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HOW MUCH SAND AND SEDIMENT IS IN THE KANKAKEE RIVER SYSTEM?

Kankakee River Basin Commission

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Kankakee River Basin Commission, "HOW MUCH SAND AND SEDIMENT IS IN THE KANKAKEE RIVER SYSTEM?" (2012). *J.R. Black Kankakee River Materials*. 79.

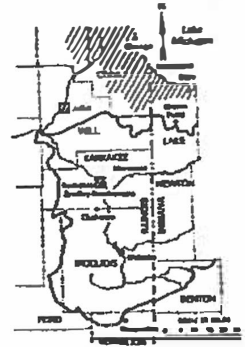
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Perspectives

The Kankakee River Basin Commission Newsletter



HOW MUCH SAND AND SEDIMENT IS IN THE KANKAKEE RIVER SYSTEM?

Having lived on the Six Mile Pool for the last twenty one years and boating on it very regularly, I have seen the sand bars get larger, get smaller, move, and be sandier or muddier. (Silt) Every year and every rain storm brings new life and death to different parts of the river. Some storms or snow melts brings very high flows, which tend to change the sand and sediment deposits on a very large scale and even moving those miles downstream where low flows tend to allow the sand and sediment to deposit everywhere and just make our river shallower and less capable of storing water in the high flows when we need that storage capacity the most. I think most of us will remember the 2 hundred year floods we had a few years back in the same year. And that is not because we had large amounts of water flowing down the river then in past years. It is because the rivers no longer have the store capacity they once did.

People ask me all the time when are they going to dredge out the river. And I simply tell them, "Probably never". The river moves sand and sediment downstream at a rate that is unimaginable to most. The real issue is how can we stop it from coming in and then the river will clean itself out in a short time. Below I will try and use some figures given to me to help everyone understand the enormous amount of sand and sediment that we are dealing with and why we just can't dredge it out - because if we did it would just fill back in again. We need to stop it from coming in at such a high rate.

General Comments

An average semi truck for hauling sand is able to haul 20 tons of DRY sand. Depending on the style and make of the semi tractor, an average overall length measurement would be approximately 41 to 42 feet from bumper to bumper.

Keeping in mind the sand we would be pulling out of the river would be wet that would increase the amount of tons of sand and the amount of trucks needed for this example.

150,000 cubic yards = (187,500 tons) at 20 tons per load would require approximately 9,375 loads.

500,000 cubic yards = (625,000 tons) at 20 tons per load would require approximately 31,250 loads.

General Comments, cont.

Semi trucks at 42 feet in length overall would require 126 to 127 sitting bumper to bumper to reach the length of one mile. At 126 trucks bumper to bumper for one mile loaded with 20 tons each, one could haul approximately 2,250 tons of sand. A line of trucks bumper to bumper extending 74.4 miles would be required to move 187,500 tons of sand. A line of trucks bumper to bumper extending 248 miles would be required to remove 625,000 tons of sand.

Back in 1995 an estimate of sand in the Six Mile Pool alone (which stretches from only Aroma Park to the Kankakee Dam) was placed at 1.3 Million tons of sand and sediment.

So to get the sand and sediment out of the Six Mile Pool it would require a line of trucks bumper to bumper over 500 miles long. Who has a back yard that big we can put it in??

Recently the KRBC and the Kankakee River Roundtable each kicked in \$1000 to try and get a Pilot Project to identify just what types of grain size and shapes, as well as percentages of various grain sizes is in the river and where it is located. The purpose of this is to see if there is a use for this sand being it for cement, construction, manufacturing materials or a host of other uses. The sediment has been used in a "Grow Out" to see if the material has value for agriculture or similar growing purposes. A recent meeting with the 317th Engineering Company of the Army Reserves proved to be very beneficial.

If you know of any group, organization or company that may help us in this endeavor please have them contact one of our board members.

I tried to give everyone a small example of what we are facing in terms of size and amount of sand and sediment we have in the Six Mile Pool. Below there are many more examples of just how much sand and sediment there is in the Kankakee River System and how much flows through it every day. If you have any ideas of how we can help alleviate this problem or other concerns on the river please contact one of our board members.

Scott Potter

Quantifying Sand Deposits in the River System

Momence Wetlands:

Overall aggradation of 133,000 cubic yards (167,700 tons) of sediment occurred from 1980 to 1994.

Six Mile Pool:

Overall aggradation of 182,900 cubic yards (229,600 tons) of sediment accumulated during the period of 1980 to 1994.

Approximately 115,700 cubic yards (145,300 tons) of sediment occurred during the two years of 1978 to 1980.

Singleton Ditch to the State Line:

Trapping sediments of 0.51 percent per year and has lost 10.2 percent of its volume from 1980 to 2001.

Upper Pool (Six Mile Pool):

Trapping sediments at the rate of 0.67 percent per year and the pool has lost 13.4 percent of its volume from 1980 to 2001.

State Line Sandbar:

Measured in 1979-1980 and had grown by 12 percent by 1999.

This sandbar was monitored in 1979-80 and it moved between 18 and 24 inches per day, depending on the flow. The bar was approximately 200 feet wide and approximately 1600 feet in length, and from 3 to 4 feet in depth at leading edge. Its total volume was estimated at 12 to 18 thousand tons.

That amount is approximately 9 to 14 percent of the total sediment load at this location. (at 9-14 percent, the total range would be from 129,000 to 200,000 tons)

High Flow:

A 2004 study indicated the river carries 20 percent silt and clay, and 80 percent very fine through medium sand during high flow.

Aqua Illinois:

Raised their deep intake that was covered with sand in 2008. The intake was placed approximately 60 years prior (prior to 1950). The structure is 30 feet in length and 5 feet in diameter and placed on a 2 feet base. This area has accumulated in excess of 7 feet of sand in the 60 year period.

Six Mile Pool:

In 1995 an estimate of sand and sediment in the pool was placed at 1.3 million tons.

Quantifying Sand Deposits in the River System, cont.

Nani Bhowmik Statement:

The decline (in storage) may seem small at less than 1 percent per year, but the trend amounts to a disturbing 15 to 16 percent over a 19 year period.

Illinois River:

The Kankakee River contributes approximately 1.3 to 1.4 million tons of sediment annually to the Illinois River System.

Momence Gauging Station:

Kankakee River sediment load varied from 23 tons per day to 31,203 tons per day.

Wilmington Gauging Station:

Kankakee River sediment load varied from 4.7 tons per day to 239,286 tons per day.

Iroquois Gauging Station (Iroquois River):

The load varied from 0.45 tons per day to 12,200 tons per day.

Chebanse Gauging Station (Iroquois River):

The load varied from 3.2 tons per day to 57,000 tons per day.

Milford Gauging Station (Sugar Creek to Iroquois River):

The load varied from 3.5 tons per day to 12,230 tons per day.

Annual Sediment for the Kankakee River:

This can be measured for water years monitored by the USGS.

Kankakee River at Momence:

1980 - 121,280 tons.

1981- 326,491 tons.

Average -180,316 tons.

Kankakee River at Wilmington:

1995 - 421,300 tons.

1981 - 1,365,482 tons.

Average - 821,571 tons.

Momence Gauging Station:

*** Sediment yield per square mile.

1980 - S3 tons per square mile.

1981-142 tons per square mile.

Average - 79 tons per square mile.

Quantifying Sand Deposits in the River System, cont.

Wilmington Gauging Station:

*** Sediment yield per square mile.

1995- 82 tons per square mile.

1981- 265 tons per square mile.

Average -160 tons per square mile.

Annual Sediment for the Iroquois River.

Can be measured for water years monito~ by the USGS.

Iroquois Gauging Station (Iroquois River):

1995- 34,599 tons.

1979- 93,130 tons.

Average - 56,489 tons.

Chebanse Gauging Station (Iroquois River):

1995-206,615 tons.

1979- 558,533 tons.

Average - 367,055 tons.

Iroquois Gauging Station (Iroquois River):

*** Sediment yield per square mile.

1995- 50 tons per square mile.

1979-136 tons per square mile.

Average - 82 tons per square mile.

Chebanse Gauging Station (Iroquois River):

*** Sediment yield per square mile.

1995- 99 tons per square mile.

1979- 267 tons per square mile.

Average -176 tons per square mile.

Removal of Sand:

Dr. Nani Bhowmik - an estimate would be from 150,000 cubic yards (App. 187,500tons) to 500,000 cubic yards (625,000 tons) of sediment could be removed on an annual basis. A hydraulic, sediment transport, sedimentation and morphological analysis has to be done before a reasonable estimate could be arrived at.

2012 Kankakee Fishing Derby

I want to thank this year's major sponsors **Coca Cola and the Daily Journal** along with the other NIAA sponsors and members who helped to make the 29th Derby a great success. I especially want to thank the registration and weigh in stations for the time and effort needed to register the people and weigh in all the different species of fish.

We added 2 new bait shops this year and they did a fabulous job in also making sure all participants had an equal winning chance.

We had some grand catches this year and even though it was a LITTLE warm, our turn out was immense. We received over 500 single and families' registrations this year.

They counted for over 1100 sports minded adults and children from our community and surrounding areas that supported our efforts and the local businesses.

We only had 7 of our tagged fish caught but the big Board was very active. Joyce Siwicki of Momence was really a go getter, she won Derby Dollar Days with a 6lb 4oz Northern and then came back with a 14lb 12oz Northern to capture 1st place in the Northern category. With that catch she also was crowned Grand Champion of the 2012 Derby. Congratulations Queen Joyce! "Great Job"!

Next year will be the 30th year for the Derby and anyone interested in Chairing the event please contact me: Sam Thomas (815-953-1372)

USED OIL COLLECTION DAY

SATURDAY, AUGUST 18, 2012

9:00AM - 12:00PM

KANKAKEE SWCD

685 LARRY POWER ROAD

BOURBONNAIS, IL 60914

CALL 937-8940, EXT. 3

FOR MORE INFORMATION

NO CONTAINER DROP OFFS



**The 30th Annual Kankakee Iroquois River
Clean Up is September 15, 2012 from 8:00am - 1:00pm
at various locations along the Kankakee River
from Momence to Wilmington.**

**If you are interested in assisting with this
important event or have an organization
that would like to help, please contact
Barbara Thomas at 815-939-2675 or 815-953-8822.**

Kankakee River Basin Commission Board Members

Chairman: J. R. Black: Northern Illinois Angler's Association

Vice Chairman: Don Anderson

Secretary: Rich Howell Treasurer: Jim Reed

Don Anderson	Bradley Bourbonnais Sportsman's Club	Matt Lindgren	Iroquois County Farm Bureau
Jack Beaupre	At Large	Keith Mussman	Kankakee County Farm Bureau
JoDee Benoit	Kankakee Iroquois Buildings Trade Council	Don Pallissard	Kankakee County Board
J.R. Black	Northern Illinois Angler's Association	Scott Potter	At Large
Kevin Culver	Aqua Illinois	Jim Reed	At Large
Thad Eshelman	Iroquois Soil & Water District	Rich Reynolds	Iroquois Soil & Water District
Rich Howell	Kankakee Soil & Water District	Rich Schultz	Kankakee River Valley Boat Club
Randy Johnson	At Large	Barb Thomas	At Large
Terry Johnston	Ducks Unlimited (Kankakee Chapter)	Sam Thomas	At Large

Would Your Organization like to know more ...?

The participating members of the Commission would be pleased to do a presentation for your organization, sharing their ongoing efforts for the conservation and restoration of the Kankakee and Iroquois Rivers. If your organization would like to know more and to participate in the Commission's on-going programs, please contact the President, J. R. Black, or our Secretary, Rich Howell, and we will be pleased to arrange for a speaker to share with your group. J. R. Black and Rich Howell may be contacted by mail at:

The Kankakee River Basin Commission
685 Larry Power Road
Bourbonnais, IL 60914

Don't miss out on this opportunity to learn and to sign onto the Commission's conservation program as a participating member, supporting the effort to insure that our rivers will continue to be a natural resource of high quality for generations to come. We look forward to hearing from you.