

Symposium on Arid Areas December 11, 2002

NOTE: This summary represents an attempt by WGA staff to capture the discussion during the symposium. Neither the discussion nor this summary represents positions of WGA.

Gary Beach – Background of arid land issues.

- Legislative Rule on Policy needs.

Definitional Problems

- Effluent dependent
- Effluent dominated
- Ephemeral & Intermittent Streams

Need to refine use designations?

- CWA – fishable/swimable
- Applicability of UAA requirements?
- What are attainable use or ephemeral?
- Marginal habitat cores. Streams?

Ephemeral versus Intermittent streams

- Definitional problems
- Some states provide no protections or protected by tributary rule.
 - Protection for dry streams. Do we protect them at all?
How far does it go? Does it pertain to dry streams that only carry water from rainstorms? Effluent system being added to protection.
- Some states have specific designated uses based on type of stream.
- Some states, because of broad designated uses do not have specific designated uses for these streams.
- Some states using UAA to refine designated uses.

Effluent Dominated/Dependent Streams

- Definitional problems
- Washington uses Net Ecology Benefit in judging level of effluent limits.
- How do we deal with the gradual ramping up of uses on these streams?
- Effluent dominated – we protect.

Man-Made Conveyances (Irrigation Ditches)

- Add man-made conveyances are to be protected. Are these waters of the nation?
- Perennial versus intermittent flow (designated use again)
 - There are 2 types perennial that support fish then those that flow for irrigation which are regulated by state.
- Jurisdiction – state versus federal connectivity to waters of U.S.
 - EPA jurisdiction on connectivity.
- Some states are prohibited from regulation.

Minimum flows

- All realize flow effects health and maintenance of designated use.
 - Minimum flows to protect designated use aquatic life, etc.
- Most states water quality regulations are trumped by water rights.
 - All states realize that the flow affects the health of the flow of perennial streams and even designated use if depleting the flow then you affect the fish, etc.
- Even states with minimum flow statutes are junior rights.
 - States have no right to regulate the flow of water but they can get a water right to use as designated. But these rights are junior and may not be able to have the water needed.
- Washington may be a model, where both water quality and water rights are in some dependant and water rights holders don't have the right to pollute. Water quality regulations may be broken if they need to use the water in WA for other uses that pollute the system.

Bio Criteria

- Mixed bag on who is developing bio criteria.
- All use a standard, except Oregon is developing a numeric.

Karen Smith – Arizona DEQ looks at ephemeral and intermittent streams. Excluding Indian lands, there are 95,000 miles of intermittent stream land in AZ & 78,000 ephemeral streams. Ephemeral is dry most of the time. Intermittent are free flowing. Does Clean Water Act apply to these streams? Yes and should be regulated under the Clean Water Act. Intermittent is to be used for recreation and there is fish & shellfish that can be sold & can be used for industrial uses. This is subject to regulation. Ephemeral waters are not regulated under the clean water act. 85% of waters are ephemeral waters. They are due protection though because they are used for public uses. There is a case law that is supportive for ephemeral waters. US v Phelps Dodge – Quavira Mining v EPA challenged EPA's rights to regulate – looking at a small oil spill that occurred in the waters of the US - Cook County v Corp County of Engineers – Rice v Harkin discharged pollutants into Big Creek. In Arizona how should these waters be regulated? What survyance waters are regulated as intermittent and ephemeral waters. Intermittence are regulated in AZ as a perennial waters are as public use waters. Water quality standards for ephemeral waters for aquatic use. Appealed to EPA the chronic toxicity standards. Regulate point source discharge. Developed appropriate water quality for these streams. There needs to be more research to develop water quality for the ephemeral and intermittent streams. Program for water quality standards using the help of EPA but the funding is not there to carry it to the next level of research.

Questions

How is the research money going from EPA?

Looking for data that is specific to arid issues but we don't need to fund a big program. There is not a preference as to where the \$ goes. There does need to be appropriate criteria.

What is the water quality standard?

Has not been modified but it only applies to affluent systems and is regulated by the discharge to preserve the effluent system. Conditions apply to this.

Bill DiRienzo – Effluent dependent streams is my main topic. There is not a lot of consistency with the criteria for the clean water act. Wyoming is dealing with the effluent dependent issues by looking at what the streams are permitted at what water quality criteria should apply and who decides the decision of the water. See PowerPoint presentation.

Pictures - Ephemeral streams are mostly like arroyos with no aquatic life. Sand Creek has been approved. White Tail Creek only flows in response to precipitation.

Ponch reservoir – chloride is the major problem with this water source and may not be designated as an Effluent streams and may not support aquatic life.

Oil stream that flows into a reservoir that is used by local ranchers and holds aquatic life.

Paul Frohardt – Effluent dependent is an on going discharge. The survey responses have been ranging from these waters are not any different that aquatic designated waters & if the uses prior to the discharge than they are protected. Colorado has different criteria for ammonia and there may be one or more criteria. Some states say these are protected for the uses that exist at the time. One state says that the waters designated for specific uses may be. If the discharge creates adequate flow for the water then they are protected. Some waters that are effluent dominated then they are untouched. If there is aquatic life before or after the discharge then they should be protected. Does the aquatic life that exists before the discharge need to be protected in all circumstances? Should the additional flow of the discharge that creates additional or different aquatic life be protected? What is the actual test to see what is attainable? Look at the question of criteria once the questions of uses is address. Are there different criteria for effluent or should it be

determined by area? Effluent dominant waters with a water supply down stream should there be additional protection?

Question

Review that applies to streams?

Wyoming there is a review system for the streams depending on the type of streams to maintain the standard of the waters.

Leo Drozdoff –

Man Made Water Conveyances – Nevada’s perspective - PP presentation

Nevada as shown on the map does not have a lot of water due to the arid climate.

Truckee River – controversy that is on going because of the flow being diverted to the areas of mass farm use and irrigation. When the dam was put into place in 1902 the thought of the environmental affects that occur now in the Pyramid Lake area for the Cutthroat Trout and the Cui iu fish. A fair amount has been done to correct these problems due to the Endangered Species Act.

Walker River Irrigation District – been funded to give more water to all that is needed by the farmers and the Piute Reservation.

319 Funds have been directed to the standards being developed on the non-point source areas.

Questions

Is the process to remove effluent discharge form the Las Vegas Wash?

No not at the moment but there is going to be something developed to begin the removal from the Wash. There is no contemplation on removing water from the wash.

Bill McConnell –

Frame issues of Biocriteria, Bioassessment and Aquatic life that has been put in effluent systems. Is the clean water act doing the job? Question F on the Survey can be answered in a short form but it is very hard to answer. These affect the states and tribes to try to find out what needs to be done to bring the process together.

Overheads

Narrative bio criteria in the US and what each state has in the numeric, and other forms.

Use of bio assessments in the states

Percent of total stream/river miles assessed in ea state based on bio criteria

Benthic macro-invertebrates

Fish

Bio criteria that describe the aquatic life and designation in each state. The common element in this is the concept of the reference condition, which is the desired condition to set the base mark for the comparisons. How do you define reference conditions? It is a policy issue. With more funding it would be best to work the biocriteria into each states.

Overheads

States that use the reference conditioning

Expected condition

Three tiers

Minimally disturbed natural

Least disturbed, best available, best attainable

No actual reference sites exist

Questions

Each time you do a case study do you have to get approval from EPA on fishable, usable areas in Wyoming?

Yes we apply attainability analysis on the effluent waters. EPA will not approve the removal of aquatic life on effluent sources.

Has there been any sharing of species between the states of information?

Yes there has been much more sharing and many more reference sites.

Are there any states doing bioassessments and how they are using it?

There can't be as standard EPA regulation.

Are there any case studies to assess the appropriate biocriteria for the canal or stream cases?

Eagle River spent 5 years to do a site-specific biocriteria for the clean up. Urban streams are highly managed to make since of the reference conditions. Now the state of CO is trying to find out what we expect the conditions to be.

Paul Frohardt – Create discussion on the AWWQR project

Ed Curley – AWWQR Project PP presentation

Richard Meyerhoff – continue presentation

Bob Gensemer – Extent Criteria Evaluation: Project Summary

Richard Meyerhoff – continues presentation

Ed Curley – closing comments – Looking Ahead

Questions

Intermittent is it the Effluent dominated system?

Yes

Do you take a look at reference reaches for those sites?

It is difficult to get a handle on it.

Is it as possibility to get the projects together?

We are putting together the projects.

1PM Panel

Peter Grevett – Federal perspectives is arid areas issue appropriate. This scheme is what we've got to work with. These issues are ones that aren't only in the west but the west has the most arid areas than others. How do we step back and address the problems we're talking about? The flexibility in the regulation is very important and you see it in the regulation. Arizona is a real success in Region 9 in coming up with more meaningful ways of dealing with intermittent and ephemeral. Look at success from other states. Think about issues in the watershed context. Addressing a lot of issues through guidance.

Suggestions:

1. Research money to study appropriate criteria, standards and uses.
2. Regulatory guidance for conceptual model for regulating ephemeral and effluent dominant.
 - a. Permit writers' manual.
3. Should catalog successes in the different states and make available broadly.
4. UAAs need reform or readdressing in order to be more usable by states for possible training.
5. There needs to be a stronger database for fish species in the West.
6. Look at Ohio for 'tiered' approach
7. There needs to be research objectives that are tied to landscape, i.e., to real needs.

Questions

Are changes in UAAs consistent?

Working on UAA guidance & work with states to deal with the UAA issues. UAA: need reform or addressing in order to be more usable by states and figure out if there needs to be training.

Stronger data base for fish species in the West. Karen in AZ

In region 10 approval is a big issue and the backlog because it does take so long. The goal is to get the states working close with the regions and headquarters.

Chuck Suffin – How do you develop & implement water quality standards in the West? These issues are being addressed in perennial waterways in other areas of the country. Water quality standards that we have now came from the 60's. Now with the TMDL program we can't fudge things to make them work any more. We need clear definitions of what we are discussing. There is different biological life in the streams down stream. TMDL can't be written that are going to violate the water quality standards. Current regulations for water quality standards are pretty flexible and this is seen in the Ohio area and Arizona. The flexibilities are the uses, the criteria (standard is attainable or not when you look at the TMDL criteria), and interpretation of standards, implementation guidelines, assessment methodology and TMDL standards. Urge to look at addressing these issues by looking at the standards for particular water areas. Target levels on TMDL. Recommendation to use the standard process along with the TMDLs and watershed planning all together so it is more available to the public. New rules on the watershed planning, TMDL, integrated reporting.

Questions

What guidance document are you talking about & is it available?

Water quality standard strategy document is on EPA web site.

When is watershed rule coming out?

This spring.

What are tiered criteria?

You can have one use for aquatic life or you can have many uses for aquatic life in the streams & this need to be addressed in the rule.

The watershed rule is being slowed down & what is causing this to happen?

Agricultural groups are using this to get more.

Environmental groups want the existing rule to stay in affect. Do we keep the 2000 rule or differ it.

Is the final going to have further guidance?

Once the strategy is adopted then implementing is the challenge. The strategy is a road map to get to the important issues the states are raising.

Mike Somerville – Achieving Water Quality PP presentation
If your state is not working with the NRCS then it would be good to begin working with them on the water quality issues raised here today.
NRCS works with the states to provide, technical & financial assistance along with education, training, technology transfer & demonstration.

Encouraged to hear more people talking about new research. Pima project is important and helpful in tying objectives to the landscape and real needs in the West.

Questions

What is the most important thing EPA/Peter Grevett?
Region 9 develops the Net Ecological Benefit Policy but it has never been used. How do we make it to where that policy is used?

Recommendations – practical solutions:

1. UAAs for effluent water bodies using net ecological benefit.
2. EPAs ideas on NEB what is the prime directive?
 - a. Try to stay focused on what is practical but if there is a shift in the NEB can't be determined. The target level for the water quality is either you're above it or too far below.
 - b. Use of anti-degradation doesn't always work well. Water quality standard is a line rather different target criteria. This changes over time.
3. There needs to be communication and the UAAs are a good guideline.
4. UAAs could use the TMDL process to advance them. This is being done in WA. Use the resources in the TMDLs to guide the UAAs. Integrating the programs together brings the public into the knowledge of what is going on.
5. Under the new rules of the water quality
6. When region 9 developed the discharge guidelines the streams dried up.

Panel 2

Pictures - Canals in the west that are under survey to manage the phoenix metro area water supply but the water quality is declined and look really bad.

Urban lakes have various functions but the primary importance is if they meet the water quality standards. So the issue is whether or not they should be kept.

Salt River bed water is not necessarily a normal surface water.

Ecosystems have been created in areas where water is now displaced.

Melinda Kassen – PP Presentation

Marvin Blackeley – Produce 98-99 barrels of water to each barrel of oil.
Video from Marathon Oil – Arnoldus Lake 1989 – Cottonwood
Creek – Loch Katrine Oregon Basin.

Larger fields will produce 30-40 more years it just depends on the cost, demand, etc. Oil is pumped to the surface because the pressure underneath is not strong enough to bring it to the surface.

The wetlands may be gone with the over regulating of the water.

Mark Pifher NWRA issues:

1. Trans basin case needs to be solved.
2. Talent irrigation case because it has a point source discharge. We would like EPA to go to the Justice department to appeal.
3. Standard for ditches and canals. If a discharge is sent to a ditch or canal that ends up in a community water source then there should be regulations but if they are protecting the aquatic life it shouldn't.
4. Treatment of flow modification of pollution. If you regulate this then you are going to have some implications.
5. Use of the reference reach that is heavily manipulated. EPA has to give the states flexibility when it comes to the biocriteria. New criteria is tricky in the west because the criteria level wasn't low enough.
6. Anti-degradation reviews. The new TMDL could have this in it. What is the solution to the dams that have changed the down stream changes? Maybe the solution lies in the triggering of the review.
7. Interstate issues & interstate water compacts. The down stream state can trump the up stream state with the clean water act to keep the state from discharging things that could be harmful to the down stream state. Can a TMDL reach interstate?
8. Water reuse concept. When you have minimum water to use in the West you run into problems.
9. Should be local & state input in the standards for the water. Make sure you have a problem & your criteria are not being met.

Questions:

Is use created?

Are all done?

Will EPA change it decision?

Is there more money for arid issues?

The states and the EPA should establish criteria.

Melinda – 3 circuits that have ruled NPS permit

Gary Beach – Question for Mark – water rights trump water quality what are the possible solutions to dealing with this issue?

Mark – State in stream programs have taken this on to maintain the fisheries. The permitting process is where you can start to add the aquatic areas.

There are places in the west where the environmental community are bringing ideas to the table to help get money to get into the market to buy water rights and clean up streams that have been hurt.

Questions

The water that is discharged now is a product of the oil. What happens to the discharge of the water once they no longer have the oil field?

Once the oil field is dried up then those water will no longer exist.

What kind of standards applies to the water quality?

In the canal systems is regulated by the NPS permit and in streamline monitoring is done.

How are canals designated for some of the uses they are?

They are trying to get more policies to permit the canals to be used.

EPA raised concerns about selenium & chloride standards and is there criteria that should apply to the traditional oil use?

Even though the water quality didn't meet the criteria the fish tissue samples did meet the criteria.

Has Marathon Oil looked at different methods of discharge?

We have looked at alternative treatment technique. There is no other cost effective way of removing the high levels of chlorides.

Suggestions:

1. Short-term practical responses. Is it feasible to do regional water effect ratios?
2. Longer term solution
 - a. define use with options for trading of uses
 - b. bio criteria
 - c. criteria for habitat flow
 - d. 304a is the range of numbers. Need a better way to weigh these.

3. Trade a less restrictive criteria in exchange for changing. Need to improve infrastructure for trading. We need to develop a method for this.
 - a. A flow regime description
4. Need to focus on one or two issues rather than 10
 - a. Priority issues
5. Need to improve infrastructure for trading
 - a. Develop models
6. Ephemeral only because of new pumping otherwise would be perennial needs to be addressed.
 - a. NEB should not be judged by impact if diversions
 - b. Need to look at it as if we are a part of the eco system rather than looking out side of it.
7. Habitat being limiting factor – include flow.
8. EPA needs to look at the definition of “Existing use”.
9. Balance competing uses.
10. Success stories in UAAs documented and for sharing
 - a. From states & EPA regions
11. Do we need to change the rule? Changing the regulations in the states may be the solution & focus on the problems. The governors have the power to do this and can advance it.
12. Developing appropriate criteria. The states need more money and/or EPA assistance in developing toxicity databases.
 - a. Spend money appropriately and effectively
13. Research focused on health of river
14. Bottleneck at EPA to get approval, e.g. for UAAs

Tom Stiles Wrap up of future directions and needs:

- A. Thanks
 - a. EPA – Grant
 - b. Presenters
 - c. Participants
 - d. WGA – providing forum and maintaining agenda

- B. Quest is the application of water quality standards to and region waters
 - a. Designated uses
 - b. Numeric and narrative criteria
 - c. Anti-degradation policy

- C. Institutional – define policy & processes
 - a. Consistency basis v. flexibility.
 - i. States want EPA to treat them consistently
 - ii. States want to retain flexibility to address state policy and unique resources – intuitive.

- iii. EPA wants state to develop consistent water quality standards – moving toward highest community denominators
 - iv. EPA wants flexibility also but it must be earned by the states.
 - b. Need to redefine the rules of engagement between generalized dogma v mandated site specific action
 - i. Build a consensus on interpreting the communications.
 - ii. Diminish the power of the dogmatic individual (permit under state region district court judge)
 - iii. Establishing water quality standards specifically toward each individual water way.
 - 1. Water body specific
 - 2. Watershed or Eco-region specific
 - 3. Statewide rule
 - 4. Region wide or national policy
 - iv. TMDLs have brought the ability to adaptation.
- D. Resource Management of Effluent Dependant or Dominated Waters
- a. States & EPA need to come up with guidelines for UAAs.
 - b. Chronic alternative criteria are expressed by different magnitudes, duration, and frequency.
 - c. When do we allow for alternative assessment of the 303d listing TMDL?
 - d. Biology Criteria needs to look at what is the role of habitat and geomorphology in geology
 - i. Biology is the main thing to look at because it is the one thing that is affected by all.
 - e. Net 5 years for time & space scale for drought, channel evolution tributary transportation and canal pollution that flows into habitats needs to be recognized and acknowledged.
 - f. Incorporate ecological research of arid ecology of water (wet good, dry bad) to assess this and be able to maintain & restore the biological integrity of our waters and micro fauna needs.
 - i. Recognize the world is not a steady state and is most seen in the arid regions. What are the ecological means that are being affected?
 - g. Restoration and protection actions outside of the TMDLs
 - h. Rebalance in weighing water quality and water supply factors in state water resource allocation decisions. These issues cannot be touched by EPA and needs to be integrated by the states and looked at how the best ways to do this are.

- E. Venues need to be open to allow all to give their input and not feel closed out.
 - a. Continue discussions with EPA by WGA, WSWC & ASIWPCA.
 - b. States – Region dialogue – do a joint agenda
 - c. Grant projects for policy analysis and resource research from EPA & possibly other organizations needs to be explored.
 - d. Rules of engagement should be to adopt policy to interpret the issues for the states & EPA through state positions and MOUs and/or MOAs.
 - e. Multi-disciplinary intrastate work groups to establish and implement intermittent and ephemeral stream strategy.
 - f. Inclusive opportunities for participation should be institutional
 - g. Technical Adaptive Management to move forward.
 - i. Break the inertia, but avoid the “No daphnia left behind” philosophy of Water Quality Standard.
 - ii. Long-term success comes from looking at the failures and learning from them.

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