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**From:** Hilts, Derek <derek\_hilts@fws.gov>  
**Sent:** Thursday, March 7, 2019 3:18 PM  
**To:** Brian Ellrott - NOAA Federal  
**Cc:** Cathy Marcinkevage - NOAA Federal  
**Subject:** Re: [EXTERNAL] Historic Exports

Hi Brian,

I don't have the natural flow estimates, but I would think DWR would. I suggest you contact Tariq Kadir at DWR ([kadir@water.ca.gov](mailto:kadir@water.ca.gov)) for any numbers referenced in the report. Sorry I can't be of more help.

Derek

Derek Hilts M.S., P.E.  
US Fish and Wildlife Service  
650 Capitol Mall Room 8-300  
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Work desk phone 916.930.5633

On Thu, Mar 7, 2019 at 1:10 PM Brian Ellrott - NOAA Federal <[brian.ellrott@noaa.gov](mailto:brian.ellrott@noaa.gov)> wrote:

After reading the DWR report you sent, it seems that total Delta exports divided by total natural Delta inflow would better represent the percentage taken out. I didn't see a companion table for natural inflow like Appendix B's Table B-28, although there are some data on natural Delta inflows. Any advice on a next step?

On Wed, Mar 6, 2019 at 3:57 PM Brian Ellrott - NOAA Federal <[brian.ellrott@noaa.gov](mailto:brian.ellrott@noaa.gov)> wrote:

Yes, super helpful. Thanks Derek.

On Wed, Mar 6, 2019 at 4:37 PM Hilts, Derek <[derek\\_hilts@fws.gov](mailto:derek_hilts@fws.gov)> wrote:

In case it helps, I put the table in Excel (double check me) along with the combined Tracy and Banks exports. (attached).

Derek

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On Wed, Mar 6, 2019 at 2:33 PM Brian Ellrott - NOAA Federal <[brian.ellrott@noaa.gov](mailto:brian.ellrott@noaa.gov)> wrote:

Thanks Derek. Those data seem like what I'm after, but I'll look to understand the caveats you mentioned.

On Wed, Mar 6, 2019 at 2:22 PM Hilts, Derek <[derek\\_hilts@fws.gov](mailto:derek_hilts@fws.gov)> wrote:

Hey Brian,

I don't know if you intentionally said "unimpaired Delta inflow", but I will assume you did. See Appendix B's Table B-28 of the attached report.

Unimpaired flow estimates have a gigantic number of caveats that come with them. The attached report has a ton of information that might be of interest to you.  
Derek

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On Wed, Mar 6, 2019 at 1:51 PM Brian Ellrott - NOAA Federal <[brian.ellrott@noaa.gov](mailto:brian.ellrott@noaa.gov)> wrote:  
Hi Derek,  
Some day this project will push you out the door, but I'm really glad it hasn't happened yet. Thanks for the export data!

Any chance you would have data or a figure on the percentage of CVP/SWP Delta exports relative to total unimpaired Delta inflow over that same or a similar historic time period? As in what's the percent taken out each year.

Thanks,  
Brian

----- Forwarded message -----

From: **Cathy Marcinkevage - NOAA Federal** <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)>  
Date: Fri, Mar 1, 2019 at 4:14 PM  
Subject: Fwd: [EXTERNAL] Historic Exports  
To: Brian Ellrott <[brian.ellrott@noaa.gov](mailto:brian.ellrott@noaa.gov)>

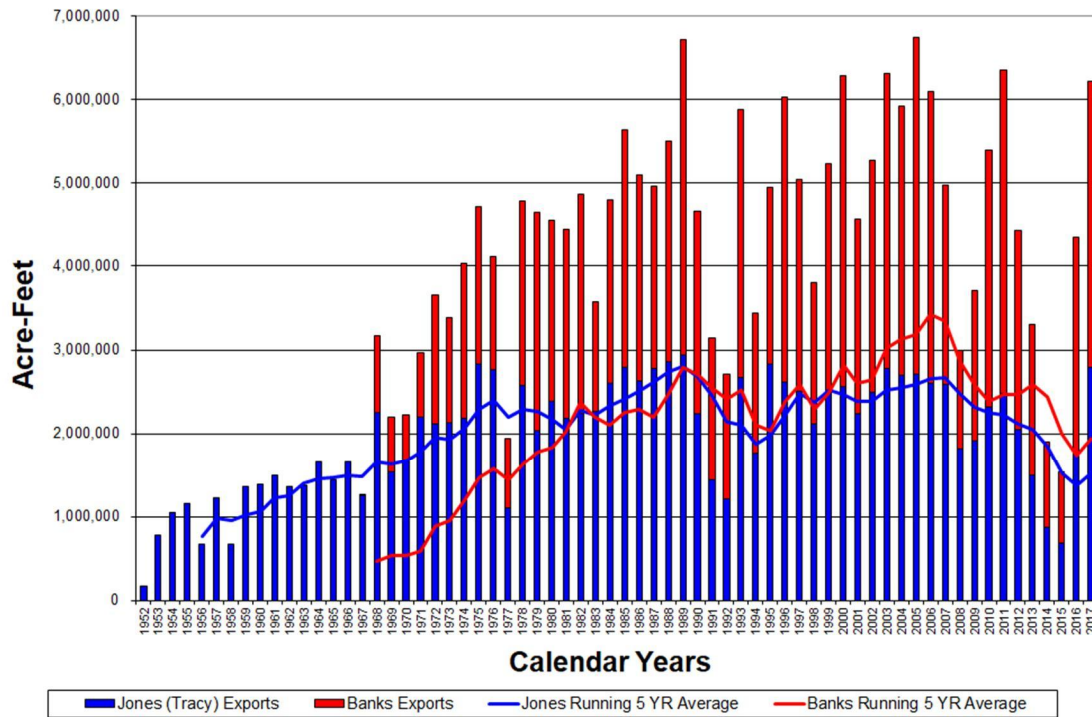
Try this? Want it to go longer?

----- Forwarded message -----

From: **Hilts, Derek** <[derek\\_hilts@fws.gov](mailto:derek_hilts@fws.gov)>  
Date: Fri, Mar 1, 2019 at 4:04 PM  
Subject: Re: [EXTERNAL] Historic Exports  
To: Cathy Marcinkevage - NOAA Federal <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)>

Cathy,  
I have this chart, but it only goes through Dec 2017. I can update it for 2018 numbers on Monday if you want.  
Derek

## Annual Historical Delta Export Pumping Volumes



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