In [4]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import datetime as dt
```

In [5]:
```
df = pd.read_csv(r'D:\Python Learning\Python Projects\Datasets\covid_19_india.csv', parse_dates=['Date'])
```

In [6]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 18110 entries, 0 to 18109
Data columns (total 9 columns):
 #   Column                   Non-Null Count  Dtype         
---  ------                   --------------  -----         
 0   Sno                      18110 non-null  int64         
 1   Date                     18110 non-null  datetime64[ns]
 2   Time                     18110 non-null  object        
 3   State/UnionTerritory     18110 non-null  object        
 4   ConfirmedIndianNational  18110 non-null  object        
 5   ConfirmedForeignNational  18110 non-null  object        
 6   Cured                    18110 non-null  int64         
 7   Deaths                   18110 non-null  int64         
 8   Confirmed                18110 non-null  int64         
dtypes: datetime64[ns](1), int64(4), object(4)
memory usage: 1.2+ MB
```

In [7]:
```
df
```

Out[7]:

	Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational	Cured	Deaths	Confirmed
0	1	2020-01-30	6:00 PM	Kerala	1	0	0	0	1
1	2	2020-01-31	6:00 PM	Kerala	1	0	0	0	1
2	3	2020-02-01	6:00 PM	Kerala	2	0	0	0	2
3	4	2020-02-02	6:00 PM	Kerala	3	0	0	0	3
4	5	2020-02-03	6:00 PM	Kerala	3	0	0	0	3
...	...	...	...	...	...	...	...	...	...
18105	18106	2021-08-11	8:00 AM	Telangana	-	-	638410	3831	650353
18106	18107	2021-08-11	8:00 AM	Tripura	-	-	77811	773	80660
18107	18108	2021-08-11	8:00 AM	Uttarakhand	-	-	334650	7368	342462
18108	18109	2021-08-11	8:00 AM	Uttar Pradesh	-	-	1685492	22775	1708812
18109	18110	2021-08-11	8:00 AM	West Bengal	-	-	1506532	18252	1534999

18110 rows × 9 columns

In [8]:
```
df.head()
```

Out[8]:

	Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational	Cured	Deaths	Confirmed
0	1	2020-01-30	6:00 PM	Kerala	1	0	0	0	1
1	2	2020-01-31	6:00 PM	Kerala	1	0	0	0	1
2	3	2020-02-01	6:00 PM	Kerala	2	0	0	0	2
3	4	2020-02-02	6:00 PM	Kerala	3	0	0	0	3
4	5	2020-02-03	6:00 PM	Kerala	3	0	0	0	3

In [9]:
```
df1=df.copy()
df1=df1[['Date','Time','State/UnionTerritory','Cured','Deaths','Confirmed']]
```

```
df1.columns=['Date','Time','State','Cured','Deaths','Confirmed']
df1.head()
```

Out[9]:

	Date	Time	State	Cured	Deaths	Confirmed
0	2020-01-30	6:00 PM	Kerala	0	0	1
1	2020-01-31	6:00 PM	Kerala	0	0	1
2	2020-02-01	6:00 PM	Kerala	0	0	2
3	2020-02-02	6:00 PM	Kerala	0	0	3
4	2020-02-03	6:00 PM	Kerala	0	0	3

In [10]:
```
df1.tail()
```

Out[10]:

	Date	Time	State	Cured	Deaths	Confirmed
18105	2021-08-11	8:00 AM	Telangana	638410	3831	650353
18106	2021-08-11	8:00 AM	Tripura	77811	773	80660
18107	2021-08-11	8:00 AM	Uttarakhand	334650	7368	342462
18108	2021-08-11	8:00 AM	Uttar Pradesh	1685492	22775	1708812
18109	2021-08-11	8:00 AM	West Bengal	1506532	18252	1534999

In [11]:
```
today=df1[df1.Date=="2021-08-11"]
today.head()
```

Out[11]:

	Date	Time	State	Cured	Deaths	Confirmed
18074	2021-08-11	8:00 AM	Andaman and Nicobar Islands	7412	129	7548
18075	2021-08-11	8:00 AM	Andhra Pradesh	1952736	13564	1985182
18076	2021-08-11	8:00 AM	Arunachal Pradesh	47821	248	50605
18077	2021-08-11	8:00 AM	Assam	559684	5420	576149
18078	2021-08-11	8:00 AM	Bihar	715352	9646	725279

In [12]:
```
max_confirmed_cases=today.sort_values(by='Confirmed',ascending=False)
max_confirmed_cases
```

Out[12]:

	Date	Time	State	Cured	Deaths	Confirmed
18094	2021-08-11	8:00 AM	Maharashtra	6159676	134201	6363442
18090	2021-08-11	8:00 AM	Kerala	3396184	18004	3586693
18089	2021-08-11	8:00 AM	Karnataka	2861499	36848	2921049
18104	2021-08-11	8:00 AM	Tamil Nadu	2524400	34367	2579130
18075	2021-08-11	8:00 AM	Andhra Pradesh	1952736	13564	1985182
18108	2021-08-11	8:00 AM	Uttar Pradesh	1685492	22775	1708812
18109	2021-08-11	8:00 AM	West Bengal	1506532	18252	1534999
18082	2021-08-11	8:00 AM	Delhi	1411280	25068	1436852
18080	2021-08-11	8:00 AM	Chhattisgarh	988189	13544	1003356
18099	2021-08-11	8:00 AM	Odisha	972710	6565	988997
18102	2021-08-11	8:00 AM	Rajasthan	944700	8954	953851
18084	2021-08-11	8:00 AM	Gujarat	814802	10077	825085
18093	2021-08-11	8:00 AM	Madhya Pradesh	781330	10514	791980
18085	2021-08-11	8:00 AM	Haryana	759790	9652	770114
18078	2021-08-11	8:00 AM	Bihar	715352	9646	725279
18105	2021-08-11	8:00 AM	Telangana	638410	3831	650353
18101	2021-08-11	8:00 AM	Punjab	582791	16322	599573
18077	2021-08-11	8:00 AM	Assam	559684	5420	576149
18088	2021-08-11	8:00 AM	Jharkhand	342102	5130	347440
18107	2021-08-11	8:00 AM	Uttarakhand	334650	7368	342462
18087	2021-08-11	8:00 AM	Jammu and Kashmir	317081	4392	322771
18086	2021-08-11	8:00 AM	Himachal Pradesh	202761	3537	208616
18083	2021-08-11	8:00 AM	Goa	167978	3164	172085

	Date	Time	State	Cured	Deaths	Confirmed
18100	2021-08-11	8:00 AM	Puducherry	119115	1800	121766
18095	2021-08-11	8:00 AM	Manipur	96776	1664	105424
18106	2021-08-11	8:00 AM	Tripura	77811	773	80660
18096	2021-08-11	8:00 AM	Meghalaya	64157	1185	69769
18079	2021-08-11	8:00 AM	Chandigarh	61150	811	61992
18076	2021-08-11	8:00 AM	Arunachal Pradesh	47821	248	50605
18097	2021-08-11	8:00 AM	Mizoram	33722	171	46320
18098	2021-08-11	8:00 AM	Nagaland	26852	585	28811
18103	2021-08-11	8:00 AM	Sikkim	25095	356	28018
18091	2021-08-11	8:00 AM	Ladakh	20130	207	20411
18081	2021-08-11	8:00 AM	Dadra and Nagar Haveli and Daman and Diu	10646	4	10654
18092	2021-08-11	8:00 AM	Lakshadweep	10165	51	10263
18074	2021-08-11	8:00 AM	Andaman and Nicobar Islands	7412	129	7548

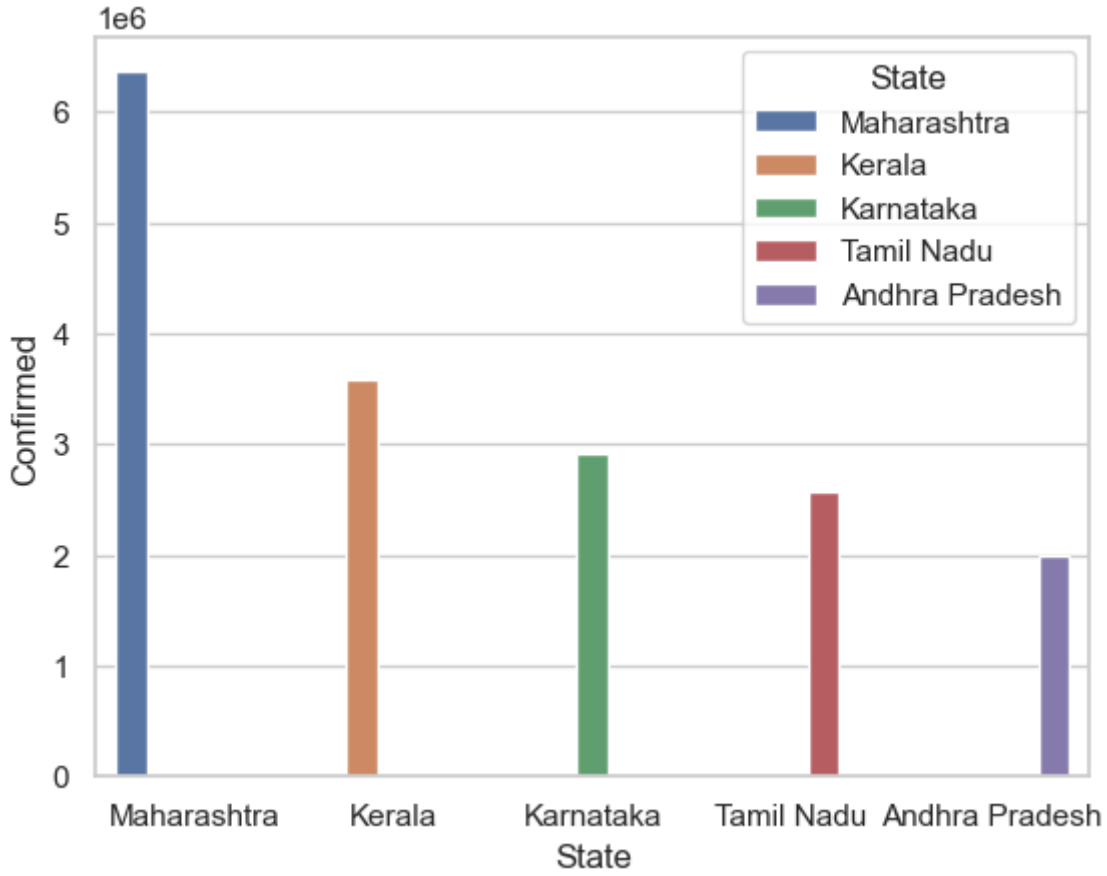
In [13]:
```
top_states_confirmed=max_confirmed_cases[0:5]
top_states_confirmed
```

Out[13]:

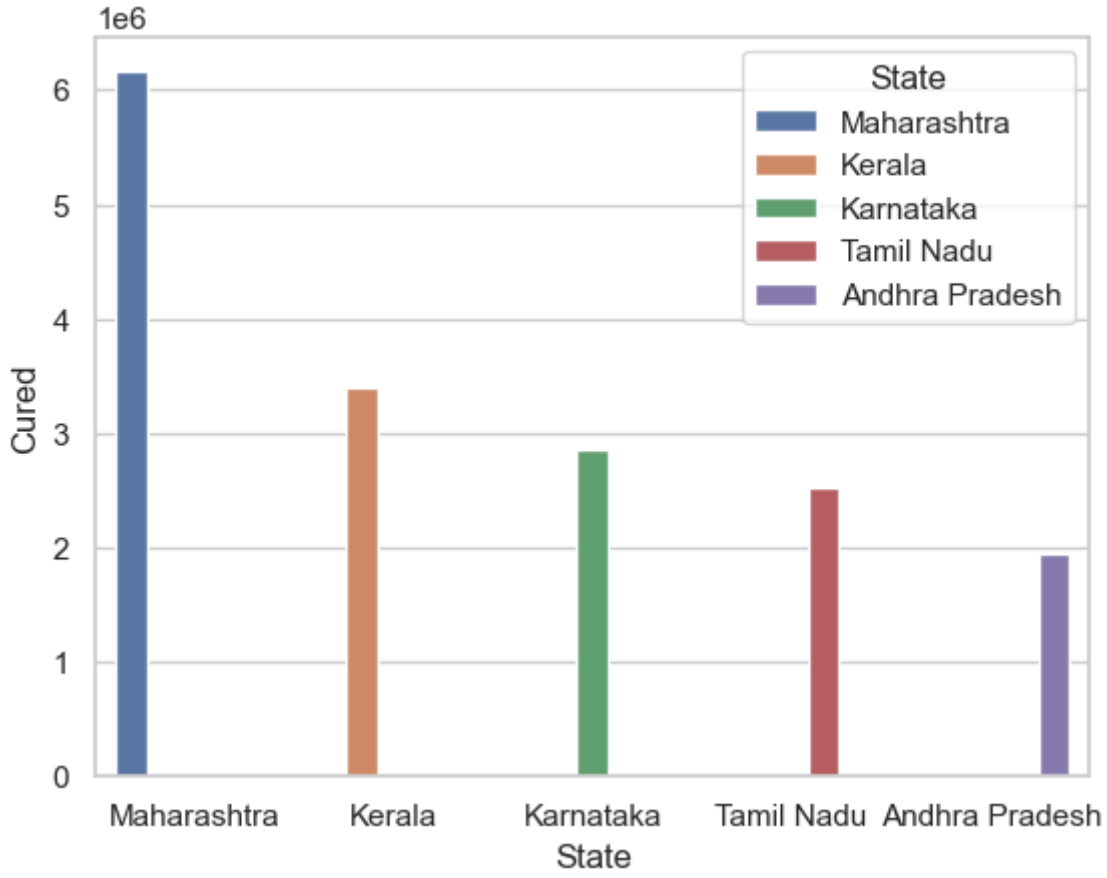
	Date	Time	State	Cured	Deaths	Confirmed
18094	2021-08-11	8:00 AM	Maharashtra	6159676	134201	6363442
18090	2021-08-11	8:00 AM	Kerala	3396184	18004	3586693
18089	2021-08-11	8:00 AM	Karnataka	2861499	36848	2921049
18104	2021-08-11	8:00 AM	Tamil Nadu	2524400	34367	2579130
18075	2021-08-11	8:00 AM	Andhra Pradesh	1952736	13564	1985182

In [14]:
```
sns.set_theme(style="whitegrid")
sns.barplot(x="State",y="Confirmed",data=top_states_confirmed,hue="State")
```

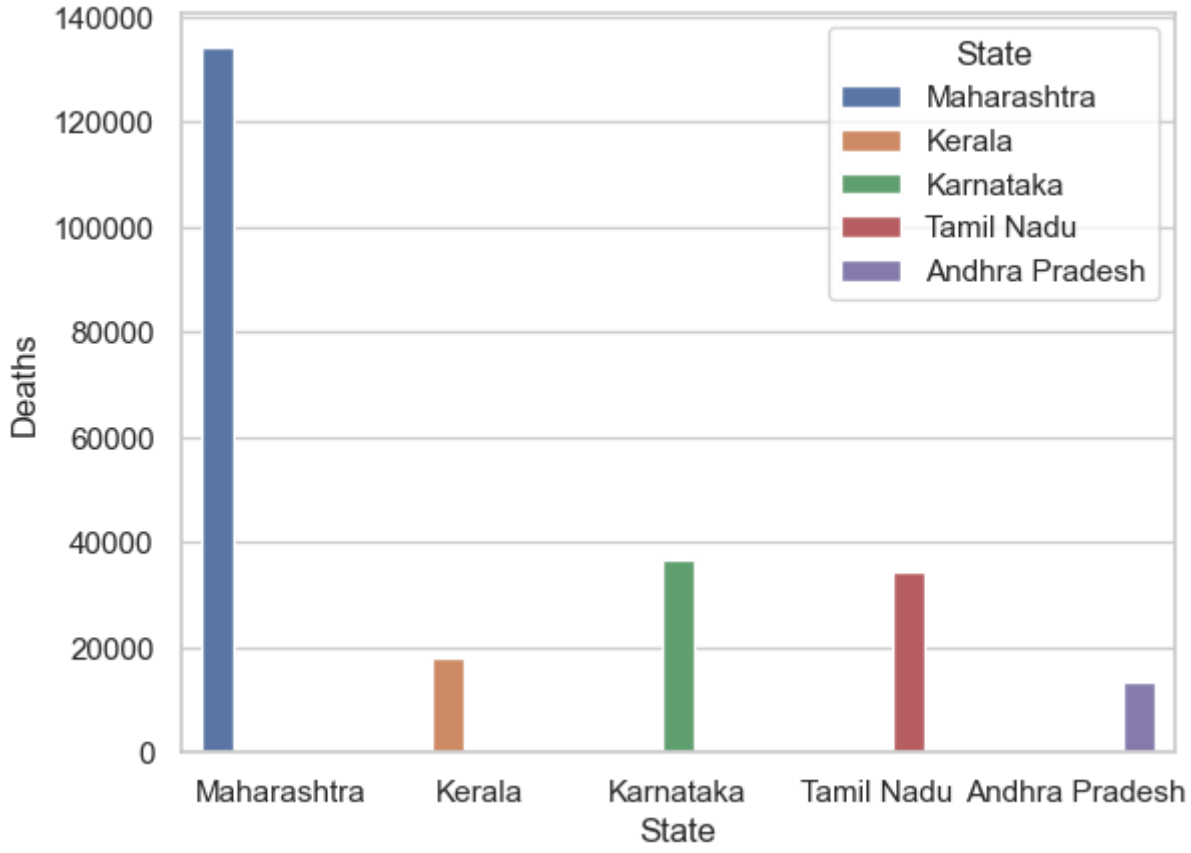
```
plt.show()
```



In [15]:
```
sns.set_theme(style="whitegrid")
sns.barplot(x="State",y="Cured",data=top_states_confirmed,hue="State")
plt.show()
```



In [16]:
```
sns.set_theme(style="whitegrid")
sns.barplot(x="State",y="Deaths",data=top_states_confirmed,hue="State")
plt.show()
```



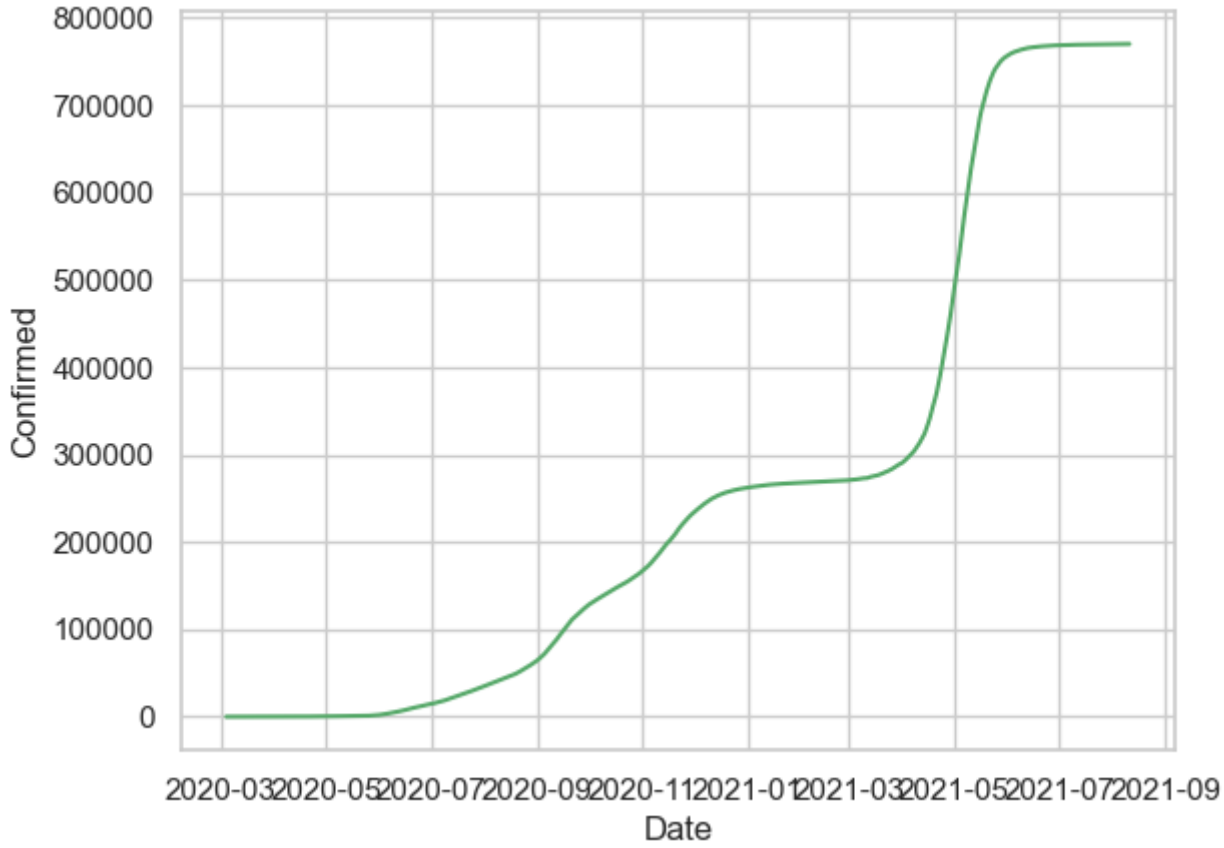
In [17]:
```
har=df1[df1.State=="Haryana"]
har
```

Out[17]:

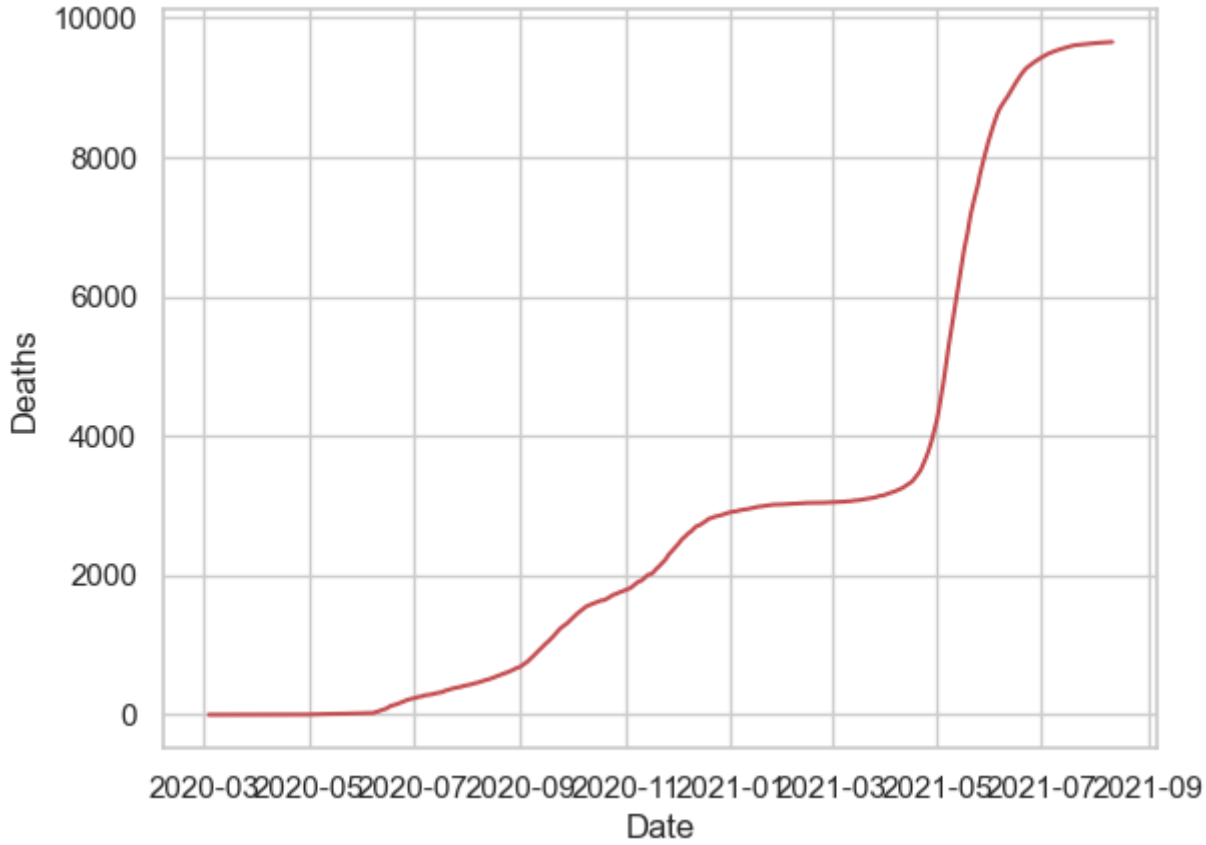
	Date	Time	State	Cured	Deaths	Confirmed
41	2020-03-04	6:00 PM	Haryana	0	0	2
46	2020-03-05	6:00 PM	Haryana	0	0	2
52	2020-03-06	6:00 PM	Haryana	0	0	2
63	2020-03-07	6:00 PM	Haryana	0	0	2
70	2020-03-08	6:00 PM	Haryana	0	0	2
...	...	...	...	...	...	...
17941	2021-08-07	8:00 AM	Haryana	759705	9647	770042
17977	2021-08-08	8:00 AM	Haryana	759727	9648	770060
18013	2021-08-09	8:00 AM	Haryana	759751	9649	770079
18049	2021-08-10	8:00 AM	Haryana	759769	9650	770091
18085	2021-08-11	8:00 AM	Haryana	759790	9652	770114

526 rows × 6 columns

In [18]:
```
sns.lineplot(x='Date',y='Confirmed',data=har,color='g')
plt.show()
```



In [23]:
```
sns.lineplot(x='Date',y='Deaths',data=har,color='r')
plt.show()
```



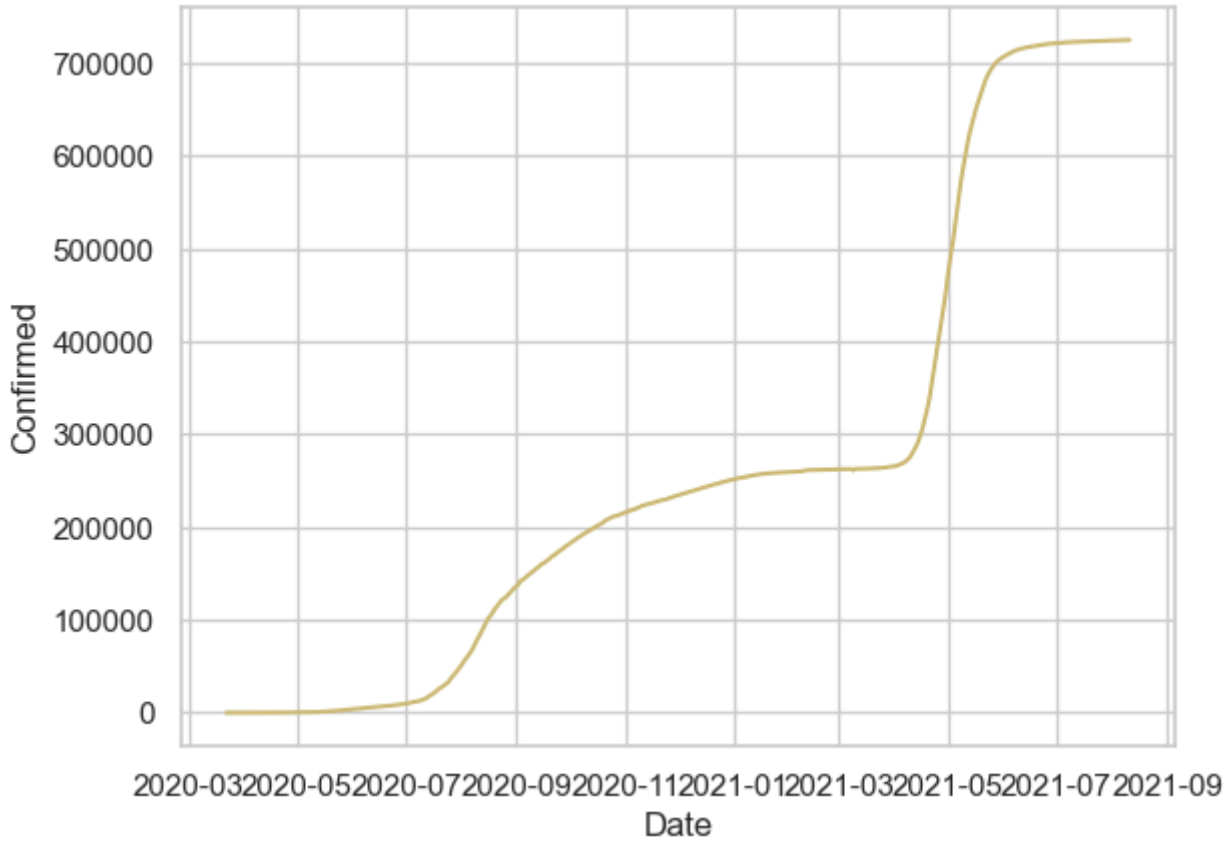
In [21]:
```
bhr=df1[df1.State=="Bihar"]
bhr
```

Out[21]:

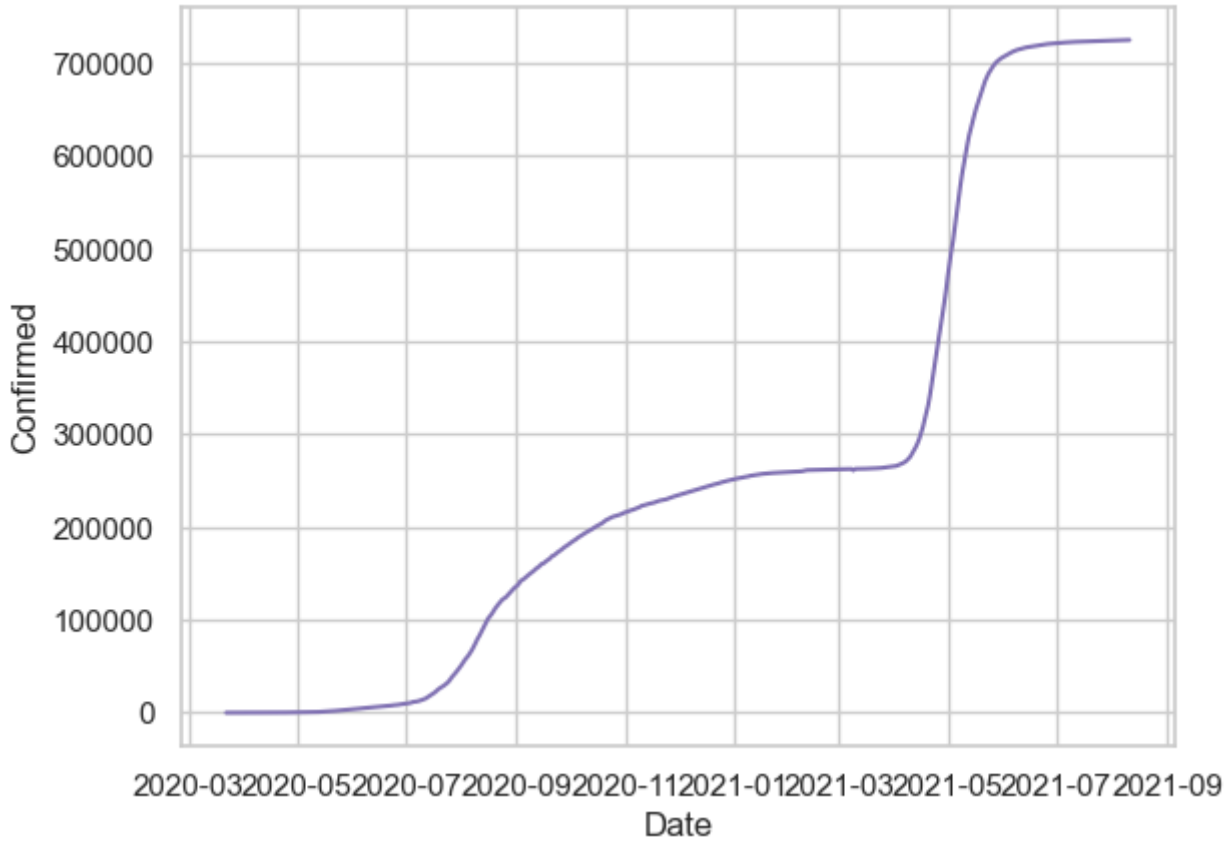
	Date	Time	State	Cured	Deaths	Confirmed
271	2020-03-22	6:00 PM	Bihar	0	1	2
294	2020-03-23	6:00 PM	Bihar	0	1	2
317	2020-03-24	6:00 PM	Bihar	0	1	3
341	2020-03-25	6:00 PM	Bihar	0	1	4
367	2020-03-26	6:00 PM	Bihar	0	1	6
...	...	...	...	...	...	...
17934	2021-08-07	8:00 AM	Bihar	715119	9646	725122
17970	2021-08-08	8:00 AM	Bihar	715191	9646	725158
18006	2021-08-09	8:00 AM	Bihar	715236	9646	725192
18042	2021-08-10	8:00 AM	Bihar	715303	9646	725235
18078	2021-08-11	8:00 AM	Bihar	715352	9646	725279

506 rows × 6 columns

In [22]:
```
sns.lineplot(x='Date',y='Confirmed',data=bhr,color='y')
plt.show()
```



In [24]:
```
sns.lineplot(x='Date',y='Confirmed',data=bhr,color='m')
plt.show()
```



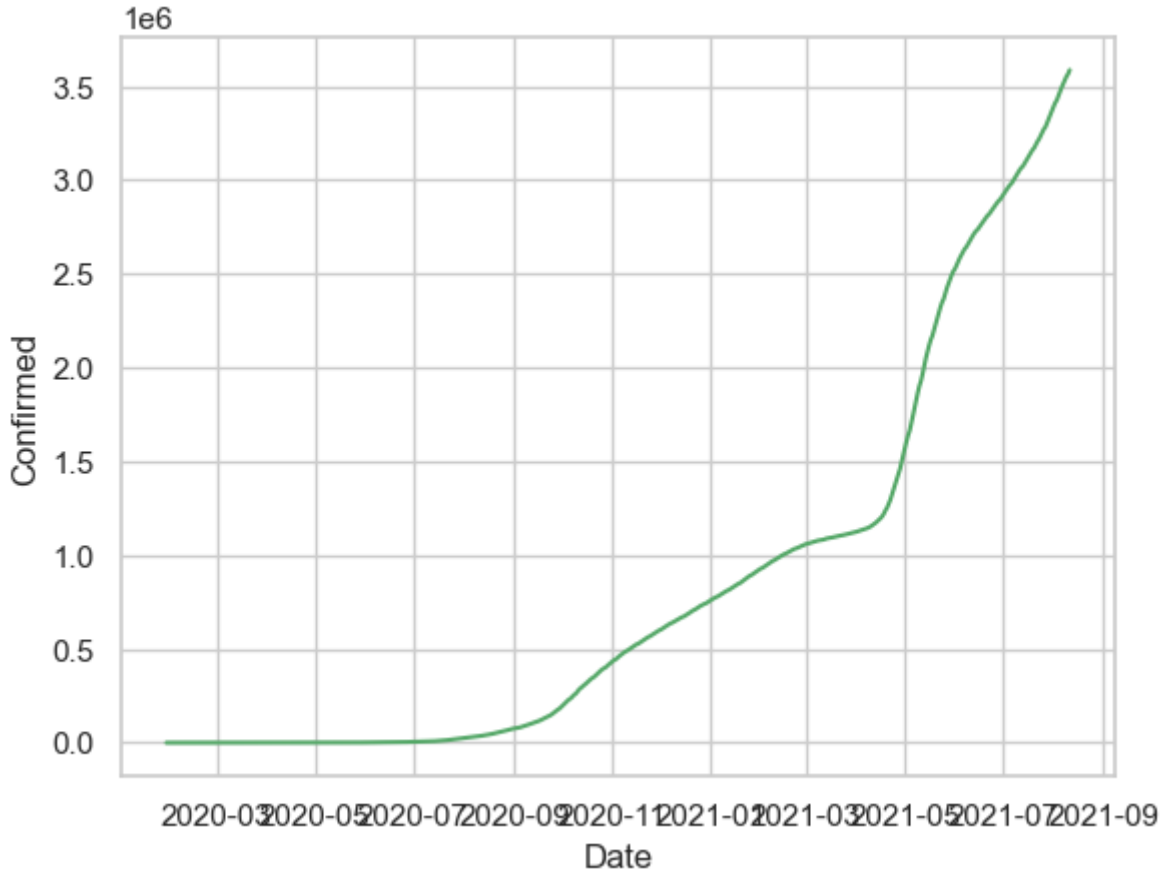
In [29]:
```
krl=df1[df1.State=="Kerala"]
krl
```

Out[29]:

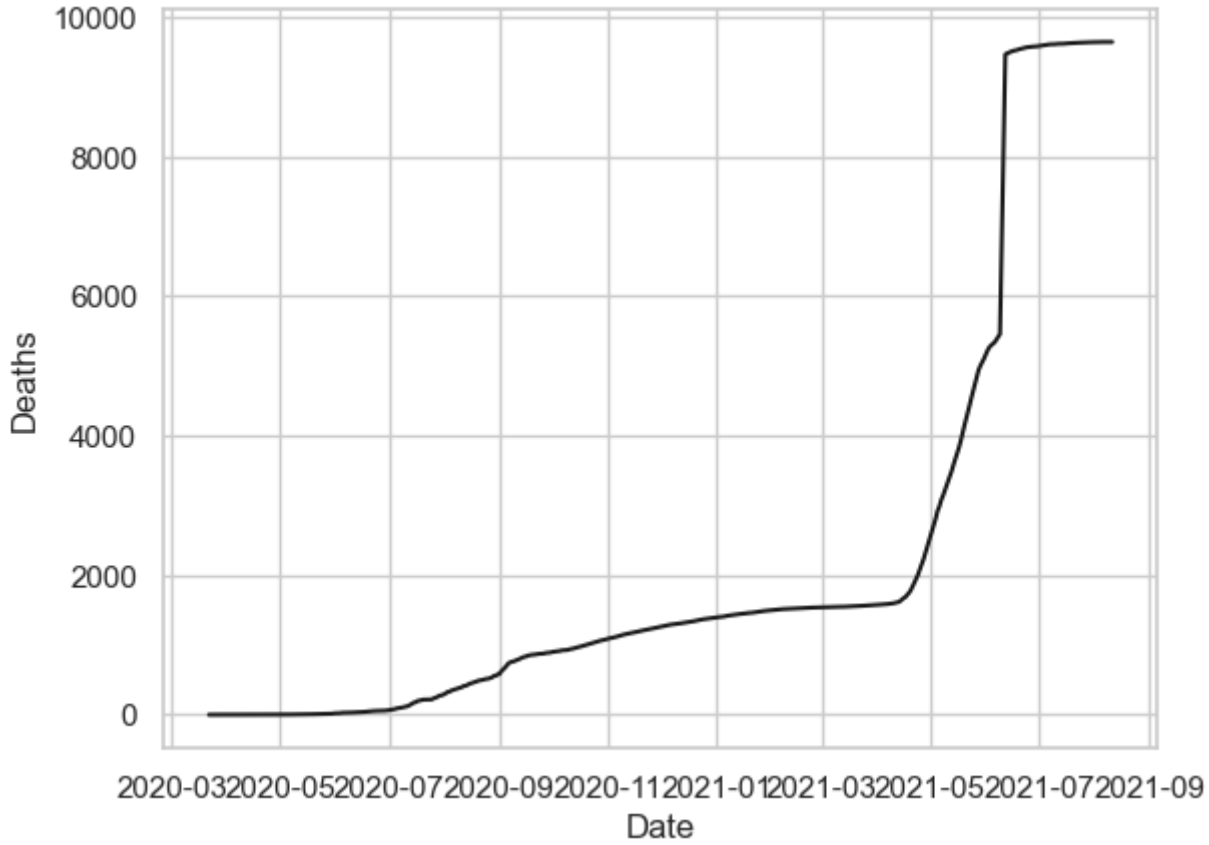
	Date	Time	State	Cured	Deaths	Confirmed
0	2020-01-30	6:00 PM	Kerala	0	0	1
1	2020-01-31	6:00 PM	Kerala	0	0	1
2	2020-02-01	6:00 PM	Kerala	0	0	2
3	2020-02-02	6:00 PM	Kerala	0	0	3
4	2020-02-03	6:00 PM	Kerala	0	0	3
...	...	...	...	...	...	...
17946	2021-08-07	8:00 AM	Kerala	3317314	17515	3513551
17982	2021-08-08	8:00 AM	Kerala	3337579	17654	3533918
18018	2021-08-09	8:00 AM	Kerala	3357687	17747	3552525
18054	2021-08-10	8:00 AM	Kerala	3377691	17852	3565574
18090	2021-08-11	8:00 AM	Kerala	3396184	18004	3586693

560 rows × 6 columns

In [30]:
```
sns.lineplot(x="Date",y="Confirmed",data=krl,color="g")
plt.show()
```



In [31]:
```
sns.lineplot(x="Date",y="Deaths",data=bhr,color="k")
plt.show()
```


10000
8000
6000
4000
2000
0
Deaths
2020-032020-052020-072020-092020-112021-012021-032021-052021-072021-09
Date

In [ ]: