

Report from the
Temporary Advisory Committee on Hudson River Striped Bass
to
Erin Crotty, Acting Commissioner,
New York State Department of Environmental Conservation
on
The Hudson River Striped Bass Fishery

March 1, 2001

Chapter 28 of the Laws of 2000 of the State of New York directed the Commissioner of the Department of Environmental Conservation (DEC) to appoint a committee to study and report on the striped bass fishery in the Hudson River. On September 13, 2000, the Temporary Advisory Committee on Hudson River Striped Bass (hereafter referred to as the Advisory Committee) was formed and charged with submitting a report to Commissioner of the DEC that includes recommendations on the commercial management of striped bass in the Hudson River consistent with the Fishery Management Plan for Striped Bass adopted by the Atlantic States Marine Fisheries Commission (ASMFC).

The Advisory Committee consists of seven members, which include commercial fishing representatives Robert Gabrielson, Nyack, NY, John Mylod, Poughkeepsie, NY, Arnold Leo, East Hampton, NY, and recreational fishing representatives Robert Weiss, Hopewell Junction, NY, Scott Emslie, Poughkeepsie, NY, and Fred Schwab, Mattituck, NY, with Dr. Patrick J. Sullivan from Cornell University, Ithaca, NY, as chair.

On November 3, 2000, Gerald Barnhart, Director of the Division of Fish, Wildlife, and Marine Resources for DEC provided a set of assumptions that the Advisory Committee should work from. These assumptions were: 1) that striped bass taken from the Hudson River between the George Washington Bridge and the Bear Mountain Bridge, from March 1 to May 31, at sizes above 18" TL, are acceptable for sale consistent with USDA regulations and NYS Health Policy, and 2) that the ASMFC Striped Bass Fishery Management Plan will allow commercial harvest of striped bass during the spawning run, provided such harvest involves no increase in recent removals from the population (i.e. 6,170 fish or 47,000 pounds), that all catch is reported, and that each marketed fish is tagged consistent with existing marine district requirements.

In addition, Director Barnhart asked that the recommendations developed by the Committee address the following questions: 1) Considering the views of all the stakeholders, should a limited commercial fishery be authorized? If yes, then address the following: 2) Should such a fishery operate as a bycatch allowance in the shad gill net fishery? 3) Alternatively, should the striped bass quota support a direct fishery up to a 47,000 pound total allowable catch with shad a bycatch? 4) Should any gears other than gill nets be used? 5) What measures must be

required to prevent striped bass kill from exceeding the total allowable catch? 6) Should eligibility to participate be limited? To whom, and based on what criteria? 7) Should eligible fishermen be assigned an individual quota? How should such a quota be allocated among participants? 8) Should the minimum length be set at 18", 24", or some other alternative? 9) Should the Hudson River gill net minimum mesh size be changed to reflect the striped bass size limit? 10) What additional enforcement and compliance issues must be addressed and how?

The Advisory Committee met as a group on three dates, October 4, 2000, October 20, 2000, and December 6, 2000 to discuss the charge, identify concerns, and review the September 1999 recommendations made to the Commissioner by the Hudson River Estuary and Management Advisory Committee (HREMAC). The Advisory Committee then held two public meetings, one on January 22, 2001 in Kingston, NY, and the second on January 23, 2001 in Spring Valley, NY. The Advisory Committee met last on February 15, 2001 to consider input from the public meetings and lay the groundwork for the final report.

General Recommendations

The Advisory Committee endeavored to derive a consensus recommendation on the re-opening of a limited commercial fishery for striped bass, but consideration of the biological and socio-economic factors surrounding such a fishery resulted in a deadlock of three Committee members favoring opening the commercial fishery, three opposing, and one abstention.

This dichotomy of opinion represents the real divide that exists for the public, as was made evident during the public hearings, in the understanding of the Hudson River ecosystem and PCB toxicity levels therein. But, it also reflects the fear that exists when two or more stakeholder groups vie for a common resource under uncertain management conditions.

Included below are some observations and recommendations derived from our meetings that will be helpful in sustaining the sport fishery on striped bass as well as providing information to the critical question of re-opening the commercial fishery on this species.

PCB Levels

Toxicity associated with local PCB levels in striped bass and in the Hudson River is a major concern of all stakeholders. The Advisory Committee asked Dr. Ed Horn from the New York Department of Health to attend the third Advisory Committee meeting to provide information on PCBs and their effect on fish consumption advisories and human health. Two issues arose from that meeting. First, the depth of understanding within the public sector regarding the health advisories appears to be quite varied. Some members of the public have a good

general understanding of the issues, while others appear to be unaware or even misinformed. The level of understanding may differ by stakeholder group (between sport and commercial stakeholders for example) or by geographic location (between inhabitants of the upper and lower parts of the river for example). Even when the information itself seems accurate, one may find it applied to the wrong species, or during an inappropriate part of the season, or in the wrong location.

Second, when information is made available through the advisories, some feel that it is presented in a way that is often complex and difficult to understand. Advisories provided by federal and state authorities sometimes offer seemingly contradictory messages. For example, sport fishing is allowed on the Hudson, but consumption of sport caught fish is generally not recommended, and consumption of marine fish is allowed, while consumption of the same species taken in inland waters is, again, not recommended. Public uncertainty about potential impacts of the EPA's proposed dredging on the upper Hudson to remove PCB laden sediments only serves to exacerbate this problem. With conditions such as these prevailing, it is not difficult to see why the public appears inadequately informed.

The Advisory Committee was instructed to base its recommendations upon the assumption that it would be acceptable under USFDA regulations to market these fish. HREMAC advice was developed under the same instructions. Nevertheless, the PCB question proved to be one of the most notable and potentially insurmountable of the issues considered and will continue to play a major role in the debate until health risks from eating Hudson River striped bass are clarified for the public and environmental issues, in general, such as water quality and habitat protection, are addressed.

Striped Bass Population

Based upon information presented by NYDEC scientists, it appears that the Hudson River striped bass population is in good shape. Obviously, this has not always been the case for this species throughout its range. And while changes in the management of this species in the marine district have contributed to the good condition of this stock, the continued health of the striped bass population in the Hudson River is, and will continue to be, directly affected by harvest and bycatch mortality levels in the Hudson, as well as by impacts associated with industrial pollution and habitat destruction within the estuary.

It is understood that Hudson River striped bass population levels are affected by harvest and bycatch mortality rates exacted outside the Hudson, as well as by environmental conditions internal and external to the Hudson. Excess mortality and reductions in habitat quality both negatively impact striped bass spawning potential throughout its range. Consequently, the status of the Chesapeake Bay stock and the intensity of coastal harvests cannot be ignored. Nor can the

environmental impact of industry along the Hudson. The power industry is of particular concern to Hudson River fishermen and many others because of fish kills at current plants and the potential siting of additional power plants along the estuary. The problems associated with fish entrainment and impingement by the cooling process, as well as from thermal pollution, are very real. Striped bass management planning must include not only consideration of appropriate harvest levels, it must also include factors related to the quality of the aquatic environment.

In this context, trading striped bass bycatch mortality losses in the shad fishery for harvest associated with a small commercial allocation associated with the shad fishery would very likely not affect the current status of the population. In this sense, we agree with the conclusions drawn in the report made by the HREMAC to the Commissioner. Obviously, a recommendation to move ahead with even a limited commercial fishery would need a management plan that includes many of the details indicated in Director Barnhart's list of questions to the Advisory Committee.

In order to keep total mortality levels in track, the details of such a management plan must include a limit on the total allowable catch, a method for recording and tracking landings consistent with harvest regulations in the marine district, a minimum size limit of at least 24 inches, and a level of enforcement that would prevent poaching and otherwise illegal harvest and sale of striped bass. Parenthetically, a 24-inch size limit would allow female striped bass to reach the age of reproduction, thus increasing the spawning potential of the stock. A 24-inch size limit on the sport harvest would result in similar benefits.

Finally, there is a concern among sport fishermen that a commercial fishery operating during the striped bass spawning run will interfere with the spawning potential of the stock. From a strictly biological viewpoint, however, mortality to spawners heading towards the spawning ground is equivalent to mortality to pre-spawners just prior to the spawning run. Harvest mortality has the same impact on spawning potential regardless of when it occurs, and control exercised over total mortality through harvest restrictions should be sufficient to protect the stock's spawning potential. The exception is when fishing, or other man-induced action, actually interferes with the reproductive process. For example, dredging projects operating in the river during spawning, or power plant impingement and entrainment post-spawning, can result in lower survivorship of the offspring. In these circumstances, management actions should be developed to protect the stock during this important part of its life cycle. If, for some biological reason, fishing during the spawning run is found to lead to negative impacts on the stock, then one would expect that this would be true of all fishing taking place during this time and location, including sport fishing.

Commercial Fishery

Should a commercial fishery commence, how would such a fishery be structured and what other issues should be considered?

Clearly, if a commercial fishery were to be re-opened, it makes sense to restrict it to fishermen currently fishing the directed fishery for shad. The number of fishermen in this group is small (6 to at most 12) and they are easily identified based upon historical fishing records. There is good evidence that these fishermen will keep track of landings and discards as they have for several decades since the closure of the striped bass fishery. These fishermen are what, in fact, remains of the historical commercial striped bass fishery on the Hudson River.

In terms of structuring such a fishery, the situation is ideal for setting up individual quota (IQ) management. IQ fishery quotas can be specified, as a percentage say of the total allowable catch, and based upon some mutually agreed upon objective formula that uses historical records (e.g. based on each fisherman's average catch over the last 10 years). Because the number of participants is small, organizing and implementing such a program would require minimal effort, yet such a program could make this component of the fishery more manageable, particularly in comparison to traditional open access fisheries.

Because the harvest would be small, it makes sense to deal with it in a way that reduces waste in existing fisheries. Therefore, a commercial bycatch fishery for Hudson River striped bass should be structured to take advantage of the configuration of the existing shad fishery. Given this, a mesh size in the commercial shad fishery that is consistent with a 24-inch size limit for striped bass would be a gear regulation worthy of consideration.

If striped bass is allowed as a bycatch harvest component to the shad fishery, then a Total Allowable Catch (TAC) for striped bass should be developed in terms of the total acceptable biological catch and the bycatch mortality level of 47,000 pounds currently estimated to take place in the shad fishery. One suggestion would be to allow, say, 40,000 pounds of bycatch harvest of striped bass, allocated as an individual quota among shad fishermen. Once this quota was met, then all striped bass bycatch would have to be returned to the river. The 7,000 pound reduction in poundage from the current estimated bycatch mortality level of 47,000 pounds, would compensate, to some degree, for the mortality caused by returning the remaining fish to the river.

Should the amount of striped bass landed commercially be above the allowable catch for that fisherman based on his or her quota, then the extra amount would be deducted from that fisherman's quota the following year. Such carry-over provisions are frequently used in IQ fisheries management, and provide a flexible incentive for fishermen to achieve or stay below their quota.

It has been pointed out, that if there is a mechanism to reduce waste in the current fishery by taking steps to reducing bycatch, why not implement regulations to do so now. While such a step may be possible for the current fishery, management of waste associated with bycatch might be more effectively dealt with by using incentives. In any event, losses due to bycatch mortality and other forms of wastage that do not make effective use of the resource should be avoided.

Allocation, Education, and Outreach

Next to PCB toxicity issues, the issue that incites the most concern among stakeholders with regard to striped bass is the potential loss of access to the resource through overt or covert reallocation of harvest rights. Commercial fishermen argued that the potential harvest would be small relative to current striped bass population levels, but that it would be significant in terms of their own economic status. Sport fishermen were concerned that giving commercial fishermen the opportunity to fish would just open the door to the eventual expansion of the commercial fishery to the point of 1) eliminating the sport fishery, and/or 2) reducing the striped bass population to the point of adversely affecting the sport fishery or even the stock. Sport fishermen did not want commercial fishermen to be in a position to argue that closing the commercial fishery (some time in the future should it now open) would be harmful as it would affect their livelihood or their tradition of fishing.

Discussion of these points at one of the public meetings was quite heated, even though the sport fishery uses products provided by the commercial fishery (e.g. bait). It is unfortunate, that opportunities for public input should be squandered on infighting. Even if the commercial fishery is not reinstated, allocation issues will eventually arise, for example between charter boat companies and individual sport anglers, should harvest levels have to be restricted due to uncertainty in striped bass dynamics. Therefore, it makes sense to immediately institute education and outreach programs in order to generate a dialogue between stakeholders, and between stakeholders and managers. It is clearly important that stakeholders should be part of the solution rather than part of the problem. This recommendation again echoes the report put forward by the HREMAC. If the sport and commercial industries could be convinced that they share a common goal in improving and optimally harvesting the resource, then opening up a commercial fishery for striped bass would not be a divisive issue. Obviously, communication (a dialogue not a monologue) is required, as are clear effective management plans and regulations that serve to protect this public resource.

Data

As use of this resource continues to grow it will be necessary to expand upon the information collected from all fisheries active in it. In this regard, a licensing program for sport fishermen would be an important step forward. It has been made clear that such a step would have the support of the recreational fishing community. Among other benefits, the list of participants provided by the license application would serve as a mechanism for gathering information as well as directly communicating important issues. Regulation and information packages could be sent to licensed participants that would be more specific and more informative, especially with regard to health issues. Information returned from licensed participants would also help in determining the level of effort expended upon striped bass, the number harvested, the number returned after capture as well as the location or district where the fishing took place. These statistics would be invaluable in monitoring the stock, setting reasonable quotas, providing an objective baseline for safe conservation of the resource, and would be useful in evaluating economic trends to industry and for setting management priorities.

In line with this, initiating licensing and reporting requirements applied to the charter boat industry, as is done in the marine district, should also be considered. Coordinating with sport fishing organizations in order to gather data from tournament fishery events would also provide information of value to scientists and managers working on striped bass.

Data should be collected in a continuing manner to help set baseline values for evaluation of risk and to measure the degree of change under water quality improvement plans. These data cannot only be used to monitor how toxin levels in fish change over time, they can also be used to indicate where levels, and risks, are high. NYDEC biologists are currently collecting samples that can be used for monitoring fish in the system, but additional funding is essential to process these samples for PCBs, heavy metals, and other potential toxins in a timely manner. In addition, sampling should be broadened to include other fishing locations within the Hudson River and fish harvested by other gear types (i.e. charter boat, individual angler, subsistence fishing). Linking this and the population information to that collected and utilized by the ASMFC for the coast-wide striped bass population would help NYDEC scientists and managers tackle important questions concerning the safety of fish for consumption as well as the sustainability of the Hudson River striped bass stock.

Sound aquatic resource management on the Hudson River, and throughout the state of New York, requires accurate information and constructive communication. It goes without saying that effective management systems require human and financial resources. Increasing the level of support for environmental management would certainly benefit the Hudson River ecosystem. Education and outreach should be given a high priority in this regard, as should support for data collection and analysis.

Acknowledgements

In closing, we wish to thank Gordon Colvin, Byron Young, Andy Kahnle, and Kathy Hattala of the NYDEC for providing analytical support and for providing logistical support and information at the public hearings. Appended to this report is a four-page fact sheet prepared by the DEC and distributed at the public meetings. The appendix outlines the Advisory Committee's charge and provides biological information about the status of Hudson River striped bass.

FACT SHEET Prepared by the NY State Department of Environmental Conservation

**Temporary Advisory Committee
Hudson River Striped Bass Commercial Fishery**

Temporary Advisory Committee (TAC): established by Act of the New York State Legislature, Chapter 29 of the Laws of 2000.

TAC'S CHARGE: to study, obtain public comment, and report to the NYSDEC Commissioner by 1 March 2001 on the striped bass fishery in the Hudson River.

- To include recommendations on commercial management of striped bass in the Hudson River consistent with the Fishery Management Plan for Striped Bass adopted by the Atlantic States Marine Fisheries Commission (ASMFC)
- The Hudson River Estuary Management Advisory Committee (HREMAC) conducted a similar effort in 1999 at the request of Governor Pataki.
- TAC will revisit the HREMAC charge, report, and recommendations and determine whether it reaches similar or different conclusions.
- TAC may explore and define additional issues and obtain necessary background information to assist in this process.

DEC Assumptions - Given to TAC

1. Striped bass for sale would be more than 18 inches in total length, come from the Hudson River between the George Washington Bridge and Poughkeepsie, March 1 to May 31. Striped bass with these characteristics in 1997 - 98 had a mean PCB concentration of (2 PPM) and were judged by the NYDOH to be acceptable for sale consistent with USFDA regulations and NYS Health Policy.

2. The ASMFC's Striped Bass Fishery Management Plan will allow commercial harvest of striped bass during the spawning run, as long as the harvest does not lead to an increase in losses over that observed in the bycatch in the American shad fishery during the last ten years. The annual mean bycatch of 6,170 fish (47,000 lb.) is currently discarded back into the river. If sale of this bycatch were allowed, all bass would be reported and marketed fish would be tagged consistent with existing marine district requirements.

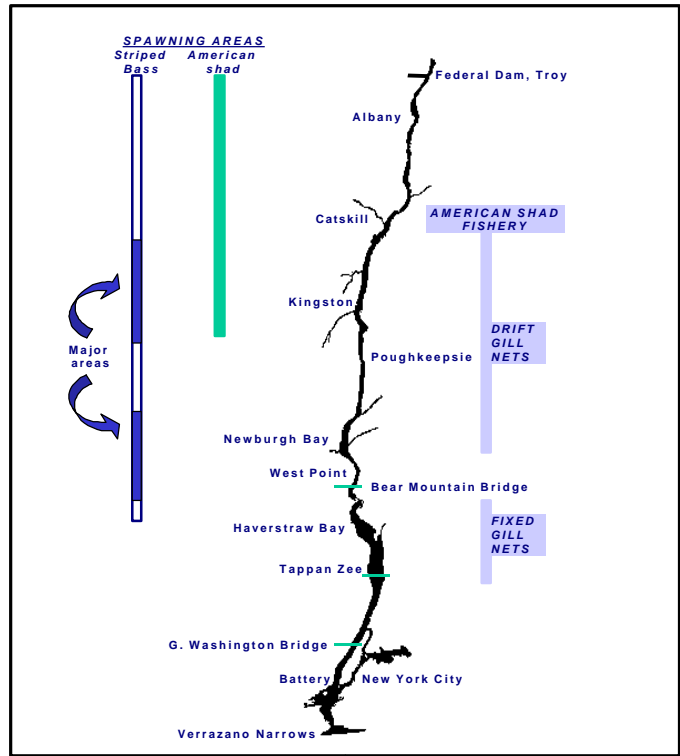
TAC recommendations should address:

Considering the views of all the stakeholders, should a limited commercial fishery be authorized? If yes, then address the following:

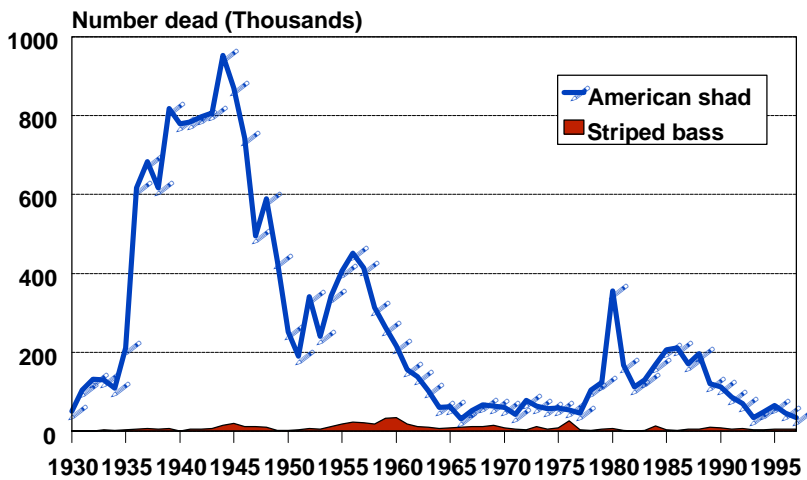
- Should this fishery operate as a bycatch allowance in the shad gill net fishery?
- Alternatively, should the fishery be directed at striped bass up to a 47,000 lb. limit (quota) with shad as a bycatch?
- Should any gears other than gill nets be used?
- Measures to prevent striped bass kill from exceeding the quota?
- Should participation be limited? Who should participate/based on what criteria?
- Should eligible fishermen be assigned an individual quota? How should such quotas be allocated among participants?
- Should the minimum length be set at 18", 24" or some other alternative?
- Should the Hudson River gill net mesh size be changed to reflect the striped bass size limit?
- What additional enforcement/compliance issues must be addressed and how?

**► HUDSON RIVER
COMMERCIAL FISHERY**

- Since colonial days, primary fishery has always been for American shad.
- Fishery is timed to the shad spawning migration in late March through early May
- Number of fishers varied with stock condition: historically ~250 fishers in 1940-50s, presently ~36 ACTIVE fishers on entire river
- In the past and today, the primary gears used are fixed or drift gill nets, with mesh size of 5 1/4 to 5 1/2 inch stretch mesh. Use of other gears is limited: haul seine (one individual left) , pound nets (NJ portion, none in NY waters)
- The harvest of shad has declined dramatically since the 1940s.
- Losses of striped bass in fishery are relatively constant since the 1930s.



Historical perspective on Hudson River commercial gill net catch of American shad & striped bass



► CURRENT COMMERCIAL REGULATIONS

- Season: March 15 to June 15
- 36-hour escapement period in the river: (No nets Fri 6am to Sat 6 pm, exceptions allowed for a few gears including seine)
- Closed and restricted areas are: Kingston Flats (closed to all nets) and Bear Mtn. and Newburgh- Beacon Bridge (No fixed gill net gear allowed)
- Gill net size and mesh limitations
- Mandatory report of daily catch and effort is due at expiration of license, report data is confidential
- The sale of striped bass bycatch prohibited since 1976.

► STRIPED BASS RECREATIONAL FISHERY

- Regulations: Season 15 March - 30 Nov
Possession: 1 fish greater than 18 inches total length
- Spring fishery moves upriver with spawning migration

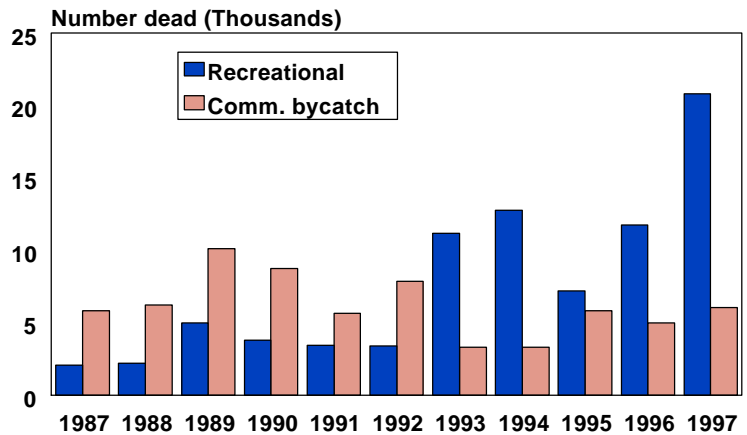
► **HUDSON RIVER STRIPED BASS BIOLOGY**

- Age at first spawn: Males: 3 to 6, Females: 6 to 8
- Spawning areas: Croton Pt. to Newburgh Bay, Kingston - Catskill
- Spawning activity: Water temperatures > 15C, Late April to early June
- Migration:
 - Adults migrate in Atlantic Ocean waters from NC to ME,
 - Young leave river in first year of life
 - Immature remain in near shore ocean until mature
 - Mature fish spawn in Hudson over two- month period then return to ocean for **another** 10 months
- Longevity: 25 to 30 years

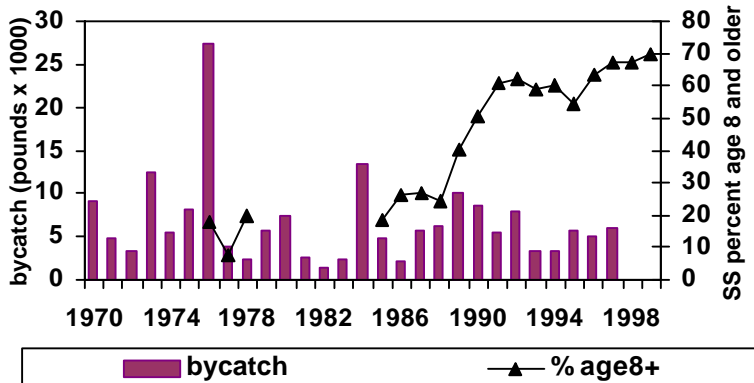
► **IN-RIVER LOSS OF HUDSON RIVER STRIPED BASS**

- Commercial bycatch estimated from onboard observers on shad fishing boats
- Bycatch loss stable for many years
- Recreational loss from volunteer angler diaries and observed fishing effort
- Directed and catch and release losses from recreational fishery increasing dramatically in last ten years.

Total losses of striped bass in the Hudson River



Striped bass bycatch loss in the commercial shad fishery vs. spawning stock age 8+ index



► **CAUSE OF POPULATION INCREASE IN HUDSON RIVER STRIPED BASS**

- 80 to 90 % of recreational & commercial losses occur in ocean waters (NC to ME)
- Increased ocean size limits starting in 1984, shifted harvest from age 2 & 3 fish to age 5 and older
- New ocean size limits increased survival of immature striped bass in ocean waters which increased the numbers of fish that returned to the river to spawn and the proportion of older spawners.

CONCLUSIONS

- In-river striped bass losses:
 - are minor compared to shad losses
 - to commercial shad fishery have been relatively stable over last 25 years
 - to recreational fishery increased dramatically in the last five years and now exceed loss in commercial shad fishery
- All in-river losses minor compared to ocean losses
- Hudson River striped bass stock in excellent condition
- No biological reason for not allowing losses at current level in river

Process within New York State for resuming sale of striped bass from the Hudson River

- Step 1** ➤ NYSDEC develops proposal characterizing the potential fishery
- Number and size to be taken
 - time and location of harvest (dictated by determination of NYDOH based on fish contaminant data)
- Hudson River Estuary Management Advisory Committee
- Temporary Advisory Committee
- Step 2** ➤ NYSDEC sends fishery proposal along with updated monitoring data to NYDOH
- NYDOH makes it determination
 - Yes, go to Step 3
 - No, process could:
 - end, or
 - a new proposal could be re-submitted (for example: different proposed location based on fish contaminant data)
- Step 3** ➤ NYSDEC takes proposal to the Atlantic States Marine Fisheries Commission
- Characteristics of proposed fishery including:
 - Record keeping:
 - biological monitoring (number, size of fish)
 - administrative: permits, tagging, enforcement
 - Rationale for resource protection
 - Public comment
- ASMFC decision process
- Yes, go to step 4
 - No, process ends
- Step 4** ➤ With ASMFC approval, NYSDEC rule making process begins
- Regulations, administration, record keeping
 - Public comment process

➤ CONTAMINANT SAMPLING IN HUDSON RIVER STRIPED BASS

- Spring samples obtained near the G. Washington Bridge, Tappan Zee Bridge, Stony Point from the commercial shad fishery
- Total of about 120 bass tested each year from this area

