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%% PlotSeasons
load('RiverCapacity_Above_RBDD_ROC_LTO.mat')

t = River.COS_LOWER_SACRAMENTO.Time;
Habitat.Upper = River.PA_UPPER_SACRAMENTO.TotI95 - River.COS_UPPER_SACRAMENTO.TotI95;
Habitat.Lower = River.PA_LOWER_SACRAMENTO.TotI95 -
River.COS_LOWER_SACRAMENTO.TotI95;
Habitat.Yolo = River.PA_YOLO.TotI95 - River.COS_YOLO.TotI95;
MonthNo = month(t);

%% set seasons
% Winter (Dec 1 - March 1)
% Spring (March 1 - May 15 [maybe needs to be June 1? or May 1?])
% Summer [temp mgmt.] (May 15 [or June 1] - Nov 1)
% Fall (Oct. 1 - Dec 1) <-- I realize there's overlap with Fall.

Season = zeros([length(t) 1]);
Season(find(MonthNo==12 | MonthNo==1 | MonthNo==2)) = 1;
Season(find(MonthNo>=3 & MonthNo<=5)) = 2;
Season(MonthNo>=6 & MonthNo<=10) = 3;
Season(MonthNo==10 | MonthNo==11) = 4;

%% Plot by habitat
habitat = {'Upper', 'Lower','Yolo'};
HabitatLabels = {'Upper River', 'Lower River','Yolo Bypass'};
SeasonLabel = {'Winter', 'Spring','Summer','Fall'};

% [left, bottom, width, height]
scrsz = get(0,'ScreenSize');
figure('Position',[1 scrsz(4)/2 scrsz(3)/2 scrsz(4)/1])

for h=1:3

    subplot(3,1,h)
    boxplot(Habitat.(char(habitat(h))),Season)
    hline(0)
    % ylim([-1 1])
    set(gca,'xtick',[1:4],'xticklabel',SeasonLabel)
    ylabel('Capacity (millions fish)');
    title(HabitatLabels(h))

    sgtitle({'Habitat Capacity PA - COS', ' '}) % adds line below

end

```