

& 8#)Q] \$ VVRFLDW HQ3URU HQ V FDW RMKHL 38DC
SURGXFHG ZDWHU PDQDJHPHQW ELR PDD
ODQGVFDSHV ZLWK WRFSLV R Q I KRFZWF BK Q D

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Topic 5HPRYDO DQG LQDFRVLJDOLLRQ R RQV FOXGHG LQ HIOX
ZDVWHZDWHU SDWWREODHQGXFKQRULQWUCLVLQIHFWLRQ
Committee)UDQN - /RJH -HDQQLH / 'DUE\ 7LPRWK\ 5 *LQO

0 6 & LYLO DQG (QYJLQRHQPHLQW DQQLYHQVLDWYRIV&DOLIRU
Topic 3DWKRJHQV DQG ZDWHU UHXVH
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% 6 & LYLO (QJLQHHLQJ FXP ODXGHDW8QOMHUSVLW\ RI :DVI

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8QLYHUVLW\ RI WKH 3DFLILF)DFXOW\ 5HVHDUFK /HFWXUHU
8QLYHUVLW\ RFRKH3DF(QJLQHHLQJ &RPSXWHU 6
2XWVWDQGLQJ)DFXOW\ 0HPEHU
8QLYHUVLW\ RI WOHHQGHFLLQX8QOMHUSVLW\RIKQJ
8QLYHUVLW\ RI &D7FLKREDDQB JORXLW6FKRODUVKLS
8QLYHUVLW\ RI &D*ULD & QWDH 6WYXIGMHQV G6SPSRFHLXP VH
8QLYHUVLW\ RI &D8DLURDQDLD6FRORQHLMKDS (QJLQHHLQJ
8 6 *HRORJLFDWLGXEDWH &H\$SSUHFLDWLRQ
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SUHVHQW 9LVLDZLQJ FDF%GWNH/OHAD1DRULR Q%HQMIBERH\ &\$
5HYLHZHG WHFKQRORJWNLQGQVDOZDWRHVDWV SURGX
FRQYHQWLRQDO RRO DQGOJXDW\$IGRGRZMLKHZ/RHXVGFHQDS
WUHDW RI ZDVGHZDWHQJXSURRQYFHSWRBQDVLRLQEQGKD
IUDFWXULQJRIWLJXWHGKZDMWHZDWHVDFGLVSRWRDOLSWHG
DQGJDV LQG XVWU\ LQ &DOLIRUQLD
\$QDO\]HG PRGHO R\$50\$XZD WUHRPV KHG P. Q. S. H. O. G. H. W. W. X. H. L. L.
WKDW ZDV DSSOIHGQWFLWKH\WRQFRRDWRREJWLQJ WR ORZ
R[\JHQ FRQGLWLRQV LQ WKH 6WRFNWRQI'MKSH:GDQURD

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3URYLGHG HQJLQRH UWHUJYERUW WRUJEDVDYDQGLZHWWRIZDWMU
SURMHFWVXGXVGLHWVIXDQCOFFHOBUGIHYEIVLRRQFRQUWHD FWRUJ
FRQWUDFW FRPS QIDVQLFRQ B D Q SFRFSDVQNSQUMHVHQWDWLYH S
0DULQH 3DUN :DW HUF L50HFWOD PDDWLHR Q,X)M\$DQO L(RV HQQGL RQ
XQGHUWDNHQ E\ R\KXHH & LW\$ RR 9HJ S ED Q GWHQZ DVMHUVW WQJH Z W F
IURP HLJKW WR PLOOLRQ JDOORQV SHU GD\
3ODQQHG DQG GHVL ZDWHG Z DLVQH UDDYDQJ ZHW W B H S B B MHFWV
UHSUHVHQWDWLYH SURMHFW ZDV WVKH 3DWMH F7U HRDUV FHKC
1HZEHUJ 25 WKDWL WQMLRQ YDQ HUH WWRQLO G U DQNLROJ ZDWW
FRQVWUXFWLQJ D QHZ FKHPLFDO VWRUDJH DQG IHHG VA

-XQLRU (QJLQH H H Q H H D D O Q L V 9 (D Q F R X Y H U : \$
3HUIRUPHG HQJLQRH V D Q Q G S F D H S F X O H D Q M E R Q S V O D D F W D C R G F X F S H
IRU ELGGLQJ DQG FWRQZDWHU XUF WLLR H O D R C P F Z Q V D F L O Q L W R K V H R U
:DVKRXJDO 5LGJHILHOG %DWWOH 6WFXQHG DQG <DFROV
:URWH FDSLWDO QJ D G R G K W H E W S O D Q C Q O V H Q Y D V H R G H F H S O W D W R
FRPSOLDQFH DQG IXQGLQJ RI SXEOLF ZRUNV SURMHFWV

\$VVRFLDWH 86 *HRORJLFDO 6XUYJH\QL (DYLURQ PH Q M D Q H
,QYHVWLJDWHG Z D V F H I U Z D X M H O L W L P S I D F M G H U G D E Q D F H G L Q W K F
UHJLRQ RI 3HQQV\OYUDHQLV P H Y Q V O R D V F X G L Q L Q H Q S U L F L O D P H
GUDLQV
3HUIRUPHG ILHOG DQG ODERUDWRU\ Z
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& L Q W L D E R & P o b l i c H a [Data Science) D O O

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* H Q D) D r o p I n g A e r i a l P h o t o g r a m m e t r y u s i n g U n m a n n e d A e r i a l V e h i c l e s 6 S U L Q J

0 X K D P P D G A d v a n c e s i n M a p p i n g U s i n g U n m a n n e d A e r i a l V e h i c l e s 6 X P P H U

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& K D R) Treatment of Oil-Water Emulsion from the Machinery Industry by Fenton's Reagent
6 S U L Q J

& \ O H 0 Z B Q Zooplankton-Phytoplankton Interaction in the San Joaquin River

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(QYLURQPHQWDO PDQDJHPHQW RLO JDV SURGXFWLRQ
%LRPDVV HGHUJ\
:DWHU TXDOLW\ LQ DJULFXOWXUDO ZDWHUVKHGV
8QPDPQHG DHUHLQ FHKLEOHQXMVQHHLQJ
3HGDJRJ\ DQG JHQGHU LVVXHV LQ HQJLQHHLQJ

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6WULQJJIHOORZ . : &DPDULLOORZEDFN YHUVHV ILUVW IOXV
WKH JHRFKHPLVWUHRU SWRFXDQG(DWRURQPHSQWVDOQJFLHQF
DQG ,PSDFWV

&DPDULOORZ : 7 6WULQJJIHOORZ WUH DWHU QSWRFXFLHG
ZDWHU D UHYLHZLDQ & PHHWOD THFKORROPHUQWVDOQJFLU

6WULQJJIHOORZ&DPDULOORRPHQ DQGRQNR &RPSDULV
FKHPLFDO XVH EFHWZDHWXKVLGQUD XDLHG R JLOQ D QDQJED V RGHVHOF
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6WULQJJIHOORZ&DPDULOORRPHQ : /Q 6 DQGDGDGKDUDMDQ 3
0 7 5HDJDQ + &RRHQJHU DQGE 7 %LGNQWQJHLQJ FKHPLF
FRQFHUQ LQ K\QUDDQLE MUXDFHGX IRLU RnetoSPURtGx F W L R Q

0 . &DPDULOORRPHQ DQG : 7Z 6WULQJJIHOORZ FKLHPRFDO DQ
K\GUDXOLF IUDFVQXWIKQJFRQVPH FVQW USHURQPHQV ZDWHU
Environmental Management

&DPDULOOR \$0 :HLVVPDQQ +HUXGDWKHHGHQJIBOORZ7 6WU
3DLULQJ KLJK IUHDXHQEN QRVGH ZLRVQROWRGPRQDHE GRSDL
GUHGJHGHVWVXDAUMonitoring and Assessment

*XODWL 6 \$ 6WXEEOHIOHO&DPDULOORZ 6WULQJJIHOORZ
EDODQFH DQDQXWULRQWVDOQVG R[WJDHQB MFLQVKGJ6VQE - F
Water Science and Technology

)HQJ & + 6XQ 8DPDULOORWULQJJIHOORZ . DQGDWPHQW R
ZDWHU HPXOVLRGHU RLPQ QXVHWD FKLHPRFDO DQ
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6WULQJIHOORZ : 7 . -&DPB WULLOOR Relin DQG 6 %RUJOLQ
FKHPLFDO DQG ELLRVLFLV DQD FRKPSXEDQXV JHDFW XULQJ
Hazardous Materials

Domen, J.K. : 7 6WULQJIHOORZUDQGR6 *XODWL DV DQRDZDWHU
DQG VXVWDLQDEOH Clean Technologies and Environmental Policy

&DPDULLOOR 70 6WULQJIHOORZ - 6 +DQORQFBQRG VDWWDWID
VHZHU FROOHFWLRQ V\WHP RGRXU FRQW

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&DPDULLOOR (%DVKD POWE HIGDMLRIG B INK D OHV D
SKRWRJUDPPHWJLQWBLQJFERIXO VIFLHWPFRULFOQLQHHL

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Costello, S. 5 -DLQ . DQG DPDULLOOR HPRYDO RI VHGLPHQW IURP U
WR LPSURYH ZDWHUKRFXDOLWHULQQ/DIURIDPHQOXDHOGHUFKQLF
([KLELWLRQ DQG &RQIH&KHL&BHR : (,)7 (2FWREHU

&DPDULLOOR 70 6WULQJIHOORZ - 6 +DQORQ DQG DGD%URXEH
GLJHVWLRQ DQG FRZLHV&KHL&BHR DQVXV&BHR URTOXD&BHR WOLPLW C
12[DQG VXOIXU R[LGHV 62[LQ VW&BHR PHQW HPH&BHR DQVXV
7HFKQLFDO ([KLELWLRQ(DQG &RQZ&BHR DQVPE\$U 2FWRE

&DPDULLOOR 70 6WULQJIHOORZ - 6 +DQORQ DQFHGG VOX %WDX&BHR
GDLU\ RSHUDWLRQW&BHR DQVXV&BHR IDPS&BHR DQVPE\$U F&BHR L&BHR DQVXV
\$JULFXOWXUDO DQ&BHR %L&BHR \$&BHR %L&BHR F&BHR \$Q&BHR DQVXV, DQVXV&BHR W&BHR L&BHR DQVXV
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&DPDULLOOR 6WULQJIHOORZ 5: 7 DQGH&BHR DQVXV&BHR P&BHR DQVXV&BHR
GULQNLQJ ZDWHU&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR
)UDQFLVFR &\$ 1RYHPEHU

&DPDULOORR.DH.) - DQG 'DUE\ - / 0R&BHR DQVXV&BHR L&BHR DQVXV&BHR
SDUWLFOHV&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR
:()7 (& 1HZ 2U&BHR DQVXV&BHR DQVXV&BHR

\$QXVNLHZLF] QRZ &DPDULOOR DQG 'DUE\ - / 2SWLP
DQG GLVLQIHFWLRQ&BHR R&BHR F&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR
)HGHUD&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR DQVXV&BHR

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&DPDULOOR <0 /HH % *UDILXV DQG : 7 6WULHQJWHFHQRV RI
5HFODLPHG 3URGXFHIGLDDVHSHKRUH %GHHRSJDLHDG5HRVRX&DFHV

&DPDULOOR <0 /HH % *UDILXV DQG : 7 6WULHQJWHFHQRV RI
3URGXFHG :DWHU \$ /LWHS D W X G H R S H V R L D O F L R U S R L L D S R U D W L F
SUHSDUDWLRQ

6WULQJJIHOORZDUJZOOBQG 3 -RUGDQ 6WDWXV RI :HO
&DOLIRUQLD VLQRHRIP 60HP5HQX D V W L / D Z V H S U F H H S D H H G H E O H \\
/DERUDWRU\ %HUNHGHRU&\$L3LMLSDG RHRWGHUPD OD5HVRXU
'2**5 , Q SUHSDUDWLRQ

6WULQJJIHOORZ. :&DPDULOORLQDO 0HPR IRU 6FLHQWLILF 6
1RYHPEHU /:,1(3RPDFH 0DQDJHPHQ:WQBUMSDUHSUURHG
(FRORJLFDO (QJLQHSHURJQD 5H8GIDYHFU 7LWWRFNWKRIQ3D&\$L 6X
1RYHPEHU

6WULQJJIHOORZ : DUD8GRKROUHDMDQ 9&5HDBBQUJHU'RPHQ -
6DQGHOR&DPDULOOR-RUGDQ 3 'RQHQDQDFK. 61 +DPGRXQ \$
+RXVHZRUWK - &KRSWHO 6,WSDXGMBWRXWFRQ :DQW\$Q ,QG
6FLHQWLILF \$VVHWVPHXQDWRROHQDQ 6DROWFRQWLLDO \$RQLURQP
RI +\GUDXOLF)UDFWLXPXQDVLQDQ \$8DGRIGRUFQHQDFR DQGL7HF
6DFUDPHQWR &\$ -XO\

6WULQJJIHOORZ 07 &DPDULOORLHU BQG - 'R,RYHVWLJDW
\$QDHURELF 'LJHVWLRQ :LQHU\ :DVWQRWRW 6XSSRQFWDQBVLV
5HSRUW 3UHSDUHGI RU (- *DOOR (QQHQHHSJUDQSDUHSRGRUD
8QLYHUVLW\ RI WKH 3DFLILF 6WRFNWRQ &\$ 6XEPLWWHG

6WULQJJIHOORZ :&DPDULOORLQWVKHVLVPR,IQ5HHWXQLW D W U R Q V
&DXVHV RI /RZ 'LVQRQKHG62[QJHQDIXUQL5L YKH &(RQWXD[W R
'LVVROYHG 2[\JHQ 7RLVDDORDDGLBXPISDUHQD I)RUK 8DQGL:ROGO
'2 7RWDO 0D[LXP 'DLO\ /RDG 70'/ 3UREMHFROR(RJLFDO 3UH
(QJLQHHULQJ 5HVHQLYHFU 3LURVURDPWR 38DF LILF 6WRFNW

:HLVVPDQQ * \$:ORZ6VUEXODHVL 6U6KEB&DPDULOOR
5HSRUW \$QDQGLVFRGHQDNDVV VOR3DGLSDUJHGHQRDU L&O
DQG :LOGOLIH 6-5X2P7RWDVORBDL 70'/ 3URMHFROR(RJLFDO
(QJLQHHULQJ 5HVHQLYHFU 3LURVURDPWR 38DF LILF 6WRFNW

6WXEEOHILHOG \$ &DPDULOORORQ DQG : 6WULQJJIHOORZ
0DVV EDODQFH DQDGRVLTXLRLU5WKHUQIXHRWRDQGHQDSOLH 3UH
&DOLIRUQLD)LVK DQG :LOGOLIH 6-502/7RWRDQDHFDM L P X P 'D
(FRORJLFDO (QJLQHSHURJQD 5H8GIDYHFU 7LWWRFNWKRIQ3D&\$L

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&DPDULOOR 70 6WULQJIHOORZ +DQORQ DQG & 6SLHU
VWDELOL]LQDODZDMFWHODXQGSHURGEFH&BQHURUQLD 3DFLILF
'D\ 6WRFNWRQ &\$ \$SULO

*XODWL_6 & 6SLHU - +DQORQ &DPWXEEDMUHQGHORR
:HLVVPDQQ (*UDWFDQG-6 +6KHHGHULHV WRHHW&R&RWRJGLV
LPSDLUPHQW LQ WKH 6DQZEVFXULVDEYRDEBHHVPHDQWK 3D\
&\$ \$SULO

6WULQJIHOORZPHQ : -/ . 6DQGHOL&DPDQGOOR&KDUDFWHULJD
FKHPLFDO DGGLWLYHV XVHG LQ KNVHDXGKF'DUDFWHULVQR

Jung, J. : 7 6WULQJIHOORZUDQGR& 6SLHU (IIFWV RI ZH
RQ FDUERQ VWRUDJH LQ VRLO 1DWLFRVHDOU&RQ1&BHQFRXL
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Jung, J. : 7 6WULQJIHOORZU&O6SLHU 0 %XUQHOO DQG * /L
Microcystis EORRPV LQ WKH 6DQZUDPHQWB 6DQZUDPHQWB 6DQZUDPHQWB
5HVHDFK DQG &UHQWHY6WR&RWRQ &\$ \$SULO

&DPDULOOR 70 6WULQJIHOORZ Ebia (QFRXUDJLQJ VXVW
DJULFXOWXUH WKURXJK ELRPDVV 6DQZUDPHQWB 3DFLILF

&DPDULOOR 70 6WULQJIHOORZ 0 % -XH DQIGFR 6LJHVDQVLRQ
VDOLQLW\ DW D ELRPDQWHUQDUMLSOURDHFWRHUOSV.MRVHU &R
([KLELWLRQ %XVDQ .RUHD 6HSWHPEHU

+DQORQ - &DPDU&O6SLHU DQGQRZ 6WULQJIHOORZDQJ D P
VWUDWHJ\ IRU WUDFOLQPSBQWVURIQWR&NLVHLQWDHG DQDQURE
HQHUJ\ SURMHFWOR&HWWKLDQWLRQDQ&BQ\$SUL3BUWDDQ

+DQORQ - &DPDU\$O6R&EEOHILHQORZ 6WULQJIHOORZ
FROOHFWHG PXQLFLSHVVP&RLWRSUDQJH&DQWDOYHJIRQJHQ W
GDLO\ ORDG 70' / VPRGHDO VRQLVDRUUVQD&BQIH25H\$SHLOR

Ebia, M. & 6SLHU : 7 6WULQJIHOORZRHYPHORSQHW RI WKH
SKRVSKRURXV PDVVREGLDQGHSHXULXGHVWRIGG3DFLILF&QGH
5HVHDFK DQG &UHQWHY6WR&RWRQ &\$ \$SULO

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\$FDGHPLF &RXQFLO &RPPLWWHH RQ **UDDG X/DWWW RQV X GSHVQ
6SHDNHU 0F*HRUJH)FXQ&BQWLRQVZRI HDW\$U /DZ 3&QWURGX
WR :DVWHZDWHU 7UHDWPHQW' 6SULQJ
)DFXOW\ &RPSHQVDWLRQ &RPPLWWHH
6SHDNHU +RQRUV)UHVKPHQ 6HPLQDU)DOO
7FKREDQRJORXV :DWZHU DQELXQJH&RPUPLSWHHH Q)DOO
:DWHU DQG (QYLUG QRIHQ WQLOV 6DWMZDH &RPPLWWHH
3URPRWLRQ DQG 7HQXUH &RPPLWWHH LIRUH QJLQW W) DDOZRRC
7KLUG <HDU 5HYLHZ &RPPLWWHH IRUFH DUDD QOLHPDQQ %LI
&RPPLWWHH IRU \$FDGHPLF 3ODQQLQJ DQ 6SHYQJDRSPHQW
8QGHUJUDGXDWH 5HVHDFK 7DVN)RUFH ±
8QLYHUVLW\ &RPPHQFHPHQW 0DUVKDOO ±
6SHDNHU 0F*HRUJH)FXQ&BQWLRQVZRI HDW\$U /DZ 3&QWURGX
WR :DVWHZDWHU 7UHDWPHQW')DOO
*HQHUDO (GXFDWLRQ &RPPLWWHH 6SULQJ
9ROXQWHHU ([SDQG&DUHHRX &RQULYRQV WKBQ3DYHLLVEW
6SHDNHU 5(// &RPPXQLW\ 0HHWLQJ 3 6DWWKHUWV :DQWQHZDV
)DFXOW\ 3DUWLFLSD'QWQ&5 &8(QVLYTHUMLWV\)ROQKH 3D

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([SDQGLQJ <RXU +RUL]RQV 6DQ -RDTXLQ :RUNVKRS /HDG
6HZHU *DV 2GRU 6WXG\ &LW\ RI 6WRFNWRQ ±
6SHDNHU 6DQ -RDTXLQ &RFXDMLRQ IL3SHHQ 5RRIV'
6SHDNHU 6WRFNWRQ QQLZDQDLV \$OXDWQ 2 5SRURV QEPWLHV'
6SHDNHU 6WRFNWRQ 3 (QWLUHFWUHDVPHQW) DQHQ DQG

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16) 5HYLHZHU DQG
2UJDQL]LQJ &RPPVWUHHWDSHQSHZHU QDWLRQDO :DWHU \$VVR
6SHFLDOLJHG &RQIHUHQFH RQ :DWHU 6DQ) WQCF 5VFRU &\$DV
0RGHUDWRU 3/DQGLQK ,QVWUQDRQ 6QDQ &RQVWUHQFFHQ
0DQDJHPPHQW 3KLODGHOSKLD 3\$