).~~

Chapter 4.10, pp. 4.10-4 and 4.10-5

Vector Control and Weed Control

Agricultural chemicals are often employed for non-agricultural uses. For instance, aquatic herbicides are sometimes used for the control of aquatic weeds to improve vehicle access, to enhance recreational opportunities, or for aesthetic reasons. The use of terrestrial herbicides may be proposed for forest management, landscaping, fire control, golf course maintenance, or for other similar purposes. Pesticides are also used by public agencies for vector control (i.e., to eliminate pests and disease-carrying organisms such as mosquitoes).

The Regional Board has asked to be notified by public agencies of any large-scale applications of such chemicals within their jurisdiction. For example, the U.S. Forest Service is expected to notify the Regional Board of plans for chemical applications associated with timber harvest or other forest management activities. The California Department of Food and Agriculture, which is currently responsible for certain pest control programs such as that for the gypsy moth, has been asked to notify the Regional Board of plans for pesticide applications in this Region. The U.S. Bureau of Land Management, in implementing its Noxious Weed Control Program, has been asked to notify the Regional Board of aerial herbicide applications and of any spills in, or near, surface waters. Upon such notification, the Regional Board is able to become involved in the environmental consultation process required by the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). In this way, the Regional Board can ascertain whether potential water quality impacts from such activities will be mitigated.

For smaller-scale applications, such as the use of herbicides for golf courses or other turf areas, the Regional Board has adopted waste discharge requirements which include control measures for herbicide use. The Regional Board may wish to have staff review projects on a case-by-case basis, in order to determine whether there is any potential for water quality impacts and if waste discharge requirements are necessary.

In some instances, use of these substances will have unavoidable water quality impacts, particularly in situations where the chemicals are applied directly into or near surface water (such as aquatic weed control or vector control). In these cases, the use of such chemicals can result in the violation of water quality objectives for ~~pesticides and~~ toxic substances, as well as in the violation of waste discharge prohibitions. Federal regulations (40 CFR § 131.13) allow the Regional Board to grant conditional variances to water quality objectives under certain circumstances. Additionally, the Regional Board may allow the use of pesticides for purposes of vector control provided the project is conducted under the circumstances described in Chapter 4 under the section entitled "Circumstances Eligible for Prohibition Exemption" under the subsection entitled "Vector Control" and according to the criteria described in Chapter 4 under the section entitled "Exemption Criteria for Aquatic Pesticide Use" under the subsection entitled "Exemption Criteria for Vector Control." Furthermore, pursuant to Section 13269 of the California Water Code, the Regional Board may waive the need for waste discharge requirements and reports of waste discharge, for specific types of discharge, where such a waiver is in the public interest. Such actions nevertheless must conform to State and federal nondegradation requirements. Although these policies do allow limited decline in water quality when the State finds that an overriding public benefit will result, both the federal and State policies require that water quality be maintained at a level sufficient to protect existing beneficial uses. USEPA guidance on variances from water quality standards is summarized in Chapter 3 of this Basin Plan under "General Direction Regarding Compliance With Objectives."

Chapter 4.10 , p. 4.10-5
Control Measures for Agricultural Chemicals

Regional Board Control Actions

Chapter 4 includes a prohibition against discharges of pesticides to surface or ground waters. The Regional Board may grant an exemption to the pesticide prohibition for projects that propose to apply aquatic pesticides for purposes of protecting public health (e.g., vector control) or natural resources (e.g., fisheries management, control of aquatic invasive species infestations) provided the project is proposed under the circumstances and according to the criteria detailed in Chapter 4. ~~Chapter 3 of this Basin Plan includes a narrative water quality objective for pesticides which states that pesticide concentrations in waters of the Region shall not exceed the lowest detectable levels, using the most recent detection procedures available. (This objective was amended in 1990 to provide limited exemptions for the use of rotenone by the California Department of Fish & Game.)~~

The use of agricultural chemicals shall be further regulated by ~~implementing~~ relevant provisions of the State Board's Nonpoint Source ~~Management~~ Program Plan, ~~and, once adopted, the plan~~ which guides~~ing~~ implementation of the State Board's 1991 MOU with the Department of Pesticide Regulation. Some pesticides are also included in the California Department of Health Services' Proposition 65 list of carcinogens which should not be present above "action levels" in sources of drinking water. (Proposition 65 is discussed in the "Spills, Leaks, Complaint Investigations and Cleanups" section of this Chapter.)

The ~~narrative water quality objective for pesticides~~ pesticide waste discharge prohibition and the applicable exemption criteria that must be satisfied to grant a prohibition exemption, ~~and nondegradation objectives for water quality and aquatic communities and populations~~, are important considerations in the Regional Board's regulation of discharges ~~which may include~~ of pesticides. ~~These objectives essentially precludes~~ the ~~use of aquatic pesticides or the direct discharge of pesticides to surface waters.~~

Chapter 4.10, pp. 4.10-6

Recommended Future Actions for Agricultural Chemicals

In cooperation with other appropriate local, state, and federal agencies, and private landowners, the Regional Board should:

- Encourage the State Board to develop a monitoring program to detect water quality trends related to agricultural chemicals, identify problem areas, and determine the needed levels of action.

- Review proposals for weed control and vector control ~~projects~~ and invasive species control on a case-by-case basis and consider ~~adopting Basin Plan policies and/or waivers to allow~~ allowing qualified projects to proceed by granting an exemption to the pesticide prohibition.

Chapter 5 Language

Revised Draft -
Pesticide Basin Plan Amendment

The following changes apply to Chapter 5 of the Basin Plan. Deletions to language are shown in strike-out and additions are in underline. Font sizes are as they appear in the Basin Plan available at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml. Instructions regarding edits, page number locations, and relocation placement are shown in 12 point Times New Roman Font in bold type.

Chapter 5.1, pp. 5.1-7, 5.1-8

~~**Pesticides**~~

~~For the purposes of this Basin Plan, pesticides are defined to include insecticides, herbicides, rodenticides, fungicides, piscicides and all other economic poisons. An economic poison is any substance intended to prevent, repel, destroy, or mitigate the damage from insects, rodents, predatory animals, bacteria, fungi or weeds capable of infesting or harming vegetation, humans, or animals (CA Agriculture Code § 12753).~~

~~Pesticide concentrations, individually or collectively, shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation of pesticides in aquatic life.~~

~~Waters designated as MUN shall not contain concentrations of pesticides or herbicides in excess of the limiting concentrations specified in Table 64444-A of Section 64444 (Organic Chemicals) of Title 22 of the California Code of Regulations which is incorporated by reference into this plan. This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.~~

Though applicable for fisheries management projects in the Lake Tahoe Basin, the following language will be struck from Chapter 5, since this language is mentioned previously in Chapter 3. Additionally, Chapter 5, p. 5.16-2, clearly states that projects proposing to use rotenone for use in waters of the Tahoe Basin must comply with the Exemption Criteria for Fisheries Management, which require compliance with criteria described in Chapter 3 in the sections entitled (1) Water Quality Objectives for Fisheries Management Using the Fish Toxicant Rotenone."

Chapter 5, pp. 5.1-10

~~***Water Quality Objectives for Fisheries Management Activities Using the Fish Toxicant Rotenone***~~

~~Rotenone is a fish toxicant used by the California Department of Fish and Game (DFG) for fishery management purposes. (See Chapter 4 for a more complete discussion of this topic.)~~

~~The application of rotenone solutions and the detoxification agent potassium permanganate can cause several water quality objectives to be temporarily exceeded, both inside and outside of project boundaries. (Project boundaries are defined as encompassing the treatment area, the detoxification area, and the area downstream of the detoxification station up to a thirty-minute travel time.)~~

~~Additional narrative water quality objectives applicable to rotenone treatments are: color, pesticides, toxicity, and species composition. Conditional variances to these objectives may be granted by the Regional Board's Executive Officer for rotenone applications by the DFG, provided that such projects comply with the conditions described below and with the conditions described in Chapter 4 (Implementation) under the section entitled "Rotenone Use In Fisheries Management"~~

~~**Color**~~

~~The characteristic purple discoloration resulting from the discharge of potassium permanganate shall not be discernible more than two miles downstream of project boundaries at any time. Twenty-four (24) hours after shutdown of the detoxification operation, no color alteration(s) resulting from the discharge of potassium permanganate shall be discernible within or downstream of project boundaries.~~

~~**Pesticides**~~

~~Chemical residues resulting from rotenone treatment must not exceed the following limitations:~~

1. ~~The concentration of naphthalene outside of project boundaries shall not exceed 25 ug/liter (ppb) at any time.~~

2. ~~The concentration of rotenone, rotenolone, trichloroethylene (TCE), xylene, or acetone (or potential trace contaminants such as benzene or ethylbenzene) outside of project boundaries shall not exceed the detection levels for these respective compounds at any time. "Detection level" is defined as the minimum level that can be reasonably detected using state-of-the-art equipment and methodology.~~

3. ~~After a two-week period has elapsed from the date that rotenone application was completed, no chemical residues resulting from the treatment shall be present at detectable levels within or downstream of project boundaries.~~

4. ~~No chemical residues resulting from rotenone treatments shall exceed detection levels in ground water at any time.~~

~~**Species Composition**~~

~~The reduction in fish diversity associated with the elimination of non-native game fish or exotic species may be part of the project goal, and may therefore be unavoidable. However, non-target aquatic populations (e.g., invertebrates, amphibians) that are reduced by rotenone treatments are expected to repopulate project areas within one year. Where species composition objectives are established for specific water bodies or hydrologic units, the established objective(s) shall be met for all non-target aquatic organisms within one year following rotenone treatment. For multi-year treatments (i.e., when rotenone is applied to the same water body during two or more consecutive years), the established objective(s) shall be met for all non-target aquatic organisms within one year following the final rotenone application to a given water body.~~

~~Threatened or endangered aquatic populations (e.g., invertebrates, amphibians) shall not be adversely affected. The DFG shall conduct pre-project monitoring to prevent rotenone application where threatened or endangered species may be adversely impacted.~~

~~**Toxicity**~~

~~Chemical residues resulting from rotenone treatment must not exceed the limitations listed above for pesticides.~~

The proposed amendment would insert the following language in Chapter 5.2, Lake Tahoe Basin, "Waste Discharge Prohibitions", immediately preceding "Regionwide Prohibitions".

<u>For regionwide prohibitions, where a decision is tasked to the Regional Board, the term "Regional Board" includes the Executive Officer where the Regional Board delegates such authority.</u>

The proposed amendment would insert the following language in Section 5.2, Lake Tahoe Basin, "Waste Discharge Prohibitions, Regionwide Prohibitions" immediately after Waste Discharge Prohibition 4:

5. The discharge of pesticides to surface or ground waters is prohibited.[1]

The following language should be included in a separate paragraph immediately following the proposed prohibition no. 5 in Section 5.2. and immediately before "Regionwide Exemption Criteria for Restoration Projects."

Specific projects may be eligible for an exemption to this prohibition. Refer to Chapter 4.1 of the Basin Plan to determine eligible circumstances and criteria that must be satisfied for consideration of an exemption.

Chapter 5, p. 5.16-2

Pesticides

Although there is no agricultural use of pesticides in the Lake Tahoe Basin, potential water quality problems from pesticide use in landscaping, turf management, silviculture, and wood preservatives are of concern. High levels of tributyltin (TBT), an antifouling compound formerly used in boat paint, have been measured in and near a marina in Lake Tahoe. Rotenone has been used for fisheries management in some waters of the Tahoe Basin.

~~Regionwide water quality objectives, and related objectives for nondegradation and toxicity, essentially preclude direct discharges of pesticides such as aquatic herbicides~~. The Lahontan Regional Board's regionwide prohibition for pesticides and control measures for pesticides, discussed in Chapter 4 of this Basin Plan, are applicable in the Lake Tahoe Basin. Exemptions to this regionwide prohibition may be granted as described in Chapter 4.1 provided the application of aquatic pesticides is proposed for the circumstances described under the section entitled "Circumstances Eligible for Prohibition Exemption" and according to the criteria under the section entitled "Exemption Criteria for Aquatic Pesticide Use." As described in Chapter 4.1, projects proposing to use rotenone for use in waters of the Tahoe Basin must comply with the "Exemption Criteria for Fisheries Management," which require compliance with criteria described in Chapter 3 in the section entitled (1) Water Quality Objectives for Fisheries Management Using the Fish Toxicant Rotenone."

The 208 Plan (TRPA 1988, Vol. I, page 102) notes that because of its harsh climate, short growing season, and high elevation, the Lake Tahoe Basin has fewer insect and fungal pests than many other areas in California and Nevada; however, there is some pesticide use for silviculture and turf management. The 208 Plan recognizes that controls are needed on the use of pesticides to ensure that detectable levels of toxic substances do not migrate into the surface or ground waters of the

[1] Compliance with this prohibition will be assessed or measured by evidence of pesticide application to liquid water or by analyzing water samples (from either surface or ground waters) for the presence of pesticides. Therefore, proper application of terrestrial pesticides directly to plants or animals located in a surface water (as defined by the Water Code) under dry conditions or directly to land adjacent to surface water should not (1) result in a violation of the prohibition, (2) require the project proponent submit an exemption request to the Regional Board, nor (3) require the Regional Board to consider exemptions to the prohibition.

Dry condition example: The application of terrestrial pesticides to the dry stream beds of ephemeral streams would not require a prohibition exemption since this situation involves pesticide application under a dry condition (i.e., no liquid water is present in the ephemeral stream).

Adjacent to surface water example: The application of terrestrial pesticides along a canal to kill weeds and help maintain structural stability would not require a prohibition exemption since this situation involves pesticide application to land, not liquid water.

region, but also recognizes the possibility of limited exceptions for the use of rotenone in fisheries management.

The 208 Plan states (Vol. I, page 154) that the use of insecticides, fungicides, and herbicides shall be consistent with the BMP Handbook (TRPA 1988, Vol. II), and that TRPA shall discourage pesticide use for pest management. Prior to applying any pesticide, potential users shall consider integrated pest management (IPM) practices, including alternatives to chemical applications, management of forest resources in a manner less conducive to pests, and reduced reliance on potentially hazardous chemicals.

The 208 Plan provides that only chemicals registered with the USEPA and the state agency of appropriate jurisdiction shall be used for pest control, and then only for their registered application. No detectable concentration of any pesticide shall be allowed to enter any SEZ unless TRPA finds that the application is necessary to attain or maintain its "environmental threshold carrying capacity" standards. Pesticide storage and use must be consistent with California and Nevada water quality standards and TRPA thresholds.

The 208 Plan recognizes that antifouling substances painted on the hulls of boats, such as TBT, may contribute to water quality problems. California legislation in 1988 prohibited the use of TBT paints except on aluminum vessel hulls and vessels 25 meters or more in length. Vessels painted with TBT before January 1, 1988 may still be used, but may not be repainted with TBT so long as they comply with other applicable requirements. The USEPA has also banned the use of TBT on non-aluminum hulls of vessels less than 82 feet in length and has limited the release rate of TBT from other hulls to 0.4 ug/cm^2/day. [The prohibition against discharges of pesticides to surface waters ~~"no detectable pesticides" water quality objective~~ in this Basin Plan is ~~probably~~ more stringent than this effluent limitation.] Controls on antifouling coatings and boat and marina maintenance practices are necessary to protect Lake Tahoe from the addition of toxic substances from this source. The 208 Plan (Vol. I, page 158) provides that antifouling coatings shall be regulated in accordance with California and federal laws, by the Lahontan Regional Board and TRPA. The BMP Handbook incorporates the California and federal restrictions on use of paints containing TBT, and applies those restrictions to all portions of the Tahoe Region.