



IDAHO CHAPTER
THE WILDLIFE SOCIETY

10658 Winterhawk
Boise, Idaho 83709
December 26, 1979

NATIONAL HEADQUARTERS
SUITE 5176
3900 WISCONSIN AVE. N.W.
WASHINGTON, D.C. 20016

Dawn Stram Statham
Rule-Making Coordinator
Custodian of the Records
Administrative Procedure Section
Department of Health and Welfare
450 West State, 9th Floor
Boise, ID 83720

Dear Ms. Statham,

The Idaho Chapter of The Wildlife Society is submitting the following comments regarding the proposed amendments to the "Rules Governing Water Quality Standards and Wastewater Treatment Requirements," Title 1, Chapter 2, Rules and Regulations of the Department of Health and Welfare. Some of the proposed changes could have a significant impact on the fisheries and wildlife of Idaho, and we sincerely hope the following comments will be fully considered in the final rule-making process. The overall affect of the proposed amendments is to weaken the standards. This, the Society strongly opposes.

A major concern of the Society is the adoption of S.C.R. 117, which would allow unnecessary and unacceptable degradation of water quality below hydroelectric facilities, and the proposed changes in Water Quality Standards for use classifications, which would lower the dissolved oxygen standards to 5 mg/l and raise the un-ionized ammonia standard to 0.04 mg/l. If enacted, these actions could have a significant adverse impact on the fisheries and aquatic ecosystems of the state.

Enclosed are specific comments the Society has compiled on the proposed changes. We request that they be made a part of the hearing record. If you have any questions, please contact Mr. Bruce Bocard at 334-1960.

Thank you for the opportunity to comment.

Sincerely,

James F. Gore, Chairman
Environmental Issues Committee

Bruce Bocard

Enclosure

cc: Area Manager, U.S. FWS, Boise, ID
Dr. Lee Stokes, Director, Dept. of Health & Welfare
Idaho Conservation League
Idaho Environmental Council

- .08 Desireable Species. The Society opposes this amendment, which identifies the Department of Fish and Game as the final authority in determining whether or not a species is desireable. The Society believes it would be more appropriate for the decision of classifying a species as desireable to be vested in a joint committee which would not be subject to political pressure in its decision-making process. We suggest that such a committee include representatives from the Department of Fish and Game, the U.S. Fish and Wildlife Service, the Idaho Natural Areas Coordinating Committee, the Idaho Chapter of the American Fisheries Society, and other Fish and Wildlife organizations.
- .24 Special Resource Water. We see no reason to weaken the classification and change the name from "Outstanding Resource Water" to "Special Resource Water".
- .38 Unique Ecological Significance. The Society strongly disagrees with this change. Lake-dwelling fish species should be considered to be of ecological significance based solely on their biological status. Any determination of the status of Lake-dwelling fishes should be made by a joint committee, as in our comments (1-2003.08) above to avoid possible classification based on other than biological considerations.

1-2102 SPECIAL RESOURCE WATER

As per our comments above, the Society opposes the proposed change from "Outstanding Resource Water" to "Special Resource Water".

.01 (f) We are opposed to the proposed change. The Society believes that waters should be classified solely on the basis of their quality and other characteristics, and that threat to these characteristics should not be used as a classification criteria. The necessity of a beneficial use being jeopardized before a water could be classified as "Outstanding", when coupled with the large delays and politics that would result before classifying new "Outstanding" water, would almost guarantee the destruction of some of Idaho's best quality waters.

.03 Provisional Designation. The Society can see no reason why the provisional "Outstanding Resource Water" designation should be eliminated. The provisional classification would be very useful in instances where significant water quality changes were proposed but insufficient biological data was available on the resources of the water and potential impacts on those resources. We urge the retention of this classification.

1-2250 WATER QUALITY STANDARDS FOR USE CLASSIFICATIONS

.04 Cold Water Biota. The Society strongly opposes raising the standards for un-ionized ammonia from 0.02 to 0.04 mg/l. The

1976 EPA criterion for un-ionized ammonia was 0.02 mg/l, and review of this standard by the American Fisheries Society indicated that it was probably satisfactory for freshwater salmonids. The 0.02 mg/l was also recommended by the National Academy of Science and the International Joint Commission.

The proposed standard of 0.04 mg/l is not supported in any of the scientific literature available on ammonia, and is higher than levels which have had chronic effects on freshwater salmonids. Studies cited by the American Fisheries Society have shown that un-ionized ammonia concentrations as low as 0.002 mg/l have caused gill hyperplasia in fingerling chinook salmon, and that rainbow trout exposed to 0.01 mg/l $\text{NH}_3\text{-N}$ showed reduced growth rates and severe pathological changes in gills and liver tissues. Carp suffered extensive necrobiotic and necrotic changes and tissue disintegrations in various organs at concentrations of un-ionized ammonia between 0.04 and 0.2 mg/l. The data suggests that even sustained un-ionized ammonia levels of 0.02 mg/l may have chronic toxic effects on fish populations.

The effects of un-ionized ammonia on fish can vary significantly with differences in temperatures, dissolved oxygen, carbon dioxide, and other factors. The European Inland Fisheries Advisory Council found that for temperatures below 5° C (which would include many streams in the batholith during much of the

year, and most water in Idaho during part of the year) the maximum permissible concentration of un-ionized ammonia may be less than 0.025 mg/l. Several investigations have found that the toxicity of un-ionized ammonia also increases with a reduction of dissolved oxygen concentrations. Mixed effluents, with un-ionized ammonia present in waters containing phenols, zinc, and other chemicals showed that the effects of ammonia toxicity were variable; in some cases the ammonia was more toxic, and in others less toxic, than expected. The major result of mixed effluent studies has been to show that toxic levels of un-ionized ammonia may vary significantly with differences in pH, alkalinity, hardness, and other factors.

Based on this data, the Wildlife Society must oppose any un-ionized ammonia standards in excess of 0.02 mg/l as being biologically unsound and potentially dangerous to Idaho's fish populations.

.05 Salmonid Spawning

- a. The Society strongly opposes lowering the dissolved oxygen standard from 6 mg/l to 5 mg/l. Although the EPA in the 1976 Redbook recommended that 5 mg/l levels of dissolved oxygen be recommended for salmonid spawning grounds, these levels have been strongly criticized by fisheries biologists as being inadequate and based on incomplete

data. The EPA criterion does not adhere to the National Academy of Sciences criteria, and does not reflect regional variations in physical and chemical regimes or existing natural oxygen levels in aquatic ecosystems having seasonal variability.

The EPA data has been severely criticized by the American Fisheries Society, which cites numerous studies not considered by the EPA to show that threshold oxygen response levels affecting fish behavior, egg and larval development, food consumption and growth, circulatory dynamics, and other physiological responses for a number of species lie well above the 5 mg/l criterion.

Because the data upon which the 5 mg/l criterion is based is considered by many reputable fisheries biologists to be incomplete and biologically unsound, the Wildlife Society opposes lowering the dissolved oxygen standard from 6 mg/l to 5 mg/l. We also strongly urge that the original standard of 90% of saturation be re-established, as this is the most defensible and sound standard, from a biological perspective, which is presently available.

- b. The Society strongly opposes raising the un-ionized ammonia standards from 0.02 mg/l to 0.04 mg/l, for the reasons stated in 1-2250.04 above.

1-2227B SNAKE RIVER - AMERICAN FALLS DAM TO LAKE WALOOTT

The Society recommends a minimum level of dissolved oxygen of 6 mg/l.

1-2300 RESTRICTION ON DISCHARGES AND ON ACTIVITIES WHICH AFFECT WATER
QUALITY

.01 Point Source Discharges to Special Resource Waters and their Tributaries

The Society opposes the exclusion of dams and hydroelectric generating facilities from those activities which cannot cause pollution and degradation of outstanding natural resource waters. We believe that a designated outstanding resource water should be protected from all forms of pollution and degradation, not just those from industrial or other sources. We also question the advisability of restricting point sources of pollution only in regard to pollutants significant to beneficial use. Many streams have healthy fish and wildlife populations and high recreational value because of a clean environment. We would oppose any lowering of standards which would allow water pollution levels acceptable for body contact sports, but would exceed levels tolerable for salmonids. We urge that, in a multiple use situation, the standards be set to allow no more degradation to occur than can be tolerated by the most sensitive beneficial use.

1-2301 SHORT TERM ACTIVITY EXEMPTION

.01 Short Term Activity Authorization. The Society opposes the removal of the one year limit on Department or Board authorization for specific activities which violate water quality standards. Although not opposed to possible renewal of short-term activity authorization, we believe that permits for such activities need to be limited in duration and subject to periodic review (at least once a year) to ensure that any degradation/activities do not become permanent under these permits. The Society also questions the elimination of the former Section .01, which set up a formal exemption request format, which included what we feel are necessary items, such as the nature, location and duration of activities violating water quality standards, possible alternatives and why they were not selected, and other pertinent data. We believe that this, or a similar request form, should be required for any exemptions to water quality standards.

The Idaho Chapter of The Wildlife Society also strongly opposes adoption of S.C.R. 117, which would lower dissolved oxygen standards from 6 mg/l to 5 mg/l below hydroelectric facilities. Because of the data presented above (Section 1-2250.05 a) we believe that this is not a biologically sound standard, and could have a detrimental impact on fish populations in the affected areas.