Managing Sturgeon for a Future-Forward With the Rear View Mirror, Or forward With a Vision?  
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By an amazing piece of good fortune, the Columbia River is still the lifeblood that sustains sturgeon fisheries to McNary Dam, to Willamette Falls, and in estuaries along the Oregon and Washington coastline. While hydroelectric dams have destroyed much of sturgeon’s original spawning and quality rearing habitat, the area below Bonneville Dam continues to sustain the healthiest population of white sturgeon remaining anywhere. The Northwest Sportfishing Industry Association (NSIA) would like to request that the States of Oregon and Washington invest the time to review the health of sturgeon, the history of sturgeon fishing and the future of both. We are writing to seek a year long review, outline our rational and philosophy, and share a short catalog of near term and mid term concepts and management tools that can bridge to a new approach to sturgeon management and harvest.

In the context of future population growth and dwindling resources, we would like to see a new plan for sturgeon management that moves away from maximum sustained harvest. Instead, our region can anticipate and prepare for a dramatic increase in population with strategies that provide meaningful angling opportunity, season stability and most important, a “light touch” approach that will provide better conservation of a resource. We suggest that spending the time to envision what we as a region would like to enjoy from our sturgeon populations in 5, 20 and even 50 years from now is an exercise that is not only overdue, it is urgent.

A GLANCE BACK.
Many scientists concur that the chief limiting factors today for the reproductive success of Columbia River sturgeon broodstock is their habitat, and the barriers to movement created by mainstem dams. In broodstock sturgeon, reproductive products are constantly developing; but maturity of the eggs and sperm takes 2-11 years. Thus, not all adults spawn each year. If the environmental conditions are right in the river, the mature sturgeon will spawn—each pair producing thousands of offspring. If the flow and river temperatures are not suitable for success, the sturgeon will reabsorb their eggs, and retain the ‘energy’ for spawning another year. WDF&W and ODF&W scientists articulated that the reproductive success for sturgeon in the drought year of 2001 was nearly zero. Luckily, reabsorption, and high numbers of offspring in successful years combine to help secure the future of this valuable population. It is not a coincidence that spring temperatures and high flows which naturally flush baby salmon smolts to the ocean in the late spring are beneficial conditions for sturgeon’s reproductive success. Populations have evolved and succeeded due to consistency in these conditions.
Harvest, too, has played a role in putting sturgeon at risk. During the 1880’s, lower-river commercial fisheries nearly decimated the populations by targeting broodstock sturgeon. Size limits to protect broodstock were put into place in the 1950’s, and by the 1970’s stocks and fisheries began to respond. Since the 1980’s there have been sturgeon gillnet fisheries, with gear changes, seasons size limits and allocation. According to ODF&W, sport harvest rates as recently as the 1980’s were still double the rate necessary to sustain adequate recruitment to broodstock. Subsequently, numerous adjustments have been made: both daily and annual bag limits have changed, several slot size changes have occurred, the total allowable annual catch has been reduced, days/week block closures and sanctuaries have been instituted. Most of these restrictions have been adopted to provide immediate and short term relief. The managers have made adjustments in growth rate estimates, causing a downward adjustment of the total annual quotas. With smelt abundance tumbling, there is an unknown regarding the impact of a lack of food supply on near term and future growth rates.

Additionally, the river below Bonneville was divided into two sections with separate quotas: The Estuary, which is from the mouth of the Columbia River to Wauna Power lines, (40 river miles) and Wauna to Bonneville (106 river miles). The estuary was given the bulk of the quota, (19,200) in spite of the limited geographic scope, high catch rates, and less angler trips. The remaining 106 miles was allocated a smaller quota, (12,800) in spite of a larger geographic scope, more angler trips, and much lower catch rates.

RATIONAL FOR A LONG TERM REVIEW.

We at NSIA are hopeful that the current regulatory regime is designed for sustainability, but we remain concerned about long term sustainability and the current and future loss of viable economic benefits, especially given projected population growth. Over the last 10 years there have been numerous changes in the harvest regime, initiated with the intention to protect sturgeon and move the population on an upward trend. As of the end of 2009, there is still no sign that the efforts have been successful. Unfortunately trends for legal and sub legal are going in the opposite direction. It appears that the numerous ‘reactive tweaks’ in management have at best, stabilized the population below Bonneville. Additionally the constant changes and the ensuing political battles have created a confused, distrustful and disillusioned public who now pays more to sport fish and feels as if they are receiving less.

For the sport fishing industry in the Northwest, sturgeon are a vital treasure. From sunny summer estuary fisheries, to year-round Portland/Vancouver opportunity to nearly year-round Gorge availability, sturgeon fisheries attract families, die hard fishermen and in the case of our oversized fishery, visitors from around the world. Because of their sheer numbers and geographic spread, excellent sturgeon fishing can be experienced nearly all year. With the unpredictable variability in seasons that salmon fisheries offer, sturgeon fishing can frequently keep customers purchasing fishing licenses, tackle, boats, lodging, etc. when salmon fishing is poor or closed. Thus healthy, meaningful sturgeon fisheries are vital to our industry’s efforts to provide year round family wage jobs.

Given the fact that Washington and Oregon are charged with managing the largest remaining viable population of sturgeon on the planet under the threat of burgeoning development and population growth, we feel that stewardship dictates a goals-oriented management review that leads with a vision of what our best biological, social and economic benefits would look like, and what strategies and tools are available to accomplish these goals.
For instance, what if our goals were to have year-round river-wide availability of large keeper-sized fish? What if on a given day, resident anglers or tourists could catch and release 10 fish in the 36-50” range? What if sturgeon were managed for abundance in the keeper size, rather than an optimum sustained yield? What if retention was allowed every other day all year? (Rather than large block closures.) The question to ask ourselves is: Are sturgeon a resource that if managed differently, would generate a great deal more meaningful angling experiences, greater long term economic benefits, while still providing healthy population growth and increased conservation benefits?

OTHER KEY COMPONENTS OF A LONG-TERM APPROACH

TRANSFER OF JUVENILES
The river miles between Bonneville Dam and the inundated Celilo falls were once raging, flowing waters that were ideal for spawning sturgeon. Maintaining any sort of tribal or sport fisheries above Bonneville has been difficult to sustain due to severely degraded habitat. While NSIA supports the continuation of these fisheries, we believe that they should be secured by other means than transferring juveniles from below Bonneville. There are two options, and they are both programs that NSIA will work with Washington and Oregon to pursue aggressively. Foremost is adequate flows for spawning, discussed below. The effort to provide habitat for successful spawning and rearing should be supplemented by a hatchery program, which should be funded by the BPA as mitigation for swamping the prime sturgeon habitat.

FLOWS
In presentations by sturgeon biologists, flows and temperature are identified as critical habitat requirements for spawning. We hope that our region will work toward understanding and providing the habitat needs of spawning and rearing sturgeon. It is unlikely that any of our harvest management measures will effectively increase the future viability of sturgeon without meeting their spawning requirements.

Bonneville and the Federal Government need to acknowledge their responsibility for damaging the sturgeon population with the dams and to develop a longer term mitigation plan. The ideal would be to develop approaches to allow sturgeon to pass the dams…such as submerged fish ladders designed for sturgeon or some other method of trapping and passing migrating fish both upstream and downstream. Secondly, they need to develop a mitigation plan that involves flows and hatchery technology to be sure that the populations above the dams reach their potential. The States and the sportsmen will be natural partners with the Treaty Tribes to accomplish, since they are paying the price for the lost sturgeon productivity in their usual and accustomed areas. In short, we need a broader, long term strategy for this mitigation. This is a key topic to be scoped for a broader review of management, but will be a centerpiece of any future successes.

HOW DO WE MOVE THE DIAL?
There are a number of tools available to insure our region makes the management shift that prepares for future fisheries, while the region has the important stakeholder discussions to succeed. Without necessarily endorsing or predetermining their validity, the following tools can be reviewed. The options and their rational are, by no means, an exhaustive list.

A GREATER FOCUS ON CATCH AND RELEASE.
Across the US, catch and release fisheries are an accepted norm, with millions of dollars and thousands of jobs attached. Bass fishing in dozens of states, Atlantic salmon in both Canada and
US, blue ribbon trout fisheries in numerous locations, and Billfish in the Atlantic and the Pacific are all catch and release fisheries. Salmon management on the Kenai in Alaska allows only two salmon/year to be kept, and catch and release still brings in a large clientele. Even in third-world Nations, fishermen and governments are now realizing that sustainable fisheries are more important and valuable than short-term profits.

These are but a handful of examples of where the biologists, the angling community and the industry have concurred that the best conservation, social and economic benefits are derived from catch and release fisheries. Here in the Northwest, it may not be necessary to alter sturgeon fisheries to entirely catch and release, but it is clear that with hundreds of thousands of oversized, legal and sublegal releases annually, that the angling community currently accepts and enjoys large numbers of releases as part of the sturgeon experience. How much more progress can be made in this attitude is a matter of building consensus around shared goals, and then implementing steps that show clear progress and rewards.

There are questions within the NSIA membership regarding the mortalities assigned to sturgeon release, particularly when the river temperatures are high. Of primary concern is the release mortalities occurring in the gillnet fishery when a drift encounters a large number of sturgeon requiring time on a hot deck to detangle sublegals, oversized, and discards from hi-grading.

**BAG LIMIT**

Over the last 10 years ODF&W and WDF&W have presented that a two fish annual bag limit would provide substantial extension to sturgeon retention days, and meaningful benefit to in-river stocks. We recognize that there will be members of the angling community that will resent not being able to put more than two sturgeon into the freezer per year. This option will only work when the goals we are working towards are beneficial to these anglers. Having more simplified sturgeon fishing regulations, with more retention days spread out over a year, with a higher quality fishing experience and fewer crowds may all combine to make this option more desirable.

**SLOT SIZE**

This option has been discussed over many years in stakeholder groups, and was discarded by agency staff(s). In an emergency rule-making the slot size was changed in the estuary ostensibly to lengthen the season. While we can applaud the goal of the rule change, the process by which it was instituted, and the slot size chosen have tended to add to the perception that politics have lead more than goals, biology or transparent decision making.

The NSIA headquarters has received several calls from anglers wishing to see the slot size reduced river wide. This concern has arisen from the occurrence of females with eggs found in sturgeon over 56”. (Experienced by NSIA staff, as well). As the agencies are working to maintain a viable broodstock population, it does not make sense to kill sturgeon that are approaching a sexually mature stage of their lifecycle. This measure will shorten the exposure time to harvest mortality and would provide increased recruitment to spawning. Legal-sized sturgeon would receive the benefit of crossing a ‘6 lane freeway’ to become broodstock, vs. the current ‘8 lane freeway’!

**GEAR**

Given a large proportion of the oversized population is handled in the estuary fishery it is likely that an equivalent amount of break offs occur in the estuary fishery and in other locations where oversized sturgeon are encountered. While slightly problematic, it is feasible to require specific gear when sturgeon fishing. As there are a number of oversized sturgeon are encountered in keeper
fisheries, there may be validity in requiring specific hook sizes, line strength and rod ratings that can quickly land and release an oversized or legal sized sturgeon. Said gear may also reduce the incidence of break offs. Many anglers enjoy using ‘light’ tackle for sturgeon, especially in the estuary. There will also be benefits to analyzing different metals in hooks to determine which have the shortest disintegration period. Given the catch and release nature of sturgeon fishing, it may provide better protection to require appropriate gear. There are many precedents for using specific gear as part of an overall approach.

RESEARCH
Reviewing previous agency documents on sturgeon, such White Sturgeon Oversize Sports Fishery below Bonneville Dam, dated October 13, 2003, prepared by Kathryn Kostow Oregon Department of Fish and Wildlife, with information provided by Brad James, Washington Department of Fish and Wildlife and Molly Webb, Oregon State University, it appears that further research will be critical to enhanced management abilities. As always, it is difficult to secure adequate funding for data needs in fishery management and resource protection. We believe that there are creative mechanisms and partnerships within the guiding/tourism industry to increase the ability to gather and pay for data necessary to inform better management decisions. At one time the approximate number of sturgeon anglers could be measured by the number tags sold. This tag was absorbed into an all-inclusive tag, so consequently the current number of participants is not known. We would suggest that a few questions regarding sturgeon angling participation, days spent and locations fished will provide a baseline from which to measure the effect of future management actions.

OVERSIZE
We will use the discussion of the oversize fishery, as a transition between long, middle and immediate potential actions. Last spring, both commissions did not seek changes in the size or timeframe of the oversize fishery in the Gorge, citing that the data did not indicate this fishery was creating problems for the oversize population. Additionally, state managers have conceded that the threat to oversized sturgeon generated by the Steller's sea lion has been largely addressed by the hazing program. Best management practices were adopted for the oversize fishery to ensure that handle is not a biological risk and is not creating the break offs that are leaving the hooks in sturgeon. Since these BMP’s are not in place riverside, much of the break offs may likely be coming from the estuary fishery. We suggest that the oversize sanctuary be reinstated to the boundaries that existed in 2005. (Beacon Rock, with a 5 mile spawning sanctuary)

In the long term, we should be managing oversized sturgeon like marlin, sailfish or swordfish--minimize commercial exploitation, maximize high-survival catch/release and market to the international sportsmen for maximized tourist value and income. In Idaho the oversize fishery is open to catch and release year round. There is an entire page in the regulation book devoted to best management practices. In the Fraser River in Canada, the sturgeon fishery is also catch and release for all sizes, open year round. The Canadian sturgeon are subject to far larger sample surveys, and have had much more extensive investigations of the impact of catch and release, including radio tagging, and multi year recapture tagging. According to Tony Nootebos, Harrison Bay Guided Service, (Canadian guide) 65% of their clientele travel from Europe to experience this quality, stable fishery.

THE IMMEDIATE QUESTIONS
At the January 25 Joint State hearing in Vancouver, WA the managers will be determine what, if any, management changes can be made to the season structure as a result of the above Wauna
sturgeon fishery landing 4,000 fish under their quota. In the past, NSIA has testified that these fish are more valuable in the river than in a freezer. Our sport advisors tell us the same. There may be a day when society and managers have a similar conclusion. With pressure to harvest up to the quota a likely driver for this Joint State meeting, we would like to suggest that two or more weekdays for retention are added to the above Wauna fishery. We hear from sports anglers that they would like to see Monday and Tuesday added if there are two extra week days that can be added. This will give individuals who have a Sunday, Monday weekend a retention day. If providing retention on M,T, Th, F, Sa, models to keep the fishery within its biological constraints, we support adding two week days over one weekend day for retention.

The option that appears to provide the most opportunity to those who do shift work in addition to those who have weekends off is an odd/even day retention. This averages out to 3 & ½ days of retention per week, and lets nearly everyone fit retention days (or not!) into their schedules.

Many contend that one reason we have extra sturgeon in the above-Wauna fishery is that this gorge fishery was so restricted by the expanded sanctuary, that it really restricted keeper fishing as well. Perhaps opening up part of the sanctuary for keeper fishing, using bait restrictions, such as eliminating the use of full shad would make sense.

We also request that that the agencies give serious consideration to lowering the slot size river wide to 56” inches. Lowering the slot size will provide additional recruitment into broodstock as well as providing additional angling opportunity. Again, we support reinstating the Sanctuary to the 2005 Beacon Rock Boundary.

At NSIA we are convinced that habitat and fishery management improvements can be made that will provide benefits to sturgeon that will lead to greater participation and enjoyment, provide economic benefits to the management agency, to the communities along the shores of the Columbia and to coastal communities where sturgeon are feeding in their estuaries. Given population growth, the long-lived nature of sturgeon and declining license sales, it makes sense now to plan for the vitality of future fisheries. We may be dreamers, but we do see a day when sturgeon fisheries have obtained the status they have the potential to obtain. Is there anywhere else where the day could be spent catching four foot long powerful fighting fish? Moving sturgeon management away from optimum sustained harvest model toward a desired fishery with increased community values will not only keep our local customers engaged, the world will beat a path to our door.